



Department for
Business, Energy
& Industrial Strategy

Annual Statement of Emissions for 2020

Reporting UK 2020 emissions to Parliament
under the Climate Change Act 2008

March 2022

Annual Statement of Emissions for 2020

Presented to Parliament pursuant to section 16 of the
Climate Change Act 2008

March 2022



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Introduction

1. The Climate Change Act 2008¹ requires that the Government reports greenhouse gas (GHG) emissions to Parliament annually. This is the thirteenth Annual Statement of Emissions required under section 16 of the Climate Change Act 2008. It confirms emissions for 2020 – the third year of the third carbon budget. The statement required by this section must be laid before Parliament not later than 31st March in the second year following that to which it relates.
2. The third carbon budget covers the period 2018-2022, with an emissions cap of 2,544 million tonnes of carbon dioxide equivalent (MtCO_{2e})².
3. GHG emissions reported in Annual Statements of Emissions are based on the latest final UK GHG emissions National Statistics³. The National Statistics used to compile this statement show that net UK emissions for the third year of the third carbon budget period (2020) were 405,513,209 tCO_{2e}, a 49.9% reduction in net GHG emissions from the base year⁴.
4. After taking account of units debited from and credited to the net UK carbon account as a result of trading in the EU Emissions Trading System (EU ETS), the 2020 net UK carbon account was 405,774,201 tCO_{2e}.
5. The net UK carbon account for 2020 will be revised and published in subsequent annual statements of emissions. Revisions are made in line with section 16(4) of the Climate Change Act 2008.

Structure of the report

6. **Part one** of this statement shows the total amount of UK GHGs emitted to and removed from the atmosphere in the base year, 2019, and 2020; the methods used to calculate those figures; and whether there was an increase or a decrease in emissions and removals between 2019 and 2020.

¹ <http://www.legislation.gov.uk/ukpga/2008/27/contents>.

² This is the level of the third carbon budget, as legislated in 2009:

<https://www.legislation.gov.uk/ukxi/2009/1259/contents/made>. The level of the budget was raised to 2,631,930,284 tCO_{2e}, through the decision to carry forward 87,930,284 tCO_{2e} of over-achievement from the second carbon budget period, as set out at: <https://www.theccc.org.uk/publication/letter-carry-forward-of-surplus-emissions-lord-deben-to-chris-skidmore-mp/>.

³ The final 2020 estimates of UK greenhouse gas emissions were published on 1 February 2022:

<https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2020>

⁴ The base year varies by greenhouse gas (1990 for CO₂, CH₄ and N₂O; 1995 for Fluorinated gases):

<http://www.legislation.gov.uk/ukpga/2008/27/part/1/crossheading/targeted-greenhouse-gases>

