

Environmental accounts on environmental taxes QMI

Quality and methodology information for environmental taxes statistics, detailing the strengths and limitations of the data, methods used and data uses and users.

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1 . Output information

National Statistic	
Frequency	Annual
How compiled	Various sources
Geographic coverage	UK
Last revised	2 October 2019

2 . About this Quality and Methodology Information report

This quality and methodology report contains information on the quality characteristics of the data, including the [European Statistical System five dimensions of quality \(PDF, 3MB\)](#), and the methods used to create it. The information in this report will help you to:

- understand the strengths and limitations of the data
- learn about existing uses and users of the data
- understand the methods used to create the data
- decide suitable uses for the data
- reduce the risk of misusing data

3 . Important points

This report aims to provide users of the environmental taxes statistics with information on the usability and fitness for purpose of these estimates.

The environmental taxes form part of the Office for National Statistics (ONS) UK Environmental Accounts.

This is part of a set of reports covering UK Environmental Accounts estimates. There is quality and methodology information available for other UK Environmental Accounts estimates, including:

- [Air emissions](#)
- [Energy Use](#)
- [Material flows](#)
- [Environmental Protection Expenditure](#)
- [Environmental Goods and Services Sector](#)

4 . Quality summary

Overview

The [UN System of Environmental Economic Accounts](#) (SEEA), together with the UN [System of National Accounts](#) (SNA) and the [European System of Accounts](#) (ESA), provide a framework for producing internationally comparable statistics on the environment and its relationship with the economy. The Office for National Statistics (ONS) are responsible for reporting annually on this basis to [Eurostat](#).

Environmental taxation is captured within this international framework. Environmental taxes (and other economic instruments such as charges or subsidies) for pollution control and natural resource management are an increasingly important part of public policy.

Environmental taxes are those that are based on a physical unit, for example, a litre of petrol or a proxy for it – for instance a passenger flight – that has a proven negative impact on the environment. Environmental taxes are designed to promote environmentally positive behaviour, reduce damaging effects on the environment and generate revenue that can potentially be used to promote further environmental protection.

A range of statistics is published in the UK Environmental Accounts on environmental taxation:

- total environmental tax revenue
- environmental tax revenue as a proportion of gross domestic product (GDP)
- environmental tax revenue as a proportion of total tax revenue including social contributions
- environmental tax revenue broken down by economic activity (Standard Industrial Classification 2007) and type of environmental tax (Energy, Transport, Pollution and resource)

These are all made available for download as Microsoft Excel files from the [Environmental Accounts](#) page of the ONS website.

The main data sources for environmental taxes are from HM Treasury revenue data provided to the ONS in order to enable compilation of public sector accounts. Breakdowns by industry are informed by supply and use tables. From these sources, it is possible to estimate allocations of environmental taxes to individual industries.

Users and uses

Because of their comparability with the boundaries and definitions used in the national accounts, the data are a useful input to economic analysis. In addition to the mandatory requirement to supply data to Eurostat, the potential uses for data come from a variety of international organisations, the UK and other governments, and the research community. The primary users of environmental taxes data in the government are HM Treasury and the Department for Environment, Food and Rural Affairs (Defra).

5 . Quality characteristics of the environmental taxes data

Geography

Estimates are available at UK level and not further disaggregated by geography.

Coherence and comparability

Environmental taxes data are sourced from national accounts, public sector accounts branch and are based on administrative data supplied by HM Treasury. During the compilation process, validation checks ensure that published Office for National Statistics (ONS) environmental taxes data are consistent with the source data.

Environmental taxes data are published as a time series from 1997, and data within this time series are internally consistent, enabling the analysis of emerging trends. The UK national tax list is regularly reviewed to determine if any new environmental taxes have been introduced or have ceased. Data are comparable over time and the time series is subject to revision each year as new public sector accounts, or supply and use data used to break such information down by industry are released.

The UK Environmental Accounts are a satellite account of the main national accounts. As such, estimates of environmental taxes published in the UK Environmental Accounts are consistent with those used in the national accounts.

As definitions of environmental taxes reported are internationally agreed, this allows for cross-country comparisons of levels of environmental taxation to be made. The data sets “environmental taxes as a share of GDP and environmental taxes a share of total taxes and social contributions” within the Environmental Accounts publication contain data on the UK along with other EU countries. These data are available on the [Eurostat website](#).

Timeliness and punctuality

Environmental taxes estimates are supplied to Eurostat each year in line with Y-2¹ regulatory requirements. Eurostat then releases the estimates on its [database](#) alongside data for other countries.

