FirstGroup plc
Annex to the Annual Report
and Accounts 2024

Welcome

Who we are

A leading private sector provider of public transport.

What we do

We deliver value by providing vital transport services that connect people and communities and that are key to achieving society's social, economic and environmental goals.

How we do it

We provide easy and convenient mobility, improving quality of life by connecting people and communities.

Our services

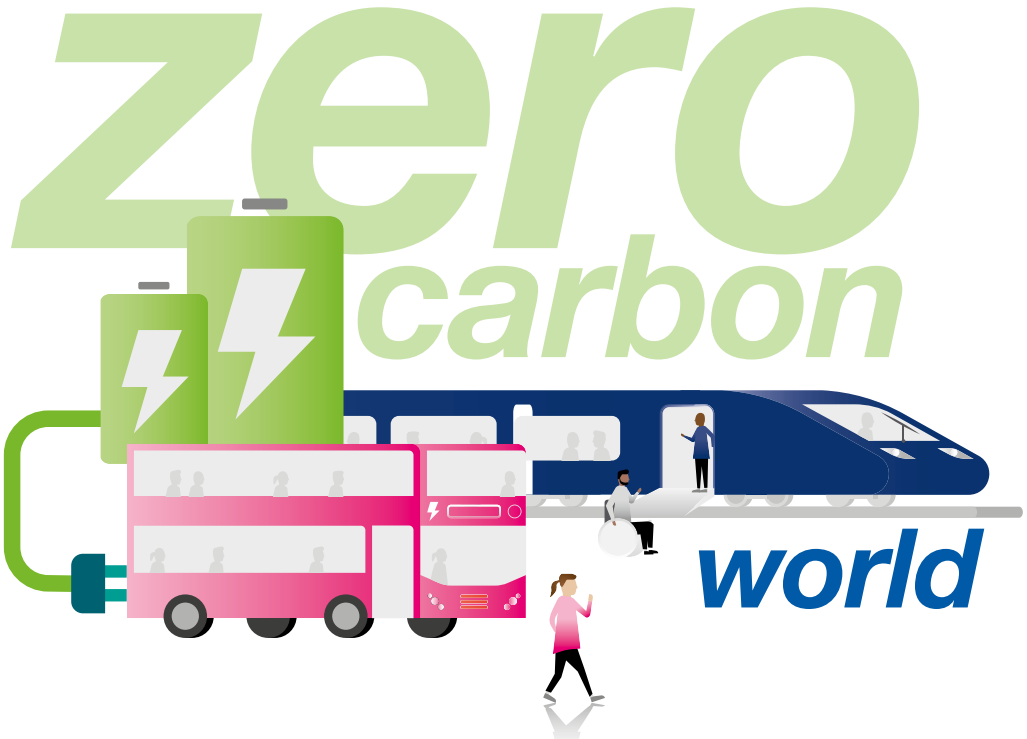
First Bus

First Rail

For FirstGroup, the climate emergency means stepping up to the challenge of decarbonisation, and the role we must play in achieving lower carbon emissions from transport. We know we have a critical role in creating a connected, healthy, zero-carbon world, contributing to local prosperity and growth, reducing congestion on the roads, improving air quality, and helping to lower carbon emissions. We hope this report gives an overview of how we are working towards achieving our sustainability goals and how we deliver value for our business, our employees and our customers – now and in the future.

Our ambition

is to be the partner of choice for innovative and sustainable transport, accelerating the transition to a



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Executive summary

"Our sustainability agenda sits at the heart of who we are and what we do as an organisation."

Graham Sutherland
Chief Executive Officer

Future investment

£89m

New investment committed towards an additional 178 buses and associated infrastructure this year

Decarbonisation target

63%

Science-based target to reduce Scope 1 and 2 greenhouse gas (GHG) emissions by FY 2035 from a FY 2020 base year

Message from our Chief Executive Officer

Climate change presents a significant and growing risk to the UK transport industry, with extreme weather events and rising sea levels threatening infrastructure and operations. As a leading transport operator, FirstGroup recognises the risks but also the opportunities that climate change presents for our business. We remain steadfast in our commitment to mitigating our impact and providing transport services that have innovation, convenience and sustainability at their core.

Our strategic approach not only focuses on adapting our operations to be more resilient in the face of climate change, but also on reducing our own environmental footprint. Our ambition is to be the partner of choice for innovative and sustainable transport, accelerating the transition to a zero carbon world and helping more people to make the shift to our bus and rail services, leading to fewer car journeys and domestic short-haul flights being made.

Our business strategy has been updated to reflect our progress and ambition. Driving modal shift and leading in environmental and social sustainability are at the heart of this new strategy, forming two of four pillars. We take pride in the ambition with which our team members across the Group have adopted these goals and have strived to incorporate it into all our activities.

To meet our decarbonisation ambitions, we are implementing innovative solutions that will futureproof our business and support the wider transition to a low-carbon UK economy. We continue to make progress towards our Group-wide science-based emissions reduction targets. This year we were pleased to announce that Avanti and SWR successfully implemented new targets, validated by the Science Based Targets initiatives (SBTi).

First Bus continues to make strong decarbonisation progress with our aim to switch diesel buses for zero carbon alternatives. This year we announced the signing of a £150m Green Hire Purchase Finance Facility to support the purchase of up to 1,000 electric bus bodies. Avanti is planning to launch a new fleet of lower-carbon trains on behalf of the Department for Transport (DfT) in summer 2024. This £350m project will deliver ten seven-carriage electric trains and thirteen five-carriage bi-mode trains, capable of switching seamlessly between electric and diesel fuel. The project will provide customers with comfortable, modern trains whilst reducing carbon emissions.

Equally important to our decarbonisation strategy is our support for infrastructure solutions that promote renewable and clean energy. Given the recent volatility in energy prices, we are acutely aware of the need for energy security and the imperative to transition to a low carbon economy. A new electric charging partnership with Openreach was announced this year, which allows their electric vehicles fleet to charge at First Bus depots. This important milestone will help promote greener journeys not only in the First Bus fleet but throughout the wider economy. We are also engaging with our high-priority suppliers to accelerate our decarbonisation efforts in the value chain.

Our highlights

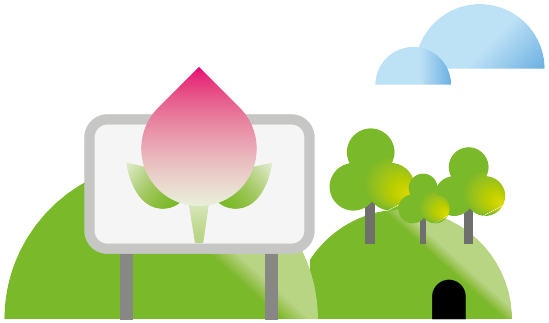
Carbon *and* energy

27%
Scope 1 and 2 location-based GHG emissions reduced by 27% from a FY 2020 base year

2035
The year set by Avanti's net-zero target validated by SBTi

£150m
Green Hire Purchase Finance Facility signed by First Bus

Read more on pages 7–11



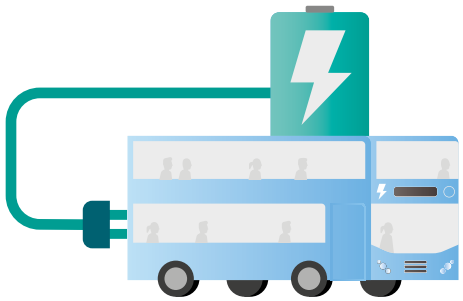
Low and *zero* emission *vehicles*

13%
of First Bus fleet are zero emission buses

£350m
worth of new Avanti electric or bi-mode trains are being introduced

1,000
Electric bus batteries to be funded by a landmark joint venture with Hitachi

Read more on pages 12–15



Our facilities

97%
of operations (by revenue) covered by ISO 14001 Environmental Management System

6,000
Solar panels installed across First Bus

10
First Bus depots with electric vehicle charging

Read more on pages 16–20

Value *chain*

45%
of suppliers by emissions, covering purchased goods, services and capital goods have science-based targets

Up to 95%
Carbon emissions avoidance from using Hull Trains or Lumo services

B2B
Charging provision by First Bus in Glasgow and Leicester

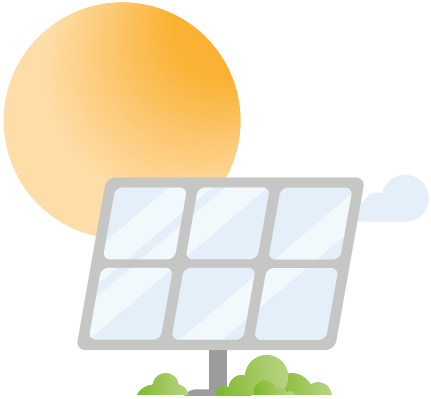
Read more on pages 21–25

Our year in stories

First Bus new joint venture with Hitachi

Securing innovative financing to accelerate our decarbonisation journey and help bridge the total cost of ownership gap between diesel and electric buses.

Read more on page 11



GreenRoad software

First Bus's new GreenRoad software reduces tailpipe emissions whilst improving safety, customer comfort and drivers' skills.

Read more on page 14

Fast-charge technology

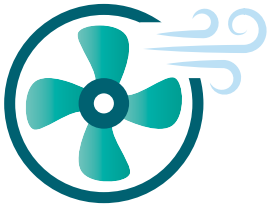
First Rail is taking an industry-leading approach in innovative battery train operation and the development of the fast-charge system.

Read more on page 15

GWR – heating system optimisations

All GWR-operated stations are equipped with Building Management Systems, enabling greater monitoring and reduced energy usage.

