

Determining a Scottish EU-ETS cap for 2016

The following paper documents the calculations which determine the 'specified amounts' for emissions from (i) fixed installations located in Scotland and covered by the EU emissions trading system (EU-ETS) and (ii) aviation covered by the EU-ETS.

This paper follows on from, and uses identical calculations to papers released in June 2015, January 2016, and February 2017 which document the calculation of the specified amount for Scottish EU-ETS emissions for 2013, 2014 and 2015. These papers can be downloaded from the Scottish Government website^{1 2 3}.

Part 1: Fixed Installations Cap

Auctioned allowances

The Committee for Climate Change has recommended⁴ that the amount of auctioned allowances assigned to Scotland should equal the UK amount for a given year multiplied by the share of verified emissions from Scottish fixed installations during the Period 2005-2007 inclusive. The National Atmospheric Emissions Inventory⁵ contains the following estimates for verified emissions resulting from onshore installations only, as offshore installations are covered by the free-allocation of emissions allowances.

Table 1: Verified onshore emissions

Year	Scotland	UK
2005	20.463	233.651
2006	24.196	242.108
2007	22.253	243.624
2008	23.765	264.861
2009	21.962	231.753
2010	24.041	237.234
2011	20.056	220.690
2012	20.349	231.084

All values MtCO₂e

The Scottish share of UK onshore verified emissions over the period is $(20.463+24.196+22.253)/(233.651+242.108+243.624) = \mathbf{9.30\% \text{ (rounded)}}$.

¹ <http://www.gov.scot/Topics/Statistics/Browse/Environment/Publications/EUETScap2013>

² <http://www.gov.scot/Topics/Statistics/Browse/Environment/Publications/EUETScap2014>

³ <http://www.gov.scot/Topics/Statistics/Browse/Environment/Publications/ETScap2015>

⁴ <https://www.theccc.org.uk/publication/scotlands-path-to-a-low-carbon-economy/>

⁵ http://uk-air.defra.gov.uk/reports/cat07/1406100836_DA_GHG1_1990-2012_EmissionsData_Issue1.xlsx

The amount of auctioned emissions allowances assigned to the UK during 2016 can be found at the Intercontinental Exchange's website⁶, this value equals 83,747,500 allowances.

The number of auctioned allowances for Scotland in 2016 therefore equals:
 $83,747,500 \times 9.30\%$ (rounded) = **7,789,520 tCO₂e**

Freely-Allocated Allowances

Similarly to the UK, the amount of freely allocated emissions allowances can be obtained from the NIMs⁷. This source indicates that the amount of freely allocated emissions allowances for Scotland in 2016 is therefore **5,917,955 tCO₂e**

New Entrant's Reserve

For the 2013 calculation, we consulted with a number of external stakeholders on the treatment of the New Entrants Reserve (NER) for the Scottish calculation; whether to adopt the UK approach which involves imputing a notional amount of NER allocation; or base the calculation on actual use of the NER. As the NER figure for Scottish installations in 2013 was in fact zero, it was agreed that imputing a notional amount lacked credibility.

The Scottish Environmental Protection Agency has confirmed that there are no new entrants receiving a free allocation of allowances in 2016. As a result, a zero allocation is carried forward in the calculation.

Summary

Table 2: Scottish EU-ETS Cap for 2016.

Component	2016 Allocation tCO ₂ e
Auctioned allowances	7,789,520
Free allocation	5,917,955
New Entrant's Reserve	0
Total	13,707,475

⁶ https://www.theice.com/publicdocs/EUA_EUAA_Auction_Calendar_2016.pdf

⁷ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/318902/uk_national_allocation_table_phase_III_free_allocation.pdf

Part 2: Aviation Cap.

The calculation of the allocation for domestic and international aviation was described in detail in the paper describing the 2013 calculation. The aviation cap is a constant level so the 2013 allocation has been carried forward for 2014, 2015 and 2016.

The method for calculation of the domestic and international aviation cap uses data from the European Environment Agency and the Scottish Greenhouse Gas Inventory. The domestic aviation cap and international aviation cap are calculated using a similar approach to the UK's domestic aviation cap for 2013⁸, 2014⁹, and 2015¹⁰.

At this time the cap is calculated using 1990-2012 inventory data for both the EEA and for Scotland. This is because the latest publicly available data for inventories outside of Scotland and the UK at the time of determining the cap (July 2015), is the 1990-2012 inventory. This may be reviewed in any future calculations of the aviation cap so that the most recent inventory can be used.

Part 3: Total EU-ETS cap for Scotland, 2016

Table 3. Total EU-ETS cap for Scotland, 2016

Component	2016 Allocation tCO₂e
Fixed Installations	13,707,475
<i>Auctioned allowances</i>	7,789,520
<i>Free allocation</i>	5,917,955
<i>New Entrant's Reserve</i>	0
Aviation	1,365,013
<i>Domestic</i>	443,255
<i>International</i>	921,758
Total 2015 Cap	15,072,488

*Office of the Chief Economic Adviser
January 2018.*

⁸ <https://www.gov.uk/government/statistics/annual-statement-of-emissions-for-2013>

⁹ <https://www.gov.uk/government/publications/annual-statement-of-emissions-for-2014>

¹⁰ <https://www.gov.uk/government/publications/annual-statement-of-emissions-for-2015>