Environmental taxes data are published within the Environmental Accounts release in June each year. The timeliness of the environmental taxes data contained within this publication varies from Y-1 to Y-3 depending on the breakdown available. We aim to publish the most timely environmental taxes data available as soon as is possible.

The release, and any articles associated with the environmental taxes estimates, are pre-announced on the ONS website. Previously released datasets are accessible on the [ONS website](#).

Concepts and definitions

Environmental taxes are those that are based on a physical unit, for example, a litre of petrol or a proxy for it – for instance a passenger flight – that has a proven negative impact on the environment. This definition has been agreed by international experts, and adopted by [Eurostat](#) and the [Organisation for Economic Co-operation and Development \(OECD\)](#).

By considering the effects of taxes rather than their aims, it is possible to understand the degree to which environmental issues affect how a government raises its revenue. For instance, a tax may be introduced with the purpose of increasing government revenue rather than reducing environmental degradation, but this would not prevent its inclusion as an environmental tax.

Measures of environmental taxes should be interpreted and used with care. In particular, the levels of revenues from environmental taxes do not necessarily indicate the relative importance or the success of environmental policy. High environmental tax revenues can result either from high rates of taxes or from high levels of environmental problems (for example, pollution), leading to a large tax base. The broad measure of revenues can also fail to capture the effect of the differential rates that encourage a shift away from higher-impact behaviour (such as the use of leaded petrol).

Notes for: Quality characteristics of the environmental taxes data

1. Y-2 in this context refers to the amount of delay in the data from the reference period to the provision, For example, 2017 data is provided to Eurostat in 2019.

6 . Methods used to produce the environmental taxes data

The environmental taxes data are compiled in accordance with the [System of Environmental Economic Accounting \(SEEA\)](#), which closely follows national accounting standards set out in the [System of National Accounts \(SNA\)](#).

Environmental taxes are identified according to criteria laid out by the [Eurostat handbook on the compilation of environmental taxes](#). Environmental taxes are grouped into four main tax categories:

Energy taxes: this category includes taxes on energy products used for both transport and stationary purposes. The most important energy products for transport are petrol and diesel. Energy products for stationary use include fuel oils, natural gas, coal and electricity. Taxes relating to the reduction of carbon dioxide (CO₂) emissions reduction are also included within this category. In the UK, these include the Climate Change Levy, the Emissions Trading Scheme and the Carbon Reduction Commitment¹.

Transport taxes: this category mainly includes taxes related to the ownership and use of motor vehicles and taxes on other transport equipment, when they conform to the general definition of environmental taxes. The taxes may be one-off taxes related to imports or sales of the equipment, or recurrent taxes such as an annual road tax. All taxes on means of transport should be included, even taxes on means of transport that are considered to be relatively more environmentally friendly such as railway rolling stock and public transport in general. Taxes on electric cars should also be included. Taxes on vehicle insurance should also be included, provided they are specific taxes on the insurance of vehicles and not general insurance taxes levied on all kinds of insurance contracts.

Pollution taxes: this group includes taxes on measured or estimated emissions to air and water, management of solid waste and noise. They excluded taxes related to CO₂ emissions, which are included under energy taxes.

Resource taxes: this category includes taxes linked to the extraction or to the use of natural resources such as water, forest, wild flora and fauna etc., as these activities deplete natural resources.

In the UK, these four tax categories currently include the taxes shown in Table 1. For detailed descriptions of individual taxes please see Annex 1.

Table 1: Environmental taxes in the UK

Tax category	Tax
Energy	Climate Change Levy
	Fossil Fuel Levy
	Gas Levy
	Hydro Benefit
	Renewables Obligation
	Contracts for Difference
	Emissions Trading System
	Carbon Reduction Commitment
	Hydrocarbon Oil Duty
Transport	Rail Franchise Premia
	Vehicle Registration tax
	Northern Ireland Driver Vehicle Agency (DVANI)
	Motor vehicle duties paid by businesses
	Motor vehicle duties paid by households
	Boat licences
	Air Passenger Duty
	Air Travel Operators Tax
Pollution	Landfill
Resources	Aggregates Levy
	Fishing licences

Source: Office for National Statistics

In general, new taxes and changes to taxes are identified through the Office for National Statistics (ONS) classification process. Assurance of coverage is assisted by HM Revenue and Customs (HMRC), which is responsible for collecting most UK taxes, and HM Treasury. These government departments provide monthly data to the ONS detailing each individual tax collected, and the amount of revenue associated with that tax. This ensures appropriate coverage of all relevant taxes.