Read more on page 18



Innovative solution to reduce food waste

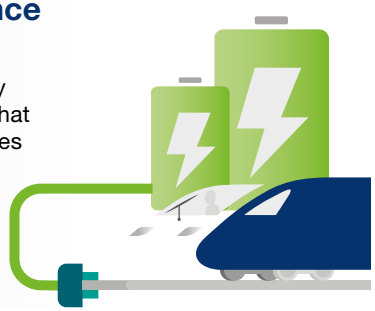
Avanti and DHL Supply Chain rolled out temperature monitoring devices across catering operations to greatly reduce food waste.

Read more on page 19

Emissions avoidance studies at Lumo

An avoided emissions study conducted at Lumo found that passengers using its services could reduce their journey emissions by up to 95%

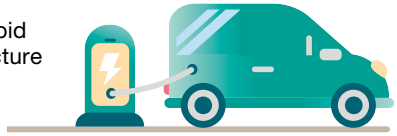
Read more on page 23



Industry-first consumer EV charging hub

The Summercourt charging hub is the first-of-its-kind for the bus industry, providing direct access for the public to rapid electric charging infrastructure for electric cars and vans.

Read more on page 24



Our approach

Leading in environmental and social sustainability is one of our four business strategic pillars, ensuring that sustainability is embedded throughout the Group.

'Mobility Beyond Today' is our Group-wide strategic framework for sustainability. We are committed to the transparent disclosure of our full sustainability performance and report progress each year, and a full progress report can be found in our Annual Report and Accounts 2024 from page 48.

This report provides more detail on our environmental focus areas covering our ambitious decarbonisation goals, biodiversity initiatives, the promotion of modal shift, air quality and key environmental metrics such as carbon, energy, waste and water.

Our ambition drives ou

To be the partner of
and sustainable tra
the transition to a

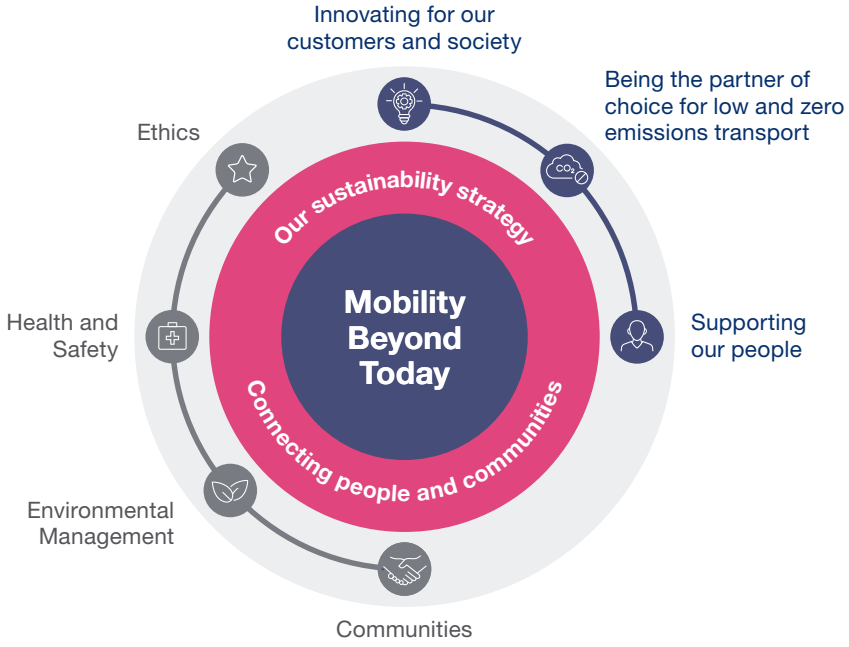
Strategic pillar

Lead in environmental and social sustainability

Download our Annual Report for more on our strategy

Sustainability framework

Our sustainability framework 'Mobility Beyond Today' provides focus on this strategic pillar with material issues identified by our stakeholders.



Disclosure frameworks and recognition

We recognise the growing importance of sustainability disclosure frameworks and an increasingly regulated landscape. The demand for transparent and comprehensive environmental, social and governance (ESG) data is increasing among our stakeholders and investors. Our commitment to improving our data collection and reporting processes is reflected in our ongoing efforts to align with emerging reporting standards and emerging regulations.

As the first public transport operator in the UK to officially support the Taskforce for Climate-related Financial Disclosures (TCFD) framework, and now in our fourth year of TCFD reporting, we continue to make progress towards our Group-wide emissions reduction targets. The TCFD framework helps us to identify and evaluate the potential operational and financial impacts to our business from climate-related risks and opportunities, which is also an integral part of our risk management framework. Please see our Annual Report and Accounts 2024, from page 74 onwards, for more details on our TCFD work.

Later this year we will be publishing our first Group-wide climate transition plan in line with the Transition Plan Taskforce framework. This plan will set out in more detail the steps we are taking to deliver on our decarbonisation ambitions and build resilience into our overall business strategy. This will include a description of the specific actions being taken, accountability for these actions and the dependencies we are addressing. We will also describe how our financial planning is supporting delivery of these ambitions.

Collaboration and advocacy

In March we joined the United Nations Global Compact (UNGC) initiative – a voluntary leadership platform for the development, implementation and disclosure of responsible business practices. The UNGC is the world's largest corporate sustainability initiative with a mission to inspire, guide and support companies, so their operations and strategies are aligned with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption.

We continue to be recognised as a leader in third party evaluations, ratings and benchmarks of corporate ESG performance. In FY 2024, we were:

CLEAN200 2024

Included in the Clean200, the top globally listed companies by clean revenue

SUSTAINALYTICS

Included in the 2024 ESG Top-Rated Companies List for Sustainalytics with a 'Low Risk' rating that puts us in the top 6% for transport and 11% of the global universe

MSCI

'AA' ranking on MSCI ESG Index for sixth year running

Proud member of UN Global Compact Network UK

FTSE4Good

Ranked as the top-performing bus and rail operator in our sector in the FTSE4Good Index

S&P Global

Included in the 2023 S&P Sustainability Yearbook once again with a score of 62

Corporate ESG Performance Prime RATED BY ISS ESG

'Prime' status on the ISS ESG Index and ranked in the top decile in our sector

Re-awarded the Green Economy Mark on the London Stock Exchange

CDP DRIVING SUSTAINABLE ECONOMIES

Maintained our CDP rating of B

Carbon and energy

Delivering *on our science-based* targets

Our ambition is to be the partner of choice for innovative and sustainable transport, accelerating the transition to a zero carbon world.

Reduction in total Scope 1 and Scope 2 emissions

-27%

compared to FY 2020

Zero carbon energy

34%

FY 2023: 26%

Carbon intensity – tCO_2e/£m revenue

159

FY 2023: 169

Reduction in Scope 3 fuel- and energy-related emissions

9%

compared to FY 2020

First Bus – gCO_2e per passenger km

70

FY 2023: 81

First Rail– gCO_2e per passenger km

27

FY 2023: 30

Overview

Beyond offering bus and rail services to grow a modal shift to public transport, it is equally vital to reduce and eventually eliminate the carbon emissions associated with our operations and supply chain in line with the latest climate science. By offering accessible and efficient public transportation services, FirstGroup contributes to enhancing social mobility, reducing congestion and air pollution.

Performance

During FY 2024, we have continued to drive carbon efficiency across our operations, progressing towards our science-based targets to reduce Scope 1 and 2 GHG emissions by 63% by FY 2035.

Our Scope 1 and Scope 2 emissions increased by less than 2% compared to FY 2023 and were 27% lower than in FY 2020. The slight increase in carbon emissions over the past year was partly due increase in traction and depot electricity consumption, as well as a higher electricity emissions factor compared to FY 2023.

As we are transitioning towards sustainable mobility, we are seeing positive impacts on carbon emissions in both our own operations and our value chain. We are making progress in our Scope 3 target to reduce our fuel- and energy-related activities (FERA) emissions by 20% by 2028, achieving a 9% decrease this year compared to our base year FY 2020.

Carbon and energy continued

The benefits of electrification can also be seen in a significant drop in carbon emissions per vehicle kilometre delivered. Across our bus services decreased by 19% and across our rail services by 1% from FY 2023, amounting to 897 gCO_2e/vkm and 595 gCO_2e/vkm respectively.

We also see a positive trend in our carbon emissions per passenger kilometre. For our bus services, this metric decreased by 13% amounting to 70 gCO_2e/pkm (down from 81 in FY 2023). For our rail services, it amounts to 27gCO_2e/pkm, an 8% drop compared to FY 2023 (please see graphs on page 14).

In addition, we continue to procure the electricity we need from renewable sources. Currently, the majority of FirstGroup owned facilities and all our electric buses are powered by Renewable Energy Guarantees of Origin (REGO) backed renewable energy. In First Rail, all electric traction energy is procured through Network Rail from nuclear sources and, while not renewable, it is considered zero emissions. In total, 34% of our energy is therefore zero carbon. In addition to procuring renewable energy, First Bus have completed the installation of solar panels on depot roofs. Over 6,000 panels have been installed to date, reducing our reliance on grid electricity and our associated emissions.

Decarbonising rail travel

During FY 2024, First Rail has increased its Scope 1 and Scope 2 location-based emissions by 6% compared to FY 2023, mainly due to increased mileage and an increase in traction electricity consumption. Whilst our energy consumption and related GHG emissions may rise in the short term, we are focused on ensuring that any growth in operations is delivered in the most carbon-efficient way.

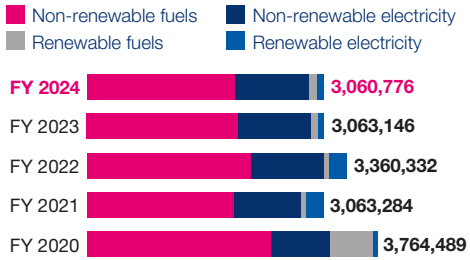
We continue to make progress towards our Group-wide emissions reduction targets and were pleased to announce that this year SWR and Avanti successfully launched carbon targets validated and approved by SBTi. SWR is the first train operator in the UK to have its carbon emissions reduction targets approved by SBTi and to set out a robust and transparent roadmap to net zero.

