

Background:

This annual statistical release provides statistics on rail emissions, energy and water consumption, and waste generation for passenger and freight operators in Great Britain.

It covers: **traction energy consumption of electricity and diesel** (used to power train movements), and estimates of **CO₂e emissions**. It also covers **non-traction energy consumption, water consumption and waste generation**.

Source: Passenger and freight operators, and Network Rail.

Latest year: 1 April 2024 to 31 March 2025

Contents:

Passenger trains – p2

Freight trains – p14

Transport emissions in context – p23

Annexes – p26

Responsible statistician:

M. Lunn

Public enquiries:

rail.stats@orr.gov.uk

Media enquiries:

Tel: 07856 279808

Next publication:

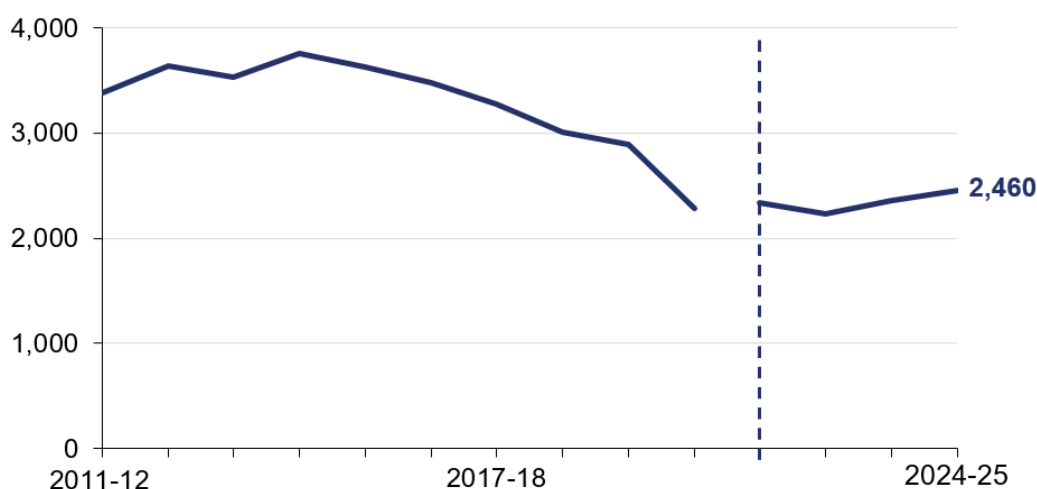
October 2026

In the latest year, for all passenger and freight trains combined, total **traction electricity consumption was 4,098 million kilowatt hours**. This was up 4% compared with the previous year. Total **traction diesel consumption was 582 million litres**. This was up 4% compared with the previous year.

Total estimated **carbon dioxide equivalent (CO₂e) emissions** increased by 4% to **2,460 kilotonnes** in the latest year. Passenger trains accounted for 2,011 kilotonnes of this total, with the remaining emissions from freight trains.

Figure 1 Total emissions from traction energy are slightly higher than the previous year

Total passenger and freight train CO₂e emissions (kilotonnes), Great Britain, annual data, April 2011 to March 2025 (Tables 6105 and 6115)



Note: Vertical dashed line represents a break in the time series in 2021-22.

This release includes **official statistics in development** on non-traction energy consumption, water consumption and waste generation for passenger and freight operators. For feedback or questions, please email rail.stats@orr.gov.uk.

All data tables, a quality and methodology report and an interactive dashboard associated with this release are published on the [Rail environment page](#) of the data portal. Key definitions are in annex 1 of this release.

1. Passenger trains

The data in this section covers mainline passenger operators and Eurostar (UK side). The inclusion of Eurostar means that the usage totals used to normalise emissions data will differ from Great Britain totals published in our [Passenger rail usage statistics](#).

Traction energy

Energy consumption

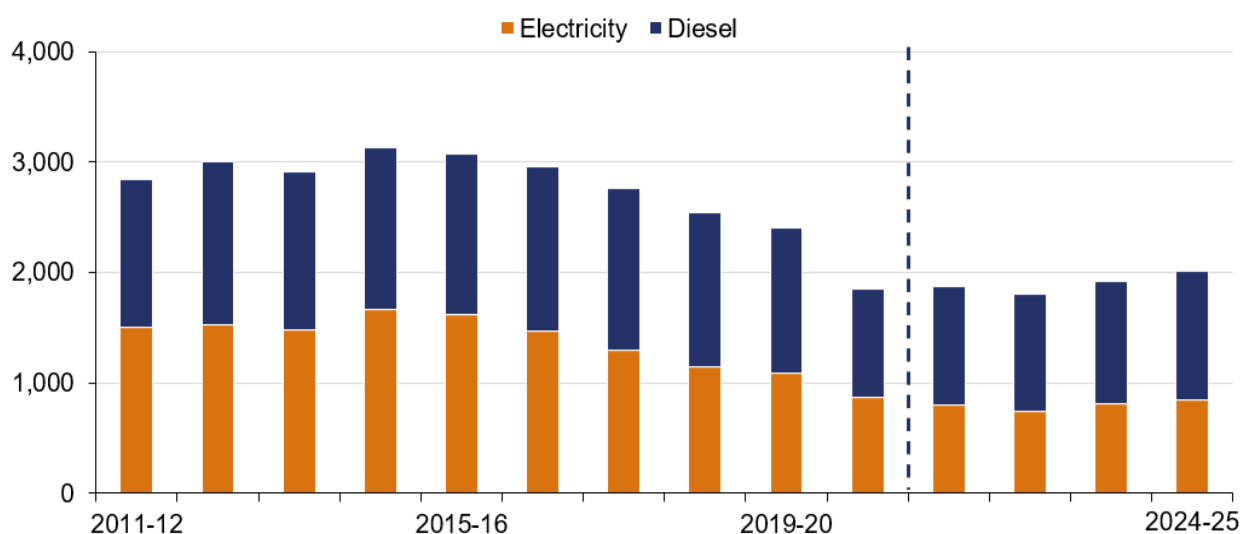
In the latest year (April 2024 to March 2025), total traction electricity consumption for passenger trains was 4,050 million kilowatt hours. This was an increase of 5% compared with the previous year (April 2023 to March 2024). Total traction diesel consumption for passenger trains was 423 million litres, an increase of 5% compared with the previous year.

Emissions

Carbon dioxide equivalent (CO₂e) emissions are estimated from energy consumption data. In the latest year, total emissions from passenger trains were 2,011 kilotonnes. This was up 5% compared with the previous year, driven by an increase in energy consumption.

Figure 1.1 Passenger train emissions for electricity and diesel increased on the previous year

Passenger train CO₂e emissions (kilotonnes), by electricity and diesel, Great Britain, annual data, April 2011 to March 2025 (Table 6105)



Note: Vertical dashed line represents a break in the time series in 2021-22.

Of the total, emissions from traction electricity consumption were 845 kilotonnes. This was up 4% compared with the previous year. Emissions from diesel consumption were 1,166 kilotonnes. This was up 5% compared with the previous year.

The increase in total electricity emissions was smaller than the increase in total electricity consumption (up 5%) because of a 1% decrease in the conversion factor. The conversion factor for diesel remained very similar to the previous year (decreased by less than 0.1%). As a result, the increase in diesel emissions aligned closely with the rise in diesel consumption. Since the year April 2016 to March 2017, diesel emissions have exceeded electricity emissions each year. Prior to this, electricity emissions were greater than those from diesel.

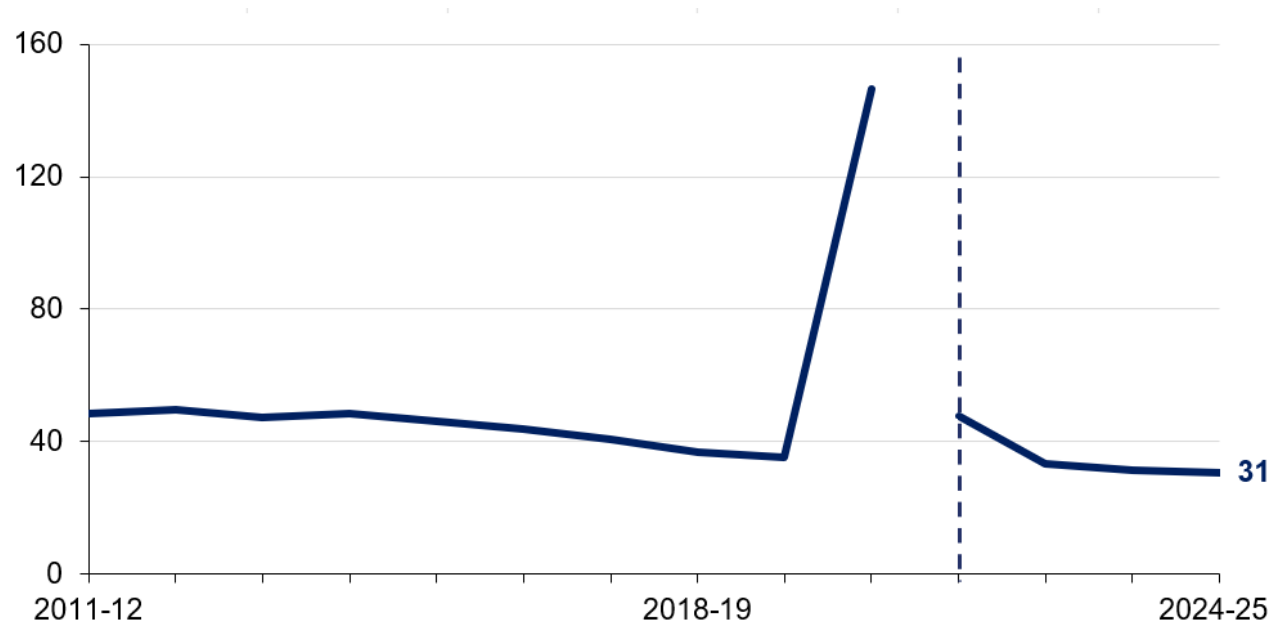
Emissions normalised by passenger kilometres

Comparisons of total emissions over time and between operators should be treated with caution because usage varies over time and between operators. Normalisation by usage (measured by passenger kilometres) presents data on a more comparable basis.

In the latest year, emissions per passenger kilometre was 31 grams of CO₂e. This was down 2% on the previous year. Passenger kilometres increased 7% compared with the previous year, although they were still below pre-pandemic levels.

Figure 1.2 Passenger train emissions per kilometre peaked during the pandemic

Passenger train CO₂e emissions (grams) per passenger kilometre, Great Britain, annual data, April 2011 to March 2025 (Table 6100)



Note: Vertical dashed line represents a break in the time series in 2021-22.