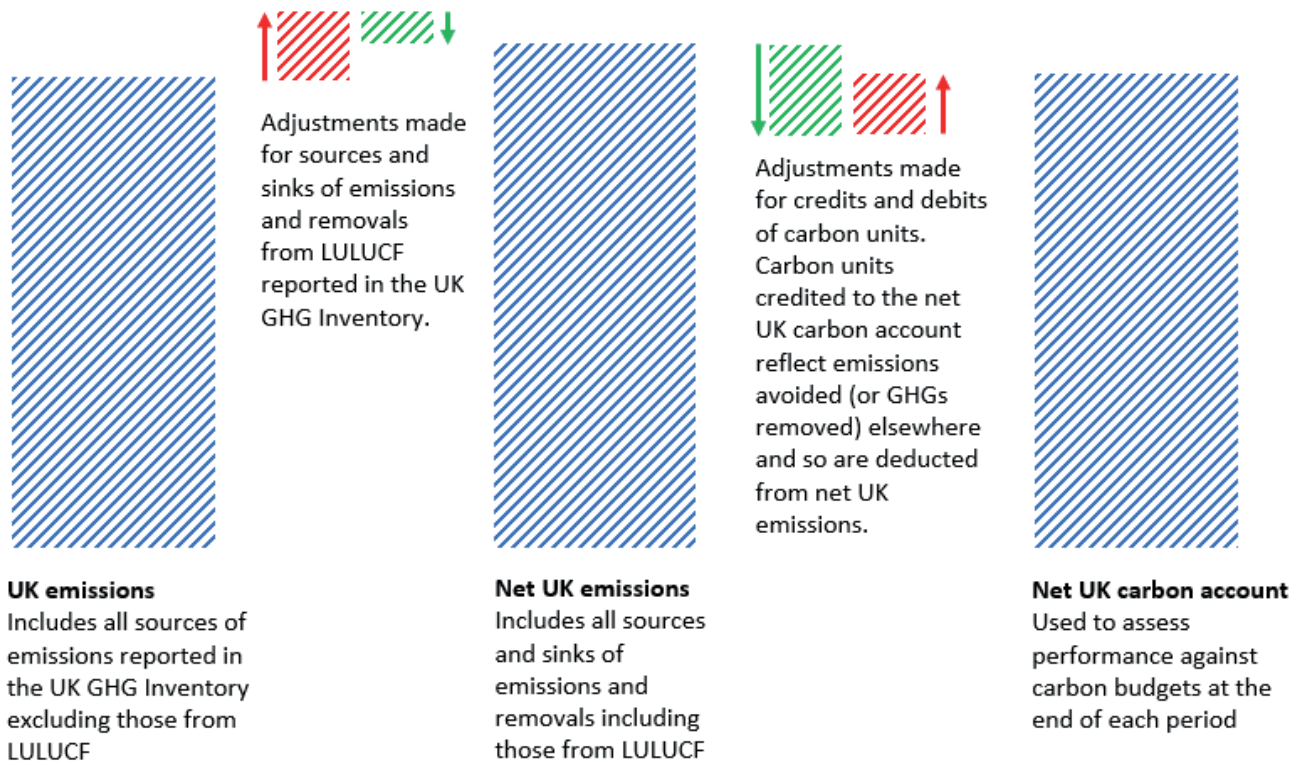
7. **Part two** of this statement sets out the steps taken to calculate the “net UK carbon account” for 2020, the UK’s total GHG emissions after we have taken into account the effect of carbon trading.

Explaining the net UK carbon account

8. Section 27 of the Climate Change Act 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 for the relevant budgetary period 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.
9. 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 account of emissions and removals by sources and sinks associated with LULUCF activity. The new total is referred to as net UK emissions. Data are sourced from the annual National Statistics on territorial UK GHG emissions⁵.
10. Net UK emissions are then further adjusted, as applicable, to account for:
 - a) carbon units which have been brought in from overseas by Government and others (e.g. installations covered by the EU ETS) to offset UK emissions (“credits”), thereby reducing the net UK carbon account; and
 - b) UK carbon units which have been sold to a third party outside the UK or otherwise disposed of (“debits”), which 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.

⁵ The final 2020 estimates of UK greenhouse gas emissions were published on 1 February 2022: <https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2020>

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 Inventory⁶ has included updated estimates for peatlands emissions in accordance with international guidelines. This has resulted in LULUCF becoming a net source of emissions across the time series (from 1990 to latest estimates) where it was previously a net sink.

⁶ The final 2020 estimates of UK greenhouse gas emissions were published on 1 February 2022: <https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2020>

Part 1 – UK greenhouse gas emissions

11. The information contained in this part of the statement is derived from the UK GHG emissions statistics for 2020⁷, which were published on 1 February 2022. Emissions coverage under the Climate Change Act 2008 comprises UK territory only (i.e. England, Wales, Scotland and Northern Ireland)⁸. Unless otherwise stated, all figures in this section are stated in tonnes of carbon dioxide equivalent (tCO_{2e})⁹.

1.1 Base year, 2019, and 2020 GHG emissions by gas

Section 16(2)(a), 16(2)(c), 16(3) and 16(8) of the Climate Change Act

12. Table 1 below sets out the base year¹⁰ emissions – the emissions in the year against which progress is measured – for each GHG covered by the Climate Change Act. The table also sets out the total UK emissions for 2020, and whether any of those amounts represent an increase or decrease compared to the equivalent amount for the previous year. Emissions are grouped into:

- a) emissions (excluding LULUCF)
- b) net LULUCF emissions/removals
- c) net emissions/removals (including LULUCF)

⁷ The final 2020 estimates of UK greenhouse gas emissions were published on 1 February 2022: <https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2020>

⁸ 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>

⁹ This is the usual way of reporting greenhouse gases to account for the different global warming potentials of each gas. The global warming potential (GWP) of a gas is a measure of its impact on global warming relative to carbon dioxide. The GWPs used for each gas in the UK inventory in this publication are based on those published in the Intergovernmental Panel on Climate Change's (IPCC's) 4th Assessment report: <http://www.ipcc.ch/report/ar4/>.

