



Department for
Energy Security
& Net Zero



Sub-national greenhouse gas emissions statistics

Frequently Asked Questions

June 2024



© Crown copyright 2024

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3 or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk.

Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.

Any enquiries regarding this publication should be sent to us at: GreenhouseGas.Statistics@energysecurity.gov.uk

Contents

Publications	4
Q1 What sub-national emissions statistics does the Department for Energy Security and Net Zero (DESNZ) publish?	4
Q2 Are emissions estimates for Devolved Administrations published by DESNZ?	5
Q3 Are there any other DESNZ publications on the UK emissions statistics?	5
Q4 Are provisional estimates produced at a sub-national level?	6
Methodology	6
Q5 Why are there two sets of carbon dioxide emissions figures for each local authority?	6
Q6 What is and what isn't included in the subset dataset of local authority emissions?	6
Q7 Why allocate road transport emissions to the authorities the traffic may just be passing through?	7
Q8 Is it possible to tell which point sources have been included in the local authority dataset for any given region?	7
Q9 Can local authorities submit their own data to be incorporated in the local authority dataset in future?	7
Q10 Why is there such a long time lag in publishing the local authority statistics?	8
Q11 Are the local authority figures consistent with the emissions estimates for the UK, or the figures published for England, Scotland, Wales, and Northern Ireland?	8
Q12 Are the local authority figures regularly updated?	9
Q13 Why do the local authority emissions get revised each year?	9
Q14 Why do the local authority statistics not include estimates of emissions from fluorinated gases (F gases)?	9
Q15 Why are local authorities not allowed to review the dataset before it is published?	10
Q16 Why does DESNZ not provide emissions data pre-2005 at regional and local authority level?	10
Other questions	10
Q17 Why does DESNZ publish the local and regional statistics?	10
Q18 What are the local and regional greenhouse gas emission statistics used for?	10
Q19 Which authorities are best/worst? Are the local authority statistics a 'league table'?	11
Q20 Is it possible to identify emissions savings which have resulted from local authority actions?	11

Publications

Q1 What sub-national emissions statistics does the Department for Energy Security and Net Zero (DESNZ) publish?

A1. DESNZ produces annual greenhouse gas emission estimates by local authority and region, which are usually published on the last Thursday of June each year. The most recent estimates published each year relate to the calendar year two years earlier (e.g. the publication in 2024 covers emissions in years up to 2022). Since 2022 this publication has included estimates of methane and nitrous oxide, in addition to carbon dioxide, and estimates of emissions in National Park areas. Estimates of emissions in National Landscapes and Areas of Outstanding Natural Beauty have been included since 2024.

Emissions are broken down by the following end-user sectors:

- Industry
- Commercial
- Public sector
- Domestic
- Transport
- Land Use, Land Use Change, and Forestry (LULUCF)
- Agriculture
- Waste

The statistics show emissions from energy supply allocated on an “end-user” basis, meaning that they are distributed to sectors and locations according to the point of energy consumption. Emissions that are not energy related are recorded against the point of emission. In particular this means that emissions from the production of electricity are allocated to the areas where the electricity is used rather than the sites of the power stations, and the emissions shown from the use of fuels in an area (e.g. gas in buildings or petrol in road vehicles) will include some emissions from the supply of those fuels in addition to the emissions produced by the combustion of the fuel.

Except for the energy industry, emissions from the production of goods are assigned to where the production takes place. Therefore, emissions from the production of goods which are exported are included and emissions from the production of goods which are imported are excluded. Emissions from the waste sector have been spatially distributed using an approach analogous to the fuel end-user basis, distributing UK total emissions from waste proportionally to the waste arising in each local authority, rather than to the location of waste management facilities. For example, emissions from landfills are distributed based on estimates of biogenic waste arising in each local authority. Greenhouse gas emissions per capita and per kilometre squared (km²) are also estimated.

This publication and further information can be found on the [UK local authority and regional greenhouse gas emissions statistics page](#) on the Gov.uk website.

Q2 Are emissions estimates for Devolved Administrations published by DESNZ?

A2. Emissions data for England, Scotland, Wales, and Northern Ireland are produced by Ricardo on a consistent basis with the UK estimates that DESNZ publishes, but they are published by the Devolved Administrations themselves, not DESNZ. They can be found on the following websites:

- Scotland – [Scottish Government environment statistics](#)
- Wales – [StatsWales greenhouse gas emissions data](#)
- Northern Ireland – [Department of Agriculture, Environment and Rural Affairs Northern Ireland greenhouse gas inventory](#)

The Devolved Administration greenhouse gas inventories, including estimates for England, can also be found on the [National Atmospheric Emissions Inventory \(NAEI\) website](#).