Emissions normalised by vehicle kilometres

In the latest year, emissions per vehicle kilometre for all traction types were 625 grams of CO_{2e}, down 1% from 631 grams in the previous year. Grams of CO_{2e} per electric vehicle kilometre decreased by 2%, reflecting the larger rise in electric vehicle kilometres (up 6%) than electricity emissions (up 4%).

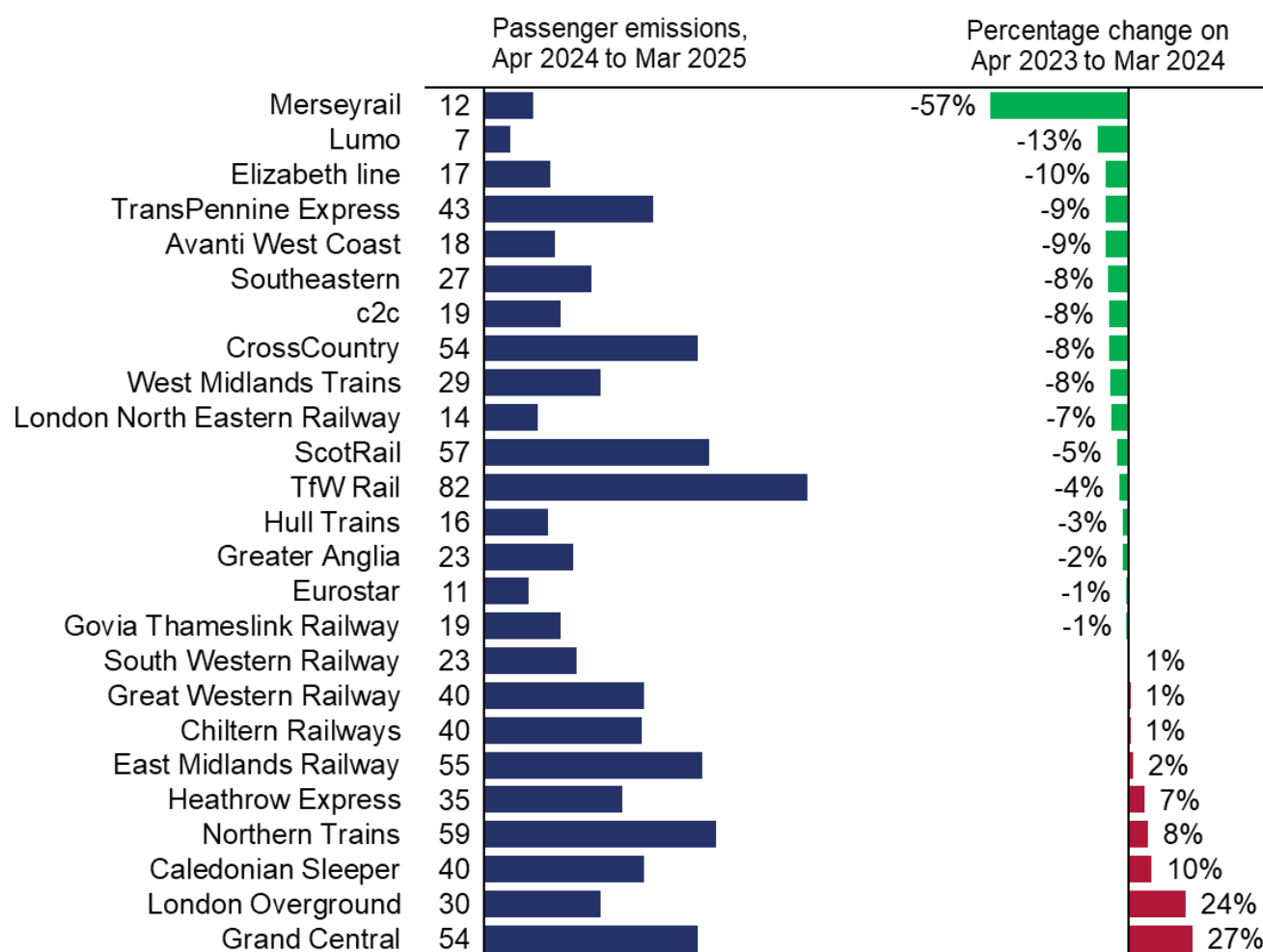
In contrast, grams of CO_{2e} per diesel vehicle kilometre increased by 0.8%, reflecting the larger rise in diesel emissions (up 5.5%) than diesel vehicle kilometres (up 4.7%).

Emissions normalised by passenger kilometres by train operator

Carbon dioxide equivalent (CO₂e) emissions per passenger kilometre decreased for most operators compared with the previous year, while nine operators reported an increase. For these nine operators, the increase in emissions was greater than the increase in passenger kilometres compared to the previous year.

Figure 1.3 Emissions per passenger kilometre decreased for most operators

Passenger train CO₂e emissions (grams) per passenger kilometre by operator, April 2024 to March 2025, and percentage change compared with April 2023 to March 2024 (Table 6103)



Merseyrail had the largest decrease in emissions per passenger kilometre compared with the previous year (down 57%). This can be attributed to a significant decrease in electricity consumption on the previous year. In contrast, Grand Central had the largest increase (up 27%), driven by increased emissions (up 22%) and a decrease in passenger kilometres (down 4%).

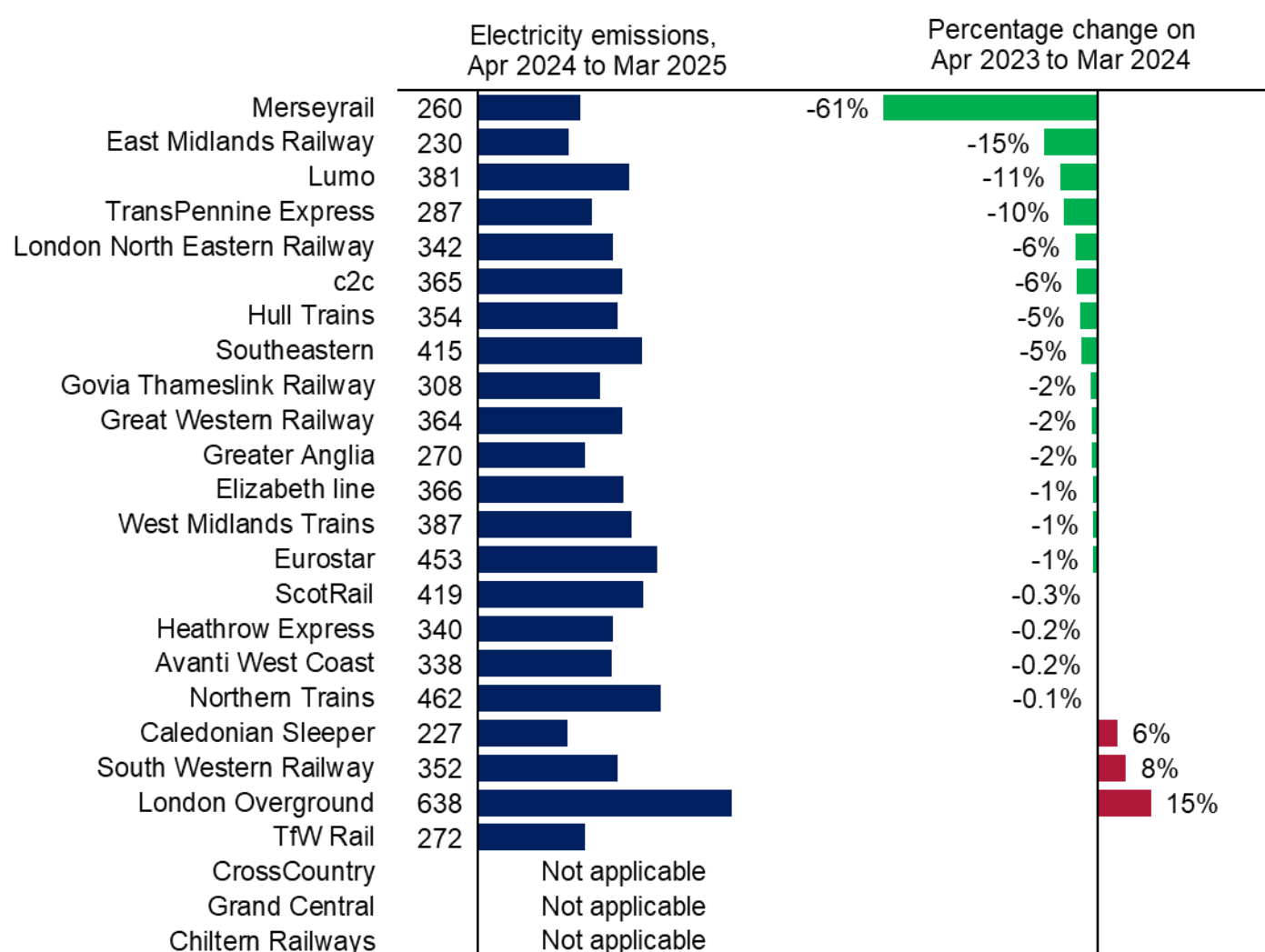
Emissions normalised by vehicle kilometres by train operator

Emissions normalised by electric vehicle kilometres

Eighteen operators recorded a decrease in electricity emissions per electric vehicle kilometre, while three recorded an increase. Three operators did not operate any rolling stock on electrified track.

Figure 1.4 Electricity emissions per electric vehicle kilometre decreased for most operators

Passenger train CO₂e emissions (grams) from electricity consumption per electric vehicle kilometre by operator, April 2024 to March 2025, and percentage change compared with April 2023 to March 2024 (Table 6103)



Note: No data was available for TfW Rail for the previous year.