¹⁰ The base year varies by greenhouse gas (1990 for CO₂, CH₄ and N₂O; 1995 for Fluorinated gases) <http://www.legislation.gov.uk/ukpga/2008/27/part/1/crossheading/targeted-greenhouse-gases>

Table 1: UK GHG emissions/removals by gas (tCO₂e)					
Emissions	Greenhouse gas	Base year	2019	2020	2019 to 2020 change
Emissions (excluding net LULUCF emissions / removals)	Carbon dioxide (CO ₂)	599,502,185	362,012,364	324,081,846	- 37,930,518
	Methane (CH ₄)	129,325,142	48,454,219	46,386,894	- 2,067,325
	Nitrous oxide (N ₂ O)	47,069,163	20,201,489	19,140,709	- 1,060,780
	Hydrofluorocarbons (HFC)	18,563,692	12,503,461	11,677,725	- 825,736
	Perfluorocarbons (PFC)	589,447	210,718	159,793	- 50,925
	Sulphur hexafluoride (SF ₆)	1,245,328	474,498	406,944	- 67,554
	Total		796,294,957	443,856,749	401,853,912
Net LULUCF emissions / removals	Carbon dioxide (CO ₂)	5,915,999	-2,687,686	-2,994,190	- 306,504
	Methane (CH ₄)	4,741,389	4,900,904	4,875,310	- 25,595
	Nitrous oxide (N ₂ O)	2,454,401	1,807,108	1,778,178	- 28,931
	Hydrofluorocarbons (HFC)	0	0	0	0
	Perfluorocarbons (PFC)	0	0	0	0
	Sulphur hexafluoride (SF ₆)	0	0	0	0
	Total		13,111,789	4,020,327	3,659,297
Net emissions (including net LULUCF emissions / removals)	Carbon dioxide (CO ₂)	605,418,184	359,324,678	321,087,656	- 38,237,022
	Methane (CH ₄)	134,066,531	53,355,124	51,262,204	- 2,092,920
	Nitrous oxide (N ₂ O)	49,523,564	22,008,598	20,918,887	- 1,089,711
	Hydrofluorocarbons (HFC)	18,563,692	12,503,461	11,677,725	- 825,736
	Perfluorocarbons (PFC)	589,447	210,718	159,793	- 50,925
	Sulphur hexafluoride (SF ₆)	1,245,328	474,498	406,944	- 67,554
	Total		809,406,746	447,877,076	405,513,209

Note - A negative value in 2019 and 2020 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.

1.2 Method used to calculate GHG emissions and removals

Section 16(2)(b) and 16(4) of the Climate Change Act

13. The UK GHG inventory is compiled in line with international guidance from the Intergovernmental Panel on Climate Change¹¹ (IPCC). Each year the inventory is updated to include the latest data available. Methodological changes are made to take account of new data sources, or new guidance from the IPCC, and new research, sponsored by BEIS or otherwise. Improvements to the methodology are backdated as required under the Climate Change Act. The United Kingdom's National Inventory Report¹² (NIR), which is submitted each year to the United Nations Framework Convention on Climate Change (UNFCCC), provides details of the methods used to estimate emissions.
14. Emission inventories will always have some uncertainty. It is not possible to measure directly all the emissions from a country, so inventories are largely based on statistical activity data as well as on emission factors¹³, both of which are subject to uncertainty. The UK Greenhouse Gas Inventory assesses uncertainties according to internationally agreed good practice guidance¹⁴, and this uncertainty information helps prioritise efforts to improve the accuracy of inventories in the future and guide decisions on methodological choice. The uncertainty analysis provides us with a high confidence that UK emissions of GHGs have declined since 1990. The uncertainty associated with estimates of emissions is small at approximately 3% based on 2019 emissions data published in 2021.
15. To ensure transparency and credibility in carbon budgets reporting, it is important that any changes to GHG reporting – made in accordance with international practice – are clearly stated. Section 16(4) of the Climate Change Act requires that, where adjustments in the emissions figures for an earlier year in the same budgetary period are required as a result of changes to international carbon reporting practice, the Annual Statement of Emissions must specify the adjustment required and state the adjusted amount.
16. Greenhouse gas emissions reported in this publication are expressed in terms of carbon dioxide equivalent (CO₂e), recognising the different global warming potentials (GWP) of each gas. GWPs are set out by the IPCC in Assessment Reports (AR) and are updated on a regular basis. Figures contained within this Annual Statement of Emissions use 100-year GWPs as set out in AR4, the fourth assessment report of

