

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 2025 to 31 March 2026

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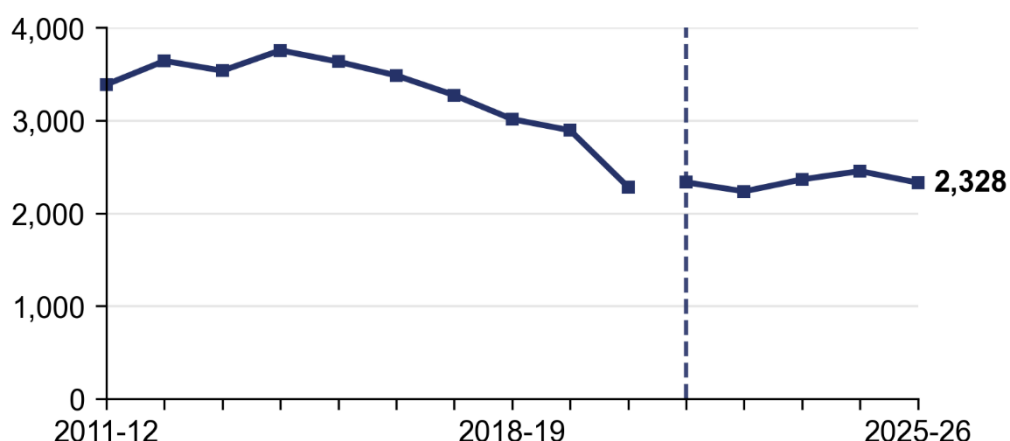
Next publication:
October 2027

In the latest year (April 2025 to March 2026), for all passenger and freight trains combined, total **traction electricity consumption was 4,123 million kilowatt hours**. This was up 2% compared with the previous year. Total **traction diesel consumption was 575 million litres**. This was down 1% compared with the previous year.

Total estimated **carbon dioxide equivalent (CO₂e) emissions** decreased by 5% to **2,328 kilotonnes** in the latest year. Passenger trains accounted for 1,909 kilotonnes of this total, with the remaining emissions from freight trains.

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

Total passenger and freight train CO₂e emissions (kilotonnes), Great Britain, annual data, April 2011 to March 2026 (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, development plan, data catalogue and an interactive dashboard associated with this release are published on the [Rail environment page](#) of the ORR 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

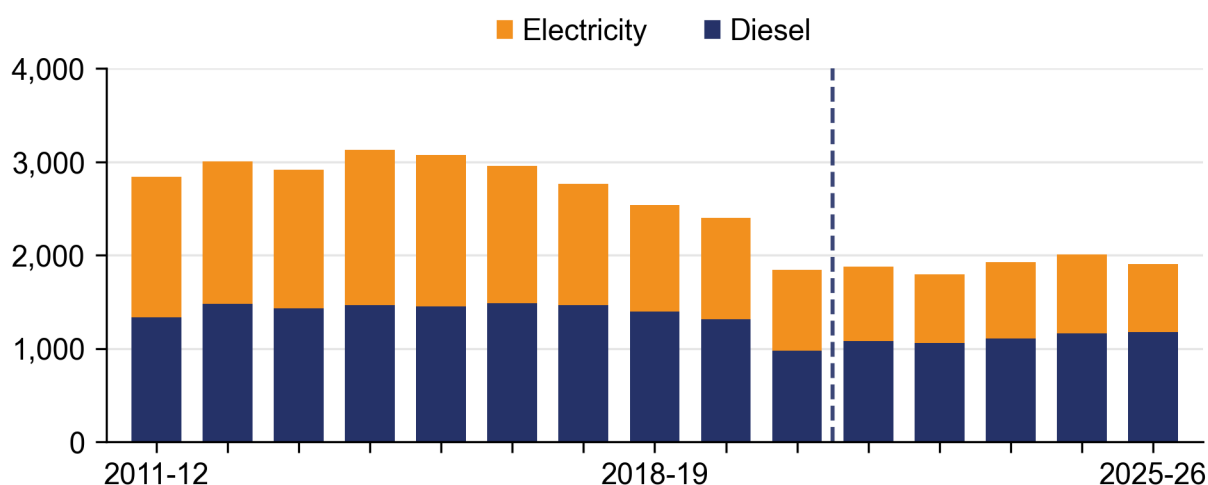
In the latest year (April 2025 to March 2026), total traction electricity consumption for passenger trains was 4,067 million kilowatt hours. This was an increase of 2% compared with the previous year (April 2024 to March 2025). Total traction diesel consumption for passenger trains was 427 million litres, an increase of 1% 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 1,909 kilotonnes, down 5% compared with the previous year. This was driven by a decrease in the electricity conversion factor, reflecting the continued decarbonisation of the UK electricity grid and the use of updated electricity generation data.

Figure 1.1 Passenger train emissions decreased compared with the previous year

Passenger train CO₂e emissions (kilotonnes), by electricity and diesel, Great Britain, annual data, April 2011 to March 2026 (Table 6105)



Note: Vertical dashed line represents a series break in 2021-22 due to a change in methodology.

Of the total, emissions from traction electricity consumption were 733 kilotonnes. This was down 13% compared with the previous year. The increase in total electricity consumption (up 2%) was more than offset by a 15% decrease in the electricity conversion factor.

Emissions from diesel consumption were 1,175 kilotonnes. This was up 1% compared with the previous year. The diesel conversion factor remained unchanged compared with the previous year. As a result, the percentage increase in diesel emissions was the same as the percentage increase in diesel consumption. Diesel was the largest source of passenger train emissions in every year since April 2016 to March 2017. Prior to this, emissions from electricity consumption were higher than those from diesel.

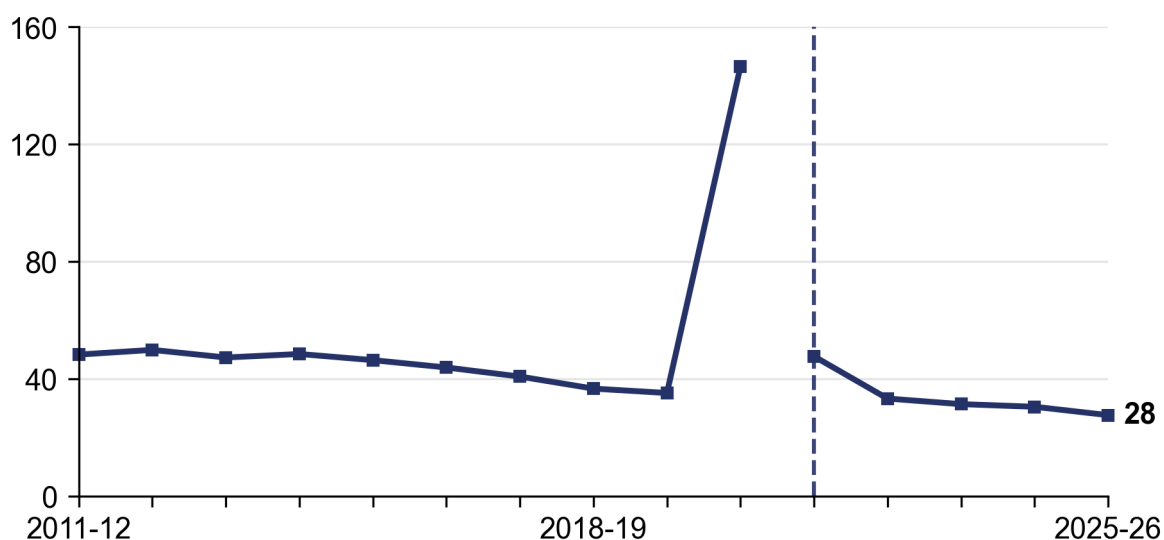
Emissions normalised by passenger kilometres

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

In the latest year, emissions per passenger kilometre were 28 grams of CO₂e. This was down 9% on the previous year. Passenger kilometres increased by 5% compared with the previous year.

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 2026 (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 568 grams of CO₂e, down 9% from 624 grams in the previous year. Grams of CO₂e per electric vehicle kilometre decreased by 17%, reflecting a decrease in electricity emissions (down 13%) and an increase in electric vehicle kilometres (up 5%).

