



# Supporting tomorrow's railways

PORTERBROOK SUSTAINABILITY REPORT 2023





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# A message from Mary Grant, CEO

In the midst of a challenging year for UK rail, 2023 saw notable achievements and progress towards a better, more sustainable railway. One which can drive economic growth, support net zero, and build resilience whilst protecting the natural environment

For the first time, the Sustainable Rail Blueprint provided a unified framework for driving rail environmental and social performance over the next 30 years. Crucially, plans have also been turned into actions. We take pride in having contributed to some of these alongside our customers, suppliers and industry partners.

Our successful bid to finance 10 new tri-mode trains for LNER marked the first rolling stock order in the UK since 2019. The successful delivery of 150 new freight wagons for GBRf is a stepping stone towards the UK's new 75% growth target for rail freight. Both will contribute to enhancing rail's modal share and help reduce transport emissions.

Improving the rail user experience is key to growing passenger numbers and revenue. I am pleased that our £100m+ Project Aurora programme with Govia Thameslink Railway (GTR) reached a significant milestone this year, with the 100th train upgraded and back into service.

Progress towards the deployment of new traction technologies has also been made. HydroFLEX reached top line speeds of 90mph in hydrogen mode. Our £1.7m investment with Siemens will see an innovative Rail Charging Converter installed at the Long Marston Rail Innovation Centre, helping deliver cleaner journeys by extending battery EMU operation across the network. Looking forward, these innovations can complement electrification and help achieve the UK's net zero target.

A diverse team of committed professionals underpins these successes. We were delighted to see their efforts rewarded with a number of major awards this year, including the National Rail Awards' Safety Achievement of the Year with Network Rail, One Big Circle, DG8 and Machines With Vision, and the Fleet Achievement of the Year with GTR and Alstom. For the third year in a row, we were pleased to be named GRESB Transport Sector Leader, retaining our 100 / 100 rating.

**Thank you for your interest in Porterbrook's sustainability journey. I hope you find this report useful in understanding our approach, progress and goals for the future**

Mary Grant,  
CEO

A handwritten signature in black ink, appearing to read 'Mary Grant'.







# A year in review

**Porterbrook**  
chosen as  
financier for new  
build tri-mode  
LNER fleet

p11

# 789

pupils reached  
through Primary  
Engineer's Rail  
Project

p32

**National Rail  
Awards** Safer  
Switches and  
Crossings  
project wins  
National Rail  
Award

p27

# 90

mph

**HydroFLEX** reaches  
90mph, fully powered  
by hydrogen

p21

**Transport Sector  
Leader in GRESB,**  
the global  
sustainability  
benchmark

p43

# £3m

invested in our new Asset  
Management Facility

p22







**Project Aurora**  
upgrade programme  
named Fleet  
Achievement of the  
Year and reaches  
halfway milestone

p12

**600h**

volunteering hours completed  
by the Porterbrook team

p36

**£120k**

CEO Mary Grant  
raises over £120,000  
for Railway Children  
running the New  
York Marathon