Avanti's primary focus will be on reducing traction-derived emissions, which involves a careful, phased approach to eliminating the use of diesel in operations. As part of this, Avanti plans to introduce a new fleet of Class 805 and 807 trains, which will replace the current diesel-only Class 221 fleet later in summer 2024.

Energy efficiency in bus depots

We have a UK-wide investment programme for the decarbonisation of our bus fleets and infrastructure. First Bus has committed to delivering a fully zero emission bus fleet by 2035. We have also undertaken various energy efficiency initiatives across our depots and wider property portfolio including investments in solar panels, energy-efficient bus washes and air compressors, upgraded building control systems and low-energy lighting.

Total energy consumption and renewable energy use (MWh)



The underlying energy use which affects our carbon footprint has decreased 1% since last year. This year the proportion of renewable energy we used was 6.3%, impacted by the relative use of electric versus diesel vehicles in our fleet'.

The use of renewable energy fell in FY 2023 comparing to FY 2022. However, this was mainly due to a change in the methodology for calculating this metric, with energy recovered from regenerative braking by trains deducted from total energy use rather than counted as renewable energy.

Carbon and energy continued

Carbon and energy – our emissions profile

As a major provider of public transport, the majority of our carbon emissions derive from the fuel and electricity consumed to power our extensive road and rail fleet. A unique aspect of our business is the significant contribution of Scope 1 and 2 emissions, which surpass 50% of our overall emissions footprint. Whilst we acknowledge the importance of addressing Scope 3 emissions, our primary focus lies in achieving reduction in our Scope 1 and 2 footprint, by investing in low and zero emissions vehicles as well as implementing energy efficiency initiatives in our depots, stations and office buildings.

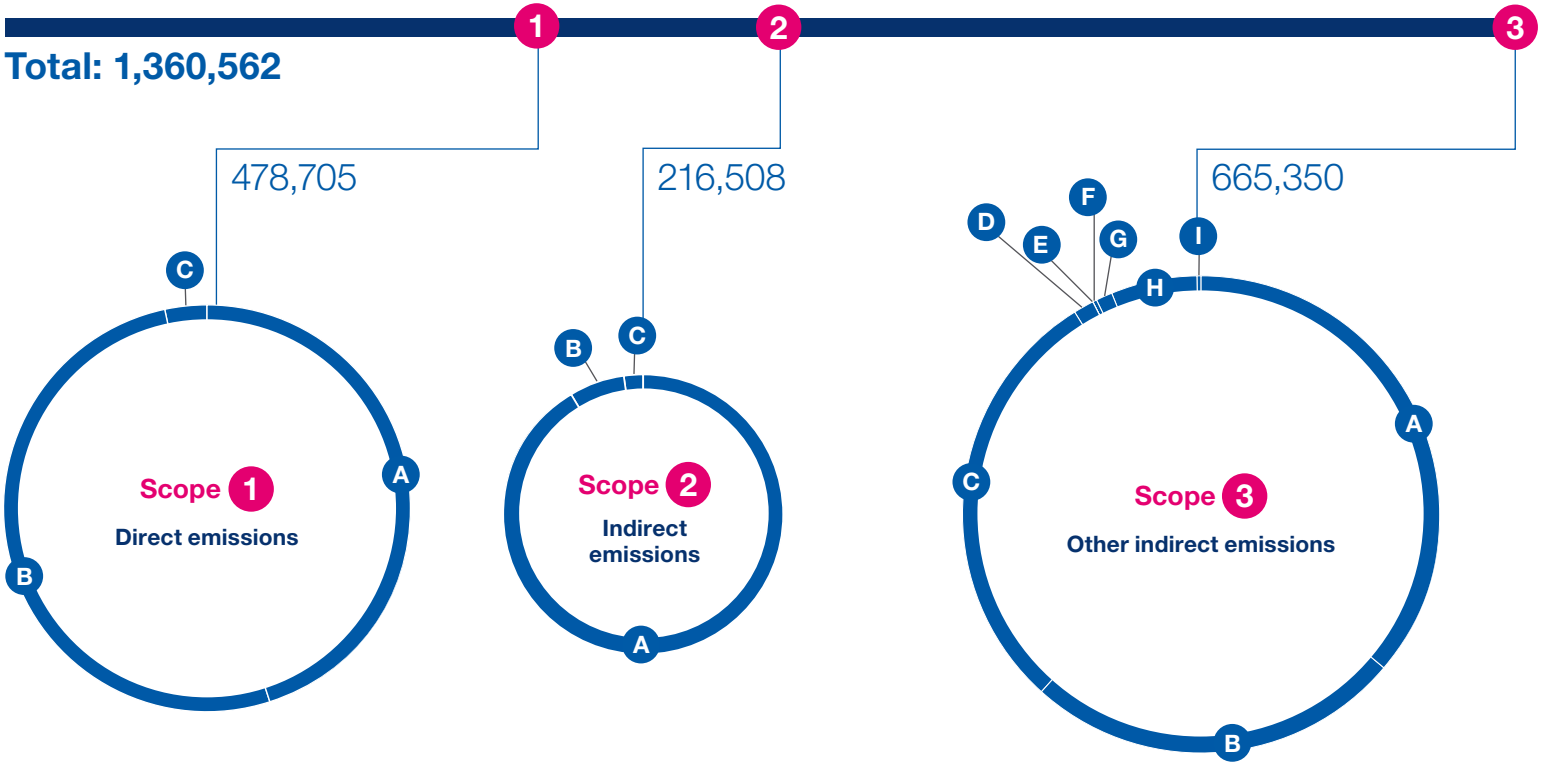
Scope 3 – our emissions profile

Scope 3 reporting in our Annual Report is limited to categories (Waste, Water, Business Travel, Fuel- and Energy-related activities and upstream transportation and distribution) for which we are currently able to gather actual source data from along our value chain and apply relevant emissions factors.

We have also worked with a specialist consultancy to complete a full Scope 3 emissions assessment and identify all material Scope 3 emissions. We also are reporting here on all our material Scope 3 emissions for the first time this year. For some Scope 3 categories in this assessment, we have relied upon a spend-based method to calculate emissions and we will work towards gathering actual emissions data from external partners in our value chain over time. Our Sustainable Procurement Working Group is currently working to develop a more targeted approach to gathering emissions data and promoting carbon reductions in our value chain.

All emissions Scopes (tCO_2e)

Total: 1,360,562



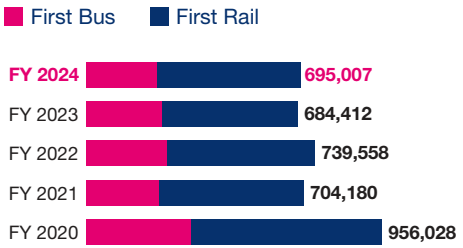
A	Road vehicle fuel	216,350
B	Rail vehicle fuel	247,259
C	Heating fuel and Other	15,096

A	Traction electricity	197,999
B	Facilities electricity	14,251
C	EV charges	4,257

A	Purchased goods and services	242,096
B	Capital goods	168,989
C	Fuel- and energy-related activities	196,753
D	Upstream transportation & distribution	8,086
E	Waste generated in operations	477
F	Business travel	1,084
G	Employee commuting	7,585
H	Use of sold products	39,145
I	End-of-life treatment of sold products	1,135

Carbon and energy continued

Scope 1 and Scope 2 location based emissions by business division (tCO_2e)

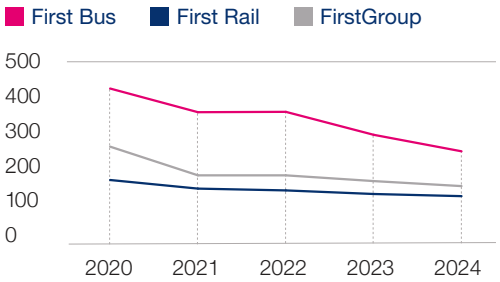


FirstGroup's Scope 1 and Scope 2 location-based carbon emissions were less than 2% higher in FY 2024 than in FY 2023.

First Rail carbon emissions increased almost by 6% in the past year mainly due to a higher number of services and the increase in electricity emissions factor used for location-based carbon calculations.

First Bus carbon emissions fell more than 6% year-on-year, predominantly because of our continuing transition to zero emission vehicles.

Carbon emissions per million revenue (tCO_2e/£m)



FirstGroup's carbon emissions per £m of revenue were 6% lower in FY 2024 than in FY 2023. The reduction in carbon intensity was partly due to the continued electrification of our bus fleet and the rollout of energy efficiency programmes while we maintained strong revenue growth.

First Bus new joint venture with Hitachi

FirstGroup has agreed a strategic partnership with Hitachi to create a newly formed joint venture to support the purchase of up to 1,000 electric bus batteries and provide battery and charging management services for 1,500 buses powered by the new batteries as part of First Bus's fleet decarbonisation.

The batteries will be leased from the joint venture to First Bus over an initial eight-year period, and the Group will retain 75% of the residual value of the batteries when taken off each bus at the end of its useful life.

In addition, Hitachi Zero Carbon's Battery and Charging Management Services will ensure we are using the batteries as efficiently as possible and potentially extending their lives.

1,000

new electric bus batteries to be financed

Given the majority of the battery's capacity remains after its use on a bus, there are significant second-life value opportunities we can benefit from, including redeployment of the batteries for energy storage or other commercial use, and ultimately recycling to extract valuable metals for sale on secondary markets.