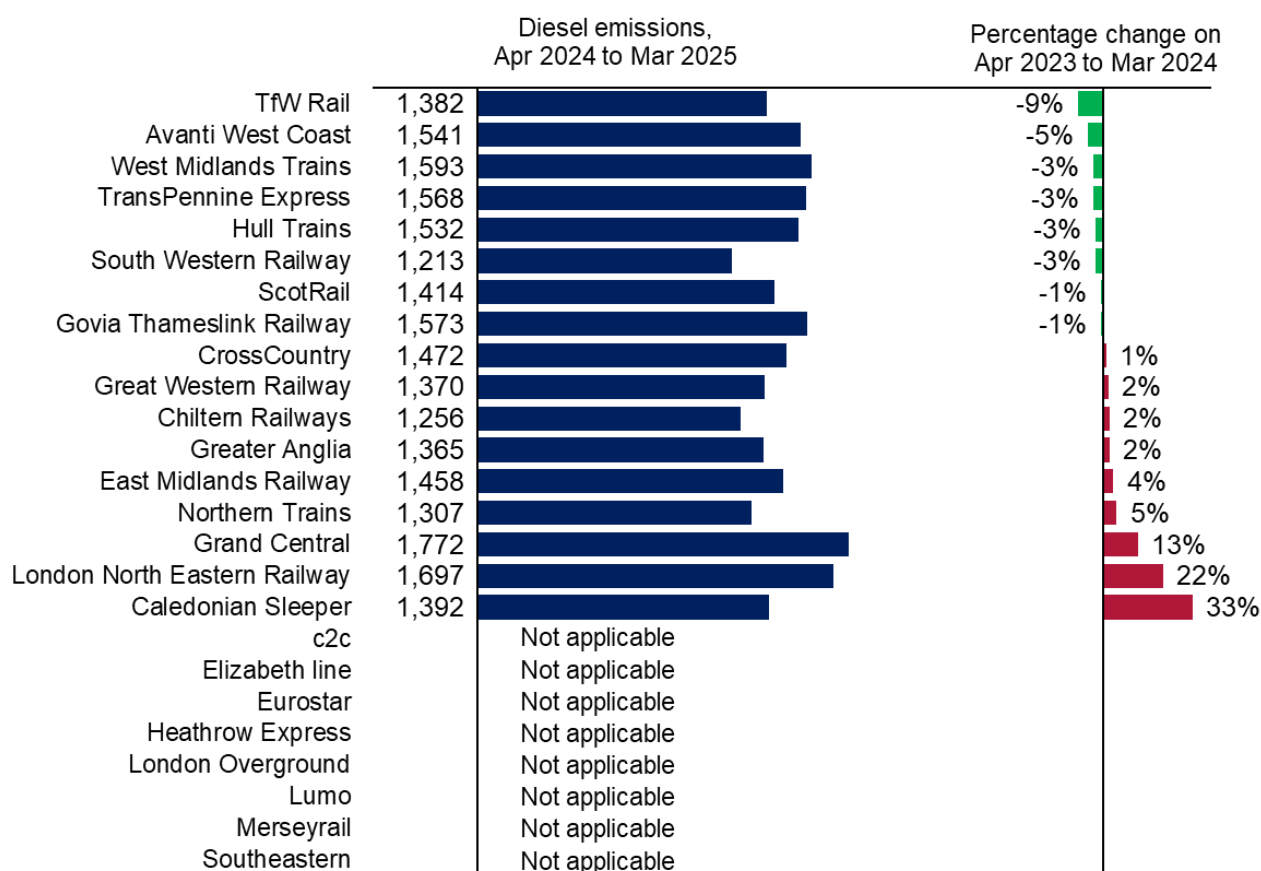
Merseyrail recorded the largest decrease in electricity emissions per vehicle kilometre compared with the previous year (down 61%), while London Overground recorded the largest increase on the previous year at 15%.

Emissions normalised by diesel vehicle kilometres

For nine operators, diesel emissions per diesel vehicle kilometre increased compared with the previous year. For eight operators, there was a decrease. Eight operators did not run any diesel rolling stock.

Figure 1.5 Diesel emissions per diesel vehicle kilometre increased for most operators with diesel rolling stock

Passenger train CO₂e emissions (grams) from diesel consumption per diesel vehicle kilometre by operator, April 2024 to March 2025, and percentage change compared with April 2023 to March 2024 (Table 6103)



TfW Rail had the largest decrease in diesel emissions per diesel vehicle kilometre compared with the previous year (down 9%). This can be attributed to an increase in diesel vehicle kilometres (up 22%). In contrast, Caledonian Sleeper reported a 33% increase in diesel emissions per vehicle kilometre compared with the previous year. This can be attributed to a decrease in diesel vehicle kilometres (down 22%) and an increase in diesel emissions (up 4%).

Non-traction energy consumption

Non-traction energy includes energy consumption in stations, offices, workshops, depots, and service buildings, as well as maintenance activities.

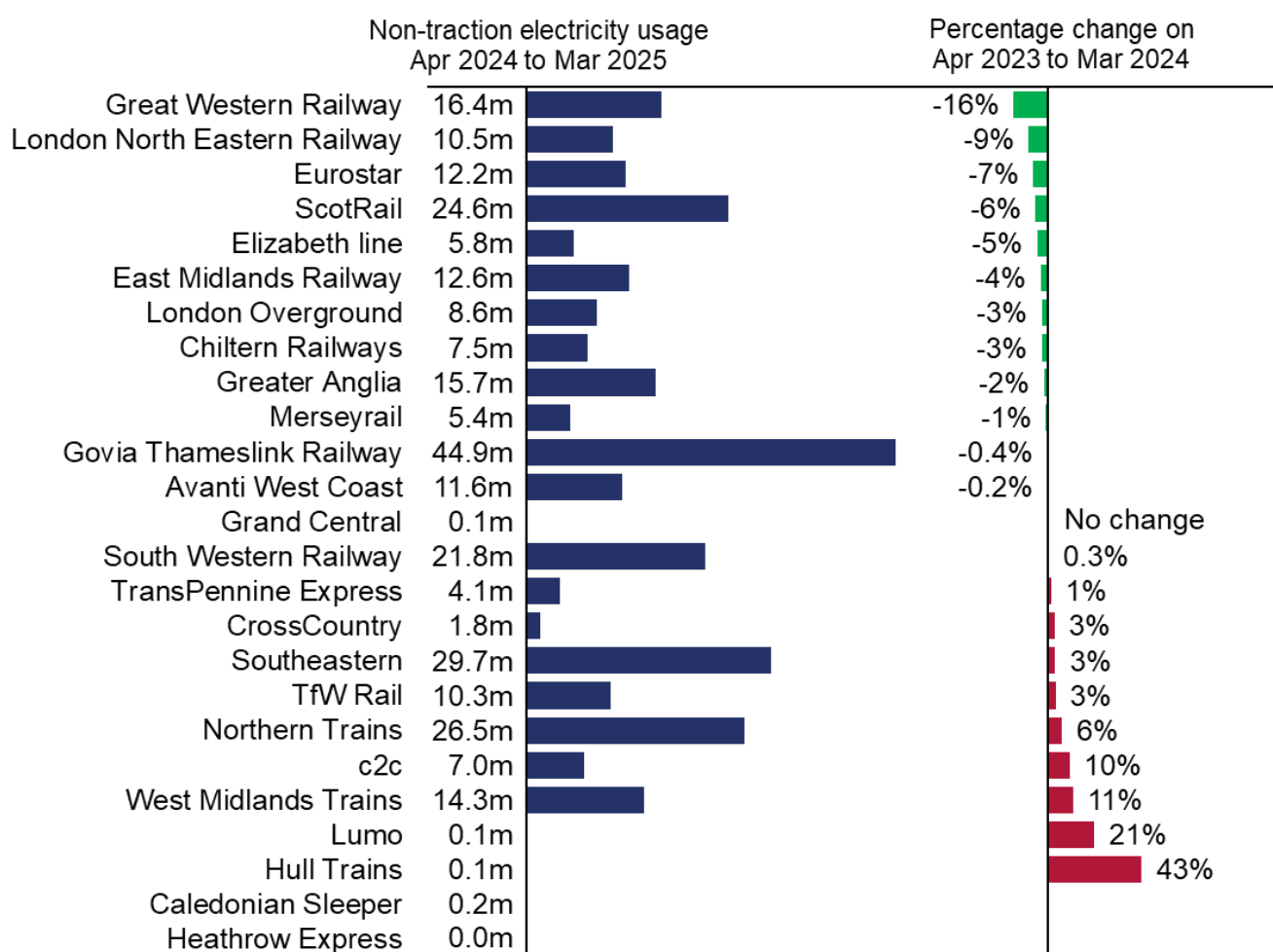
Comparisons of non-traction energy use between operators should be treated with caution due to differences between the facilities they manage. Some operators are responsible for additional infrastructure including varying numbers of stations and depots, which impacts their overall energy consumption.

Non-traction electricity consumption

In the latest year (April 2024 to March 2025), ten operators reported a decrease in non-traction electricity consumption, while thirteen operators reported an increase.

Figure 1.6 Non-traction electricity consumption varied by operator, due to differences in the number of stations they managed

Passenger operators' non-traction electricity (kilowatt hours) usage, April 2024 to March 2025, and percentage change compared with April 2023 to March 2024 (Table 6123)



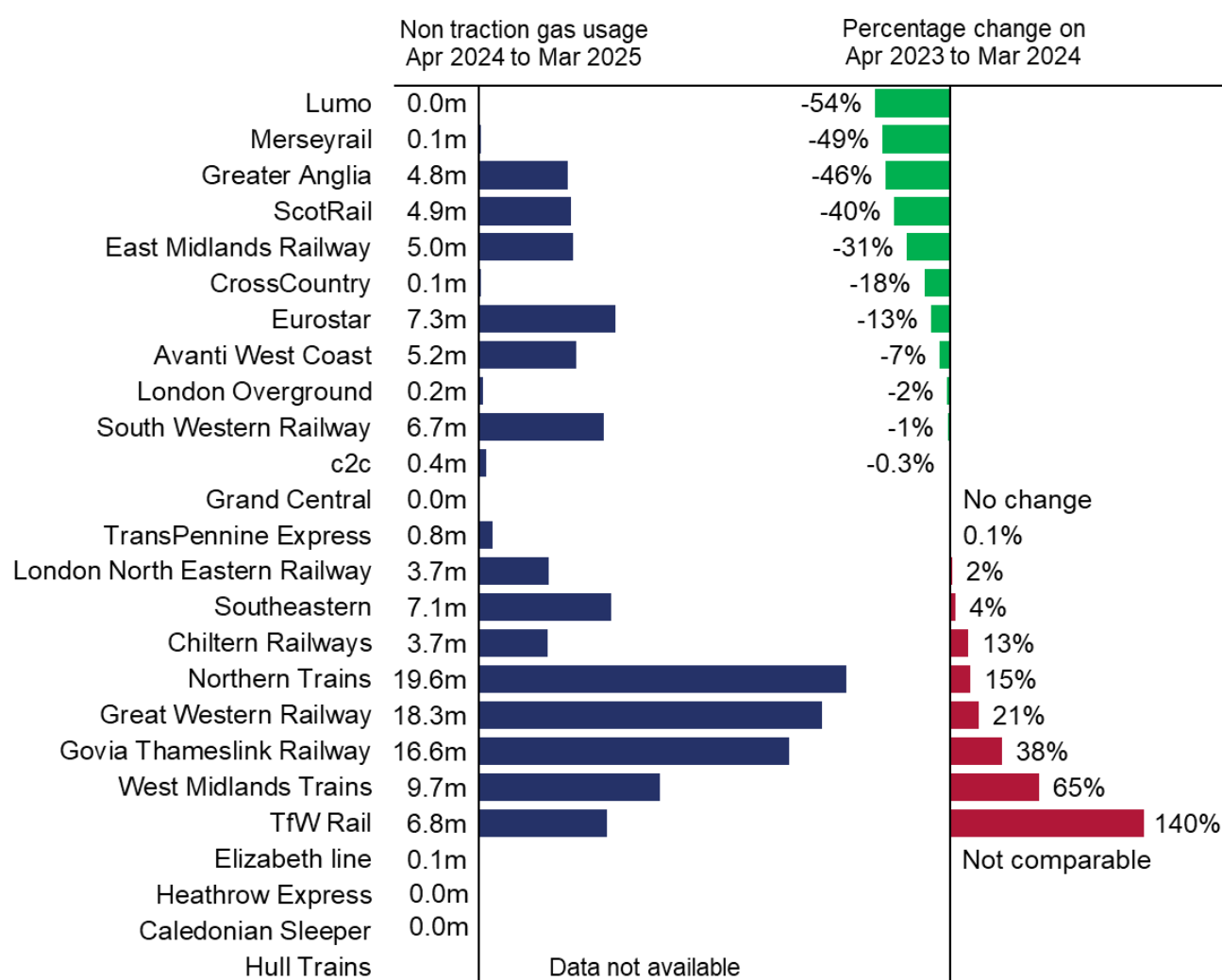
Note: Heathrow Express: 6,122 kWh. Data for the previous year was unavailable for Caledonian Sleeper.