p36

**£1.7m**

investment in new Rail  
Charging Facility at  
Long Marston



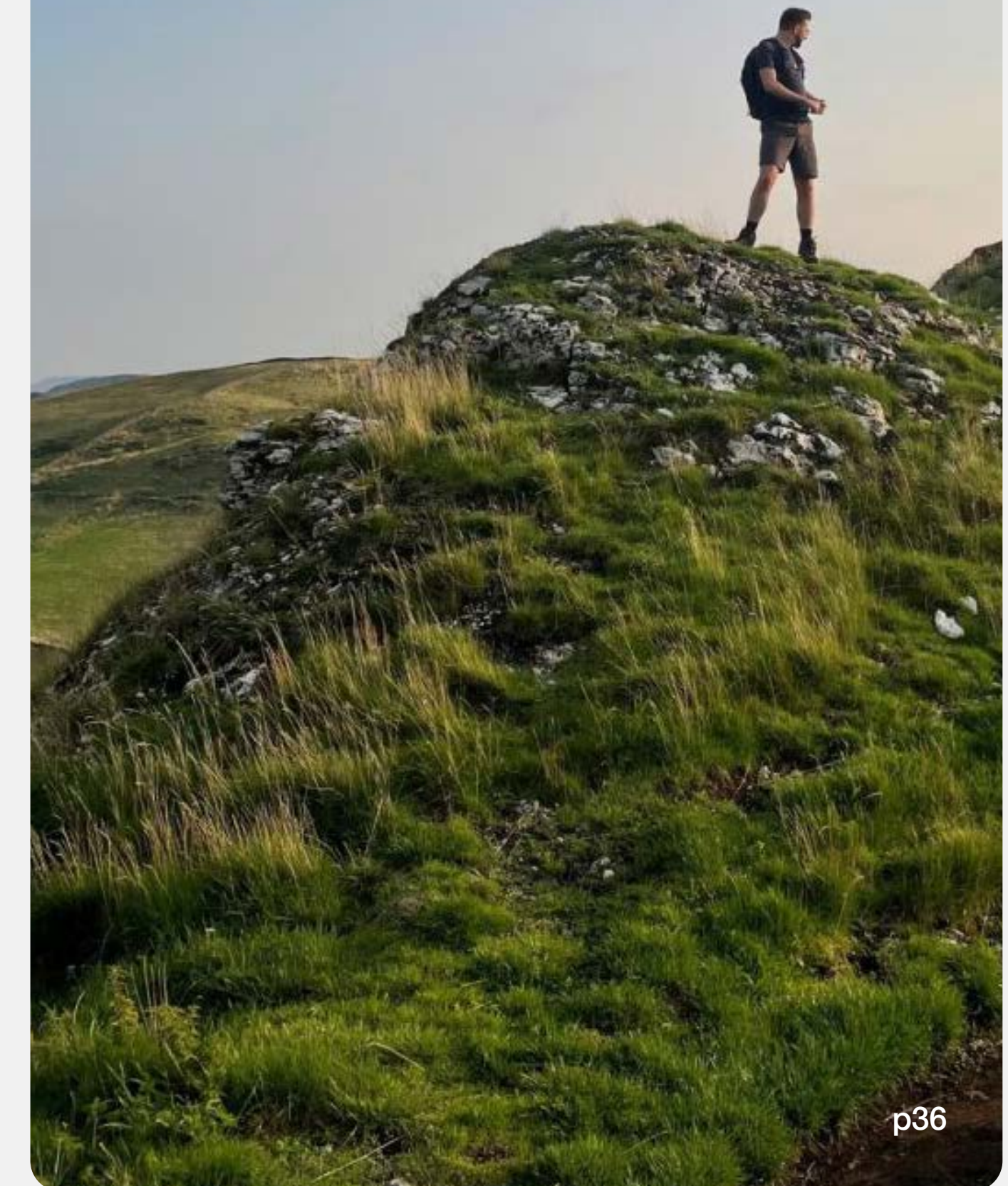
p22

New trains  
for c2c enter  
**passenger  
service**

p11

**£300k**

The Porterbrook Three Peaks  
by Rail Challenge raise £300k  
for its 20th event



p36





# About us

Porterbrook owns a diverse fleet of 4,082 rail vehicles, which equates to around a quarter of the UK's passenger rolling stock

To date, the business has **invested £3.5bn** in new passenger and freight vehicles and we are actively looking to invest a further £1bn in UK rail in the coming years.

We are a partner that adds value today and for the long term through private investment, industry leading innovations and essential network projects that help deliver a safe, efficient and sustainable railway.

**We employ 165 people**, of which three quarters are engineers and project managers. In collaboration with industry partners, we project manage the delivery of regular upgrades to our fleets, investing over £100m in our existing assets each year and supporting 100+ UK-based companies and c.7,000 jobs.

Our talented engineers are leading some of the most exciting innovations taking place in the railway today. Since 2018 we've invested over £73m in the development of greener and smarter traction technologies such as battery, hybrid and hydrogen powered trains.

We recently announced the acquisition of the freehold for Long Marston. The 135-acre site in Warwickshire is an invaluable asset to test new technologies, maintain and securely store rolling stock, as well as supporting vital training in a live environment. Since June 2021, we've invested over £13m to upgrade the site, bringing new facilities and services online that benefit customers, partners and suppliers throughout the rail industry.

Porterbrook is wholly owned by a group of supportive long-term institutional infrastructure investors, who are committed to the future of the UK rail sector. This includes Alberta Investment Management Corporation, Allianz Capital Partners on behalf of certain insurance companies of the Allianz Group, a joint venture between Dalmore Capital and Generation Capital, and EDF Invest. All entities in the Porterbrook Group are UK resident for tax purposes.

## Our Vision

To be the **UK market leading provider** of rail leasing and asset management support

## Our Mission

To provide **high-quality**, digitally enabled rolling stock solutions that help deliver a safe, reliable and sustainable railway

## Our Values

**Respect** for colleagues, customers and industry partners

**Integrity** in all that we do

**Excellence** in customer service, engineering innovation and asset management

**Delivery** adding value for our customers and shareholders

**Sustainability** inclusive, ethical, focused on the community and the environment





# Sustainability at Porterbrook

We believe that sustainability and long-term financial performance go hand in hand. As the UK moves to low-carbon transport systems, we recognise that our ability to support and drive the transition is key to our long-term success



## → Delivery mechanisms

We have identified **three delivery mechanisms** to embed sustainability in core business processes and decision making. They reflect our role as an investor into UK rail, as a leading asset manager, and as an organisation responsible for its own operations.

### 01. Investment strategy

Given the long design life of rail assets, investment decisions made today could have an impact well beyond 2050. By aligning our capital deployment and financing strategies to our ESG goals, we look to ensure that our portfolio is fit for purpose, today and tomorrow.

### 02. Asset management practices

We don't have direct control over trains leased to our customers. However, we can help improve their environmental and social impact through our asset management, procurement, and innovation strategies.

### 03. Facilities and operations

Where we are able to do so, we aim to lead by example and go beyond compliance to align with recognised best practice.





# The five pillars guiding our actions

There are 5 pillars to our sustainability strategy. These reflect the issues that are most relevant to our stakeholders and to the long-term performance of our business

They are designed to guide our actions and help ensure that our ESG goals not only align to, but also drive business decisions. You can read more about each pillar throughout this report.

## Our 5 key pillars:



Playing our part in growing rail's modal share



Minimising our environmental impact



Preparing for a changing climate



Developing a high-performing and inclusive workforce



Adopting the highest standards of governance and behaviours





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 Playing our part  
in growing rail's  
modal share





Domestic transport remains the largest emitting sector of greenhouse gas (GHG) emissions in the UK, accounting for **26% of the total in 2021**. Whilst other sectors such as energy have experienced substantial reductions in GHG, transport has failed to materially decarbonise since the 1990s

At Porterbrook, we believe that rail, along with other forms of public transport and active travel, has a **major role to play**. New research has found that travelling by train can be up to 10 times less carbon intensive than the equivalent car journey<sup>1</sup>. Rail freight produces **76% less emissions than road haulage**<sup>2</sup>. Modal shift to rail is therefore key to decarbonising the wider transport sector.

As a rolling stock owner, we support this by **investing** in new and upgraded trains which help provide a more frequent, comfortable and accessible service to passengers.