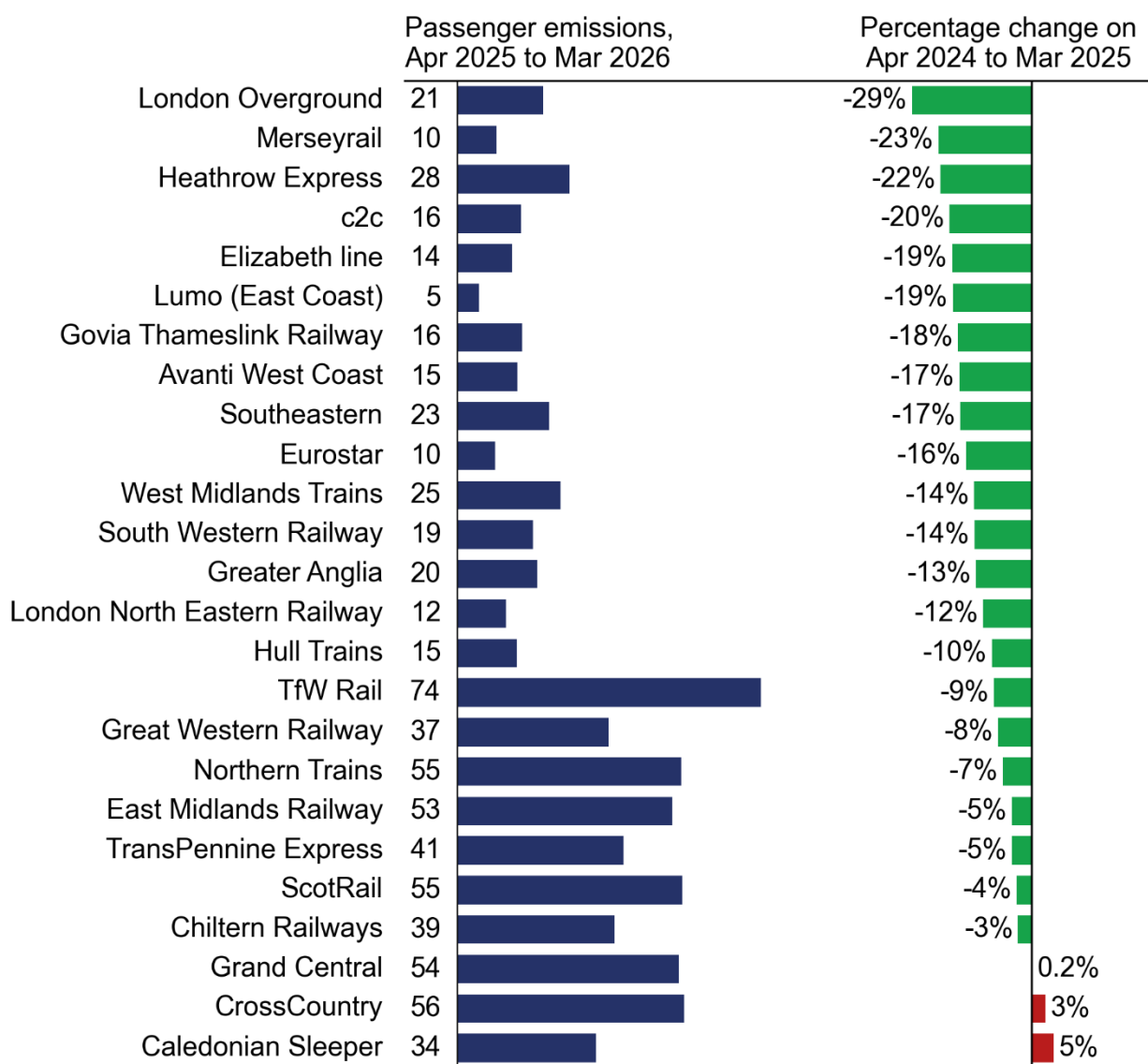
Grams of CO₂e per diesel vehicle kilometre decreased by 2%, reflecting a 1% increase in diesel emissions and a 3% increase in diesel vehicle kilometres.

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 emissions for three operators reported an increased. For these three operators, the increase in emissions was greater than the increase in passenger kilometres compared with 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 2025 to March 2026, and percentage change compared with April 2024 to March 2025 (Table 6103)



Note: Lumo are now referred to as Lumo (East Coast). This is to differentiate from Lumo (West Coast) services, which commenced in May 2026.

London Overground had the largest decrease in emissions per passenger kilometre compared with the previous year (down 29%). This can be attributed to a 25% decrease in electricity emissions and an increase in passenger kilometres when compared with the previous year. In contrast, Caledonian Sleeper had the largest increase (up 5%), driven by increased emissions (up 6%) while passenger kilometres were broadly unchanged from the previous year.

Emissions normalised by vehicle kilometres by train operator

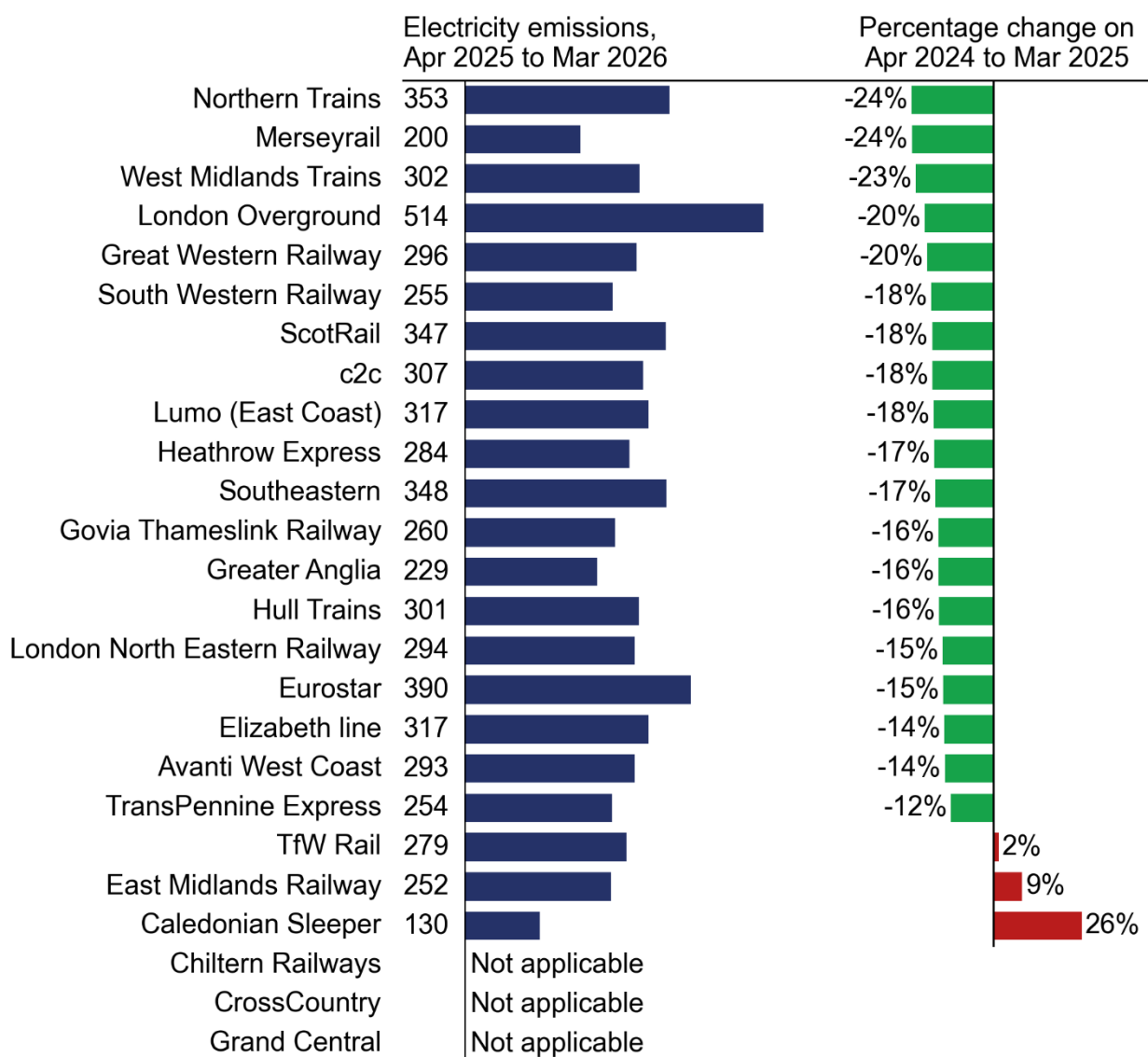
Emissions normalised by electric vehicle kilometres

Nineteen 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.

Northern Trains recorded the largest decrease in electricity emissions per vehicle kilometre compared with the previous year (down 24%), while Caledonian Sleeper recorded the largest increase on the previous year at 26%.