This represents another milestone for the Group as we continue to work hard with our local authority partners to secure and optimise government co-funding to deliver on our First Bus decarbonisation commitment.

"The pioneering alliance with Hitachi is a major strategic partnership for the Group as we progress."

Graham Sutherland
Chief Executive Officer

Low and zero emission vehicles

100% zero emission bus fleet *by 2035*

We are taking action to combat climate change and improve local air quality by delivering low and zero emission mobility solutions. Our focus is on achieving a 100% zero emission bus fleet by 2035 and supporting the UK Government's target to remove all diesel-only trains by 2040.

Overview

Public transport plays a critical role in reducing the overall emissions generated by the transport sector, as train and buses produce substantially lower carbon emissions per passenger kilometre than cars or planes. Therefore, we are focused on helping more people make the shift to buses and trains, leading to fewer car journeys and helping the UK meet its net zero goals. We continue to work with vehicle manufacturers, energy providers, local authorities, and others not only to transition to low and zero emission fleets, but also to deliver innovative, easy and convenient mobility solutions for our customers.

Zero emission bus fleet

Our goal is to operate a zero emission bus fleet by 2035, and we have continued to make progress this year. At the end of FY 2024, 13% of our fleet was zero emission. We have invested over £100m in FY 2024 across the UK on new electric buses and the new charging infrastructure at depots. We run zero emission bus fleets now in Glasgow, York, Leeds, Norwich, Leicester, Aberdeen, Portsmouth, and Wales. Our Caledonia depot in Glasgow is the UK's largest electric vehicle charging hub. During FY 2024, we completed electrification in York and Norwich, another important milestone for our decarbonisation programme. Electrification works are underway at our Hoeford depot in Portsmouth.

Zero emission bus fleet

13%

FY 2023: 6%

First Bus – carbon emissions per vehicle distance (gCO_2e/vkm)

897

FY 2023: 1,103

First Rail – carbon emissions per vehicle distance (gCO_2e/vkm)

595

FY 2023: 602

Low and zero emission vehicles continued

The majority of our electric buses are fast charging and can travel up to 150 miles on a single charge, making them both sustainable and well suited for intra-urban travel. Each bus saves around 75[1] tonnes of carbon emissions a year when compared with a diesel alternative.

Funding secured in latest round of the Government's ZEBRA 2 scheme, underpinned by investment from First Bus, will enable four depot sites in Taunton, Weston-super-Mare, Basildon and Hengrove in Bristol to purchase 178 zero emission buses and upgrade their power and infrastructure, futureproofing them to operate a fully electric fleet in the coming years. The completion of these projects means First Bus will operate more than 800 zero emission vehicles and associated infrastructure at 14 depot sites across UK.

Fleet decarbonisation in First Rail

In First Rail, Avanti are in the process of introducing a new fleet of Class 805 and 807 trains, which replace the current diesel-only Class 221 fleet. This £350m project will deliver a fleet of ten seven-carriage electric trains that will operate between London, the West Midlands and Liverpool and 13 five-carriage bi-mode trains, with the ability to switch seamlessly between electric and diesel power, which will be focused on the London to North Wales route. The fleet upgrade is an essential component of Avanti's net zero ambitions as it will result in significant carbon emissions savings.

In January, our customers also experienced SWR's new Arterio trains. The return trip to Windsor was the first step in the phased rollout of the full 90-train fleet throughout 2024. It is anticipated that this new fleet will enhance energy efficiency compared to the former rolling stock.

Driver performance

Efficient driving performance is crucial for optimising our fuel and energy consumption and thereby decreases the carbon emissions of our fleet.

In First Bus, we are measuring all our drivers on key fleet performance indicators using GreenRoad telematics, a cloud-based system.

Similar improvements can be seen in First Rail where we have been introducing Driver Advisory Systems (DAS) that monitor and report on driver performance and help improve the energy efficiency of operations by reducing idling and unnecessary acceleration and breaking. In SWR, DAS has been deployed across our fleet resulting in energy savings of between 5 and 10%.

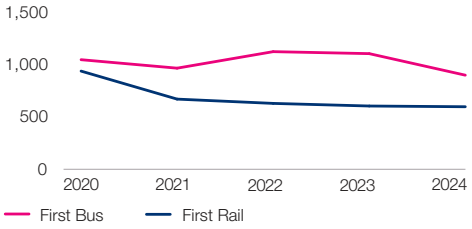
Connected-DAS (C-DAS) are more advanced systems that include advanced route knowledge and vehicle capabilities. C-DAS is programmed with route knowledge, such as the line speed and gradients, as well as vehicle capabilities such as acceleration and braking. C-DAS crucially has data on the locations of other traffic on the network, which we can then use to calculate an appropriate speed for a train to travel at. This reduces the number of conflicts at junctions and hence the need for braking and acceleration. This technology has been introduced on our open access routes – Lumo and Hull Trains – and a trial has been introduced on selected GWR trains.

GreenRoad software

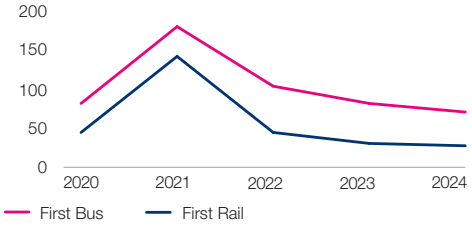
All our drivers at First Bus are supported by GreenRoad driver behaviour telematics software, which forms part of the driving training for all drivers who are new to the business. GreenRoad tracks driver behaviours and notifies drivers on how to improve their driving skills to support better customer comfort, safety and to ensure that are buses are being operated as efficiently as possible to reduce the tailpipe emissions in diesel buses.

GreenRoad is also used by electric vehicle drivers. While there are no direct tailpipe emissions to control, the software optimises vehicle energy consumption by informing driver behaviour and identifying improvements such as acceleration rates and braking.

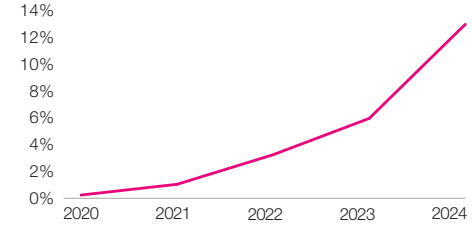
Carbon emissions per vehicle kilometre



Carbon emissions per passenger kilometre (gCO_2e/pkm)



Zero emission buses as a proportion of our bus fleet



1 Well to wheel (WTW) savings per annum (based on manufacturer certification).

Low and zero emission vehicles continued

Fast-charge technology for battery trains

In March 2024, specialist GWR engineers successfully tested the compatibility of trackside fast-charge technology with our Class 230 battery train on the Greenford branch line. At West Ealing, where the technology has been trialled for the first time, the train needed to charge for just over three minutes before restarting its journey. The industry-leading trial will continue, and it is hoped the technology could one day see battery-powered trains in operation across the UK's approximately 2,000 miles of 80-plus branch lines. This trial is the result of collaboration between GWR, the DfT and Network Rail.

The fast-charge technology solves the problem of delivering reliable, battery-only trains capable of fulfilling timetable services on branch lines, eliminating the use of diesel traction. The use of batteries for extended operation has typically been constrained until recently by their range and limitations on trackside charging.

GWR has already carried out simulations on other branch lines in the Thames Valley to explore how it could be rolled-out even further in the future. This could reduce GWR emissions alone by over 1,700 tCO_2e per year.

"We want GWR to be at the forefront of the railway's commitment to phase out diesel-only traction by 2040 and this demonstrates that we put our customers at the heart of everything we do."

Mark Hopwood
GWR Managing Director

Improving air quality in stations

SWR has become the first rail company to trial a Pluvo air-purifying totem at one of its busiest stations.

The Pluvo Column, which is sited on a platform at Salisbury station, will monitor and remove harmful pollutants from the air using its advanced air-filtration technology to create a cleaner and healthier environment for customers. If the trial is successful, SWR could install Pluvo Columns at more of its stations as part of its drive to improve the journey experience through improved air quality.

The partnership with Pluvo, a leading innovator in clean-air technology, is just one of the ways in which SWR is improving air quality on each stage of customers' journeys, having also installed more than 4,000 cycle spaces across its network in the last five years and promoting other low emissions onward journey options with customers.

Air quality

We recognise that air pollution poses a major threat to health and wellbeing of our communities. As cities and towns worldwide grapple with these pollution challenges, we are committed to taking meaningful steps to address this critical issue.

FirstGroup play a critical role by helping more people to use rail and bus services, thereby contributing to the decrease in number of car journeys and reducing congestion on our roads. Our commitment to cleaner air involves several strategic initiatives. Decarbonisation of our fleet and transitioning from diesel vehicles to zero emission electric and hydrogen vehicles helps to eliminate the emission of particulate matter, nitrogen oxide, and carbon dioxide.

As a part of the Rail Safety and Standards Board's (RSSB's) idling reduction project to help improve air quality, Avanti, GWR and SWR analyse monthly concentrations of nitrogen dioxide (NO_2) gases across managed stations, via data collected by air quality monitors over a period of 18 months. Based on these findings, air quality improvement plans were created, which identify stations that require further investigation and intervention to achieve the safe threshold of 40ug/m^3 of NO_2 concentration. The rail companies have committed to several improvement actions including fleet upgrades, further air quality monitoring and collaboration with other rail companies.

In addition to fleet electrification, our First Bus division have also invested in our diesel fleet to improve carbon and air quality performance, by removing older, lower Euro-standard vehicles. Within our First Bus division, almost 78% of our diesel fleet now meets the equivalent of Euro VI low emission standards. Additionally, we continue to retrofit exhaust after-treatment systems (EATS) to older diesel vehicles, with over 1,600 retrofitted vehicles in our fleet. We are also working with two of our vehicle manufacturers on diesel re-power projects to convert diesel vehicles to electric at the point of the diesel engine change (generally midway through the life of the bus).