During the compilation process, validation checks ensure that published ONS environmental taxes data are consistent with the source data. Quality assurance checks are also completed to ensure accuracy when compiling and publishing the results.

Accuracy

As the true value for environmental taxes is never known, the accuracy of data is difficult to assess. However, most sources for public income are administrative and therefore not subject to sampling error.

One way in which to measure accuracy is reliability and this can be determined according to the magnitude of revisions. Although the data sources used to compile environmental taxes data are subject to revision, revisions tend to be small in magnitude, with total environmental tax revenue generally revised by less than 0.1% each year.

Notes for: Methods used to produce the environmental taxes data

1. Carbon dioxide (CO₂) taxes are included in energy taxes rather than the pollution taxes category for several reasons which include that it is often not possible to identify CO₂ taxes separately in tax statistics because they are integrated with energy taxes. Such taxes are often introduced as a substitute for other energy taxes and the revenue from these taxes is often large compared to the revenue from the pollution taxes. This means that includes CO₂ taxes with pollution taxes rather than energy taxes would distort international comparisons.

7 . Other information

More information on material flows and other topics related to UK Environmental Accounts is available:

[UK Environmental Accounts](#)

[UN System of Environmental and Economic Accounting \(SEEA\)](#)

[European regulation on environmental economic accounts](#)

[Eurostat handbook on environmental taxes \(PDF, 472.87KB\)](#)

[UK supply and use tables](#)

8 . Annex 1: Definitions of specific environmental taxes

Tax on hydrocarbon oils is also known as fuel duty and include taxes on unleaded petrol (including super unleaded), leaded petrol, lead replacement petrol, ultra-low sulphur petrol, diesel and ultra-low sulphur diesel.

The Climate Change Levy is a tax on energy delivered to non-domestic users and was introduced in 2001. From 2013 it includes the carbon price floor, which taxes fossil fuel used to generate electricity.

The Fossil Fuel Levy was introduced in 1990 and is a tax paid by suppliers of electricity from non-renewable energy sources, it was set at 0% following the introduction of the Climate Change Levy.

The Gas Levy was introduced in 1981. It was a tax on gas suppliers who arranged gas supply contracts. The tax was remanded in the finance act 1998.

Hydro Benefit is a tax on energy suppliers to protect domestic consumers from the high costs of distributing electricity in the north of Scotland. It ceased in 2005 and was replaced with alternative schemes to help fund this.

Renewables Obligation tax was introduced in 2002 for Great Britain, and in 2005 for Northern Ireland. It requires supplies of electricity to generate a certain proportion of electricity from renewable sources.

The Contracts for Difference scheme was introduced in 2014 and was previously included within the renewable energy obligation data. The scheme is designed to incentivise investment in renewable energy generation. The basic principle is that generators are offered a contract with a known strike price for renewable electricity sold, if the market price for electricity is below the strike price, the generator is paid the difference from the government; if the market price for electricity is above the strike price, the generator pays back the difference to the government.

The European Union Emissions Trading System was introduced in 2005. It is designed to help limit greenhouse gas emissions from heavy energy using installations by setting a cap on allowance of greenhouse gas emissions from such installations. Companies with such installations receive or buy emissions which they can trade with one another as needed. A limit on the total number of allowances available ensures they have a value. Each year a company must surrender enough emissions allowances to cover its emissions, otherwise fines are imposed. If a company reduces its emissions, it can keep spare allowances to cover its future needs or sell them to other companies.

The Carbon Reduction Commitment was introduced in 2010 and is designed to improve energy efficiency and cut carbon dioxide emissions in private and public sector organisations that are high energy users.

Air Passenger Duty was introduced in 1994 and is a charged on all passenger flights from UK airports.

Rail Franchises Premiums refers to the premium paid by train companies to the UK Government to provide specified train services. The franchising system began in the 1990s as part of the privatisation of British Rail.

Vehicle registration tax includes revenue from tax on vehicle registration in the UK but excludes Northern Ireland from 2007 onwards.

The Northern Ireland Driver Licensing agency was set up in 2007. Data refer to revenues from tax on vehicle registration in Northern Ireland.

Motor vehicle duties paid by businesses and households are also known as Vehicle Excise Duty. This is payable annually by owners of most types of vehicles.

Boat licences refer to an annual charge required by owners of boats who use or keep their boats on inland waterways in the UK.

Fishing licences are required to fish for certain species of fish in various locations across the UK.

The Aggregates Levy was introduced in 2002 and is a tax on sand, gravel or rock that has been dug from the ground, dredged from the sea or imported into the UK. It is generally payable by the quarrying industry but can also apply when aggregate is removed in the course of infrastructure projects.