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 2025 to March 2026, and percentage change compared with April 2024 to March 2025 (Table 6103)

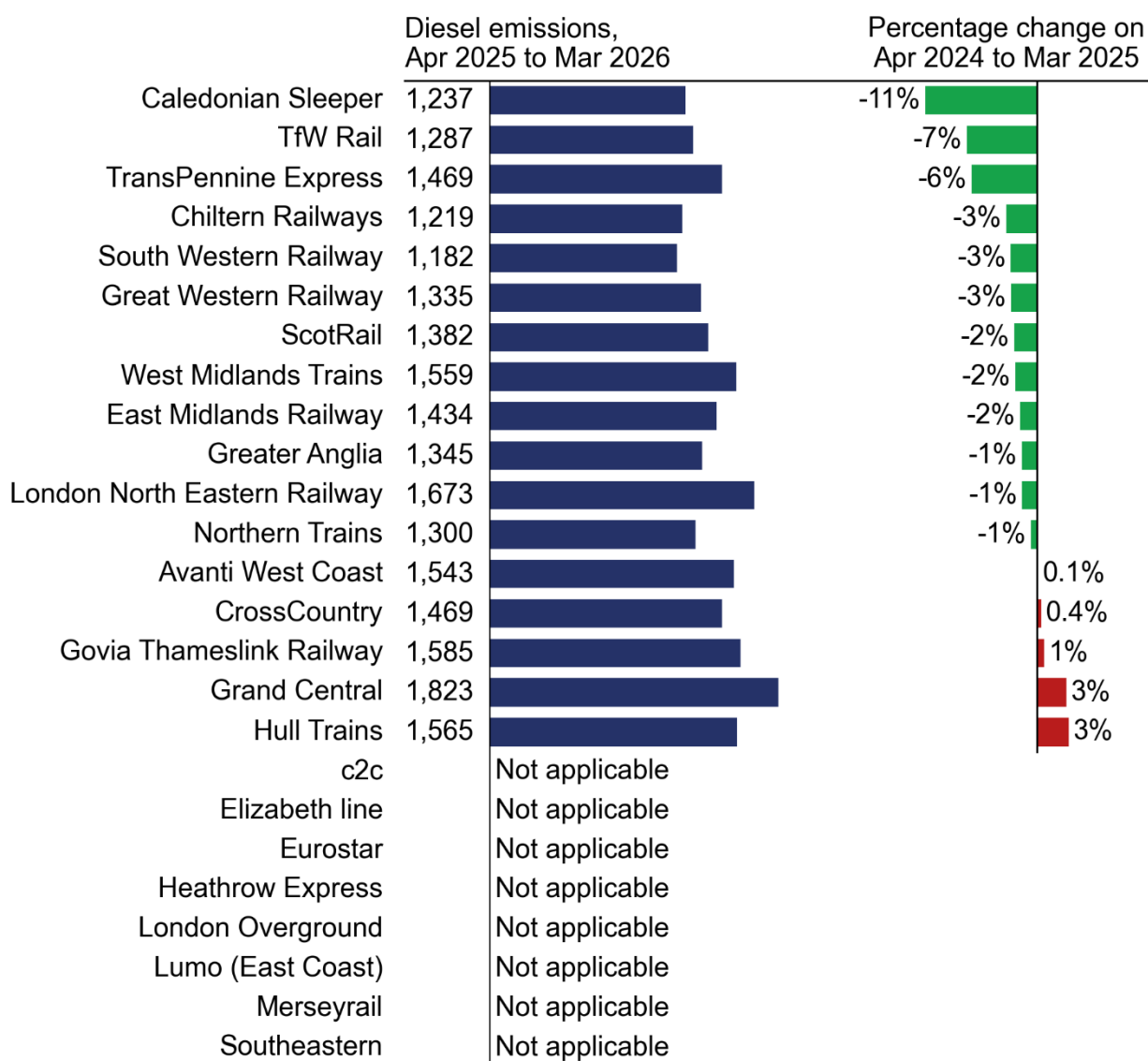


Emissions normalised by diesel vehicle kilometres

For twelve operators, diesel emissions per diesel vehicle kilometre decreased compared with previous year, while five operators recorded an increase. Eight operators did not run any diesel rolling stock.

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

Passenger train CO₂e emissions (grams) from diesel consumption per diesel vehicle kilometre by operator, April 2025 to March 2026, and percentage change compared with April 2024 to March 2025 (Table 6103)



Caledonian Sleeper had the largest decrease in diesel emissions per diesel vehicle kilometre compared with the previous year (down 11%). This can be attributed to an increase in diesel vehicle kilometres (up 11%).

In contrast, diesel emissions per vehicle kilometre for Hull Trains and Grand Central increased by 3% respectively compared with the previous year. This can be attributed to a decrease in diesel emissions (down 0.3%) and a decrease in diesel vehicle kilometres (down 3%).

Non-traction energy consumption

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

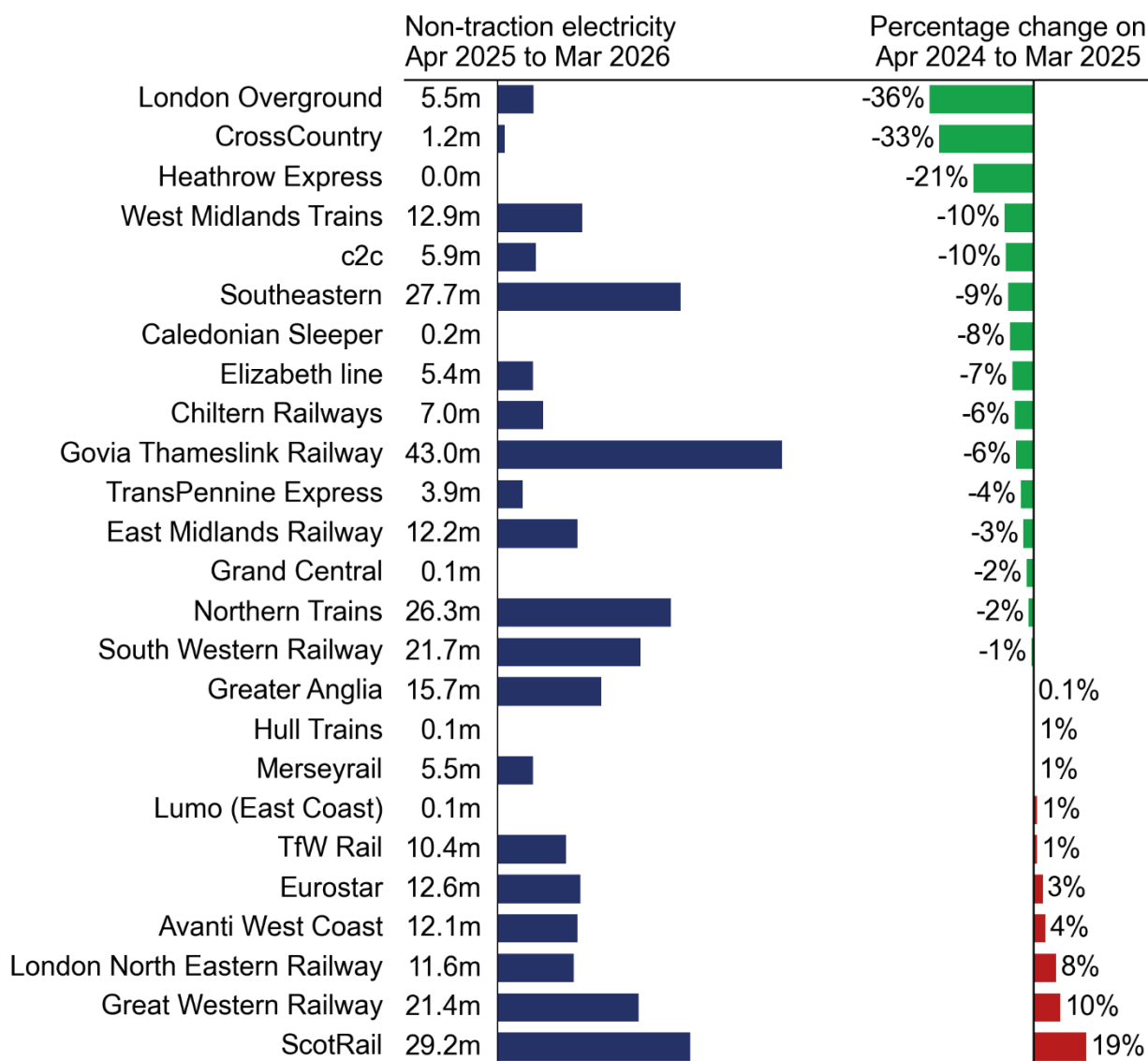
Comparisons of non-traction energy use between operators should be treated with caution due to differences between the facilities they manage. Some operators are responsible for additional infrastructure including varying numbers of stations and depots, which impacts their overall energy consumption.

Non-traction electricity consumption

In the latest year (April 2025 to March 2026), fifteen operators reported a decrease in non-traction electricity consumption, while ten operators reported an increase.