Our facilities

Reducing environmental impacts *across our network*

While decarbonising our vehicle fleets is the most significant step towards achieving net zero, we are equally focused on driving environmental improvements across our full estate, including FirstGroup managed stations, depots and offices.

Overview

Our goal is to minimise the impact of our operations while ensuring full legal compliance with environmental regulations. Supporting the environmental policy are internal standards for incidents and complaints, internal audit, carbon, and energy reporting to provide more clarity on our governance and assurance of environmental management. By integrating environmental considerations into our daily operations, we strive to create a sustainable future for our passengers, employees, and the communities we serve.

Our EMS Framework

We have implemented a robust Environmental Management System (EMS) that guides our actions from the early planning stages to ongoing monitoring. Our EMS enables us to assess a wide range of environmental matters associated with our business, including biodiversity, energy, carbon, water, waste, circular economy, supply chain and community engagement.

We operate in accordance with BS EN ISO 14001 environmental management systems across nearly all of our First Rail and First Bus operations. This internationally recognised standard ensures that we systematically address environmental concerns and continuously improve our practices.

FirstGroup recognises that each division has unique needs. Therefore, we adopt a localised approach to developing and implementing EMS. This flexibility allows our business divisions to tailor EMS processes to their specific requirements. As an example, First Bus has successfully completed a Stage 1 audit and is in the process of completing Stage 2 audits for the centralisation of ISO 14001 certification in line with ISO 45001. The aim is to have a fully integrated Health, Safety and Environment (HSE) management system, reducing duplication and increasing efficiency and risk mitigation across First Bus's operations.

Operations (by revenue) covered by ISO 14001

97%

MWh generated by solar panels

434

First Bus depots with EV charging

10

Our facilities continued

Energy efficiency initiatives

In First Rail, the existing sub-metering installed at our stations and depots allows us to monitor energy used for platform lighting, lifts, tenants, and heating, ventilation and air conditioning (HVAC). Across our networks, we plan to deploy additional metering and systems that will improve our understanding of our stations' energy usage and improve the granular visibility of our estate's consumption.

SWR has four Building Management Systems (BMS) at Wimbledon and Salisbury depots and at Basingstoke and Winchester stations, saving 30% in gas and between 20 and 30% in electricity consumption annually. Over a 19-year appraisal period to 2040, this equates to an estimated energy saving of over 1,100MWh and a carbon saving of 6,000 tCO_2e. SWR plans to continue rolling-out BMS to 55 further sites which, combined with the original four sites, consume 80% of SWR's total electricity at stations and depots (non-traction).

GWR has installed BMS across all their stations, improving monitoring and significantly reducing energy consumption. Additional metering has been installed at 25 stations to cover 85% of the remaining energy loads, which is estimated to reduce energy consumption by 10-30%.

Any new stations or depots that are due to open will be built in line with our respective planned decarbonisation actions and trajectory modelling, such as three completed at GWR this year. We will also undertake additional metering in our depots to measure any unknown energy loads and have initiated surveys to inform the requirements for developing our depot BMS further. This will facilitate future interventions to reduce energy usage.

In First Bus, our most recent round of energy efficiency investments in efficient bus washes and air compressors, upgraded building control systems and low-energy lighting have achieved an annual energy saving across our bus depots and other sites.

We have also heavily invested in solar panels to reduce our reliance on the local grid. Over FY 2024 more than 6,000 solar panels installed in our First Bus depots generated 434 MWh of renewable energy, which was used to power lighting, heating, office equipment and the engineering bays.

At the end of FY 2024, we have direct current (DC) fast electric charging infrastructure at ten of our depots across the UK, including three fully electric depots in York, Leicester and Norwich.

Lighting system optimisation

A key initiative across our estate is to upgrade lighting systems to LED. In First Bus, 80% of the estate has completed the installation of low-energy lighting and the remainder will be completed in the coming years. A similar initiative at SWR successfully installed LED lighting at all front-of-house locations. This initiative is currently being extended to back-of-house premises and six depots.

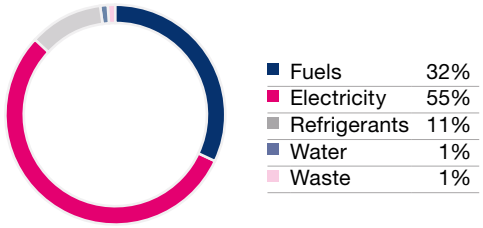
At GWR, LED lighting has been installed at 70% of our stations' customer-facing areas and 80% in our back-of-house facilities, with the remaining installations underway. To reduce energy usage from depot lighting, we have installed LED lights at three of our depots (Reading, St Philip's Marsh, Exeter). This has reduced electricity consumption by 92,000 kWh at our Bristol St Philip's Marsh depot on an annual basis. In FY 2025, GWR are aiming to install occupancy lighting sensors in customer toilets at the ten highest energy-consuming stations contributing to an overall reduction in usage of 25% across these sites with other measures.

GWR – heating system optimisations

All GWR-operated stations are equipped with a Building Management System (BMS), enabling remote control and analysis of all energy data. Through the insights provided by our BMS, we have identified a group of 30 stations that are experiencing inefficiencies in their electrical heating loads. These inefficiencies have resulted in energy wastage and reduced lifespan of our heating systems due to overuse.

Our goal is to address this problem by implementing improved or new heating controls that will generate both energy and cost savings. For example, Internet of Things (IoT) technology can be deployed to operate heaters remotely, enabling them to be controlled to agreed targets and to only operate during station opening hours. Our station staff can also operate these heaters themselves, with data monitoring the efficient usage of heating.

Carbon emissions from the operation of our facilities



In FY 2024, we produced more than 34k tonnes of location-based CO_2 emissions from the operation of our facilities, which in total account for less than 4% of our total all scopes emissions. Of the 34k tCO_2e emissions produced, electricity (excluding vehicle charge) and fuels for heating accounted for a combined 87% of emissions. Refrigerants for cooling, water supply and treatment, and waste disposal make up the remaining balance.

Our facilities continued

Innovative solutions to reduce food waste

Avanti and DHL Supply Chain have installed smart temperature monitoring devices across their onboard catering operations in a first for the UK rail industry.

The Internet of Things (IoT) devices – have been installed on Avanti's onboard kitchen areas and mobile food carts to monitor temperatures and reduce waste. Each IoT device provides constant monitoring to ensure food is kept at the optimum temperature. The technology can issue immediate feedback and alerts on the condition of the carts and kitchen areas on the train. By offering users access to enhanced data, it enables more informed decisions to be made on whether food should be disposed of or, where possible, recycled.

AVANTI WEST COAST

The rollout of these new devices contributes to making the catering operations, which include the onboard shop, First Class service and 500 carts that supply ambient and fresh food to Avanti's trains each day, more sustainable.

"Making our catering operations more sustainable is an important part of Avanti's environmental commitments. Collaborating with DHL, we've integrated cutting-edge temperature monitoring solutions that are reshaping our approach to food waste. Embracing the power of IoT technology allows us to make more informed decisions about which food items can be kept or recycled."

Jason Carnzu
Head of Onboard Logistics at Avanti

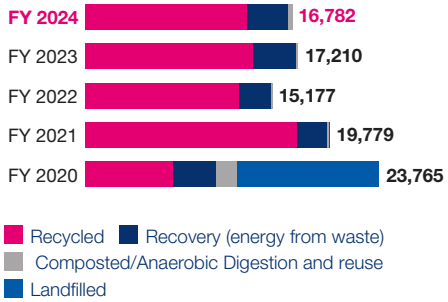
Waste

In FY 2024, as a Group we generated 2.5% less waste than in FY 2023, thanks in part to waste management initiatives implemented by our Train Operating Companies (TOCs). All our TOCs are committed to reducing waste in their operations in several different ways.

First Bus works actively with its supply chain to reduce waste and increase diversion from landfill by identifying take-back opportunities and reducing packaging. First Bus successfully co-operated with a key vehicle supplier, Alexander Dennis, to reduce packaging on replacement parts by around a quarter.

In First Rail various customer and employee recycling and reuse initiatives are in place. For example the SWR station teams have removed over 100 disused ramps from the stations. The scrap metal from ramps were sold to raise money for SWR's charity partner the Alex Wardle Foundation.

Tonnes of waste by disposal route



Water

Across FirstGroup, we use water for vehicle washing and cleaning, sanitation and drinking water supply. Our water consumption increased by slightly more than 1% over the last year due in part to operations and passenger numbers recovering towards pre-pandemic levels. This increase was offset by water efficiency measures implemented by our businesses.

In First Rail we have taken various proactive measures to improve our water management, including using grey water for toilet flushing on trains, installing rainwater harvesting systems at stations, and increasing the availability of water refill points at stations to reduce water waste and the use of single-use plastic bottles. We will continue to work with key stakeholders to ensure water is used, disposed of and treated responsibly across our operations.

First Bus has invested in upgrades to drainage systems across the UK and is looking into opportunities to harvest rainwater at depots and reducing water consumption.

Total water consumption (m^3)

Our facilities continued

Biodiversity Q&A with Georgia House, Sustainability Manager at SWR

Q SWR Biodiversity Positive Roadmap – what is it and how will it influence your work?

A The SWR Biodiversity Positive Roadmap outlines a bold vision for 2030: where SWR fully considers biodiversity in our decisions. It's a future where nature is valued, protected, restored and sustainably managed. We're committed to enhancing and protecting our natural world. The roadmap serves as a guide to achieve net positive biodiversity by 2030. It will help us integrate biodiversity into project planning and empower colleagues and communities to care for our stations and depots.

Q What are the key milestones in SWR roadmap to biodiversity net positive?