Non-traction gas consumption

In the latest year (April 2024 to March 2025), eleven operators reported a decrease in non-traction gas usage compared with the previous year. Eleven operators reported an increase, with data unavailable for three operators.

Figure 1.7 Non-traction gas consumption varied by operator, due to differences in the number of stations and facilities they managed

Passenger operators' non-traction gas (kilowatt hours) usage, April 2024 to March 2025, and percentage change compared with April 2023 to March 2024 (Table 6123)



Note: Lumo: 8,361 kWh, Grand Central: 33,336 kWh, Heathrow Express: 1,724 kWh, Caledonian Sleeper: 0 kWh. The data for Elizabeth line is not comparable with previous years due to changes in the way consumption has been estimated.

Other environmental measures

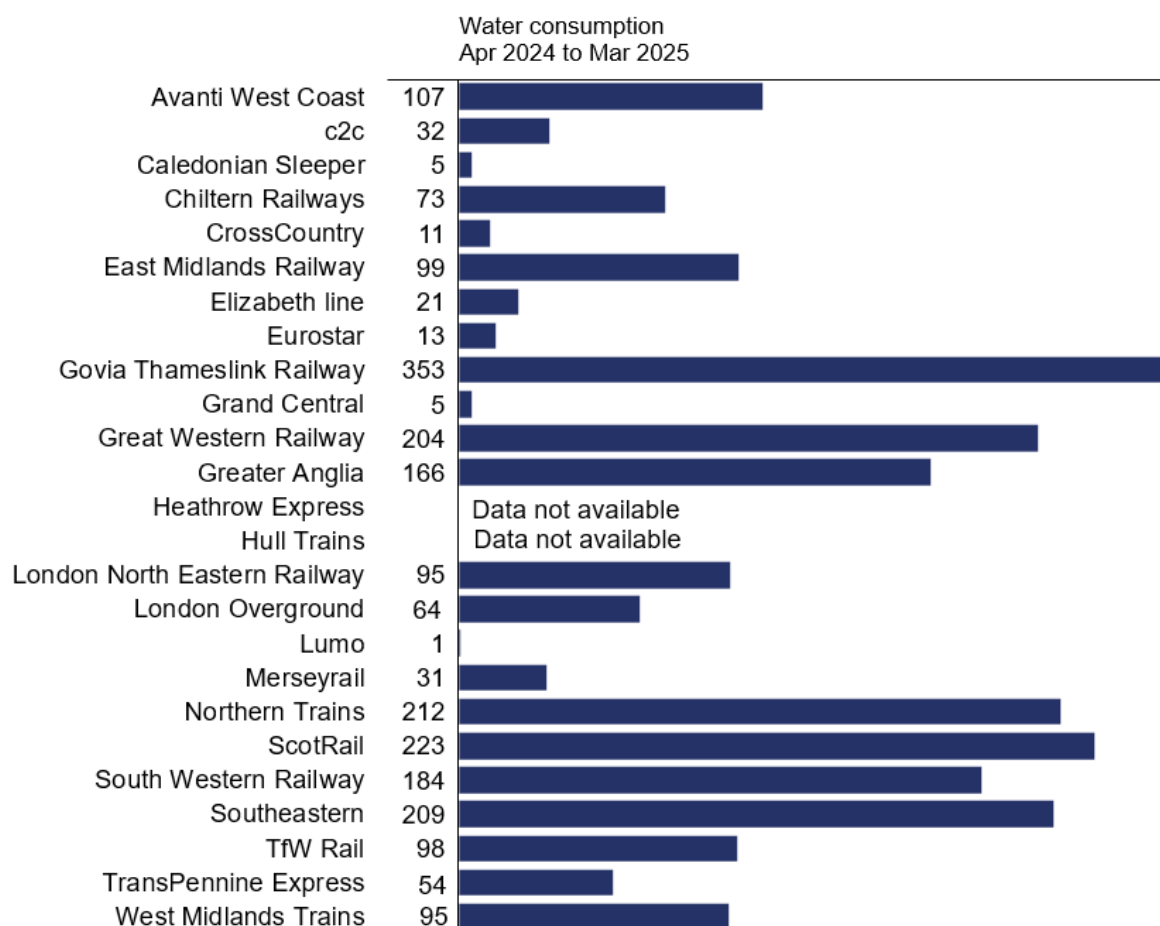
Comparisons of water consumption and waste generation between operators should be treated with caution due to differences between the facilities they manage. Some operators are responsible for additional infrastructure including varying numbers of stations and depots, which impacts their consumption levels.

Water consumption

Water consumption includes all mains water used for activities such as domestic and sanitary use, washing fleet vehicles, and maintaining rolling stock.

Figure 1.8 Water consumption varied by operator, due to differences in the facilities they managed

Water (thousand cubic metres) consumption by passenger operator, April 2024 to March 2025 (Table 6143)

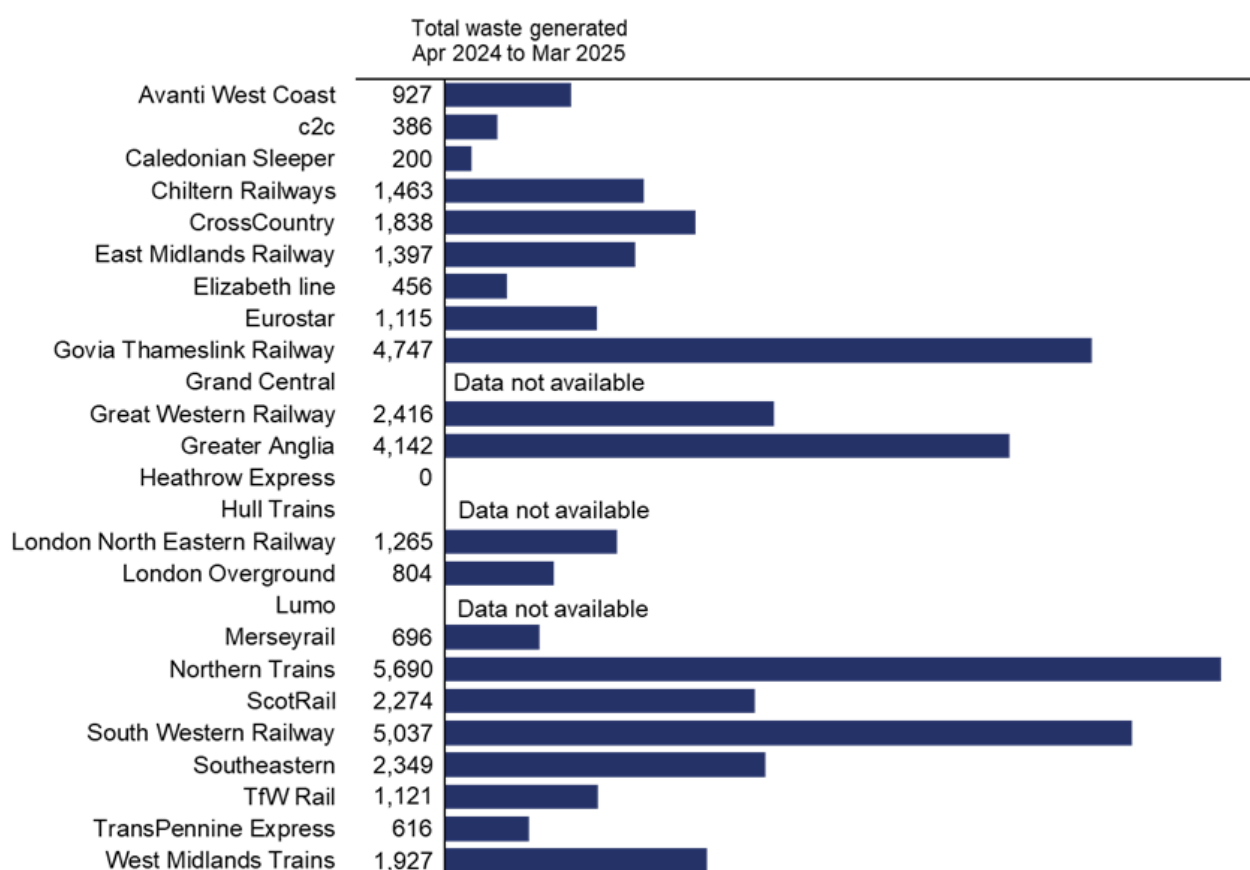


Waste generation

Total waste includes all waste generated, such as materials for disposal, recycling, transfer, or reuse. More disaggregated data on waste generation is available in Table 6163.

Figure 1.9 Total waste generated varied by operator, due to differences in the number of stations and facilities they managed

Total waste (tonnes) generated by passenger operator, April 2024 to March 2025 (Table 6163)



Note: Heathrow Express: 0.22 tonnes.

2. Freight trains

The data in this section covers the six largest freight operators and includes estimates for the smaller freight operators. These include operators for the purpose of infrastructure maintenance and other rail-related activities (e.g. transport of rolling stock).