Figure 1.6 Non-traction electricity consumption decreased for most operators

Passenger operators' non-traction electricity (kilowatt hours) usage, April 2025 to March 2026, and percentage change compared with April 2024 to March 2025 (Table 6123)



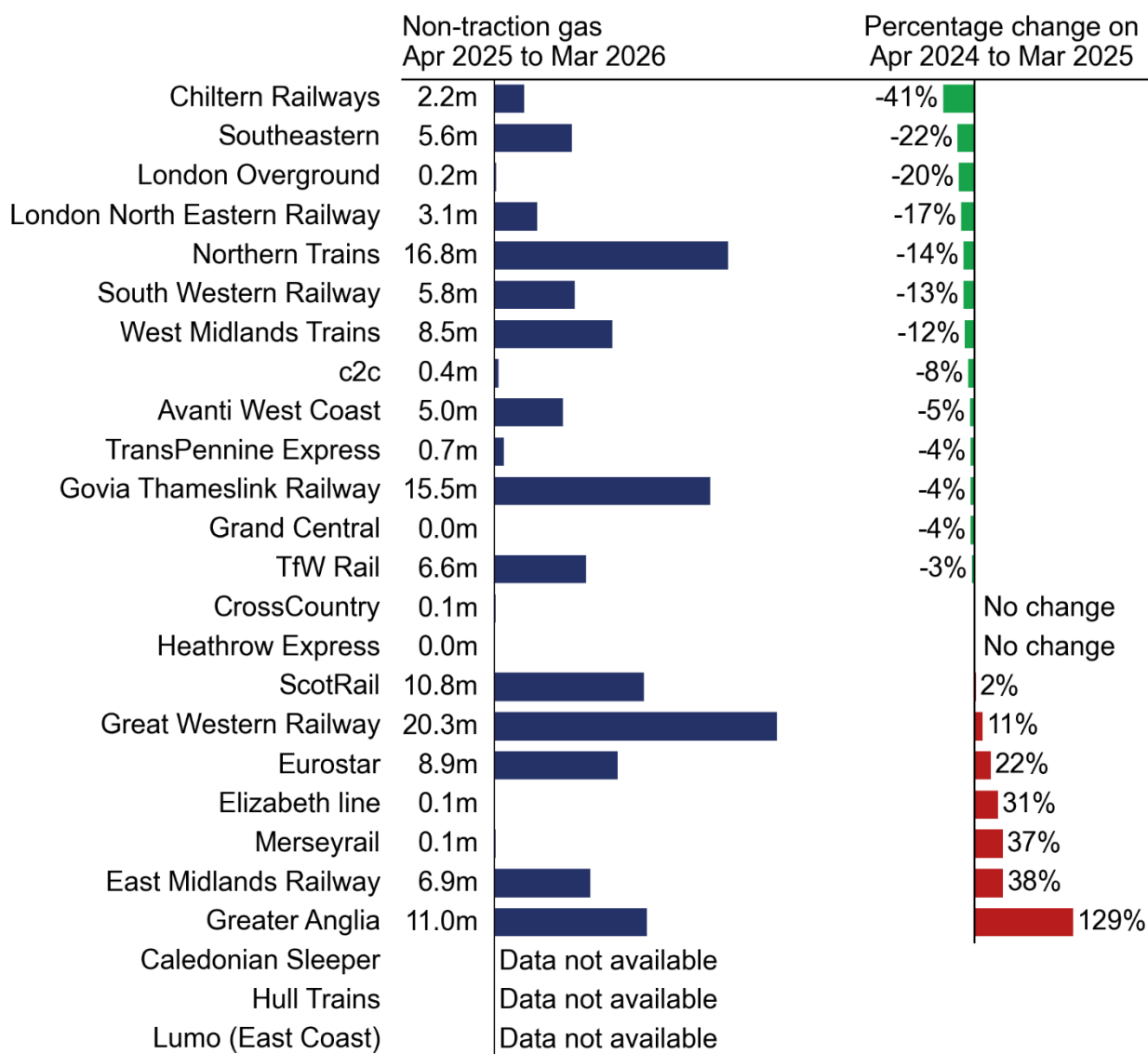
Note: Heathrow Express: 4,842 kWh.

Non-traction gas consumption

In the latest year (April 2025 to March 2026), thirteen operators reported a decrease in non-traction gas usage compared with the previous year. Seven operators reported an increase, with data unavailable for three operators.

Figure 1.7 Non-traction gas consumption decreased for most operators

Passenger operators' non-traction gas (kilowatt hours) usage, April 2025 to March 2026, and percentage change compared with April 2024 to March 2025 (Table 6123)



Note: Grand Central: 26,772 kWh, Heathrow Express: 1,724 kWh

Other environmental measures

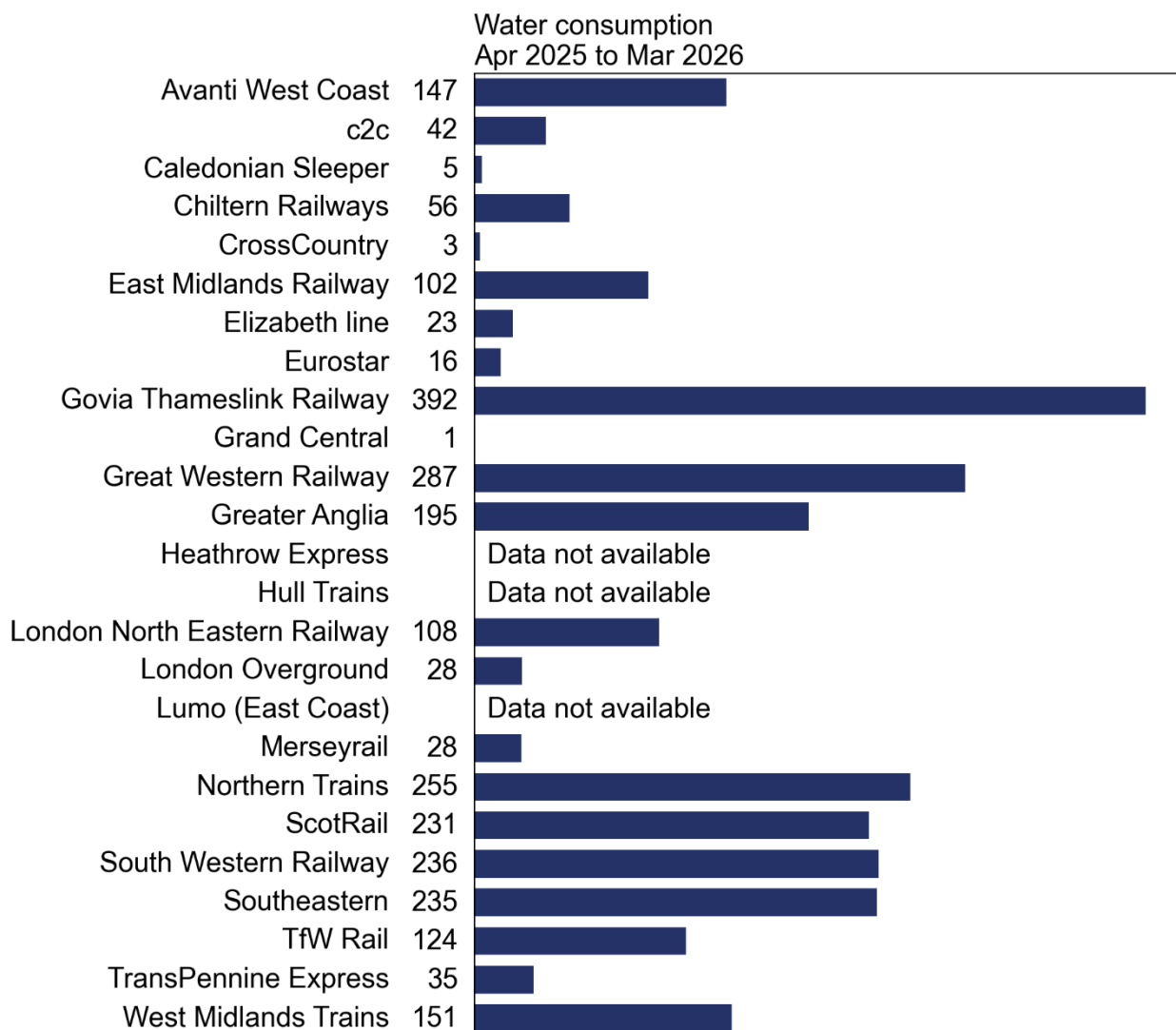
Comparisons of water consumption and waste generation between operators should be treated with caution due to differences between the facilities they manage. Some operators are responsible for additional infrastructure including varying numbers of stations and depots, which impacts their consumption 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 2025 to March 2026 (Table 6143)