A Biodiversity net positive means that the state of nature and the health of ecosystems is left in a better condition than it was before. SWR was the first TOC to sign the Nature Positive Business Pledge which commits us to becoming biodiversity net positive by 2030. We will increase the amount of habitat units within our stations and depots by 5% by 2030, compared to a 2023 baseline, and to do so have set internal targets to increase these units each year.

Q How do you perceive the current state of environmental management in local areas?

A As our network covers more than 500 miles from London all the way down to Weymouth and even on the Isle of Wight, we have a vast number of different habitats and wildlife that call our network home. More than 100 of our stations have local adopters or community groups that look after the gardens and biodiversity areas. These areas are thriving and have seen great improvements in not only the aesthetic of the station but also the number of species seen.

Q What benefits do you foresee biodiversity projects bringing to local community?

A I see a huge number of benefits of the biodiversity projects we are going to deliver for the local community. Biodiversity is one of our key areas where we see big engagement from both colleagues and also the communities who want to look after nature in their local areas. We hold various volunteer events throughout the year that involve gardening and improving station spaces which local community groups are always keen to get involved with. Being outside in nature also brings a wellbeing benefit and it's a great chance for team building and connecting with people you wouldn't normally get to on a day-to-day basis.

Q What are the most significant social and environmental impacts, both positive and negative, that you have observed?

A There are definitely positive and negative impacts of biodiversity for the railway, and we are working to make sure the positives outweigh the negatives. There is always the risk of habitat loss when new infrastructure projects are built and so we are working with the infrastructure team to ensure biodiversity is included within the planning stages of a project. Pollution and noise issues are also a risk to nature, but we have robust policies and procedures in place to ensure we minimise any disturbance to local wildlife. The positive impacts are that we can help to create new habitats for wildlife and also build a more resilient network to cope with extreme weather?

Q What was your favourite initiative implemented in SWR?

A It's really difficult to choose one project but there is currently an ongoing project at Clapham Traincare Depot where a team of colleagues has set up their own sustainability project team to turn a disused overgrown area into a wellbeing and biodiversity garden. The team spend lunch breaks and have even come in on days off to help out and nearly all the materials they have used have either been recycled or reused from the depot.

"SWR was the first TOC to sign the Nature Positive Business Pledge which commits us to becoming biodiversity net positive by 2030."

Georgia House
Sustainability Manager at SWR

Value chain – key impact areas

Lowering carbon *beyond our footprint*

By transitioning to lower carbon modes of transportation, we help our customers to significantly reduce the emissions associated with their journey. We also continue building collaborative relationships to support new research and development, access new technologies and accelerate the adoption of innovative approaches to decarbonise our operations.

Lumo customers avoided emissions

60.6

$ktCO_2e$ in FY2023

Suppliers by emissions covering our Scope 3 Categories 1&2 have science-based targets

45%

EV charging provision by First Bus

B2B

Modal shift

Modal shift is a critical lever in the global effort to reduce carbon emissions and combat climate change. It involves transitioning from carbon-intensive transportation, such as personal vehicles and airplanes, to more sustainable, low-emissions alternatives like public transit systems. This shift not only helps in achieving decarbonisation goals but also alleviates traffic congestion, improves air quality and enhances the overall health of communities.

Given the importance of modal shift, Hull Trains and Lumo have conducted studies this year to quantify the carbon savings of using their rail services over driving or flying. Hull Trains' study, independently verified by Arup, demonstrates that a train journey from Hull to London King's Cross emits 12 times less CO_2 than driving, with only 5.42 $kgCO_2e$ compared to 67.2 $kgCO_2e$ by car. To promote awareness, Hull Trains has launched a 'travelling sustainably' webpage, allowing customers to see the CO_2 savings along their route to London King's Cross.

Value chain – key impact areas continued

Lumo's research supports these findings. Across both networks, passengers can achieve up to a 95% reduction in emissions by opting for rail transport over personal car or air travel.

The emissions avoidance is particularly significant when considering the volume of journeys. After one year of Lumo services, for the first time over half (57%) of journeys between Edinburgh and London were made by rail compared to 35% pre-Covid, highlighting a successful shift away from air travel.

Hull Trains is encouraging modal shift from car travel – including a significant growth in trips from Howden station, from a very low base at launch, to over 16,000 a year today.

These efforts are part of the rail industry's Green Travel Pledge, which commits to providing leisure passengers and business travellers with detailed and reliable data on the carbon emissions of rail journeys. GWR and Avanti include carbon emissions calculations of passenger journeys on selected journeys that are also available through train ticket apps. Access to this information empowers passengers to make informed decisions and opt for greener travel options, furthering the cause of modal shift and its pivotal role in creating a sustainable future.

Emissions avoidance studies at Lumo

Lumo, our open access train operator travelling on the East Coast Main Line between London and Edinburgh, conducted a study to assess how avoided emissions can be quantified for its services. Avoided emissions assessments represent the evaluation of emissions reductions that result from a low-carbon product or service in comparison to the status quo.

Using the methodology, we estimated that over FY 2023, Lumo helped customers to avoid emitting a total of 60.6 ktCO_2e by using their rail services, which is equivalent to the annual GHG emissions generated by the combustion of over 25,000,000 litres of petrol or the energy consumed by 7,632 homes in a year.

These results highlight the benefits brought by Lumo in reducing the climate impact of UK transport, with avoided emissions being over eight times the total operational emissions associated with Lumo operations in a single year.

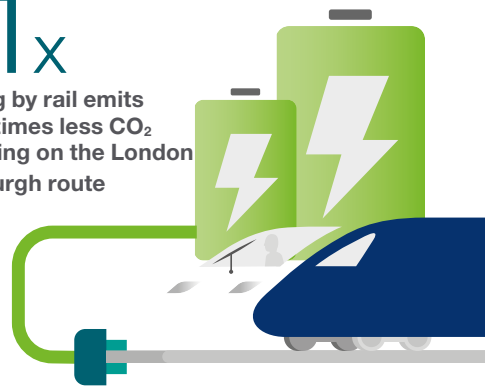
The Avoided Emissions Assessment Report is available on the Lumo website: www.lumo.co.uk

Saving	95% CO_2 saving vs car	95% CO_2 saving vs car	96% CO_2 saving vs plane
Route	Stevenage to Edinburgh	London Kings Cross to Edinburgh	London Kings Cross to Newcastle
Avoided emissions	Travelling by rail emits 20 times less CO_2 than driving	Travelling by rail emits 21 times less CO_2 than driving	Travelling by rail emits 27 times less CO_2 than flying
By Rail (kgCO_2e)	6.29	6.77	4.63
By petrol car (kgCO_2e)	129.92	142.25	98.93
By plane (with RF*) (kgCO_2e)	155.76	149.16	126.21

* RF: Radiative Forcing

21x

Travelling by rail emits up to 21 times less CO_2 than driving on the London to Edinburgh route



Value chain – key impact areas continued

Customers and communities

Our decarbonisation plan includes a comprehensive strategy to increase the availability of EV charging points, serving not only our customers but also local businesses and the broader community. This year marked significant progress in this endeavour:

In First Rail, GWR has partnered with ChargePoint Genie to introduce new EV charging stations at four key locations. Similarly, SWR boasts a network of over 60 customer charging points, demonstrating our dedication to facilitating eco-friendly travel options.

First Bus has continued to expand the provision of EV charging for businesses and the public in bus depots. In 2024, this expanded to a new partnership with Openreach that enables their engineers to utilise our bus depot charging facilities during off-peak hours, thereby optimising the use of our charging infrastructure. A similar scheme at Summercourt in Cornwall offers the general public the opportunity to use chargers for their EV cars and vans.

This initiative is not just about infrastructure; it's about fostering a greener future. By providing these charging points, we are empowering individuals and businesses to make environmentally conscious choices, thereby reducing carbon footprints and enhancing the sustainability of our communities. Our vehicles, while serving our customers on the road, contribute to a wider transformation to a sustainable transportation ecosystem.

Partnerships

Our Group sustainability efforts are bolstered by strong partnerships with local and national authorities, where we engage both formally and informally. These alliances enable us to improve our services, encouraging a shift to public transport, reducing road congestion and promoting sustainable transportation methods. Our Regional Development Managers within First Rail are instrumental in these efforts, working closely with local and regional governments, businesses, user groups and other stakeholders to ensure that rail remains a vital part of community infrastructure.

In First Bus, we work closely with our local authority partners to grow bus use and support the delivery of shared economic, social and environmental goals. Our aim is to deliver great services to help promote and cement the status of the bus as a great value, credible everyday choice.

This focus underpins our approach to being the partner of choice for innovative and sustainable transport solutions. Through engagement with our partners and using our experience and expertise, we are able support prosperity, growth and jobs in the communities we serve. This year we were delighted to successfully secure further funding with our local authority partners which we supplemented with our own investment for further electric buses in Somerset, North Somerset, West of England Combined Authority and Essex.

On a national scale, we actively engage with various business advocacy organisations, sustainability lobby groups and public transport campaigns. Representatives from across the Group sit on influential and critical forums. Our Group Engineering Director chairs the Industry Sustainable Rail Leadership Group and First Rail Head of Sustainability chairs the Air Quality Working Group. We also sit on the Rail Environment Forum and the Noise Working Group. These forums are essential to ensure that we can collaborate with fellow stakeholders for an industry-wide approach to challenges and opportunities.

We continue our engagement with the RSSB and this year supported the newly introduced Sustainable Rail Blueprint in collaboration with other network operators. This strategy creates a cohesive national partnership for creating sustainable rail, a unified plan that provides a whole-industry view as far ahead as 2050.