¹¹ Further detail on IPCC guidance is available from: <https://www.ipcc-nggip.iges.or.jp>

¹² The NIR is accessible from the UNFCCC website: <https://unfccc.int/ghg-inventories-annex-i-parties/2021>. The NIR covering methodologies used to estimate 1990-2020 GHG emissions will be published in April 2022. Alternatively, further details on how the UK's greenhouse gas inventory is compiled can be accessed from: <https://www.gov.uk/government/collections/uk-greenhouse-gas-emissions-statistics>.

¹³ The emissions factor is the emissions per unit of activity. Emission factors are typically derived from measurements on a number of representative sources and the resulting factor applied to all similar sources in the UK.

¹⁴ Intergovernmental Panel on Climate Change guidelines, as adopted by the UNFCCC.

the IPCC, and are consistent with international reporting as of 2020. An agreement was reached in November 2021 at COP26 that greenhouse gas emissions shall be reported under the Paris Agreement transparency framework using 100-year AR5 GWPs (without climate-carbon feedback). Therefore, emissions data will be based on these GWPs in this publication next year.

17. Detailed information on the impact of methodology changes on GHG emissions estimates is published annually with the latest covering the 1990-2020 UK GHG Inventory¹⁵. A summary of total adjustments made to emissions figures reported in the Annual Statement of Emissions 2019 can be found in Annex A.

1.3 International aviation and international shipping

Section 16(5) of the Climate Change Act

18. Emissions from international aviation and international shipping are not currently included in the UK's emissions as reported under section 16(2) of the Climate Change Act. International aviation and international shipping emissions are therefore reported under section 16(5) of the Climate Change Act and appear as memo items in the UK GHG inventory.
19. Emissions from international aviation and international shipping can be estimated from refuelling from bunkers at UK airports and ports, whether by UK or non-UK operators. Table 2 below shows GHG emissions from these sources in the base year, 2019 and 2020.
20. Table 2 shows GHG emissions from international aviation and international shipping totalled 20,529,306 tCO₂e in 2020.

¹⁵ The final 2020 estimates of UK greenhouse gas emissions were published on 1 February 2022
<https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2020>

Table 2: International aviation and international shipping GHG emissions by gas (tCO₂e)					
Emissions	Greenhouse gas	Base year	2019	2020	2019 to 2020 change
International aviation	Carbon dioxide (CO ₂)	15,375,091	36,448,021	14,339,384	- 22,108,638
	Methane (CH ₄)	8,294	2,940	1,176	- 1,764
	Nitrous oxide (N ₂ O)	145,450	344,822	135,645	- 209,177
	Total	15,528,836	36,795,784	14,476,205	- 22,319,578
International shipping	Carbon dioxide (CO ₂)	8,029,513	7,258,961	5,969,845	- 1,289,117
	Methane (CH ₄)	2,944	2,291	1,864	- 427
	Nitrous oxide (N ₂ O)	112,927	99,040	81,392	- 17,648
	Total	8,145,385	7,360,293	6,053,101	- 1,307,192
International aviation and international shipping	Carbon dioxide (CO ₂)	23,404,604	43,706,983	20,309,228	- 23,397,755
	Methane (CH ₄)	11,238	5,231	3,040	- 2,191
	Nitrous oxide (N ₂ O)	258,378	443,863	217,038	- 226,825
	Total	23,674,220	44,156,076	20,529,306	- 23,626,771

Part 2 – the net UK carbon account

21. The Government is required to comply with the requirements set out in the Carbon Accounting Regulations 2009¹⁶, the Carbon Accounting (Provision for 2018) Regulations 2020¹⁷, the Carbon Accounting (Provision for 2019) Regulations 2021¹⁸ and the Carbon Accounting (Provision for 2020) Regulations 2022¹⁹ when working out the net UK carbon account. The calculations in this part of the statement are based on the methodologies established in those regulations. Unless otherwise stated, all figures in this section are stated in tonnes of carbon dioxide equivalent (tCO_{2e}).

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

Section 16(6) of the Climate Change Act

22. 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 number of units to be credited to, and debited from, the net UK carbon 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.