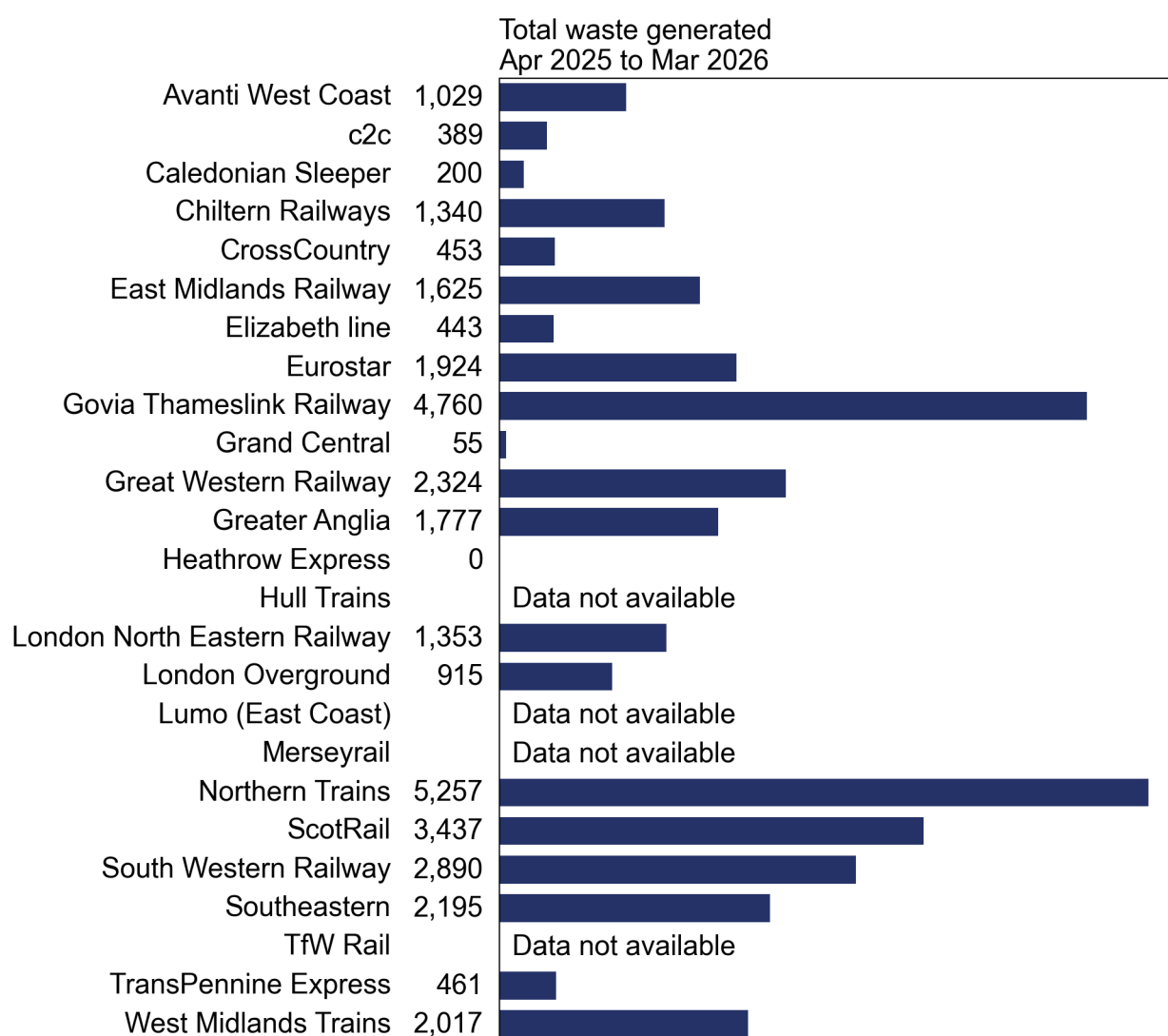


Waste generation

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 2025 to March 2026 (Table 6163)



Notes: Heathrow Express: 0.22 tonnes. Eurostar's waste data relates to the 2025 calendar year, this includes waste generated on board trains and unloaded in the UK.

We have not included year-on-year comparisons due to changes in methodology for data reporting among some operators.

2. Freight trains

The data in this section covers the seven 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

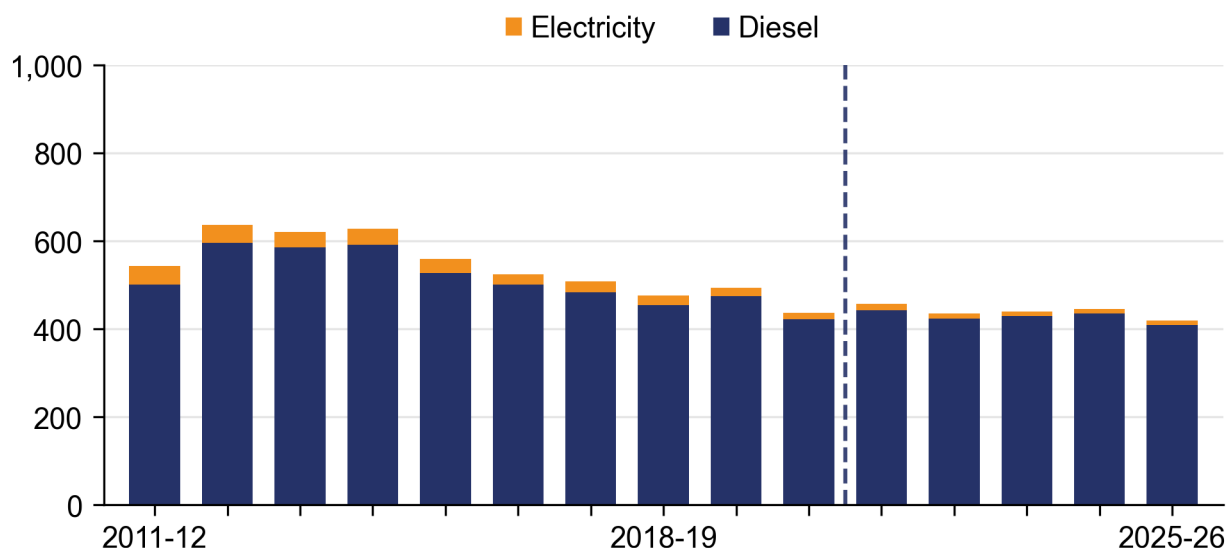
In the latest year (April 2025 to March 2026), total traction electricity consumption for freight trains was 56 million kilowatt hours. This was up 17% compared with the previous year (April 2024 to March 2025). Total traction diesel consumption for freight trains was 149 million litres. This was down 6% 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 419 kilotonnes. This was down 6% compared with the previous year.

Figure 2.1 Freight train emissions decreased slightly on the previous year

Freight train CO₂e emissions (kilotonnes), by electricity and diesel, Great Britain, annual data, April 2011 to March 2026 (Table 6115)



Note: Vertical dashed line represents a series break in 2021-22 due to a change in methodology.

Of the total, emissions from electricity consumption were 10 kilotonnes. This was down 0.2% compared with the previous year.

Diesel remained the primary energy source for most freight operators. Emissions from diesel consumption were 409 kilotonnes. This was down 6% compared with the previous year. The percentage decrease in diesel emissions was driven by a 6% reduction in diesel consumption, while the diesel conversion remained unchanged from the previous year.

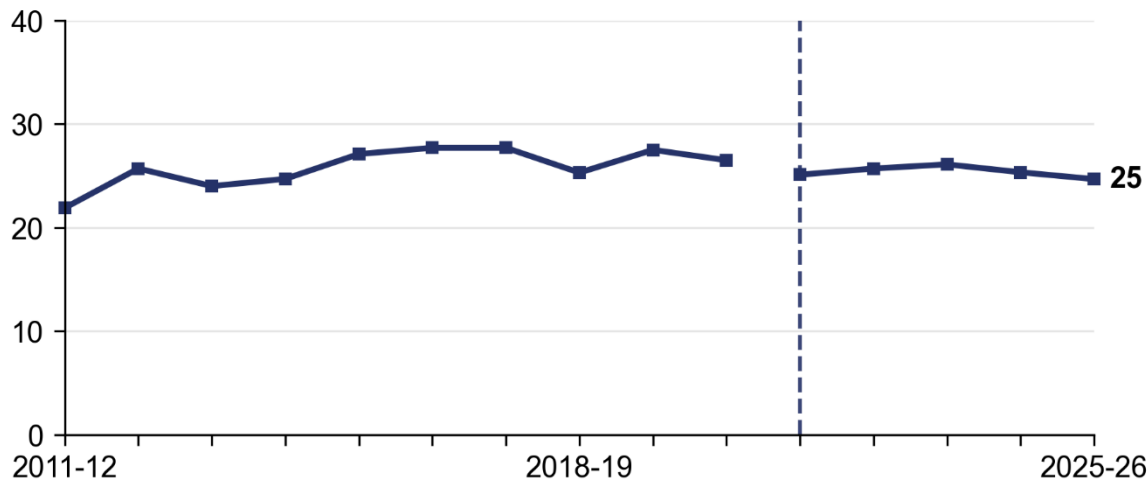
Emissions normalised by net tonne kilometres

As freight rail usage changes over time and varies between operators, comparisons of total emissions should be treated with caution. 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 24.7 grams of CO₂e, a 3% decrease from the previous year's figure of 25.3 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 2026 (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 530 grams of CO₂e, a 4% decrease from the previous year. Grams of CO₂e per electric vehicle kilometre were broadly unchanged from the previous year, while the grams of CO₂e per diesel vehicle kilometre decreased by 4%. As previously mentioned, the decrease in emissions normalised by electric vehicle kilometres can be partly attributed to grid decarbonisation and a reduction in the electricity conversion factor.

