

UK Fuel Mix Methodology

1.1 This note outlines the calculations behind the residual fuel mix. The residual fuel mix is used by electricity suppliers to apportion the electricity they supply between fuel type when they do not hold the relevant evidence of energy source as set out in the guidelines provided by Ofgem¹.

1.2 Data requests are sent to the major energy suppliers for the following information:

Supply for which REGOs or Generator Declarations held²
Coal (MWh)
Natural Gas (MWh)
Nuclear (MWh)
Renewable (MWh)
Other (MWh)
Total for which REGOs or generator declarations are held (MWh)
Residual (supply for which REGOs or generator declarations are not held) (MWh)
Total supplied (MWh)
Total purchased for supply (inc loss factor) (MWh) calculated by BEIS

1.3 The data are then aggregated to give the total amount of electricity supplied by fuel source for which REGOs or generator declarations are held.

Total purchased for supply (inc. loss factor) (MWh) is calculated for each major energy supplier and aggregated as a total for all major energy suppliers:

*(Total non-renewable supplied for which REGOs or generator declaration held * loss factor) + Total supplied by renewables for which REGOs or generator declaration held*

1.4 The **total UK fuel mix** is calculated on a financial year basis using BEIS' published statistics. Data for the UK are published in table 5.1 from our quarterly publication, Energy Trends (the version used in 2017/18 fuel mix was Energy Trends June 2018). These tables can be found via this link <https://www.gov.uk/government/collections/electricity-statistics>

1.5 The UK data is then converted to cover Great Britain only by deducting data from Northern Ireland. The Northern Ireland Fuel Mix comes from monthly returns sent in by electricity companies based in Northern Ireland.

¹ http://www.ofgem.gov.uk/Sustainability/Environment/Policy/Documents1/12340-282_05.pdf

² Renewable Energy Guarantee of Origins (REGOs)

<http://www.ofgem.gov.uk/Sustainability/Environment/REGOs/Pages/REGOs.aspx>

1.6 Imported electricity is also allocated to a fuel type using fuel mix data for the European residual published by the Association of Issuing Bodies (AIB). https://www.aib-net.org/facts/european_residual_mix

1.7 From 2017/18 onwards, a new methodology was implemented to reduce double counting of renewable energy. In this, the REGOs unaccounted for in the survey and exported REGOs are deducted from the total residual Renewable figure. Additionally, purchased GoOs not reported in the survey are accounted for, distributed evenly between the non-renewable energy sources. REGOs and GoOs data is provided by Ofgem.

Carbon dioxide emissions

2.1 Carbon dioxide emissions by fuel type are obtained from the UK greenhouse gas inventory. The total emissions for generation by each fuel are divided by the electricity supplied by each fuel type to give CO₂ emissions per kWh.

2.2 Emissions data are generally available 12 months in arrears (and on a calendar year basis) so are adjusted to take into account changes in electricity supply over the last year. Data are also adjusted to convert emissions from UK to Great Britain.