23. The amounts of units to be counted as credits and debits in respect of 2020 should be calculated based on three elements:

- units in the credit account which have been declared as credits to the net UK carbon account in respect of 2020
- effect of the EU ETS (including domestic aviation)
- determining whether the Government disposed of any carbon units during 2020.

2.1.1 Units in the credit account

24. 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. In 2020, zero units are to be credited to the net UK carbon account under this mechanism.

¹⁶ <http://www.legislation.gov.uk/ukxi/2009/1257/contents/made>

¹⁷ <http://www.legislation.gov.uk/ukxi/2020/115/contents/made>

¹⁸ <https://www.legislation.gov.uk/ukxi/2021/189/contents/made>

¹⁹ <https://www.legislation.gov.uk/ukxi/2022/62/contents/made>

2.1.2 Accounting for the EU Emissions Trading System (EU ETS)

25. 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’.
26. 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.
27. 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 system²⁰. 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 budget²¹; the ETS instead operated at installation level²². Therefore, within carbon budgets a share of this, a notional UK cap, was calculated for the traded sector (see 2.1.3). If EU ETS participants in the UK collectively exceeded the notional UK 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 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.

2.1.3 UK share of the EU ETS cap (stationary installations)

28. The methodology for calculating the UK share of the EU-wide ETS cap is set out in table 3. The cap is created by adding together the volume of EU allowances freely allocated to UK stationary operators²³, the volume of allowances in the EU-wide auction pot auctioned by the UK to stationary operators²⁴, and the volume of EU allowances allocated to the UK from the New Entrants Reserve (NER)²⁵.

²⁰ https://ec.europa.eu/clima/policies/ets_en

²¹ 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.

²² Detailed guidance on Phase 3 of the ETS can be found here: <https://www.gov.uk/participating-in-the-eu-ets>.

²³ European Union Registry, verified emissions report 2020 (April 2021): https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets/union-registry_en

²⁴ Intercontinental Exchange: <https://www.theice.com/marketdata/reports/148>

²⁵ European Union Registry, verified emissions report 2020 (April 2021): https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets/union-registry_en

Table 3: Calculating the UK share of the EU ETS cap (stationary installations) (tCO₂e)	2018	2019	2020
Allowances freely allocated	49,449,564	47,667,411	45,876,077
Allowances auctioned	101,053,000	55,062,000	55,963,500
Allowances allocated under the New Entrants Reserve	1,808,943	1,694,795	2,183,806
UK share of the EU ETS cap	152,311,507	104,424,206	104,023,383

29. As shown in table 3, the UK share of the EU ETS cap for 2020 was 104,023,383 tCO₂e. Table 4 sets out the number of units surrendered in 2020 by UK operators, thus showing the effect of the EU ETS on the net UK carbon account in 2020 (along with 2018 and 2019).

Table 4: Net effect of the EU ETS (stationary installations) (tCO₂e)	2018	2019	2020
Allowances surrendered	128,001,146	118,512,287	105,098,379
UK share of the EU ETS cap	152,311,507	104,424,206	104,023,383
Difference	24,310,361	- 14,088,081	- 1,074,996

30. As the number of units surrendered by UK operators at stationary installations was more than the UK share of the EU ETS cap, a corresponding number of units must be counted as credits to the net UK carbon account. This means 1,074,996 units are to be deducted from the net UK carbon account in 2020 as a result of the EU ETS (stationary installations).

2.1.4 Domestic aviation accounting

31. 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.

32. 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.

2.1.4.1 Methodology to estimate the domestic aviation cap

33. Using the latest available civil aviation data from the EU GHG inventory published on the European Environment Agency website²⁶, the steps listed below set out how we

²⁶ EEA 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>

estimate a cap against which we report carbon dioxide emissions from UK domestic aviation. The calculation is shown in table 5.

34. 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.

35. 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 emissions²⁷ (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.

2.1.4.2 Methodology to assess performance against the cap

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

37. 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

²⁷ The total EEA figure will differ slightly from that published on the EEA 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 2020 UK domestic aviation emissions used to assess performance.

- If emissions are below the cap then the difference is counted as a debit to the net UK carbon account.

2.1.4.3 Calculations

Table 5: Estimating the UK domestic aviation cap	2018	2019	2020
Average 2004-06 EEA domestic aviation emissions	20,485,523	20,485,523	20,485,523
From 2013 onwards, the cap will be 95% of this average	19,461,247	19,461,247	19,461,247
UK share of 2010 EEA domestic aviation emissions	9.7%	9.7%	9.7%
Domestic aviation cap	1,884,090	1,884,090	1,884,090

38. As shown in table 5, the cap for domestic aviation in 2020 is estimated as 1,884,090 tCO₂e. Table 6 sets out domestic aviation emissions, thus showing the effect of domestic aviation accounting on the net UK carbon account in 2020.