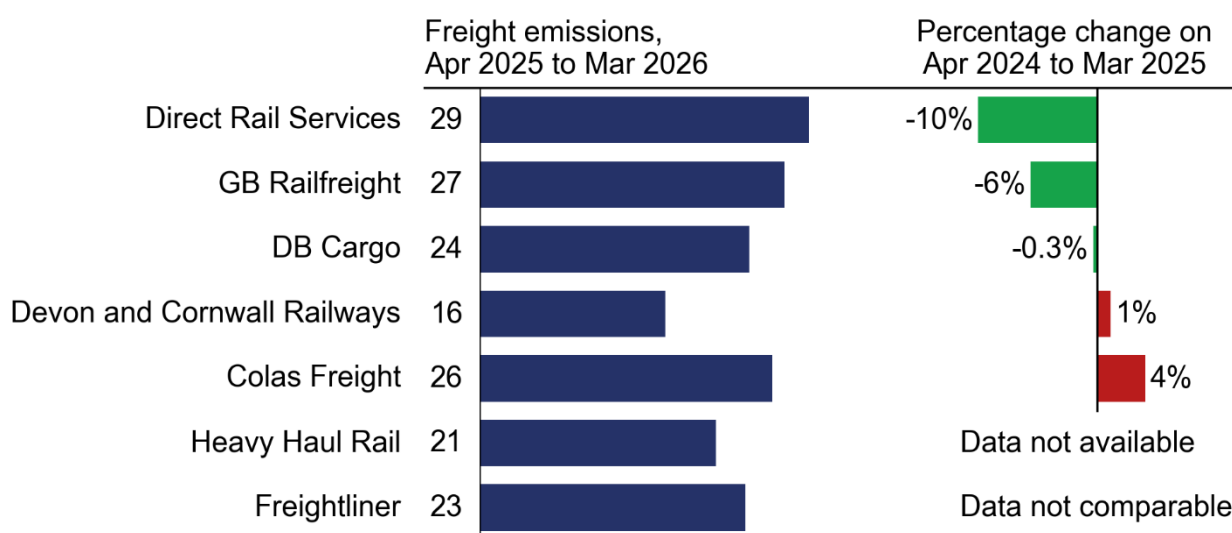
Emissions normalised by net tonne kilometres by freight operator

For three of the operators, CO₂e emissions per net tonne kilometre decreased compared with the previous year. Direct Rail Services (down 10%) reported the largest decrease.

The emissions per net tonne kilometre increased for two operators. Colas Freight had the largest increase (up 4%) compared with the previous year. This was due to the operator's net tonne kilometres decreasing by more than its emissions. The reduction in diesel consumption (down 34%) was driven by changes in business activity and a shift to HVO fuel.

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

Freight train CO₂e emissions (grams) per net tonne kilometre by operator, April 2025 to March 2026, and percentage change compared with April 2024 to March 2025 (Table 6113)



Note: Freightliner Group is now reported as Freightliner, with Heavy Haul Rail reported separately from January 2026. Heavy Haul Rail's figures for April 2025 to March 2026 cover January to March 2026 only.

Emissions normalised by vehicle kilometres by freight operator

Emissions normalised by electric vehicle kilometres

For two 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, down 19%. This is due to a 40% reduction in electricity consumption compared with the previous year.

DB Cargo had the largest increase in electricity emissions per electric vehicle kilometre, up 383% compared with the previous year. This was due to an 87% decrease in electricity consumption, while electric vehicle kilometres decreased by 98%. DB Cargo reported that the decrease in electricity consumption was due to redundant electric services.

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

Freight train CO₂e emissions (grams) from electricity consumption per electric vehicle kilometre by operator, April 2025 to March 2026, and percentage change with April 2024 to March 2025 (Table 6113)

	Electricity emissions, Apr 2025 to Mar 2026	Percentage change on Apr 2024 to Mar 2025
GB Railfreight	228	-19%
Direct Rail Services	198	-18%
DB Cargo	151	383%
Freightliner	179	Data not comparable
Colas Freight	Not applicable	
Devon and Cornwall Railways	Not applicable	
Heavy Haul Rail	Not applicable	

Note: Freightliner Group is now reported as Freightliner, with Heavy Haul Rail reported separately from January 2026. Heavy Haul Rail’s figures for April 2025 to March 2026 cover January to March 2026 only.

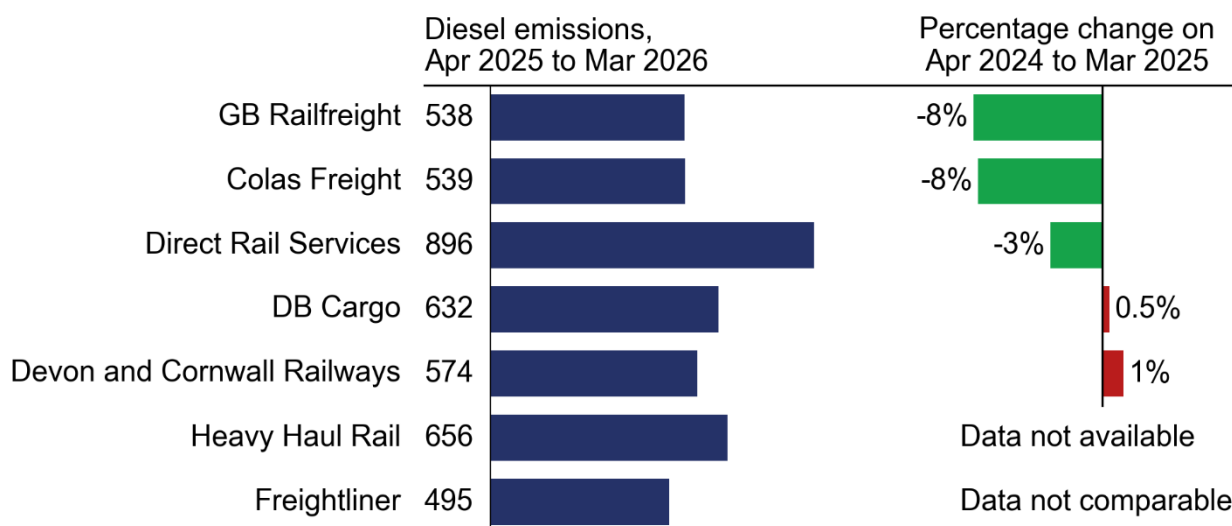
Emissions normalised by diesel vehicle kilometres

For three of the five operators with comparable data, diesel emissions per diesel vehicle kilometre decreased compared with the previous year. GB Railfreight and Colas Freight had the largest decreases in diesel emissions per diesel vehicle kilometre compared with the previous year (each down 8%).

DB Cargo and Devon and Cornwall Railways had slight increases of 0.5% and 1% respectively.

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

Freight train CO₂e emissions (grams) from diesel consumption per diesel vehicle kilometre by operator, April 2025 to March 2026, and percentage change compared with April 2024 to March 2025 (Table 6113)



Note: Freightliner Group is now reported as Freightliner, with Heavy Haul Rail reported separately from January 2026. Heavy Haul Rail's figures for April 2025 to March 2026 cover January to March 2026 only.

Non-traction energy consumption

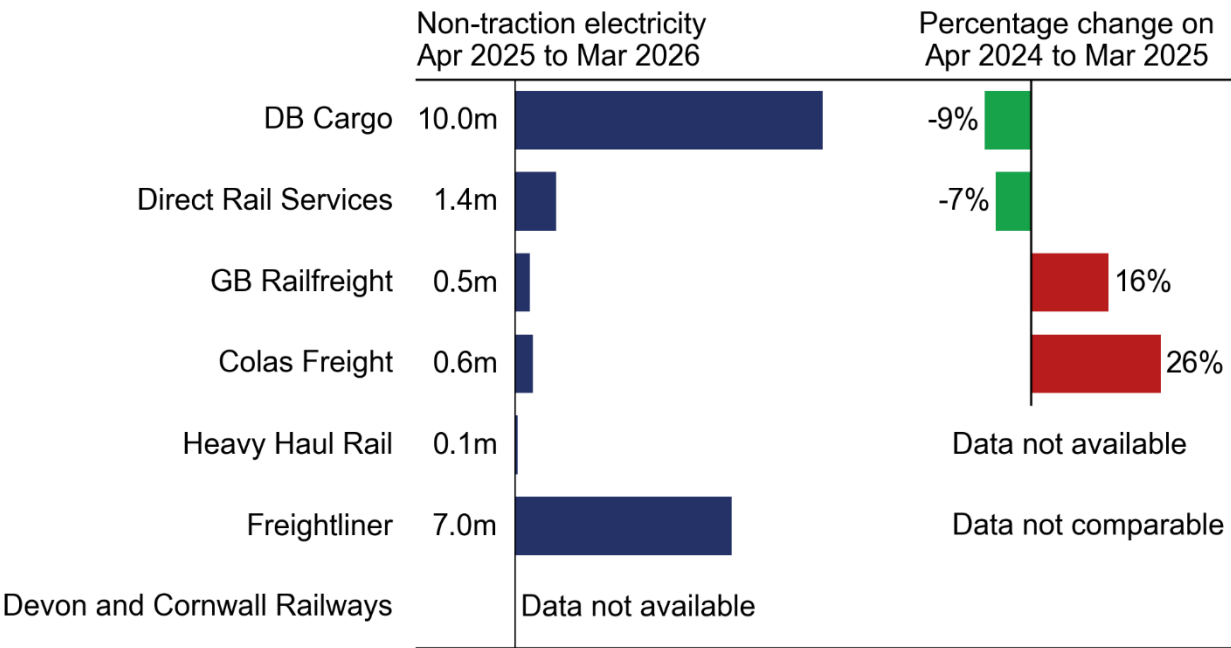
Non-traction energy includes energy consumption in stations, offices, workshops, depots, and service buildings, as well as maintenance activities. Comparisons of non-traction energy use between operators should be treated with caution due to differences between the facilities they manage. Some operators 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 2025 to March 2026), total non-traction electricity consumption for freight operators was 20 million kilowatt hours. This was down 12% compared with the previous year (April 2024 to March 2025). Among the operators, two reported a decrease in non-traction electricity consumption and two operators reported an increase.