### Our priorities:

1

Mobilise private finance to fund rail growth, leveraging green financing

2

Help provide a reliable, accessible and comfortable service for rail users

3

Promote rail and active travel in our business and communities

<sup>1</sup>Rail Delivery Group, Green Travel Pledge, 2023

<sup>2</sup>Department for Transport, Rail Freight Strategy, 2016



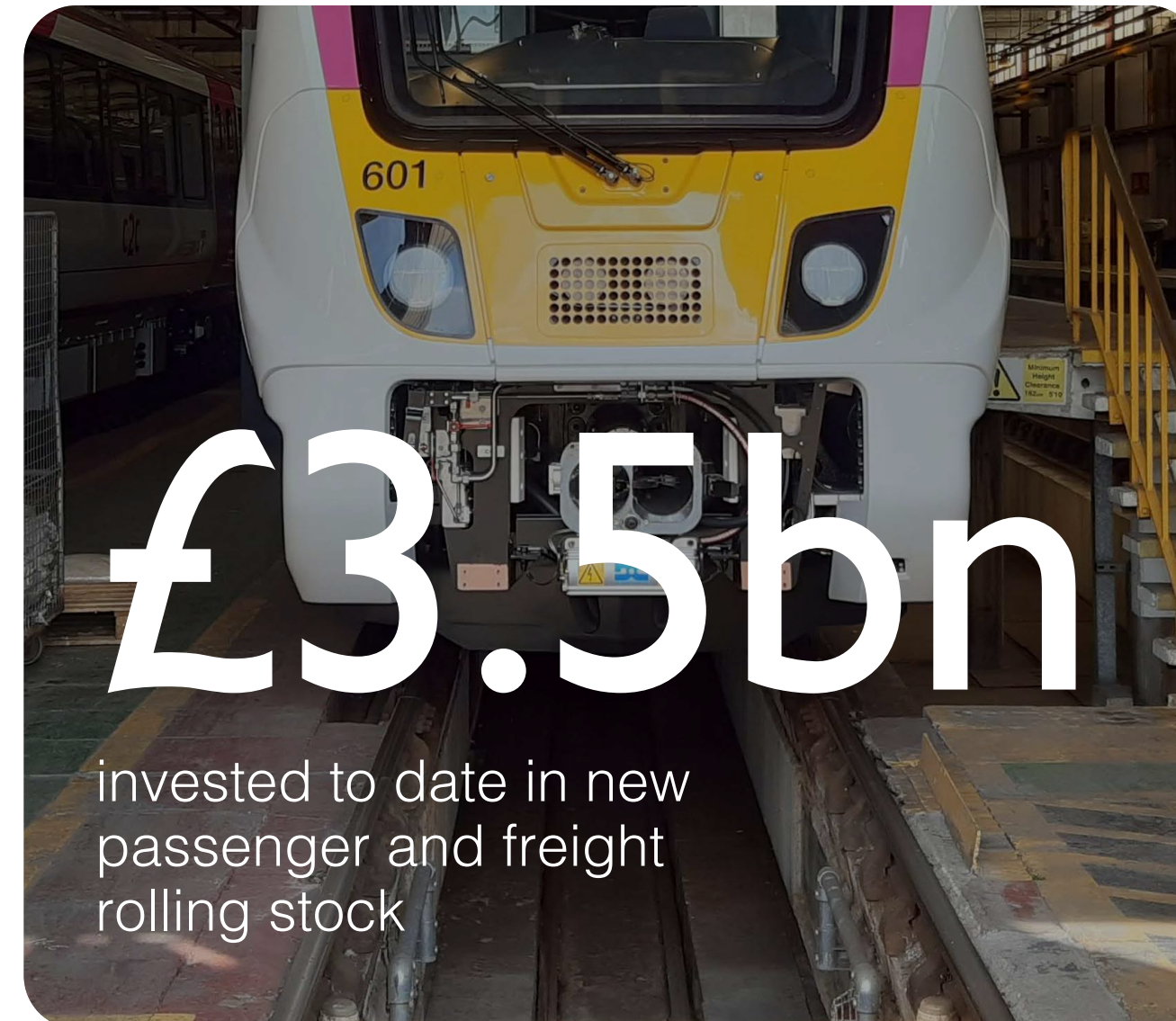


# Investing in the future

Substantial investment in the rail network is required over the next 30 years to drive economic growth, deliver net zero, build resilience and protect the natural environment. Investment in new trains plays an important part in this respect

In September 2023, we were pleased to see our new fleet of Alstom CI720 Aventra trains enter passenger service, providing increased capacity and modern rolling stock benefits on the c2c network.

In November, we were delighted to confirm that Porterbrook had been successful in its bid to finance a fleet of **10 new tri-mode trains** for London North-Eastern Railway (LNER). This marked the first rolling stock procurement in the UK since 2019.



## £3.5bn

invested to date in new passenger and freight rolling stock

## +107%

Increase in rail passenger numbers required to reach net zero by 2050<sup>1</sup>

<sup>1</sup> Based on the Net Zero scenario from the Network for Greening the Financial System (NGFS)

### Porterbrook to finance new LNER tri-mode fleet

Built by CAF, the new ten coach trains will help LNER achieve a 67% reduction in greenhouse gas emissions by 2035 and be net zero by 2045.

The tri-mode capability also helps reduce particulates, noise and vibration pollution, as battery further reduces the need to use diesel traction in areas where overhead powerlines are not available.

The operator will benefit from lower maintenance and operating costs. The upgradability of the product means that an increase in range and performance is also expected as the technology develops further.

## 67%

emissions reduction targeted by 2035







# Improving the passenger experience

Modal shift starts by making rail the preferred way of travelling for passengers. Alongside new trains, upgrades and refurbishments are essential throughout the asset lifecycle to keep them fit for purpose and attractive to rail users

Porterbrook is **investing over £350m** in significant fleet upgrade programmes to deliver more comfortable services for passengers, improve performance, and minimise the environmental impact of its assets.