Traction energy

Energy consumption

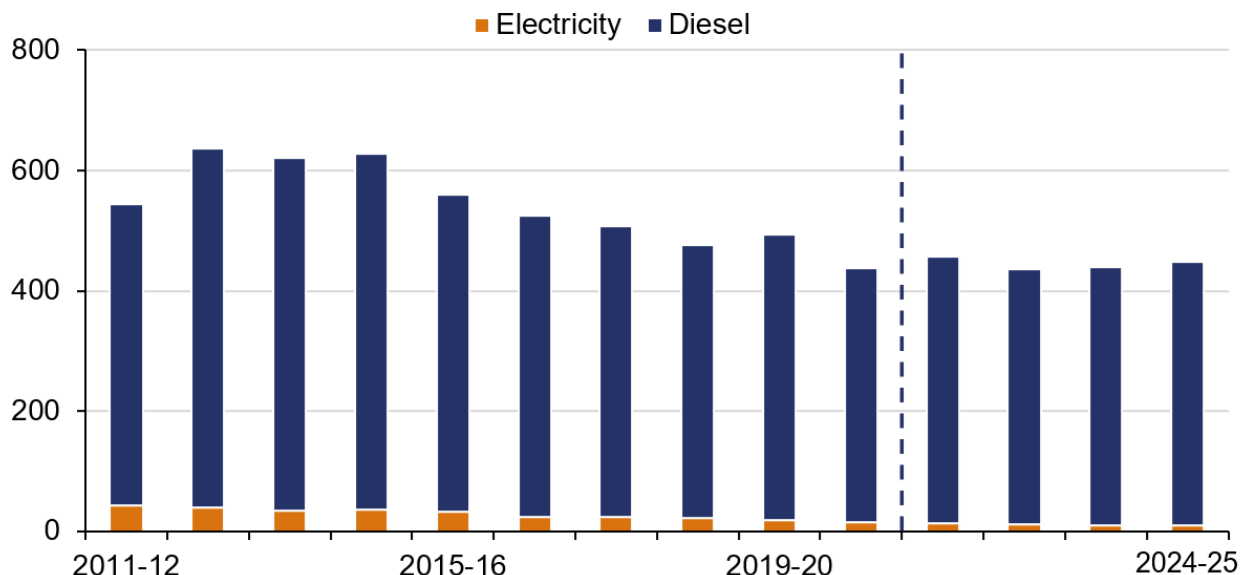
In the latest year (April 2024 to March 2025), total traction electricity consumption for freight trains was 48 million kilowatt hours. This was up 5% compared with the previous year (April 2023 to March 2024). Total traction diesel consumption for freight trains was 159 million litres. This was up 2% compared with the previous year.

Emissions

Carbon dioxide equivalent (CO₂e) emissions are estimated from energy consumption data. In the latest year, total emissions from freight trains were 448 kilotonnes. This was up 2% compared with the previous year.

Figure 2.1 Freight train emissions increased slightly on the previous year

Freight train CO₂e emissions (kilotonnes), by electricity and diesel, Great Britain, annual data, April 2011 to March 2025 (Table 6115)



Note: Vertical dashed line represents a break in the time series in 2021-22.

Of the total, emissions from electricity consumption were 10 kilotonnes. This was up 4% compared with the previous year. Meanwhile, emissions from diesel consumption were 438 kilotonnes. This was up 2% compared with the previous year.

The increase in electricity emissions (up 4%) was slightly less than the rise in electricity consumption (up 5%), while the increase in diesel emissions (up 2%) was closely aligned with the increase in diesel consumption (also up 2%).

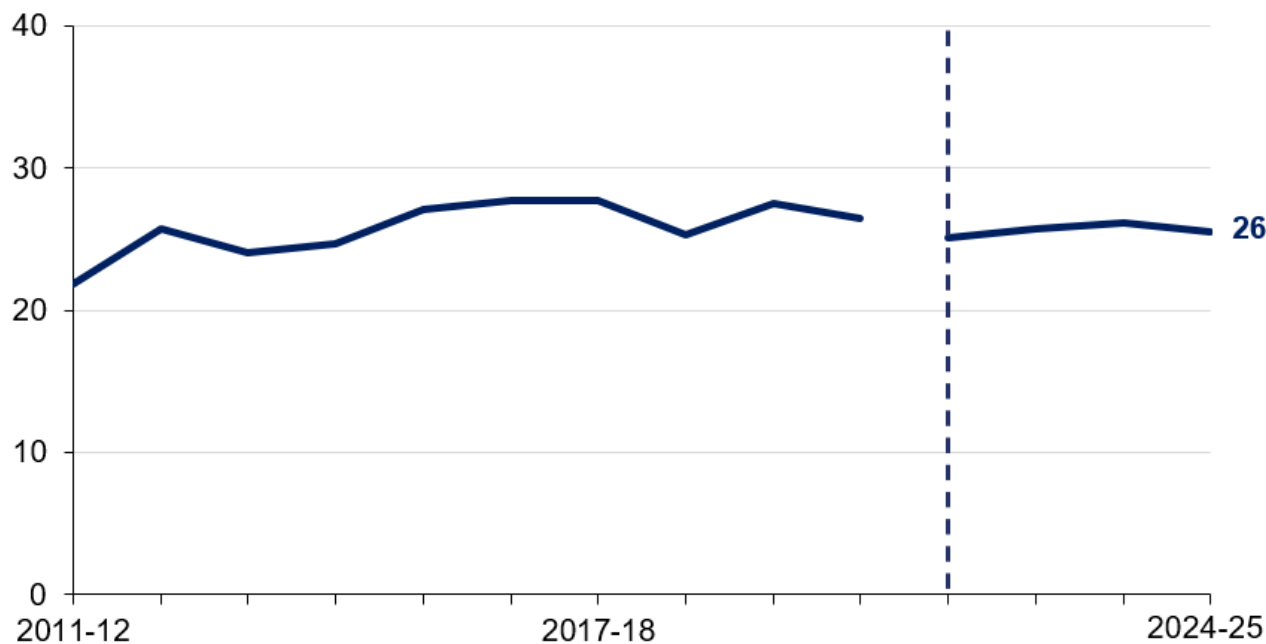
Emissions normalised by net tonne kilometres

Comparisons of emissions over time and between operators should be treated with caution because usage varies over time and between operators. Normalisation by usage (measured by net tonne kilometres) presents data on a more comparable basis.

In the latest year, emissions per net tonne kilometre were 25.5 grams of CO₂e, a 2% decrease from the previous year's figure of 26.1 grams of CO₂e per net tonne kilometre.

Figure 2.2 Freight train emissions per net tonne kilometre have remained fairly constant over time

Freight train CO₂e emissions (grams) per net tonne kilometre, Great Britain, annual data, April 2011 to March 2025 (Table 6110)



Note: Vertical dashed line represents a break in the time series in 2021-22.

Emissions normalised by vehicle kilometres

In the latest year, emissions per vehicle kilometre for all traction types was 557 grams of CO_{2e}, a 3% decrease from the previous year. There was an increase in the grams of CO_{2e} per electric vehicle kilometre in the latest year (down 13%), while the grams of CO_{2e} per diesel vehicle kilometre decreased by 2%. As previously mentioned, the increase in emissions normalised by electric vehicle kilometres can be partly attributed to the change in the electricity conversion factor.

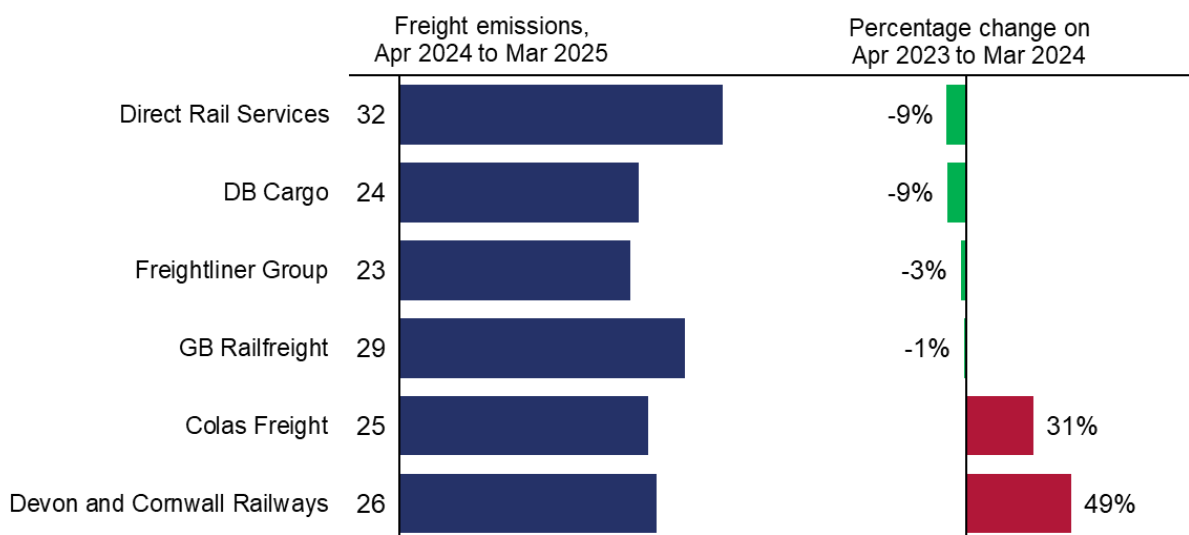
Emissions normalised by net tonne kilometres by freight operator

For four of the operators, carbon dioxide equivalent (CO_{2e}) emissions per net tonne kilometre decreased compared with the previous year. Direct Rail Services (down 9%) reported the largest decrease.

The remaining two operators increased their emissions per net tonne kilometre. Devon and Cornwall Railways had the largest increase (up 49%). This is due to a considerable increase in the operator's diesel consumption compared to the previous year, which increased by 90%. Note that all reported data for Devon and Cornwall Railways has been estimated.

Figure 2.3 Changes in emissions per net tonne kilometre varied across operators

Freight train CO_{2e} emissions (grams) per net tonne kilometre by operator, April 2024 to March 2025, and percentage change compared with April 2023 to March 2024 (Table 6113)



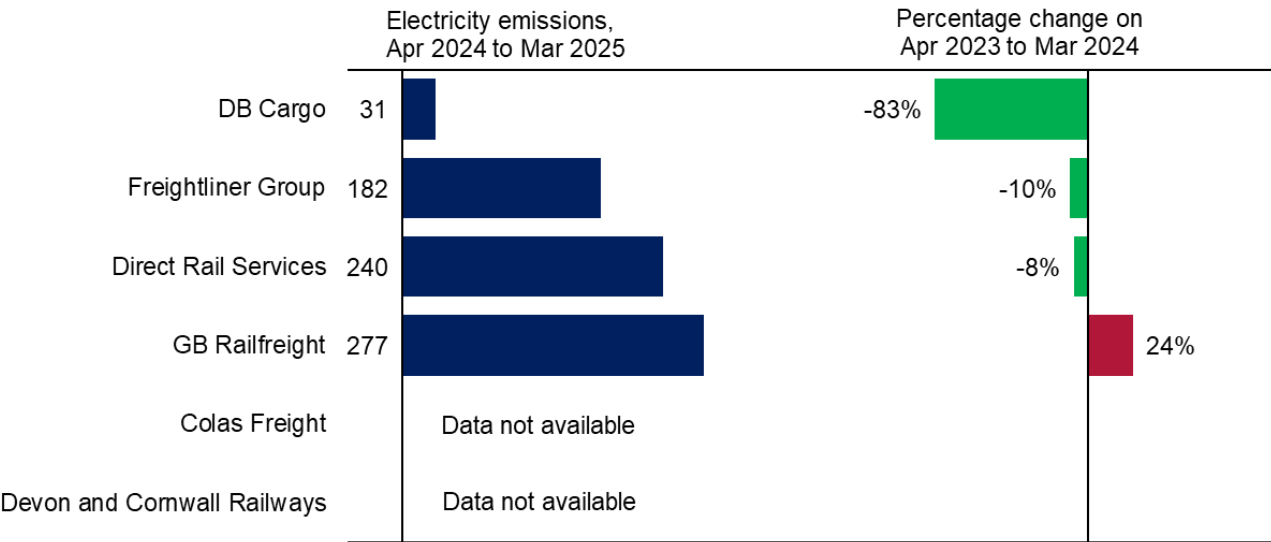
Emissions normalised by vehicle kilometres by freight operator

Emissions normalised by electric vehicle kilometres

For three of the four operators that run electric rolling stock, electricity emissions per electric vehicle kilometre decreased compared with the previous year. GB Railfreight had the largest decrease in electricity emissions per electric vehicle kilometre compared with the previous year (down 83%), due to a sharp drop in electricity consumption.