Figure 2.6 Non-traction electricity consumption decreased for two operators

Freight operators' non-traction electricity (kilowatt hours) usage, April 2025 to March 2026, and percentage change compared with April 2024 to March 2025 (Table 6133)



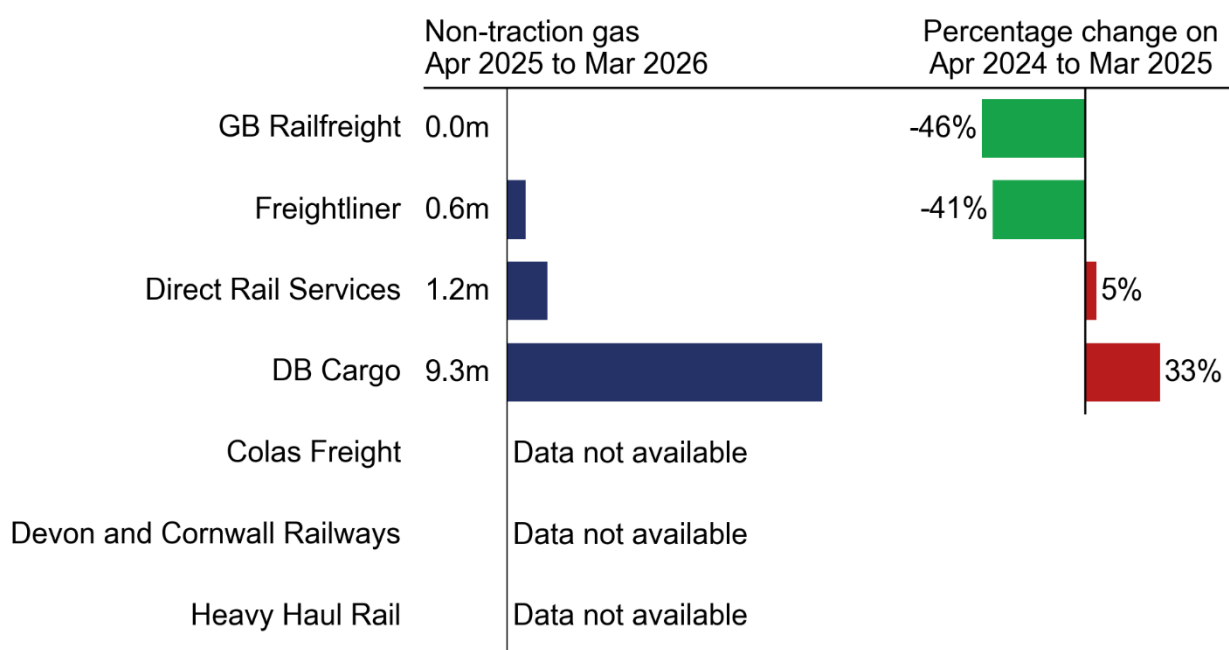
Note: Freightliner Group is now reported as Freightliner, with Heavy Haul Rail reported separately from January 2026. Heavy Haul Rail's figures for April 2025 to March 2026 cover January to March 2026 only.

Non-traction gas consumption

In the latest year (April 2025 to March 2026), two operators reported a decrease in non-traction gas consumption compared to the previous year, two operators reported an increase, and three operators reported that data was not available.

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

Freight operators' non-traction gas (kilowatt hours) usage, April 2025 to March 2026, and percentage change compared with April 2024 to March 2025 (Table 6133)



Note: GB Railfreight reported 22,992 kWh. Freightliner Group is now reported as Freightliner. Heavy Haul Rail is shown as 'data not available' because its data cannot be separated from Freightliner in the operator's reporting portal. The April 2025 to March 2026 Freightliner figure includes data for Heavy Haul Rail.

Other environmental measures

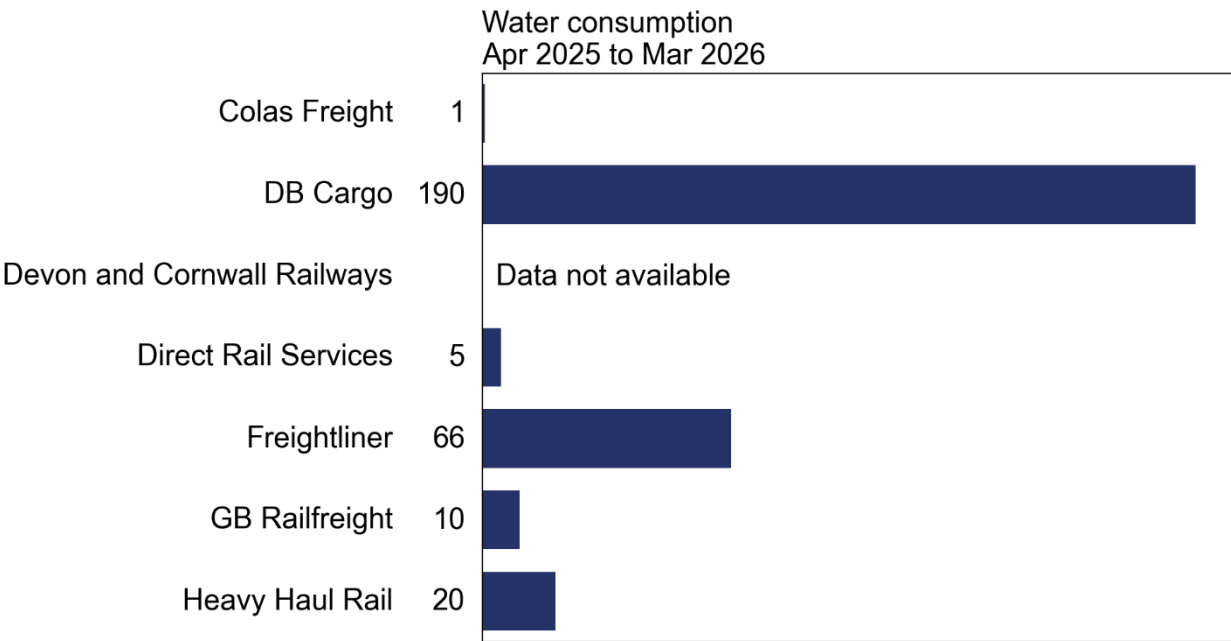
Comparisons of water consumption and waste generation between operators should be treated with caution due to differences between the facilities they manage. Some operators are responsible for additional infrastructure including varying numbers of stations and depots, which impacts their overall consumption 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 2025 to March 2026 (Table 6153)