## £100m+

investment in Project Aurora to upgrade Govia Thameslink Railway's (GTR) Electrostar fleet

### All 304 Electrostar trains to be upgraded by end 2025

Porterbrook is investing over £100m to upgrade GTR's Electrostar fleet, in partnership with GTR and Alstom. Project Aurora, which reached its mid-point in July 2023, was awarded 'Fleet Achievement of the Year' at the National Rail Awards.

GTR passengers benefit from real-time information screens, plugs and dual USB sockets accessible from every seat. Automatic passenger counting allows GTR to analyse individual services and manage timetables more effectively. Upgraded data systems allow remote access to the network, reducing the amount of time needed for maintenance and repair.





→ Project Aurora will see all 304 Electrostar trains operated by GTR upgraded by the end of 2025

**178** trains

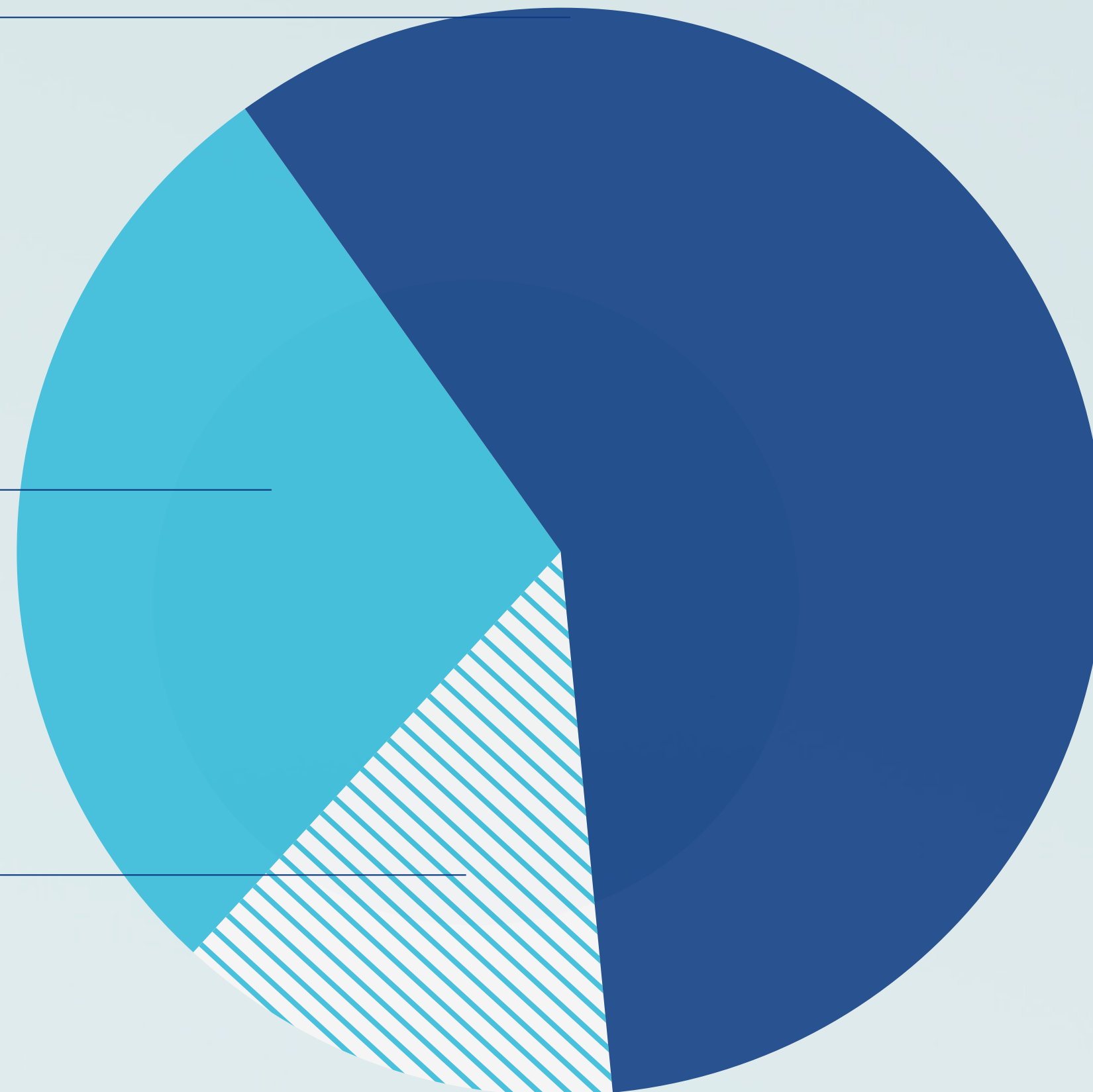
converted at the end of 2023, out of 304

**86** trains

due in 2024

**40** trains

due in 2025



**“At last, USB ports and plug sockets on my train #GameChanger”**

Customer feedback

**“Love the Electrostar, so glad to see they’re getting an upgrade and will be around for a while yet”**

Customer feedback





# Unlocking rail freight growth

**Rail is more energy efficient than other modes to move heavy loads: each tonne of freight transported by rail produces 76% less carbon than road haulage**

However, the UK falls short in leveraging the green credentials of rail freight. In 2022, only 7% of freight was transported across the UK by rail, as opposed to 81% by road.<sup>1</sup>

In December 2023, the UK government published its rail freight growth target, aiming for an increase of at least 75% by 2050.

We support this ambition and will continue to provide the investment needed in locomotives, wagons and strategic freight interchanges to help the sector achieve its full potential.

**Source:** <https://www.gov.uk/government/statistics/transport-statistics-great-britain-2023/transport-statistics-great-britain-2022-freight>

# 76%

less carbon intense than road

## New intermodal and box wagons delivered to GB Railfreight (GBRf)

In August 2023, we completed delivery of 100 intermodal and 50 box wagons to GBRf. The wagons have additional strengthening that allows each one to carry 101.6 tonnes.