Figure 2.4 Electricity emissions per electric vehicle kilometre decreased for three operators

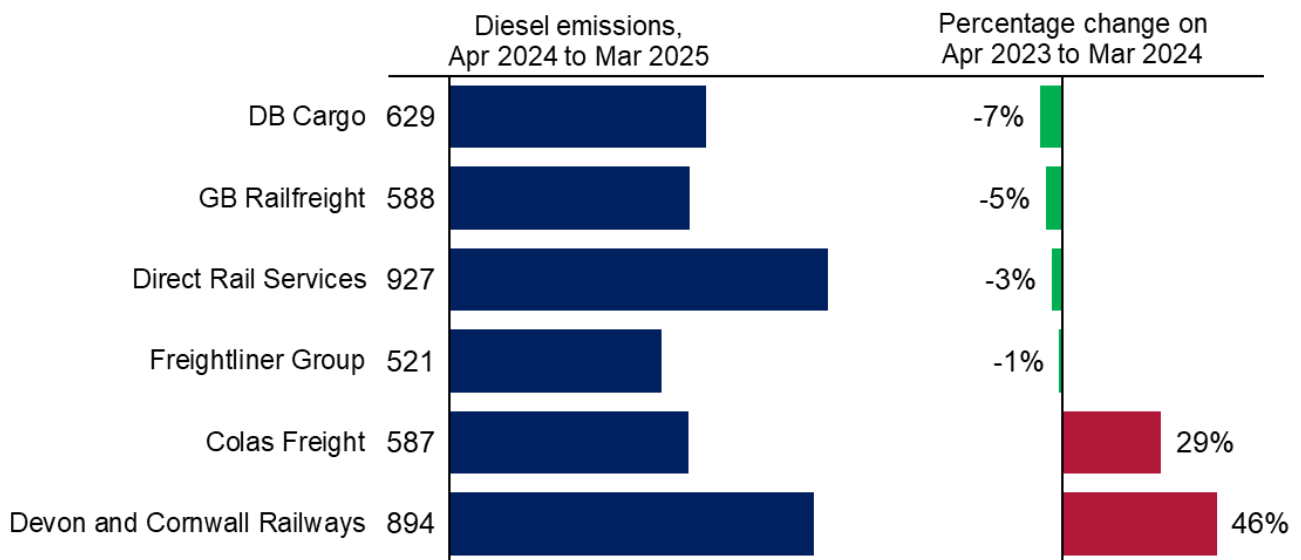
Freight train CO₂e emissions (grams) from electricity consumption per electric vehicle kilometre by operator, April 2024 to March 2025, and percentage change with April 2023 to March 2024 (Table 6113)



Emissions normalised by diesel vehicle kilometres

Figure 2.5 For four operators, diesel emissions per diesel vehicle kilometre decreased compared with the previous year

Freight train CO_{2e} emissions (grams) from diesel consumption per diesel vehicle kilometre by operator, April 2024 to March 2025, and percentage change compared with April 2023 to March 2024 (Table 6113)



Non-traction energy consumption

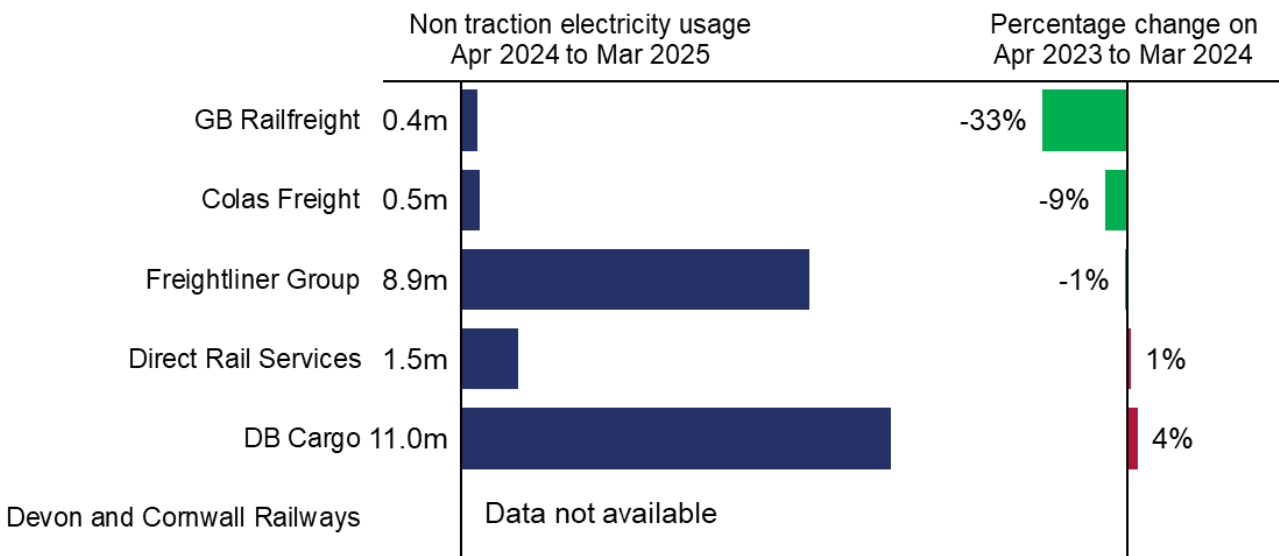
Non-traction energy includes energy consumption in stations, offices, workshops, depots, and service buildings, as well as maintenance activities. Comparisons of non-traction energy use between operators should be treated with caution due to differences between the facilities they manage. Some operators are responsible for additional infrastructure including varying numbers of stations and depots, which impacts their overall energy consumption.

Non-traction electricity consumption

In the latest year (April 2024 to March 2025), total non-traction electricity consumption for freight operators was 22 million kilowatt hours. This was up 0.5% compared with the previous year (April 2023 to March 2024). Among the operators, three reported a decrease in non-traction electricity consumption and two operators reported an increase.

Figure 2.6 Non-traction electricity consumption decreased for most operators

Freight operators' non-traction electricity (kilowatt hours) usage, April 2024 to March 2025, and percentage change compared with April 2023 to March 2024 (Table 6133)

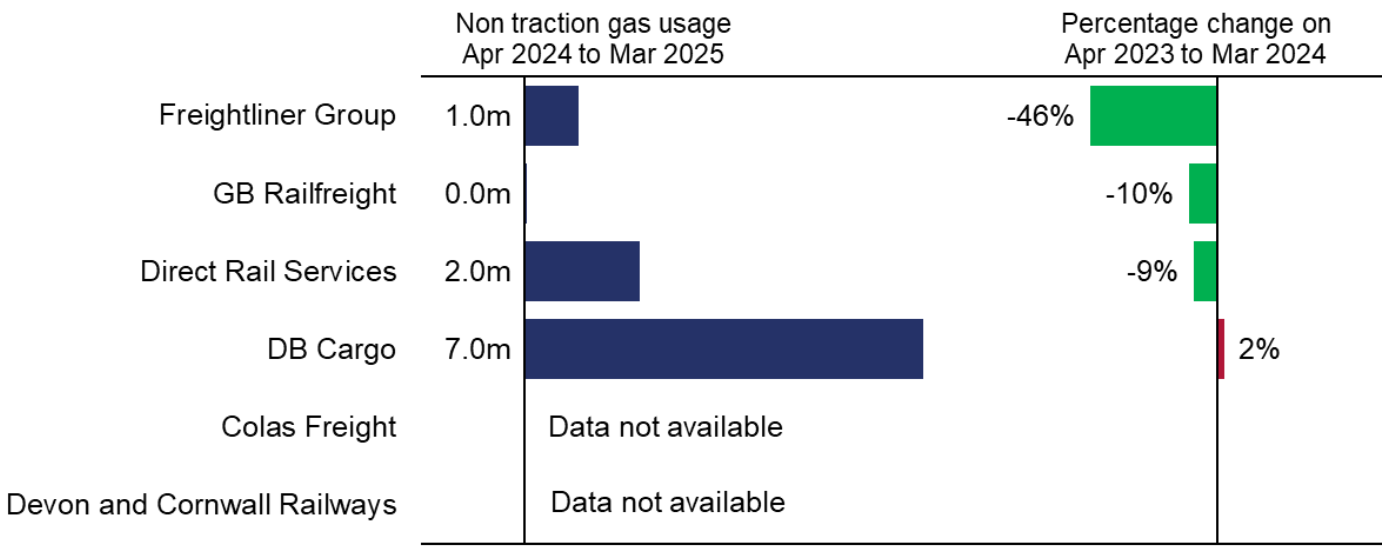


Non-traction gas consumption

In the latest year (April 2024 to March 2025), three operators reported a decrease in non-traction gas consumption compared to the previous year, one operator reported an increase, and two operators reported no data.