First Bus is a proactive member of the Confederation of Passenger Transport. This year, we have worked together to successfully develop the case for a long-term funding settlement for bus, and have worked collaboratively to address the common issue on driver recruitment and retention. We continue to work extensively with industry partners Transport Focus, including as major contributors to the 'Your Bus Journey' survey, and with Bus Users UK.

Further information about how we work with our industry partners can be found in our Annual Report on page 63.

Industry-first consumer EV charging hub at Summercourt

To mark Clean Air Day in 2023, First Bus announced its investment into a new purpose-built customer EV charging hub at its Summercourt depot in Cornwall. The new Summercourt hub will provide the local community with direct access to rapid electric charging infrastructure for electric cars and vans. The new 'turn up and charge' hub will offer eight rapid charging facilities available on a pay-as-you-go basis, and the hope is it will also help more people make the switch to electric to improve local air quality.

The chargers will also be available for local businesses to use following the successful pilot of B2B charging provision by First Bus in Glasgow and Leicester, where companies such as DPD and Police Scotland benefit from the use of the operator's infrastructure for their EV fleets.

Value chain – key impact areas continued

Sustainable procurement strategy

We have embedded supplier engagement as business as usual into our sustainable procurement approach. We recognise that this offers us a significant opportunity to make carbon reductions in our supply chain, and we pursue these opportunities through three main activities:

- Tendering and contract renewals: When tendering for new contracts we use this as an opportunity to reduce the impact of new contracts by reviewing the carbon and wider ESG management of potential suppliers. When existing contracts come up for renewal, we use this as an opportunity to review what sustainability commitments the companies hold to ensure they align with our own
- Data and forecasting: We have digitised elements of our procurement data to provide us with useful analytical outputs. We have started to create a heat map of our suppliers. This allows us to identify the areas of our supply chain which provide opportunity for the greatest reduction in carbon emissions. Areas of our operations which we have identified as being high priority, based on this, include our construction projects and facilities management (in particular, mechanical and electrical services and fabric)
- Supplier assurance: We have established a supplier assurance portal which currently hosts 20-30% of our supply chain. Hosted by Achilles, 'Link-up' is a platform dedicated to the transport industry where supplier assurance data, including sustainability measures, can be entered once by a supplier and viewed by multiple buyers. This will help us to identify the impact that certain suppliers will have the lowest impact on our emissions, the environment or society through the management of their own operations
- Strategic relationships: Sustainability is now a specific agenda item for our strategic relationship management meetings. We are collaborating with strategic partners on a range of environmental and social sustainability initiatives including carbon reduction

Supplier engagement

As a part of our Science Based Targets we committed that 75% of our suppliers by emissions covering purchased goods and services and capital goods will have science-based targets by FY 2028. We actively engage with our critical suppliers not only to understand their emissions targets and strategy but also to improve our own Scope 3 carbon emissions reporting and investigate any collaboration opportunities. This year, 45% of our suppliers by emissions covering purchased goods and services and capital goods have science-based targets.

We have supplier due diligence processes in place to help identify and address potential environmental risks. These processes are supported by our Group Procurement Policy. We continue to screen strategic suppliers to assess the level of associated environmental and social risks, conduct audits and follow up issues identified where necessary.

In FY 2024, we embedded a new toolset requiring higher-risk suppliers to provide evidence and assurance on a variety of environmental and social risk factors.

This new platform includes a dedicated carbon module with a section of customised questions about carbon emissions reporting and mitigation, set by our Scope 3 emissions steering group. This will ultimately provide the actual carbon emissions data from our suppliers that will be needed to set an absolute Scope 3 emissions reduction target in future. At the end of FY 2024, 217 of the highest-risk incumbent suppliers have been fully registered on this system, with a further 84 currently in progress.

We anticipate this number will continue to grow as the implementation programme progresses, and the toolset will be fully embedded into the supplier onboarding process during FY 2025.

Methodology

A. Reporting year and time horizons

FirstGroup's financial year is for the 52 weeks to 30 March 2024, incorporating the First Rail reporting year that ends on 31 March 2024.

FirstGroup uses a fixed 'base year' (FY 2020) and the prior reporting year (FY 2023) to benchmark trends and change over time. In each report we provide five years of continuous data where available. Where possible, new metrics are reported with at least one prior year for comparison.

B. Methodology and boundary

Our carbon and energy reporting is prepared in accordance with the following standards and guidelines:

- Greenhouse Gas Protocol (GHG Protocol) for Corporate Accounting and Reporting Standard, and
- UK Government Streamlined Energy and Carbon Reporting (SECR) Guidelines

For our zero emission buses target we define zero emission buses according to the UK Government Zero Emission Bus (ZEB) Accreditation Scheme and exclude coaches, training buses and end-of-live vehicles from the total bus fleet owned or leased by the Group in the UK and the Republic of Ireland.

FirstGroup has an operational control boundary covering 100% of its business activities, with a materiality reporting threshold of 5%. For FY 2024, our reporting boundary excludes TransPennine Express (TPE) as the contract ended in May 2023, and TPE was subsequently excluded from our previous years' figures (in line with Appendix E to the GHG Protocol Corporate Accounting and Reporting Standard Revised Edition).

To ensure our boundary remains relevant and complete, annual reviews are undertaken to identify and indicate the scale and the significance of any change. We conduct:

- legal entity reviews to ensure we continue to report a clear scope and coverage regarding revenue and activity
- new or renewed materiality assessments for our operating subsidiaries that consider previously excluded data

C. Environmental metrics

This report contains key metrics relating to carbon, energy, waste, water, and environmental management.

D. Emissions sources

Our GHG inventory is reported in four categories or 'scopes', listing our direct and indirect emissions in accordance with the GHG Protocol.

Scope 1: Direct emissions from road and rail vehicle fuel, heating fuel and fugitive refrigerant gas emissions.

Scope 2: Indirect emissions from the generation of electricity purchased for buildings and to power electric road or rail vehicles.

Scope 3: Other indirect emissions that occur in the value chain.

Out of Scope: Relating to the combustion of biofuels.

The term 'carbon emissions' in this report refers to GHG emissions as required for a GHG inventory. This includes carbon dioxide alongside six other greenhouse gases calculated in mass of carbon equivalent (CO_2e).

E. Energy conversion factors

To determine underlying energy use, some liquid and gaseous fuels were converted from a volume (e.g. litres) or weight (e.g. kilograms) into kilowatt hours (kWh) of energy at a gross calorific value.
The following sources were used to calculate such conversions in this report:

- UK Government GHG reporting: Conversion Factors 2023 from Department for Energy Security and Net Zero.
- Conversion from litres into kWh (diesel, biodiesel, petrol, gas oil, burning oil)

F. Emissions factor selection

Our primary sources for calculating carbon emissions are: UK Government GHG reporting: Conversion Factors 2023 from Department for Energy Security and Net Zero.

Market-based emissions factors for electricity purchased are provided directly from energy suppliers, with evidence such as an assurance certification or renewable backed certifications (e.g. REGO).

Bespoke emissions factors are used in First Travel Solutions to calculate the footprint of the vehicles they procure for transport contracts including rail replacement. The emissions factors are provided from a software system that provides a specific emission factor per kilometre using licence plate information. For vehicles whose number plates do not return a value, average emissions factors are calculated and applied.

For Scope 3 Category 1 and 2, 2018 US Environmentally-Extended Input-Output (EEIO) Supply Chain Greenhouse Gas Emission Factors v1.1 published by the US Environmental Protection Agency Office of Research and Development (ORD) are used. To make the 2018 emissions factors representative of FY 2024 spend, all factors are adjusted for inflation using an average adjustment figure.

G. Data methodologies and processes

FirstGroup ensures all divisions align their reporting processes for consistent and comparable data in accordance with best practice. The following methodologies are detailed to provide transparency where complex calculation or reporting systems exist.

Traction electricity categorisation

Traction electricity (EC4T) is provided to trains via a third rail, or overhead line distribution system owned and operated by Network Rail. Trains can also generate energy from braking and are able to provide this back into overhead line distribution systems or use it to reduce train energy demand. This energy is known as regenerative braking. The energy recovered from regenerative braking has been deducted from total energy use.

As per our operating agreements, First Rail is billed for a proportional amount of line loss on these distribution systems in addition to the energy metered into the train. This reflects the losses of transporting the electricity through the distribution system. Emissions associated with line loss are included in Scope 3 emissions.

After the reporting cycle Network Rail send a the charge for unbilled energy used on the system, known as washup, and this is included in our Scope 2 emissions. In the current financial year, we are accounting for washups from the previous financial year, as the data is received after publication.

Methodology continued

Carbon and energy intensities

Carbon emissions (Scope 1, Scope 2 location-based, Scope 3 limited to emissions from business travel, waste disposal, water supply and treatment, upstream transportation and distribution, and Out of scope) are normalised against revenue to derive tonnes of carbon by £m revenue. The underlying energy use comprising these emissions is normalised by revenue the same way. Carbon emissions relating only to passenger vehicle fuels and electricity (Scope 1, Scope 2 and Out of scope) are normalised by vehicle kilometre (vkm) or passenger kilometre (pkm).

Passenger kilometres

First Bus – calculated using total passenger journeys multiplied by the average journey length for a non-London metropolitan bus (National Travel Survey Average Bus Journey length – NTS0303 (2022)).

First Rail – calculated using the Office for Rail and Road (ORR) statistical methodology for passenger kilometres. This information is provided from a national rail system called LENNON.

Supplier engagement target

To calculate the supplier engagement target, we identify all our suppliers covering Scope 3 category 1 – purchased goods and services – and category 2 –capital goods. We use a spend-based methodology approach to determine their emissions. The top 75% of suppliers by emissions are then reviewed to understand whether or not they have targets in place aligned with the science-based approach. The results of this process allow us to understand what percentage of our suppliers have a science-based target and informs our progress towards our supplier engagement target.