The fleet is expected to help GBRf move an extra 1.2 million tonnes of aggregate each year. They are currently moving materials from the Peak District to Birmingham to support HS2 works.

**The project was shortlisted for the 'National Rail Awards' 'Freight and Logistics Achievement of the Year' and 'Highly Commended' in the 'Driving Rail Freight Growth' category at the Rail Freight Group Awards.**







A single rail freight service  
can remove up to:

# 129 HGVs

Our partnership with  
GBRf and Greenbrier  
is expected to remove  
**c.400,000 lorry journeys**  
from roads each year

Source: GBRf, 2023: <https://www.gbrailfreight.com/the-final-fea-g-intermodal-wagons-have-now-arrived-in-the-uk/>





# Minimising our environmental impact





# We recognise that Porterbrook's biggest impacts are indirect and relate to its portfolio of assets. For example, the energy used to power the trains leased to our customers, which falls into Scope 3 emissions, accounted for **94%** of our overall Scope 1, 2 and 3 footprint in 2023

Whilst we don't have operational control over the assets leased to our customers, we believe that we can help influence outcomes. This includes through our investment decisions, innovation capabilities, and collaboration with customers, supply chain and industry partners.

Our operational impacts are comparatively small but equally important to us. We aspire to be exemplary, acting as a credible partner supporting the delivery of industry-wide improvements.

## Our priorities:

1

Prioritise investment in greener passenger and freight rolling stock

2

Work with industry to embed circularity in new build design and specifications

3

Innovate to reduce GHG emissions and air pollutants from existing rolling stock

4

Protect and enhance the biodiversity of our sites, and prevent land and water contamination

5

Achieve net zero emissions for Scope 1 and 2 by 2050

6

Drive supply chain sustainability throughout the asset life cycle





# Driving environmental performance throughout the asset life cycle

As an asset owner, we do not manufacture nor operate the trains in our portfolio. However, working closely with our supply chain partners and customers, we can **help reduce** the associated **environmental impacts**

This starts by aligning our investment and financing strategy to our ESG goals. Our engineering teams can help drive better environmental outcomes throughout the asset life cycle including design, operations, maintenance, upgrade and end-of-life treatment.



72%

of our portfolio is zero-emission or bi-mode



4,082

passenger and freight vehicles at end 2023



£73M

invested in green traction technologies over the past 5 years



91%

end-of-life recycling rate achieved in 2023





Zero  
emission  
and bi-  
mode  
trains  
make  
up **72%**  
of our  
portfolio

### → Investment strategy

- Zero emission and bi-mode trains currently account for **72% of our rolling stock** portfolio
- We aim to increase this share over time by allocating up to 95% of our capital deployment to these assets
- Working with industry partners, we also look to improve the design of future trains with a particular focus on circularity and climate resilience

### ↓ Maintenance & supply chain

- Where we are responsible for the heavy maintenance of rolling stock, physical work is contracted out to trusted supply chain partners
- The associated environmental impacts include energy and natural resource use, and waste generation
- We aim to minimise these by extending maintenance periodicities, and embedding sustainability and circular economy principles into our procurement practices

### ↑ End of first life

- We are committed to maximising the re-use and recycling of rolling stock assets at the end of their useful economic life
- In 2023, we teamed up with our main disposals supplier, SIMs Metal, and Legacy Rail to streamline our spares liberation process for retired vehicles
- The recovery of useful parts helps us reduce waste and improve the overall recycling rate, reaching 91% in 2023

### ← Product development

- New technologies can help improve the environmental performance of assets
- We are investigating technical opportunities to improve energy efficiency, reduce emissions and improve air quality, investing over £73m in the past 5 years
- This has included the development of battery, hybrid and hydrogen technology, exhaust after-treatment and the use of more sustainable alternatives to diesel