Figure 2.7 Non-traction gas consumption varied by operator, due to differences in facilities

Freight operators’ non-traction gas (kilowatt hours) usage, April 2024 to March 2025, and percentage change compared with April 2023 to March 2024 (Table 6133)



Note: GB Railfreight: 42,268 kWh

Other environmental measures

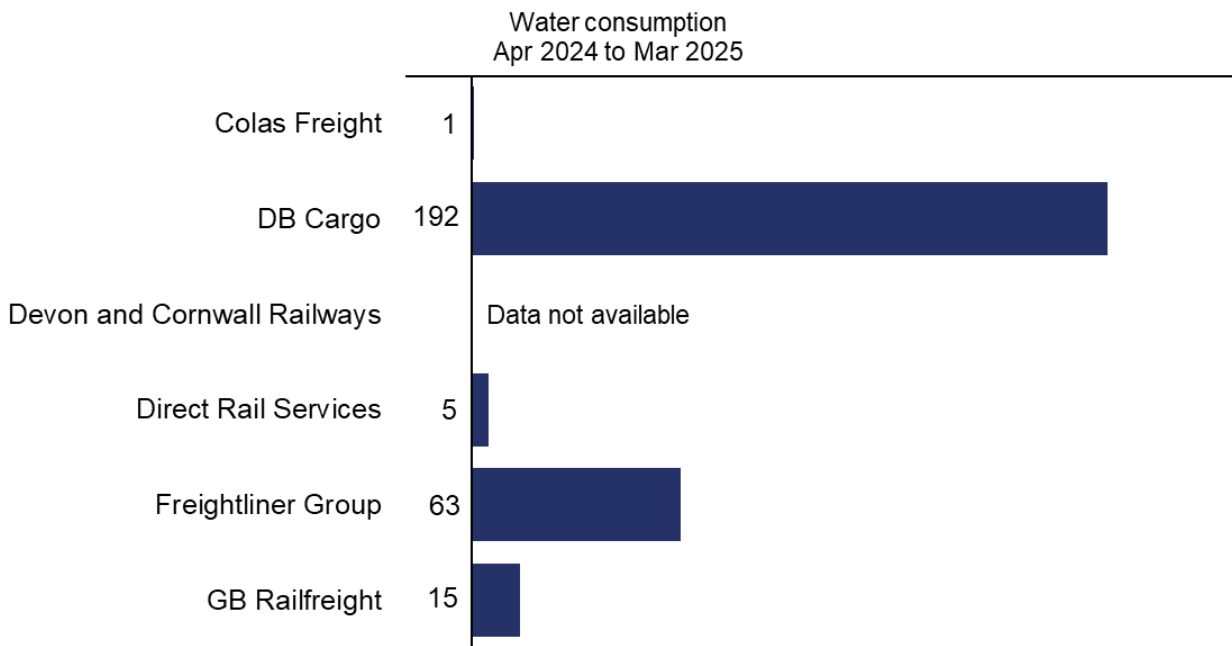
Comparisons of water consumption and waste generation between operators should be treated with caution due to differences between the facilities they manage. Some operators are responsible for additional infrastructure including varying numbers of stations and depots, which impacts their overall consumption levels. We have not included year-on-year comparisons due to changes in methodology for data reporting among some operators.

Water consumption

Water consumption includes all mains water used for activities such as domestic and sanitary use, washing fleet vehicles, and maintaining rolling stock.

Figure 2.8 Water consumption varied by operator, due to differences in the facilities they managed

Water (thousand cubic metres) consumption by freight operator, April 2024 to March 2025 (Table 6153)

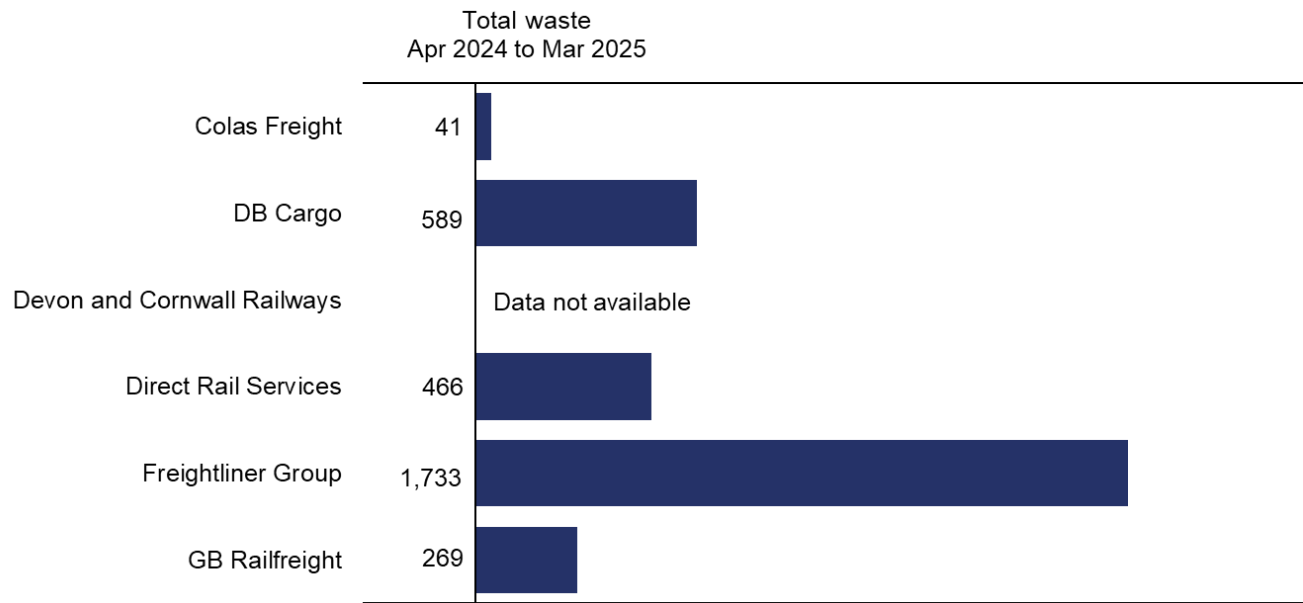


Waste generation

Total waste includes all waste generated, such as materials for disposal, recycling, transfer, or reuse. More disaggregated data on waste generation is available in Table 6173.

Figure 2.9 Total waste generated by operator varied, due to differences in the facilities they were responsible for

Total waste (tonnes) generated by freight operator, April 2024 to March 2025 (Table 6173)



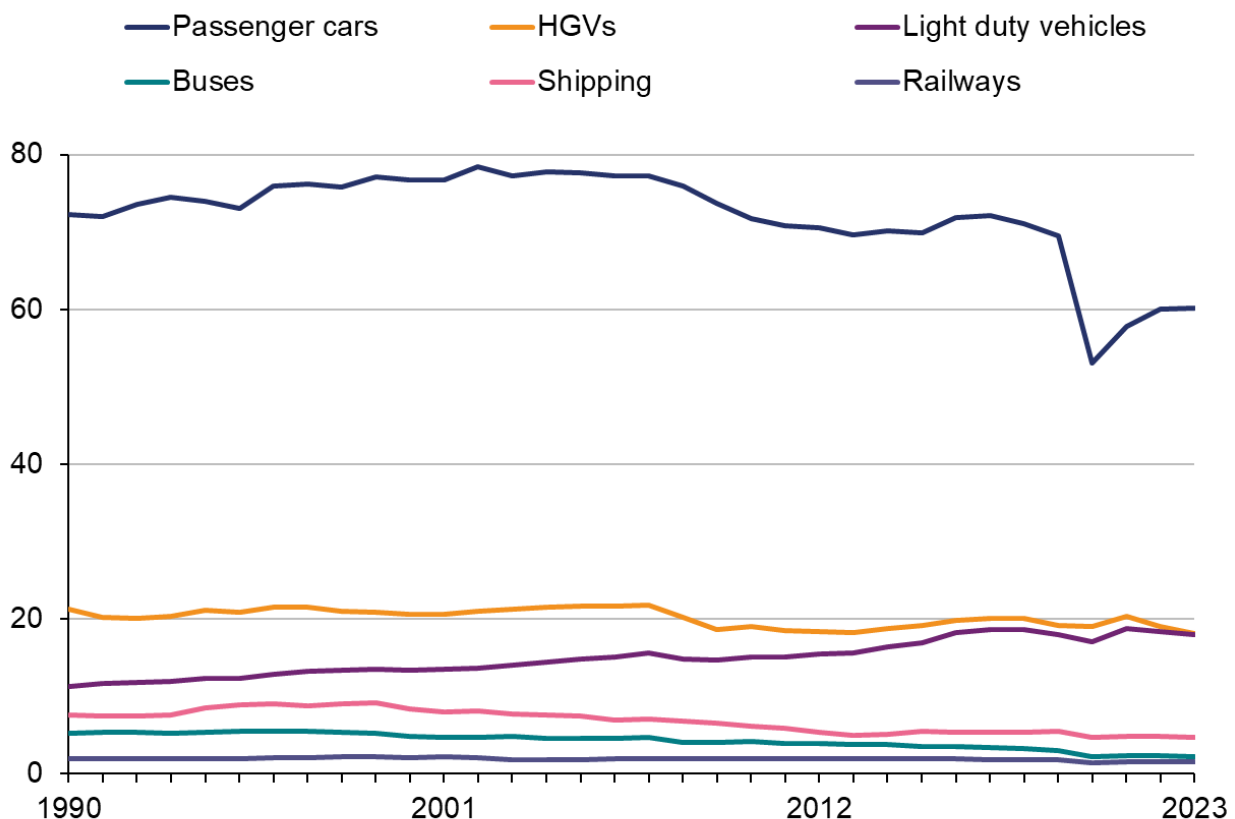
3. Transport emissions in context

This section presents emissions data for other modes of transport to show rail emissions in context. The Department for Energy Security and Net Zero publish [statistics on greenhouse gas emissions by transport mode](#). These statistics cover the United Kingdom as a whole, while ORR's statistics only cover Great Britain's rail network.

In 2023, rail emissions made up 1.4% of the UK's total emissions from transport while accounting [for 9% of all passenger kilometres travelled](#). Road transport remains the largest source of emissions, with 89% of all transport emissions.

Figure 3.1 Emissions from passenger cars represent the majority of all transport emissions

CO₂e emissions (million tonnes) by transport mode, United Kingdom, annual data, 1990 to 2023



Source: [Final UK greenhouse gas emissions statistics: 1990 to 2023](#)

In 2023, UK emissions from the seven greenhouse gases covered by the Kyoto Protocol were estimated to be 385 million tonnes carbon dioxide equivalent. This is down 53% from the estimated levels recorded in 1990.

Transport remains the largest emitting sector, accounting for more than a quarter (29%) of all UK emissions.

Figure 3.2 Over a quarter of greenhouse gas emissions came from transport
Proportion of CO₂e greenhouse gas emissions by sector, United Kingdom, 2023



Note: LULUCF is Land Use, Land Use Change, and Forestry

Source: [Final UK greenhouse gas emissions statistics: 1990 to 2023](#)

Network Rail environmental data

[Network Rail report their annual energy consumption](#) (electricity, gas and fuel) and the associated emissions. In the year April 2024 to March 2025, Network Rail reported a reduction of 28% in greenhouse gas emissions (excluding traction) against the baseline year April 2018 to March 2019. Network Rail use the environmental sustainability index (ESI) to monitor performance against four key environmental measures: percentage of waste recycled, percentage of waste diverted from landfill, percentage reduction in carbon emissions and percentage reduction in non-traction energy usage.

[Network Rail also publish annual emissions and energy use](#), split by region and separately for 19 of its 20 managed stations. In the year April 2023 to March 2024, total emissions from these stations were 26,054 tonnes CO₂e from combined electricity and gas consumption. This was 11% higher compared with 23,469 tonnes CO₂e in April 2022 to March 2023.