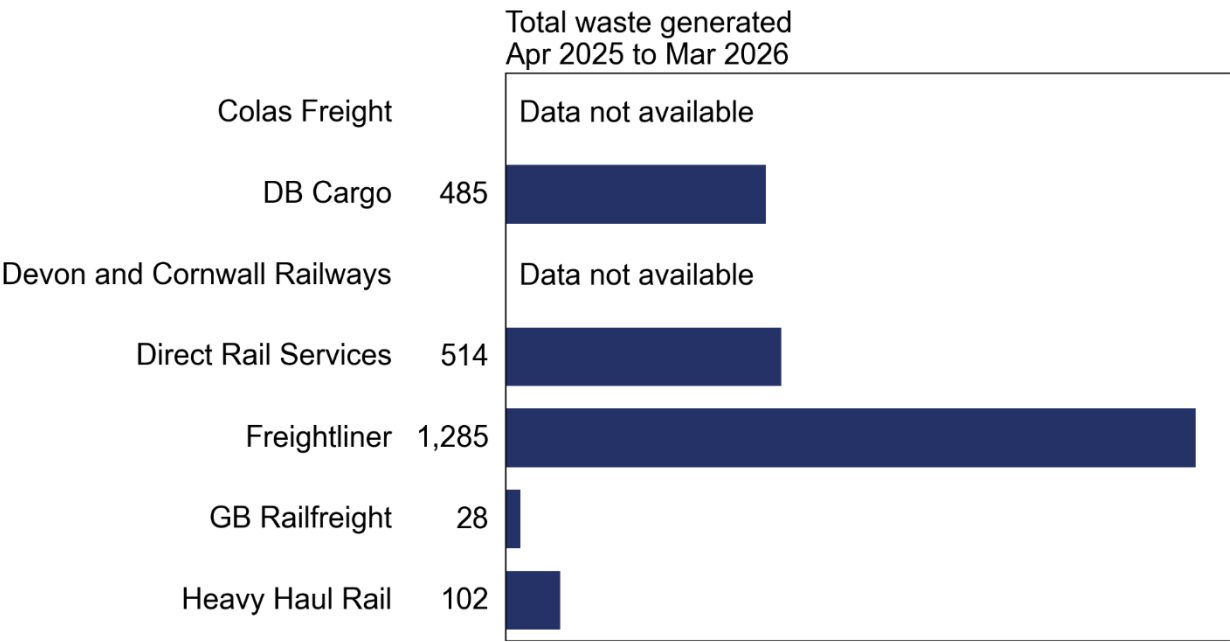


Waste generation

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 2025 to March 2026 (Table 6173)



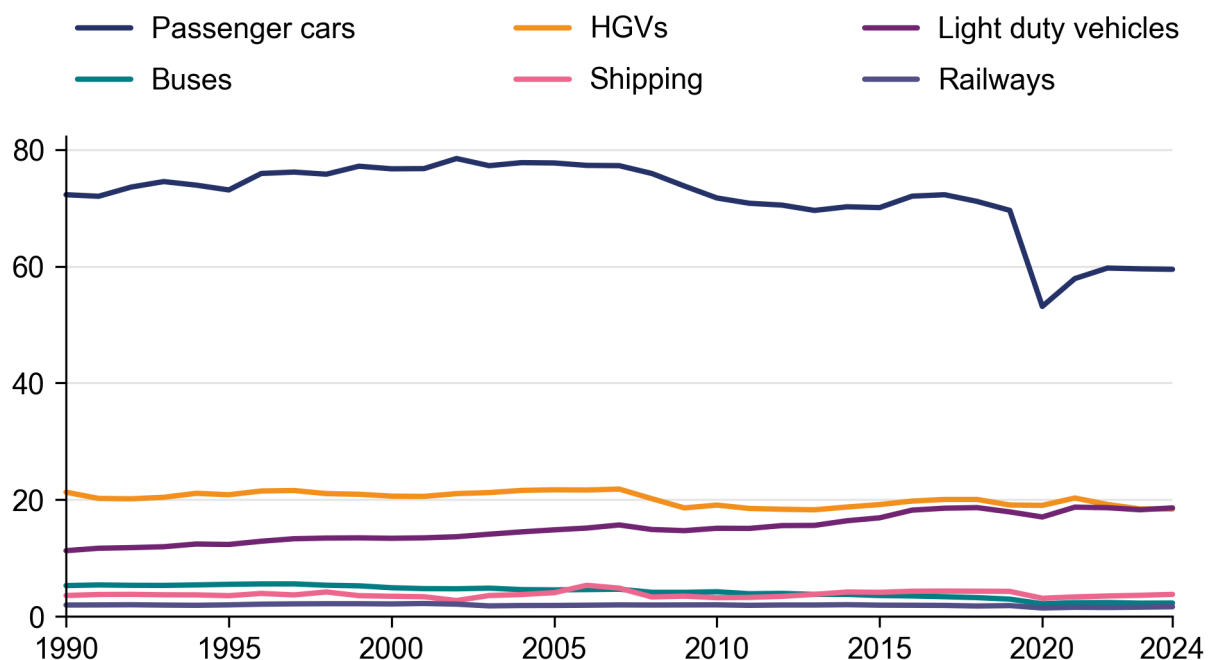
3. Transport emissions in context

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 2024, rail emissions made up 1.7% of the UK's total emissions from transport while accounting [for 9.5% of all passenger kilometres travelled in Great Britain](#). Road transport remains the largest source of emissions, with 90% 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 2024

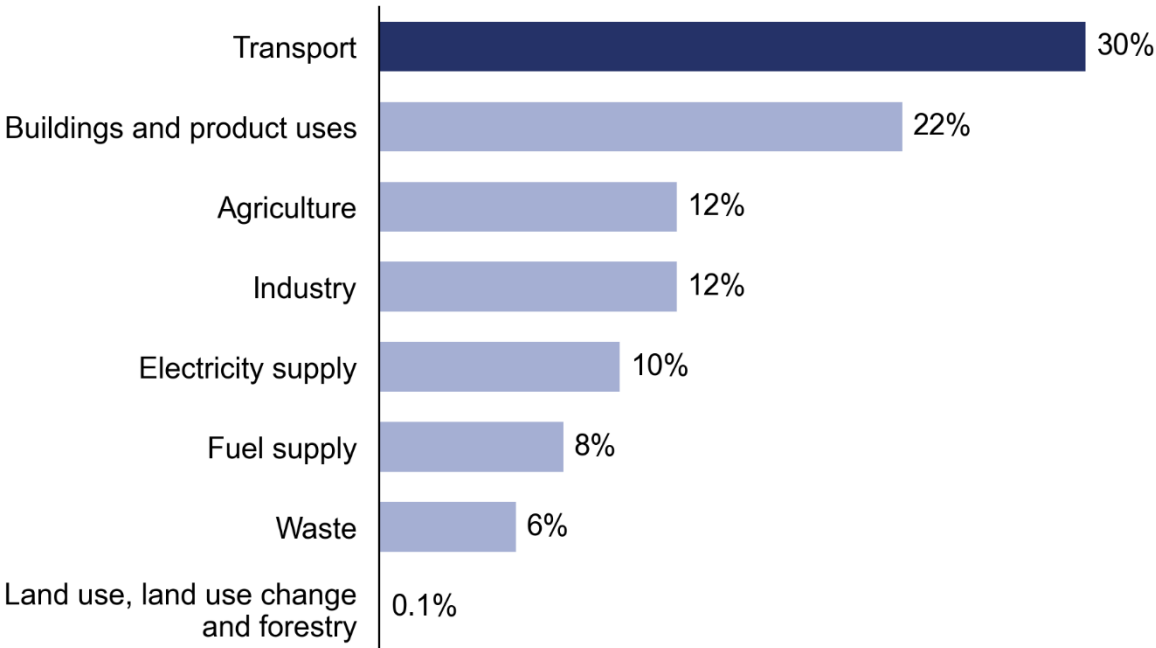


Source: [Final UK greenhouse gas emissions statistics:1990 to 2024](#)

In 2024, UK net territorial greenhouse gas emissions were estimated at 373 million tonnes of carbon dioxide equivalent (CO₂e). This is down 3% compared with the previous year.

Transport remains the largest emitting sector, accounting for 30% of all UK emissions.

Figure 3.2 Almost a third of greenhouse gas emissions came from transport
Proportion of CO₂e greenhouse gas emissions by sector, United Kingdom, 2024



Source: [Final UK greenhouse gas emissions statistics:1990 to 2024](#)

Network Rail environmental data

[Network Rail reports its annual energy consumption](#) (electricity, gas and fuel) and the associated emissions. In the year April 2025 to March 2026, Network Rail outperformed the PR23 national and regional targets, achieving an 11.5 percentage point (pp) national reduction in scope 1 and 2 emissions against a target of 8.1pp. This reduction was largely driven by grid decarbonisation, but also by the transition to zero emission vehicles in its road vehicle fleet.

Network Rail is expected to reduce scope 1 and 2 carbon emissions by more than 20% over Control Period 7 (CP7), measured against the CP5 exit baseline. 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 or diesel measured 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. One kWh is the amount of energy used by a one kW appliance operating 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. Greenhouse gases include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃). Data on net territorial greenhouse gas emissions are reported under the United Nations Framework Convention on Climate Change and the Paris Agreement.

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:

- Public service operators¹
- 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.

¹ Public service operators are train operators which are publicly contracted (or owned). These are referred to as 'franchised' operators in some of our data tables and previous releases

Recent changes to train operators

Lumo are now referred to as Lumo (East Coast). This to differentiate the services to and from London King's Cross from the Lumo (West Coast) services to and from London Euston which commenced in May 2026.

On 31 May 2026, Govia Thameslink Railway was transferred to public control and was rebranded as Greater Thameslink Railway.

Further information on individual operators, including route maps, can be found via the [Rail Delivery Group](#) website.

Revisions

There have been revisions to previously published data:

- Normalised electricity emissions data for April 2024 to March 2025 have been revised following a correction to the electricity conversion factor used to calculate CO₂e emissions.
- Some operators revised their data for April 2024 to March 2025.

These revisions are identified in the relevant data tables, and 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 locomotive 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 2024. 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 5 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 [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.



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