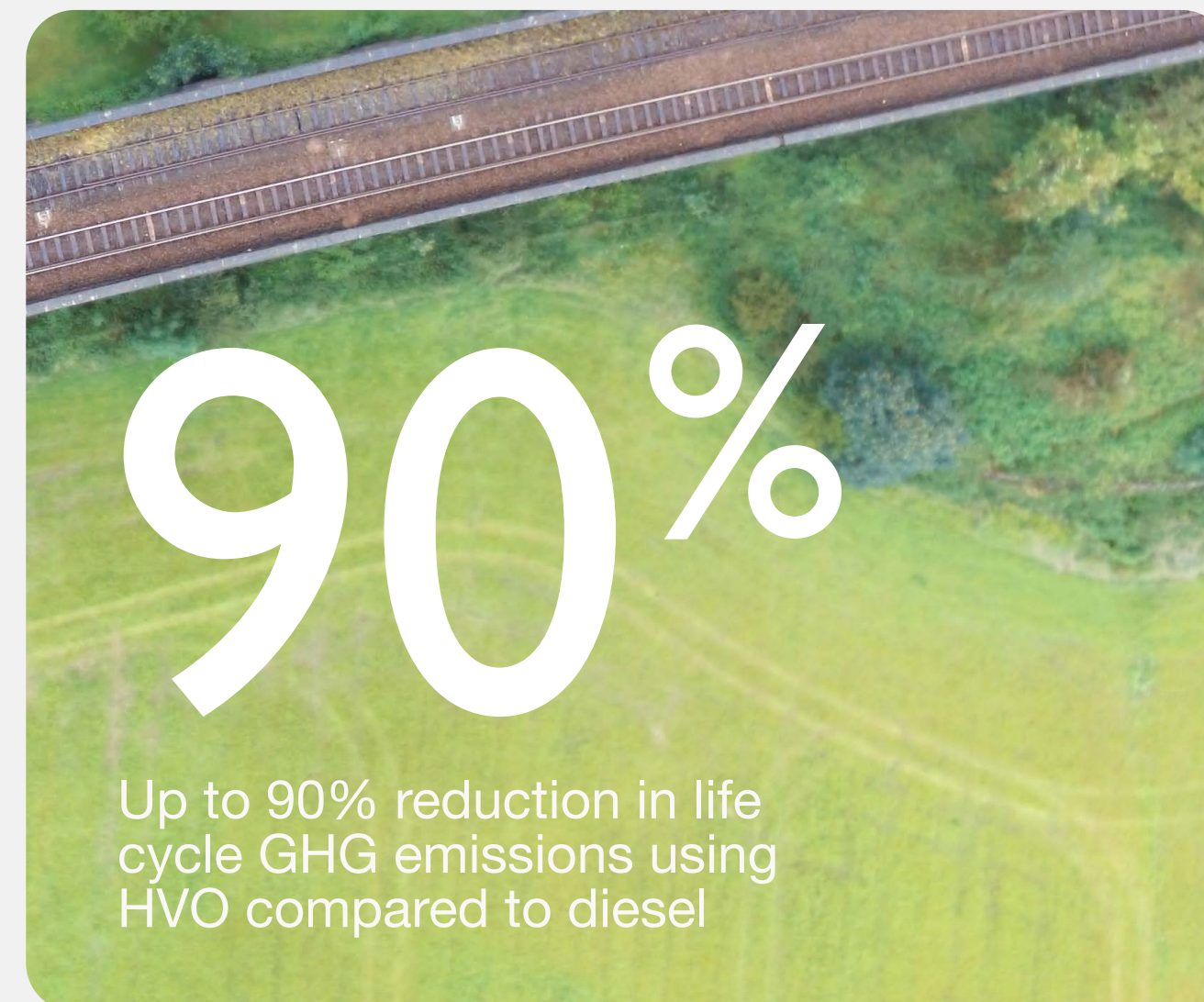
# Our approach to diesel emissions

With only 38% of the national rail network currently electrified, we expect diesel trains to continue to play an important role until they can ultimately be phased out

Whilst only 28% of our portfolio is diesel only, we are committed to working alongside our customers and industry partners to develop technical options aimed at reducing greenhouse gas emissions, noise and air pollution associated with fuel combustion.

For example, we have **invested over £7m in HybridFLEX**, the UK's first Stage V diesel-hybrid train which entered passenger service at Chiltern Railways in 2021. However, due to escalating supply chain costs and timescales, we recommended not to proceed with full fleet roll out.

This highlighted the need for affordable mitigation measures at a time of high financial pressures across the industry. We have continued to work with our customer and supply chain partners to develop options, including **the use of more sustainable alternatives** to diesel without the need for expensive upgrades.



# 10%

reduction in NOx with GTL compared to diesel

## Exploring sustainable alternatives to diesel

As we transition towards net zero, alternative fuels such as Gas to Liquid (GTL) and Hydrotreated Vegetable Oil (HVO) can play a part in reducing emissions in the short to medium term.

A trial was run in partnership with CrossCountry, Arriva Train Care and Shell UK to assess the impact of GTL on three Class 170 vehicles. The fuel is now approved for use on these trains, offering a readily available option to reduce NOx emissions by up to 10%.

HVO has also been proven to be a viable option for our passenger fleets, whilst avoiding modifications to their engines. The fuel also produces lower **levels of harmful exhaust gas pollutants** compared to standard diesel, including NOx emissions by up to 30%.





# Alternative traction technologies

The gradual **electrification** of the network is the **most efficient way of decarbonising rail traction** and improving air quality in stations and depots. Technologies such as battery and hydrogen have an important complementary role to play, either transitionally or where electrification is not economically or geographically viable

Bringing new, innovative types of trains on to the rail network requires different infrastructure, standards, operating procedures and ways of working. We believe that real-life prototype testing is the best way of ensuring that new technologies can then be deployed at scale in the safest and most cost-effective way.

That's why we have invested **£12m in HydroFLEX**, the UK's first hydrogen-powered train, and recently completed the purchase of a £1.7m Rail Charging Converter from Siemens Mobility, to be installed at Long Marston.



## HydroFLEX reaches new milestones

The UK's **first hydrogen-powered train** ran initial mainline tests in hydrogen mode in 2023. In September, the train covered 138 miles, reaching 90mph and conquering Lickey Hill, the steepest mainline incline in Britain. In a UK first, the train also demonstrated its ability to run safely through tunnels in hydrogen power.

We are now working with industry partners to enable the deployment of HydroFLEX into operational service. This trial phase will be critical to better understand how a hydrogen-powered railway operates as a system. In doing so, we aim to bring forward the procurement of new-build hydrogen trains and help kick start the development of local hydrogen production hubs.