Network Rail is expected to reduce carbon emissions by more than 20% during Control Period 7 (CP7). ORR's [Periodic review 2023](#) (PR23) final determination set out the decisions on Network Rail's outputs and funding for CP7, which runs from 2024 to 2029.

4. Annexes

Annex 1 – Definitions

- **Traction energy** refers to rolling stock (railway vehicles, including both powered and unpowered vehicles, such as locomotives, carriages and freight wagons) on the rail network, and the energy used to power passenger and freight train movements.
- **Non-traction energy** is the electricity and gas used to power non-rolling stock on the network. This includes energy consumption in stations, offices, workshops, depots, and service buildings, as well as maintenance activities. It also covers heating of points and switches, along with energy needed for technical railway operations such as lighting, signalling, telecoms, traffic control, and data centres.
- **Water** is measured in total cubic metres (m³) of mains water used for activities including domestic and sanitary use, washing fleet vehicles, and rolling stock.
- **Waste** is measured in total tonnes of all waste generated, including waste for disposal, recycling, transfer, or reuse.
- **Diesel** refers to gas, oil, diesel or biofuel volume (in litres) consumed in train movements.
- **Electricity** measures the amount of electricity consumed (in kWh) in train movements. **Kilowatt hour (kWh)** is a unit of energy by calculating electricity usage - one kWh is the electric energy converted by a one kW appliance used for one hour.
- **Passenger kilometres** are calculated by multiplying the number of passenger journeys on a particular flow by the number of corresponding train kilometres between stations.
- **Net tonne kilometres** measure the amount of freight moved on the railway network, taking into account the weight of the load and distance carried.
- **Vehicle kilometres** measure the distance travelled by an individual vehicle (locomotives, carriages, wagons, etc.) on the rail network. It includes vehicle kilometres travelled on Network Rail infrastructure and other railways such as HS1. For example, a ten vehicle train travelling one kilometre is measured as one train kilometre, but ten vehicle kilometres.
- **Greenhouse gases** are gases in the Earth's atmosphere which trap heat. They allow sunlight to pass through the atmosphere but prevent heat from sunlight leaving the atmosphere. This creates a 'greenhouse effect', where the Sun's energy is trapped,

which causes the Earth and in particular the oceans, to warm, the higher the amounts of greenhouse gases in the atmosphere, the warmer the Earth becomes. There are seven greenhouse gases covered under the Kyoto Protocol: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃). While the Kyoto Protocol laid the groundwork, the Paris Agreement is now the primary international framework for addressing climate change, aiming to limit global temperature rise by focusing on reducing emissions from these key gases across all countries.

Further information on each of these measures and other definitions can be found in the [quality and methodology report](#).

Annex 2 — Quality and methodology

Data sources

Energy consumption data for traction and non-traction, water consumption and waste generation has been collected directly from train operators:

- Franchised passenger operators
- Non-franchised (open access) passenger operators
- Eurostar services (UK side)
- Freight operators

Passenger kilometre data is sourced from LENNON (Latest Earnings Networked Nationally Over Night) ticketing and revenue system and supplemented with data from operators who have passenger journeys/kilometres recorded outside of LENNON.

The net tonne kilometres data and vehicle kilometre data, used for the normalised measures, is sourced from Network Rail.

Vehicle kilometre data is sourced from the Track Access Billing System (TABS), which is used to bill train operators. As well as Network Rail infrastructure, it includes vehicle kilometres travelled on HS1, Core Valley Lines, London Underground, and the London Overground. Vehicle kilometres for bimodal trains are either classified as electric or diesel, depending on whether the train ran in diesel or electric mode.

Estimates for missing data

We produce estimates for smaller freight operators that we do not request data from.

Further information on how these estimates are produced can be found in the [quality and methodology report](#).

Methodology

Energy consumption data is converted into CO₂e using [standard conversion factors](#) from the Department for Energy Security and Net Zero. The emission conversion factors allow activity data (for example, litres of fuel used or kWh consumed) to be converted into grams of CO₂e.

Revisions

There have been revisions to previously published data:

- Tables 6100, 6103, 6105, 6133b, 6143 and 6163: Some operators supplied revisions to data for the previous year (April 2023 to March 2024).

Details of previous revisions can be found in the [Revisions log](#).

Further information on data sources, quality, methodology and the historical background, can be found in the [quality and methodology report](#).

How these statistics can be used



- Monitoring traction electricity and diesel consumption by passenger and freight trains over time
- Monitoring estimated CO₂e emissions from traction energy by passenger and freight trains over time
- Monitoring and comparing normalised CO₂e emissions for passenger and freight trains over time
- Monitoring non-traction energy consumption, water consumption, and waste generation by passenger and freight train operators

How these statistics cannot be used



- Comparing emissions for a specific train type or route (refer to [DfT journey emission comparisons data](#))
- Identifying emissions for heritage or other non-mainline operators
- Calculating emissions for non-traction energy such as stations, buildings or depots
- Identifying expenditure on diesel fuel for passenger operators (refer to [rail industry finance](#))

Annex 3 – List of data tables associated with this release and other related statistics

Data tables

All data tables can be accessed on the [ORR data portal](#) free of charge in OpenDocument Spreadsheet (.ods) format. We can also provide data in csv format on request.

All tables associated with this release can be found under the Data tables heading at the bottom of the [Rail environment page](#).

- Estimates of normalised passenger carbon dioxide equivalent emissions – Table 6100
- Estimates of normalised passenger carbon dioxide equivalent emissions by operator – Table 6103
- Estimates of passenger energy consumption and carbon dioxide equivalent emissions – Table 6105
- Estimates of passenger energy consumption and carbon dioxide equivalent emissions by operator – Table 6108
- Estimates of normalised freight carbon dioxide equivalent emissions – Table 6110
- Estimates of normalised freight carbon dioxide equivalent emissions by operator – Table 6113
- Estimates of freight energy consumption and carbon dioxide equivalent emissions – Table 6115
- Estimates of freight energy consumption and carbon dioxide equivalent emissions by operator – Table 6118
- Estimates of non-traction energy consumption by passenger operator – Table 6123
- Estimates of non-traction energy consumption by freight operator – Table 6133
- Water consumption by passenger operator – Table 6143
- Water consumption by freight operator – Table 6153
- Waste generation by passenger operator – Table 6163
- Waste generation by freight operator – Table 6173

Other related ORR data

Passenger usage data is published on the [Passenger rail usage](#) page on the data portal. This includes passenger kilometres by operator and passenger vehicle kilometres by operator.

Freight usage data is published on the [Freight rail usage and performance](#) page on the data portal. This includes the freight vehicle kilometres by operator.

The [Rail infrastructure and assets](#) page on the data portal includes information on track and route length, including the proportion of the rail network which is electrified. It also includes detail on the passenger operators' rolling stock and the proportion of each traction time (electric, diesel, bi-mode or loco hauled).

Other related environmental statistics

The Department for Energy Security and Net Zero publish [estimates of UK territorial greenhouse gas emissions](#).

The Department for Environmental, Food & Rural Affairs (Defra) publish [data on emissions of air pollutants](#) in the UK. This includes data for transport and railways.

The National Atmospheric Emissions Inventory (NAEI) publish the [Greenhouse Gas Inventory](#). It covers the UK's greenhouse gas emission estimates since 1990, broken down by industry. Rail data is included in the inventory, split into emissions from coal, freight diesel, intercity diesel and regional diesel (gas oil). There is also an interactive map which shows CO₂e emissions by local authority with an option to filter for emissions from diesel railways.

The Office for National Statistics publish [UK greenhouse gases and total emissions](#) by industry. This covers the period 1990 to 2023. This data is used in [UK Environmental Accounts](#), which measures the impact of economic activity on the environment.

There is a list of resources relating to historical [UK greenhouse gas emissions](#).

Links to other data sources are available in our [Rail emissions data catalogue](#).

European comparisons

The United Nations Framework Convention on Climate Change (UNFCCC) publishes [national inventory submissions for greenhouse gas emissions](#).

The European Environment Agency (EEA) publishes [data on greenhouse gas emissions](#) for transport from the EU. Railway emissions (which only include emissions from diesel trains) have halved since 1990, but they constitute a small proportion of overall transport emissions.

Annex 4 – ORR’s statistical publications

Our statistical practice is regulated by the Office for Statistics Regulation (OSR). OSR sets the standards of trustworthiness, quality and value in the [Code of Practice for Statistics](#) that all producers of official statistics should adhere to. You are welcome to contact us directly with any comments about how we meet these standards by emailing rail.stats@orr.gov.uk. Alternatively, you can contact OSR by emailing regulation@statistics.gov.uk or via the OSR website.

Statistical Releases

This publication is part of ORR’s ‘[accredited official statistics](#)’, which consist of seven annual publications: **Estimates of station usage; Rail industry finance (UK); Rail fares index; Rail safety; Rail infrastructure and assets; Rail environment; Regional rail usage**; one biannual publication: **Passenger rail service complaints**; and three quarterly publications: **Passenger rail performance; Freight rail usage and performance; Passenger rail usage**.

ORR also publishes a number of other official statistics, which consist of five annual publications: **Common Safety Indicators; Passenger satisfaction with complaints handling; Train operating company key statistics; Occupational health; Rail trends (formerly Rail statistics compendium)**; one biannual publication: **Passenger lifts at stations (official statistics in development)**; and four quarterly publications: **Signals passed at danger (SPADs); Delay compensation claims; Disabled Persons Railcards (DPRC); Passenger assistance**.

All the above publications are available on the [data portal](#) along with a list of [publication dates](#) for the next 12 months.

Accredited official statistics

Accredited official statistics are called National Statistics in the Statistics and Registration Service Act 2007. They are official statistics that have been independently reviewed by the Office for Statistics Regulation and found to comply with the standards of trustworthiness, quality and value in the Code of Practice for Statistics.

The majority of our [statistical releases were independently reviewed by the OSR in June 2012](#). They comply with the standards of trustworthiness, quality and value in the [Code of Practice for Statistics](#) and are labelled accredited official statistics.

Since our review we have improved the content, presentation and quality of our statistical releases. In addition, in July 2019 we launched our new data portal. Therefore, in late 2019 we worked with the OSR to conduct a compliance check to ensure we are still meeting the standards of the Code. On 4 November 2019, [OSR published a](#)

[letter](#) confirming that ORR's statistics should continue to be accredited official statistics. OSR found many positive aspects in the way that we produce and present our statistics and welcomed the range of improvements made since the statistics were last assessed.

Estimates of station usage statistics were [independently reviewed by OSR](#) in November 2020 and a [their accreditation was confirmed](#) on 1 December 2020.

For more information on how we adhere to the Code please see our [compliance statements](#).

If you have any feedback or questions, please email rail.stats@orr.gov.uk.



© Crown copyright 2025

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

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

This publication is available at dataportal.orr.gov.uk