Q3 Are there any other DESNZ publications on the UK emissions statistics?

A3. DESNZ publishes a series of statistics showing "territorial" GHG emissions, meaning emissions that occur within the UK's borders. These can be found on the [UK territorial greenhouse gas emissions statistics page](#) on Gov.uk, and are as follows:

Final UK greenhouse gas emission statistics:

Final UK emissions estimates are published annually usually on the first Tuesday of February. Estimates of the uncertainty of the figures and of emissions by end-user are added in an annex on the final Thursday of March and estimates of emissions by Standard Industrial Classification (SIC) category on the final Thursday of June. The most recent estimates published each year relate to the calendar year two years earlier (e.g. the publication in 2024 covers emissions in years up to 2022).

UK emissions are broken down by source and end-user Territorial Emissions Statistics (TES) sector, by fuel type and by SIC category. All the UK's domestic and international targets are monitored against the figures in this release, and they are consistent with the UK's greenhouse gas inventory that is submitted to the United Nations Framework Convention on Climate Change (UNFCCC) each year.

Provisional UK greenhouse gas emission statistics:

Provisional UK territorial emissions estimates are usually published annually on the last Thursday of March each year. Based on provisional energy use statistics, they provide a provisional estimate of emissions in the calendar year just gone, e.g. the publication in 2024 showed provisional estimates for emissions in 2023.

In this publication UK carbon dioxide emissions are broken down by source TES sector and by fuel type, and estimates are presented on a quarterly and a temperature adjusted basis.

Q4 Are provisional estimates produced at a sub-national level?

A4. A sub-national breakdown of provisional estimates is not produced since underlying sub-national energy data are only available annually, in their “final” format. In-year provisional energy data are not available on a sub-national basis.

Methodology

Q5 Why are there two sets of carbon dioxide emissions figures for each local authority?

A5. There are two datasets used to report on local authority emissions. The full dataset includes all emissions from each local authority.

Alongside the full dataset, we also publish a subset which represents carbon dioxide emissions deemed to be within the scope of influence of local authorities. This dataset was originally used to report progress against National Indicator 186 under the Department for Communities and Local Government’s (CLG’s) Local Area Agreements (LAAs).

However, in October 2010, CLG announced that it was decentralising LAAs and replacing the National Indicator Set with a single comprehensive data list from April 2011. Even though the indicator dataset is no longer monitored we will continue to publish this subset of the data alongside the full dataset each year until further notice, since some local authorities do use these statistics to monitor their progress in reducing emissions in their local area, even though there is no formal obligation for them to do so.

The full dataset includes all the emissions that occur within the boundaries of each local authority; however, the dataset of carbon dioxide emissions within the scope of local authorities excludes certain emissions which it was considered local authorities were unable to directly influence.

Q6 What is and what isn’t included in the subset dataset of local authority emissions?

A6. The following emissions included in the full dataset are excluded from the subset dataset:

- EU Emissions Trading System (EU ETS) and UK Emissions Trading Scheme (UK ETS) sites, except power stations whose emissions are indirectly included via the end-user estimates which cover electricity use
- motorway traffic
- diesel railways
- Land Use, Land Use Change, and Forestry (LULUCF) sector
- agricultural soils and livestock.

If a particular location is in the UK or EU ETS, then all the emissions from that location will be excluded from the dataset. Organisations which have a Climate Change Agreement (CCA) however are not automatically excluded from the dataset; they will only be excluded if they are also in the UK or EU ETS.

It is difficult to create a definitive subset dataset which everyone can agree on, since arguments could also be made for other exclusions. However, a judgement has been determined to exclude only the abovementioned activities.

Q7 Why allocate road transport emissions to the authorities the traffic may just be passing through?

A7. This is the method for which we have the best data, and it is relatively easy to understand and to relate to what is known about traffic locally. Clearly some areas will have a greater amount of through traffic or commuters than others, and others have more dispersed populations, so this would need to be taken into account when interpreting the data. The breakdown which shows how our estimates are split between major and minor roads should help users to consider this issue.