Table 6: Net effect of EU ETS domestic aviation accounting	2018	2019	2020
Domestic aviation emissions	1,444,880	1,374,091	548,102
Domestic aviation cap	1,884,090	1,884,090	1,884,090
Difference	439,210	509,999	1,335,988

39. As carbon dioxide emissions from domestic aviation were less than the domestic aviation cap for 2020, a corresponding amount of emissions will be counted as debits. This means that 1,335,988 tCO₂e will be added to the net UK carbon account in 2020, as shown in table 6.

2.1.5 International Targets

40. Under the terms of the Withdrawal Agreement, the UK remains committed to its shared emissions reduction targets with the EU under the Kyoto Protocol.
41. Under the second commitment period of the Kyoto Protocol (covering 2013-20) the UK's target is translated into emissions allowances (Assigned Amount Units - AAUs). Provisional estimates show UK emissions below the AAUs across 2013-20. The UK has not traded any units associated with this surplus with other countries. As such, no adjustments are required to the net UK carbon account.
42. The UK has also committed to reducing its emissions under the EU Effort Sharing Decision (ESD) which covers emissions outside the scope of the EU ETS (such as waste, agriculture, buildings, non-aviation transport). Under the ESD (covering 2013-20) the UK's target is translated into emissions allowances (Annual Emissions Allocations - AEAs). Provisional estimates show UK emissions below the AEAs in each year from 2013-20. The UK has not traded any units associated with this

surplus with other countries. As such, no adjustments are required to the net UK carbon account.

2.2 Net UK carbon account for the year

Section 16(7) of the Climate Change Act

43. The net UK carbon account is calculated by taking net UK emissions and adjusting them to account for units debited from and credited to the net UK carbon account. Table 7 shows how after taking account of units debited and credited to the net UK carbon account (as a result of the EU ETS), the net UK carbon account in 2020 is 405,774,201 tCO_{2e}.

Table 7: Calculating the Net Carbon Account	2018	2019	2020
Net emissions (including net LULUCF emissions)	463,462,875	447,877,076	405,513,209
Amount of units to be credited/debited from EU ETS stationary installations	24,310,361	- 14,088,081	- 1,074,996
Amount of units to be credited/debited from EU ETS domestic aviation accounting	439,210	509,999	1,335,988
Net Carbon Account	488,212,446	434,298,994	405,774,201

Annex A

Summary of total adjustments made to 2018 and 2019 emissions figures reported in the Annual Statement of Emissions (ASE) 2019.

Table 8: adjustments to 2018 and 2019 net carbon account calculations published in Annual Statement of Emissions 2019		2018	2019
ASE 2019	Emissions (excluding net LULUCF emissions)	462,499,399	448,819,279
	Net LULUCF emissions	5,555,664	5,946,152
	Net emissions (including net LULUCF emissions)	468,055,063	454,765,431
	Amount of units to be credited/debited from EU ETS stationary installations	24,310,361	- 14,088,081
	Amount of units to be credited/debited from EU ETS domestic aviation accounting	384,323	459,527
	Net Carbon Account	492,749,748	441,136,877
ASE 2020	Emissions (excluding net LULUCF emissions)	459,820,871	443,856,749
	Net LULUCF emissions	3,642,004	4,020,327
	Net emissions (including net LULUCF emissions)	463,462,875	447,877,076
	Amount of units to be credited/debited from EU ETS stationary installations	24,310,361	- 14,088,081
	Amount of units to be credited/debited from EU ETS domestic aviation accounting	439,210	509,999
	Net Carbon Account	488,212,446	434,298,994
Difference	Emissions (excluding net LULUCF emissions)	- 2,678,528	- 4,962,530
	Net LULUCF emissions	- 1,913,661	- 1,925,825
	Net emissions (including net LULUCF emissions)	- 4,592,189	- 6,888,355
	Amount of units to be credited/debited from EU ETS stationary installations	-	-
	Amount of units to be credited/debited from EU ETS domestic aviation accounting	54,887	50,472
	Net Carbon Account	- 4,537,302	- 6,837,883

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