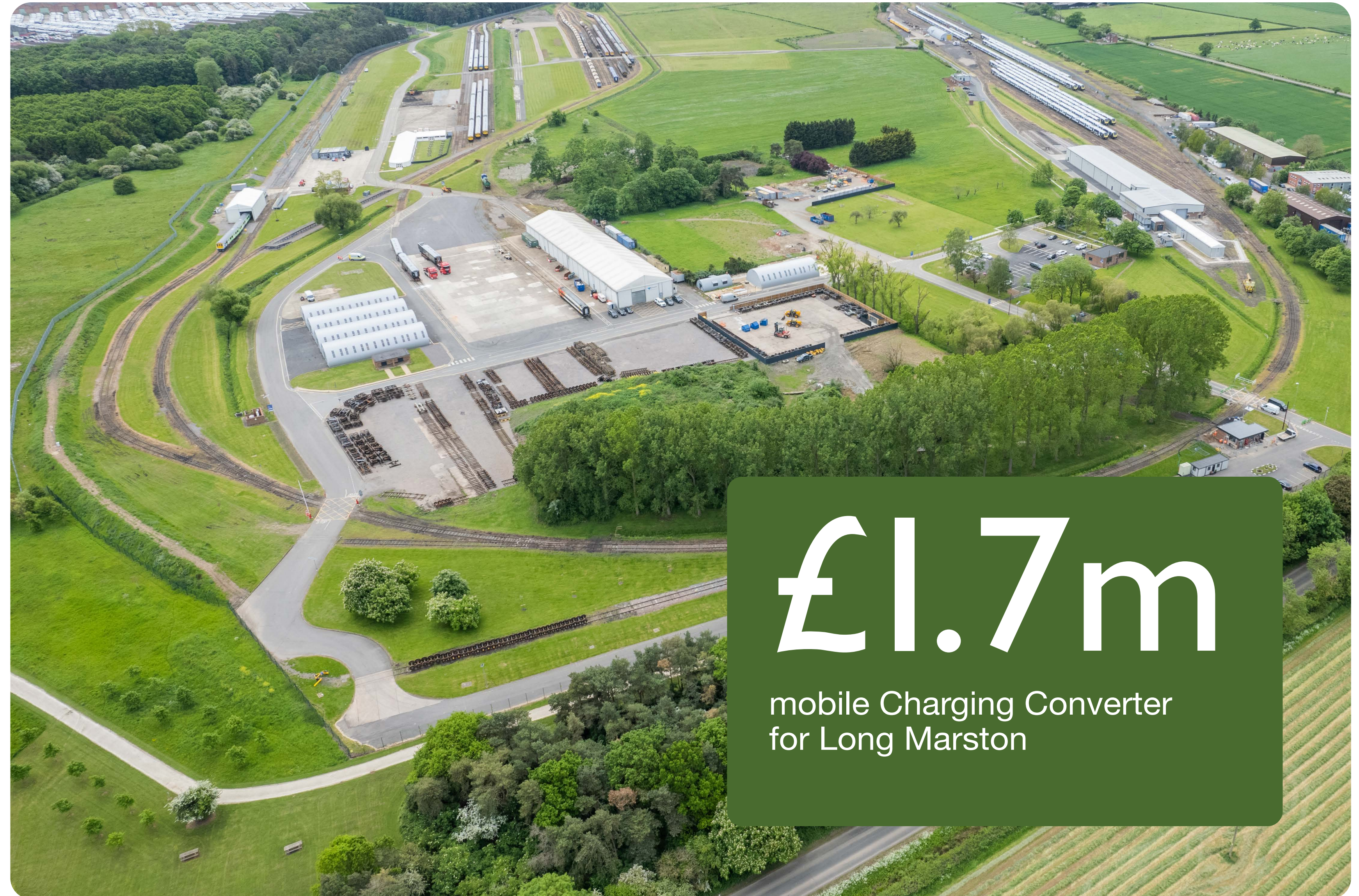




## New £1.7m Mobile Charging Facility

Our agreement with Siemens Mobility will see a Rail Charging Converter (RCC) installed at Long Marston.

The new technology makes battery charging and 25kV power supply possible in areas where overhead line equipment is not currently available. The converter essentially reduces the electrification infrastructure needed by plugging into existing power cables and delivering the ideal power supply for trains. Alongside the opening of a new Asset Management Facility earlier this year, this latest investment in the site will play a key part in the **comprehensive track and power upgrades** being undertaken to enhance its long-term testing capabilities.