There is currently no appropriate method of allocating transport emissions that is ideal for all purposes. We have considered alternatives, but local fuel sales data would be less reliable and to try and build a model based on origins and destinations of journeys would involve very large assumptions because data are not available down to a local level.

Q8 Is it possible to tell which point sources have been included in the local authority dataset for any given region?

A8. In compiling the dataset, our contractors draw on emissions data from their "[Point source database](#)". This incorporates data from the EU Emissions Trading System (EU ETS) and UK Emissions Trading Scheme (UK ETS), and from the pollution inventories compiled by the Environment Agency, the Scottish Environment Protection Agency (SEPA), Natural Resources Wales (NRW) and the Northern Ireland Environment Agency. Because the local authority emissions estimates are adjusted to an end-user basis, emissions from sites engaged in energy production and transformation are reallocated to the sectors and locations where the energy is used, rather than being included in the emissions total for the location where the site is.

Q9 Can local authorities submit their own data to be incorporated in the local authority dataset in future?

A9. Using nationally available data and an established methodology as a basis for the estimates ensures consistency between the figures reported for different local authorities. However, we would be interested to know of locally sourced data and would encourage local authorities to seek out local data, which is likely to improve their understanding of the local situation.

Q10 Why is there such a long time lag in publishing the local authority statistics?

A10. The dataset is prepared for DESNZ by Ricardo, who are also responsible for preparing the full UK Greenhouse Gas Inventory which is used by the UK to fulfil our international reporting obligations to the UNFCCC, and which is the top priority for the UK's reporting.

Official Statistics based on the UK inventory, which reports on territorial emissions by source, are published in early February each year, over 12 months after the end of the year being reported. Emissions on an end-user basis for the whole of the UK are then estimated based on the emissions by source and are published as Official Statistics towards the end of March each year.

The data that form the basis of the national inventory are also used to prepare the local authority dataset, and it is therefore necessary that the national work is completed first. Clearly it is important that the local authority data are consistent with the national inventory as far as possible, and we are therefore unable to compile the local authority end-user data until after the UK end-user data are available. The modelling process, data quality checking and preparation of the results for publication take until June each year.

Q11 Are the local authority figures consistent with the emissions estimates for the UK, or the figures published for England, Scotland, Wales, and Northern Ireland?

A11. There are currently some differences in the methodologies underlying the different datasets, which lead to some apparent inconsistencies in the numbers. However, the different estimates are as consistent as possible with each other; it is impossible to be exactly consistent as the local authority estimates have to use additional data sources to disaggregate the emissions down to a local level. The local authority statistics include reconciliation tables showing where differences arise.

One of the main differences is that the local authority statistics only cover carbon dioxide, methane and nitrous oxide emissions and not emissions of fluorinated gases (F gases), which we do not yet have good enough data for to disaggregate to local authority level. This means F gas emissions are missing from things like refrigeration and air conditioning.

The other main difference is that the local authority statistics are on an 'end user' basis, meaning that any emissions from energy supply (e.g., power stations and refineries) are allocated to the end users of the energy rather than being shown separately.

For example, this means that electricity emissions are shown against the authorities where the electricity is used rather than those where power stations are located; therefore, the overall totals for the four countries of the UK are unlikely to match up between the two datasets where elements of energy supply and use occur in different countries.

More information about the main differences with the national inventory and the Devolved Administration inventories can be found in the reconciliation tables in the local authority emission statistics.

Q12 Are the local authority figures regularly updated?

A12. We produce local authority emission estimates on an annual basis at the same time each year, and these data are updated annually to help inform policy making at a local level. When methodological improvements are made to the estimates we revise the full time series of data each year so that the estimates for all years are on a consistent basis, and we expect that the statistics will continue to benefit over time from improvements to the source data and from further improvements to the methodology.

Q13 Why do the local authority emissions get revised each year?

A13. Each year, when the UK greenhouse gas inventory (on which the local authority emissions statistics are based) is extended to add another year, it is updated to include:

- Emission estimates for any new sources identified in the UK;
- Revised estimates for sources where there is an improved understanding of existing emission sources, e.g., where research identifies that new data are available, or a new, more accurate estimation methodology is developed;
- Data revisions, for example to energy statistics (in the Digest of UK Energy Statistics (DUKES)) or updates to UK manufacturing statistics.