H. Accounting for estimation, error and structural change

FirstGroup operates a 5% materiality threshold, meaning we seek to report at least 95% of emissions each year using actual data. In each year, some data may have been completely excluded due to it being unavailable or hard to obtain and estimated to be immaterial. We allow up to 2% of our threshold for exclusions each year. Each reporting year, some of the facilities data is estimated based on historical data where it is not available by our reporting deadline. We allow 3% of our threshold for variation in our estimations and reporting or calculation errors. To ensure our materiality threshold has been met, we apply actual data in the subsequent reporting year and validate our prior year's reported data again to ensure the total variance has not affected our total carbon footprint by more than 2%. Where a material error (2%) is not found, the variance is reported into the following reporting year. Where a material error is found, the prior year's data is restated. Known as re-baselining, an equivalent amount of carbon is applied retrospectively to each year up to the 'base year'. Re-baselining occurs where new developments, divestment, reorganisation or similar business changes give rise to an absolute change of 5% total carbon in each reporting year. Re-baselining calculations are undertaken in accordance with Appendix E of the GHG Protocol Corporate Accounting and Reporting Standards.

Schedule of adjustment and restatements

TPE was transferred to being run by the Department for Transports' Operator of Last Resorts on 28 May 2023. All carbon, energy, waste and water metrics for all prior years were decreased to reflect this change.

Independent assurance

FirstGroup plc has engaged Grant Thornton UK LLP to provide independent limited assurance in accordance with International Standards on Assurance Engagements 3000 (Revised), "Assurance Engagements other than Audits or Reviews of Historical Financial Information" ("ISAE 3000 (Revised)"), and in respect of the greenhouse gas emissions information included within the Subject Matter Information, in accordance with International Standard on Assurance Engagements 3410 – "Assurance Engagements on Greenhouse Gas Statements" ("ISAE 3410"), issued by the International Auditing and Assurance Standards Board (IAASB).

All assured metrics are highlighted with a † symbol in the Data table on pages 29–30.

Grant Thornton UK LLP issued an unqualified assurance report over the selected metrics and their full report can be found here: www.firstgroupplc.com/responsibility.aspx..

Carbon emissions – Total all scope (Location) (tCO_2e)[1]	901,730
Carbon emissions – Total all scope (Market) (tCO_2e)[1]	685,513
Group Combined – Total Scope 1 and Scope 2 location-based emissions and selected Scope 3 emissions (2) plus Out of Scope emissions intensity ratio (tCO_2e per £m revenue)	159
First Bus Road transportation – Carbon emission per vehicle distance (Scope 1 and Scope 2 location based and Out of Scope per vehicle km) (gCO_2e/vkm)	897
First Rail Rail transportation – Carbon emission per vehicle distance (Scope 1 and Scope 2 location based and Out of Scope per vehicle km) (gCO_2e/vkm)	595
First Bus Road transportation – Carbon emissions per passenger kilometre (Scope 1 and Scope 2 location and OOS based per passenger km) (gCO_2e/pkm)	70
First Rail Rail transportation – Carbon emissions per passenger kilometre (Scope 1 and Scope 2 location and OOS based per passenger km) (gCO_2e/pkm)	27
Renewable energy use (mWh)	193,153
Total energy consumption (mWh)	3,060,776
Zero emission bus fleet	13%

1 This includes the aggregated total of Scope 1, Scope 2 and selected (Business travel, Waste disposal, Water supply, Water treatment, Cat 3 Fuel and energy activities) Scope 3 amounts.
2 This includes the aggregated total of Scope 1, Scope 2 location based, selected Scope 3 (limited to emission from Business travel, Waste disposal, Water supply, Water treatment, and Upstream transportation and distribution amounts.

Data table

	2020	2021	2022	2023	2024
Carbon emissions by Scope (tCO_2e)					
Total Scope 1 emissions	653,779	467,773	524,683	487,362	**478,705**
Scope 2 location-based	303,628	236,592	214,967	197,272	**216,508**
Scope 2 market-based	1,680	156	26	252	**290**
Total Scope 1 and Scope 2 location-based	957,407	704,365	739,650	684,633	**695,213**
Total Scope 1 and Scope 2 market-based	655,459	467,929	524,709	487,613	**478,995**
Total Scope 1 and Scope 2 location-based emissions (tCO_2e) by Business division					
First Bus	339,400	234,523	261,571	244,215	**229,233**
First Rail	616,628	469,657	477,987	440,197	**465,733**
FirstGroup – other	1,379	186	93	222	**206**
Limited Scope 3 emissions (tCO_2e) calculated using actual source data from suppliers					
Scope 3 (limited to actual emissions from business travel, waste disposal, water supply and treatment and upstream transportation and distribution)	12,257	2,684	3,227	8,724	**9,764**
Scope 3 Fuel- and energy- related activities	217,066	228,549	216,738	186,421	**196,753**
Total all scopes[1] (tCO_2e)					
Total all scopes (Location)	1,186,730	935,598	959,615	879,779	**901,730†**
Total all scopes (Market)	884,782	699,162	744,673	682,758	**685,513†**
Out of scope	22,636	23,819	28,496	32,513	**34,895**
Total Scope 1 & Scope 2 location-based emissions, Scope 3 limited and Out of scope intensity ratio (tCO_2e per £m revenue)[2]					
Group combined	265	185	185	169	**159†**
First Bus	427	361	362	298	**250**
First Rail	217	148	143	133	**131**
Carbon emissions per vehicle distance (Scope 1 and Scope 2 location-based and Out of scope per vehicle km (gCO_2e/vkm)					
First Bus Road transportation	1,045	964	1,122	1,103	**897†**
First Rail Rail transportation	936	668	627	602	**595†**
Carbon emissions per passenger kilometre (Scope 1 and Scope 2 location-based and Out of scope per passenger km (gCO_2e/pkm)					
First Bus	81	179	103	81	**70†**
First Rail	44	141	44	30	**27†**

1 Total emission of FirstGroup's Scope 1, Scope 2, Scope 3 (limited to emissions from business travel, waste, water, upstream transportation and distribution and fuel-and energy-related activities).
2 Total emission of FirstGroup's Scope 1, Scope 2, Scope 3 (limited to emissions from business travel, waste, water and upstream transportation and distribution) and Out of scope.

Data table continued

	2020	2021	2022	2023	2024
Total energy consumption and renewable energy use (MWh)					
Non-renewable fuels	2,372,224	1,892,061	2,120,721	1,985,875	**1,910,253**
Non-renewable electricity	769,324	876,769	946,583	943,546	**957,370**
Renewable fuels	551,716	59,107	64,582	87,320	**104,589**
Renewable electricity	71,225	235,347	228,447	76,579	**88,564**
Total non-renewable energy	2,768,830	3,102,498	3,067,303	2,929,421	**2,867,623**
Total renewable energy	622,941	294,454	293,029	163,899	**193,153†**
Total energy consumption	3,764,489	3,063,284	3,360,332	3,063,146	**3,060,776†**
Percentage of energy from renewable sources	17%	10%	9%	5%	**6%**
Energy intensity per £m revenue					
Group combined	1,005	777	807	712	**656**
First Bus	NR	1,452	1,431	1,161	**982**
First Rail	NR	566	587	517	**554**
Supplier engagement target (% suppliers by emissions covering purchased and capital goods with an SBT in place)	NR	NR	NR	NR	**45%**
Zero emission bus fleet	0.3%	1.1%	3.3%	6.0%	**13.0%†**
Total water use by business division (m^3)					
First Bus	346,677	234,658	330,843	256,479	**206,011**
First Rail	405,062	443,405	459,543	396,475	**454,492**
Total water consumption	751,739	678,063	790,387	652,954	**660,503**
Total tonnes of waste by disposal route					
Recycled	7,114	17,088	12,429	13,571	**13,040**
Recovery (energy from waste)	3,439	2,460	2,536	3,411	**3,384**
Composted/AD and Reuse	1,680	149	208	205	**357**
Landfill	11,531	81	3	23	**1**
Total tonnes	23,765	19,779	15,177	17,210	**16,782**

Glossary and frequently used terms

Glossary

- **BMS** – Building Management System
- **CO_2** – carbon dioxide
- **CO_2e** – GHG emissions as carbon dioxide (CO_2) equivalent (e)
- **EC4T** – Electricity to power trains or 'traction electricity for trains'
- **EMS** – Environmental Management System
- **GHG** – greenhouse gas
- **GWR** – Great Western Railway
- **IoT** – Internet of Things
- **km** – kilometres
- **pkm** – distance travelled by passengers (p) in kilometres (km)
- **SWR** – South Western Railway
- **TOC** – Train Operating Company
- **TPE** – TransPennine Express
- **vkm** – distance travelled by vehicles (v) in kilometres (km)
- **RSSB** – Rail Standards and Safety Board (UK membership body)

Frequently used terms

- **Location-based carbon emissions** – reflecting the average carbon emissions relating to the generation of electricity in the country purchased (e.g. UK grid average)
- **Market-based emissions** – reflecting the emissions of the specific energy tariffs purchased as opposed to location-based averages
- **Out of scope** – indirect emissions from the combustion of biofuels
- **Scope 1 (direct emissions)** – emissions from activities owned or controlled by our organisation. Examples of Scope 1 emissions include emissions from combustion in owned or controlled vehicles, boilers and furnaces
- **Scope 2 (energy indirect)** – emissions associated with our consumption of purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of our energy use, but occur at sources we do not own or control
- **Scope 3 (other indirect)** – also known as value chain emissions, they represent the carbon associated with our supply chain. They are emissions we do not own or control but have been generated through our business needs.
- **UK** – United Kingdom, referring to locations or operations in England, Scotland, Wales and Northern Ireland

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