Time series consistency is one of the overarching principles of inventory compilation, therefore any changes or improvements that relate to the first two points listed must be applied to the whole time series. Any changes related to data revisions must be applied to all years where the revision has occurred. It is therefore not appropriate to compare the statistics from one year with those from another, the latest estimates represent a single consistent data series.

Both the UK inventory and the local authority statistics have improvement programmes which are used to manage changes to the estimates. A list of possible improvements is compiled each year based on findings from external reviews of the UK inventory, suggestions from the inventory compilers (e.g. where a new dataset has been identified that should be investigated), or input from other stakeholders.

The lists are prioritised, with items related to the completeness of the UK inventory considered most important. Specific research is conducted to address the highest priority improvement items to ensure that the inventory is continually improved, minimising uncertainties and meeting all of the requirements of the UK's international reporting commitments.

Q14 Why do the local authority statistics not include estimates of emissions from fluorinated gases (F gases)?

A14. While they are included in the UK and Devolved Administration greenhouse gas inventories, we do not currently have reliable enough data sources to make useful estimates of F gas emissions to disaggregate to local authority level.

Q15 Why are local authorities not allowed to review the dataset before it is published?

A15. There are strict rules surrounding pre-release access to Accredited Official Statistics publications. Only a very small number of individuals are allowed sight of the statistics at this stage and sharing the data with all local authorities would go against good practice.

However, most of the underlying datasets which are used to compile the emissions statistics are in the public domain at a much earlier stage.

Q16 Why does DESNZ not provide emissions data pre-2005 at regional and local authority level?

A16. Emissions data from 2005 onwards are revised in the estimates each year in order to provide a consistent time series. Any local authorities setting targets are therefore advised to do so against a baseline of 2005 or later.

Other questions

Q17 Why does DESNZ publish the local and regional statistics?

A17. Local and regional bodies have an important role in promoting energy efficiency and reducing greenhouse gas emissions. There is therefore significant demand for local data, which can be hard to obtain.

This work is an attempt to provide data from national sources at a more local level to support local and regional action on climate change, to encourage interest in local emissions estimation as a tool in tackling emissions locally, and to assist those already engaged in such work.

The availability of local and regional figures may reduce the duplication of work among local bodies or give a useful cross-check against other local estimates. Simply having consistent estimates available can help raise awareness of the issues.

Q18 What are the local and regional greenhouse gas emission statistics used for?

A18. They are intended as a resource for local and regional bodies to draw on in developing local policies to tackle greenhouse gas emissions. They can be useful in a range of activities such as:

- Setting emission baselines for local authority areas
- Developing emission reduction targets and monitoring
- Supporting Climate Change Strategies & Action Plans
- Evaluating emission mitigation scenarios

- Underpinning planning appraisals or local transport plans.

Q19 Which authorities are best/worst? Are the local authority statistics a 'league table'?

A19. These results are not intended for use in making comparisons between authorities as each will have its own circumstances, particularly with regards industrial and commercial activity. As such, one authority having higher emissions than another does not on its own prove anything about the performance of the local authority or anyone else involved.

Some areas have heavy industry which could have very large emissions, while many have little heavy industry at all. Similarly, some authorities will have more through traffic than others or will have more dispersed populations, so transport emissions may be higher for these reasons.

Domestic emissions are less variable from place to place, but there are still many influencing factors such as:

- The fuel types used locally
- The type and condition of the housing (including its insulation)
- The average temperature (urban areas can be much warmer and therefore easier to heat than rural areas)
- Average household size
- Type of household and the income and preferences of the occupiers.

Such local factors need to be considered when looking at the figures. Local authorities and other bodies involved in tackling emissions at a local and regional level ought to have a good understanding of these factors and make informed use of the figures. In some cases, they may be able to provide feedback to help improve future estimates.

However, comparisons can be made for any particular authority between different years because the figures use the same methodology and are consistent.

Q20 Is it possible to identify emissions savings which have resulted from local authority actions?

A20. This will not be straightforward as there can be a range of factors affecting emission levels in each authority and the statistics do not identify the impacts of individual actions or the causes of any changes in emission levels. In addition, it is possible that the effects of some actions may not have the expected impact on the statistics for an individual authority due to the limitations of the data sources that need to be used to produce a nationally consistent dataset, so local authorities may need to identify alternative sources to monitor the impact of some activities.

This publication is available from: <https://www.gov.uk/government/publications/uk-greenhouse-gas-emissions-explanatory-notes>

If you need a version of this document in a more accessible format, please email alt.formats@energysecurity.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.