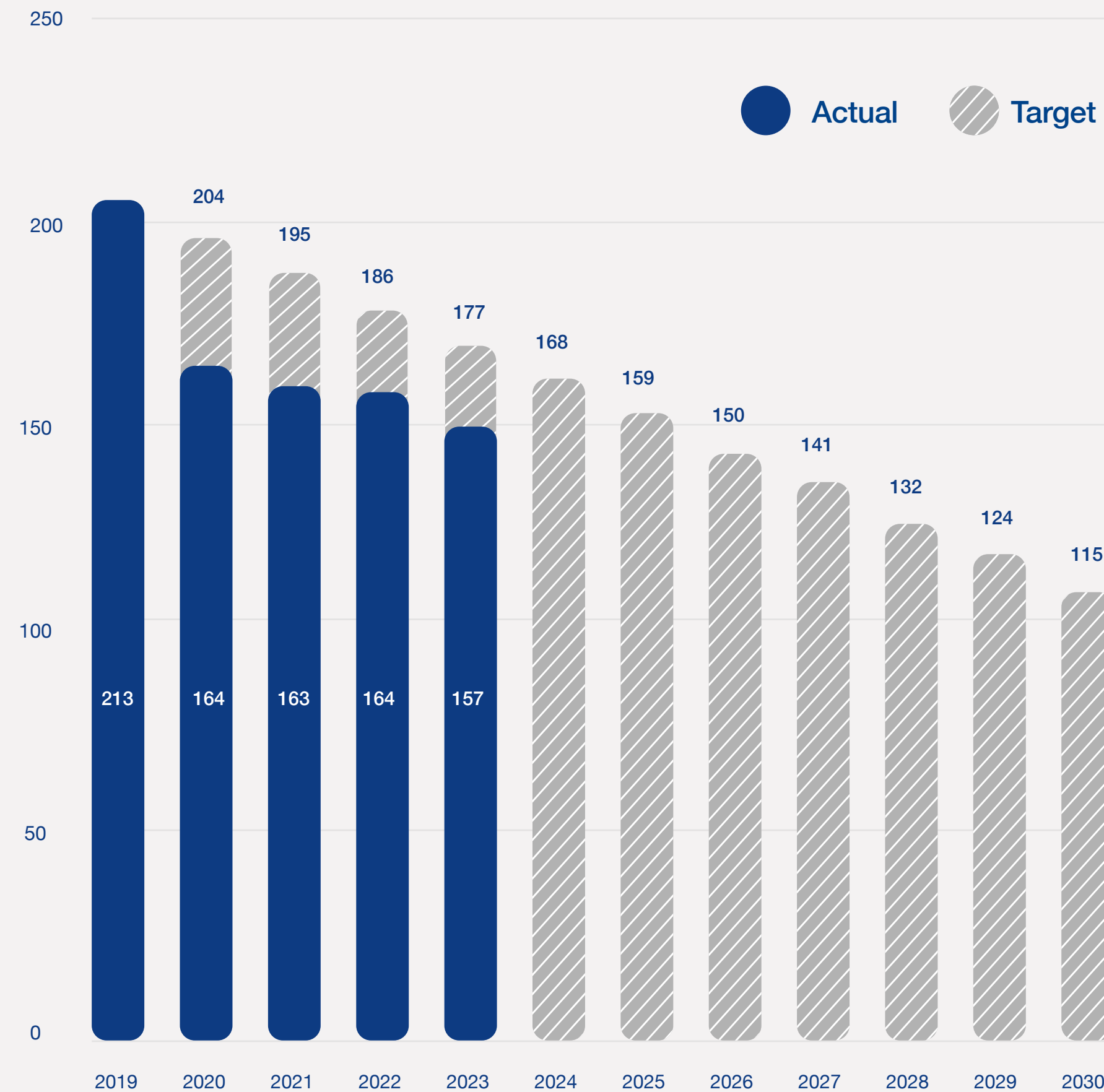
# Minimising our direct impacts

Our Environmental Management System helps us understand our impacts, drive continuous improvement and monitor progress against targets such as Porterbrook's Scope 1 and 2 commitments

In 2023, a key area of focus was the extension of our ISO 14001:2015 accreditation to Long Marston.

We also set up an Environmental Working Group, made up of team members from across the business. The group acts as a forum to discuss issues, put ideas forward and raise the profile of environmental initiatives. This included raising the value of our cycle to work scheme, where employees can now buy bikes and equipment up to £10,000.

We remain on track for a 46% reduction in Scope 1 and 2 emissions by 2030\* (tCo2e)



\*from a 2019 baseline

## Embedding environmental management at Long Marston

Our reporting boundaries and materiality changed as we took on Long Marston in 2021. We were proud to have achieved certification for the site in November 2023, following a 6-month implementation programme.

As part of this, all Porterbrook employees were asked to complete tailored environmental awareness training, endorsed by our executive team. This is now part of the induction programme for new starters.

A Safety and Environment Reporting App was also developed, meaning staff and visitors can seamlessly report any spills or other environmental incidents, for our site team to pick up in real time.





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# ⚙️ Preparing for a changing climate





The Met Office has named 2023 the UK's **second warmest year** on record, with the top ten all occurring after 2003. Flooding also affected our rail networks as we saw **11% more rain** than an average year<sup>1</sup>. Looking forward, more frequent and disruptive weather events will add further pressures on Britain's ageing rail infrastructure

As a rolling stock owner, our **primary focus** is to ensure that our assets and sites are fit for a changing climate. We also support the industry's wider adaptation effort by developing infrastructure monitoring technologies.

### Our priorities:

1

Ensure new rolling stock is fit for changing weather conditions

2

Identify opportunities to improve the climate resilience of our assets throughout their life cycle

3

Ensure our sites are fit for a changing climate

4

Leverage digital infrastructure monitoring to support the railways' wider adaptation efforts

<sup>1</sup><https://www.metoffice.gov.uk/about-us/press-office/news/weather-and-climate/2024/2023-the-warmest-year-on-record-globally>





# Adapting rolling stock to more extreme weather conditions

As part of a wider climate risk assessment undertaken in 2023, we explored how our business could be impacted by the physical consequences of climate change

Higher temperatures and chronic changes in weather patterns could affect the reliability of certain rolling stock subsystems. To **mitigate that risk**, we are working with industry partners to ensure that standards for new build trains continue to be appropriate.

We are also investigating opportunities to make existing trains more resilient. From trialling window films to reduce solar gain, to enhancing the reliability of onboard air conditioning, we are actively looking to improve the experience of passengers travelling on the network on the hottest days.

You can find out more about our climate risk assessment on page 42.



## Managing the impact of high temperatures

Currently, HVAC systems are set to 21 degrees. As temperatures increase, we run the risk of systems overworking to sustain 21 degrees, failing, and leaving passengers uncomfortable.

Following the exceptionally warm weather experienced in the summer of 2022, our engineers partnered with Knorr-Bremse Rail Systems (KBRS) and East Midlands Railway (EMR) to **trial a new approach** to managing the impact of high ambient temperatures for passenger comfort and train reliability.

The three companies worked collaboratively to develop and trial a new approach on EMR's Class 170 Turbostar trains. The upgraded software aims to keep ambient temperatures comfortable for passengers without unnecessary pressure on the system, minimising the risk of failure.

After bench testing, factory acceptance and site tests, the fleet trial phase continued into the winter. Analysis of the result will enable us to quantify the impact on system reliability, energy consumption and passenger comfort.





# Enhancing the resilience of the wider rail network

In a changing climate, good maintenance of Britain's ageing rail infrastructure is essential to keeping trains running smoothly. The digital monitoring of rail tracks using in service trains can help improve safety and drive performance

To demonstrate this approach, three of our retired Class 153 trains have been modified to become inspection vehicles for Network Rail. Boasting forward, rear and downward facing imaging, thermal imaging, and sub 1 metre locational accuracy, the new monitoring service is forecast to reduce the number of hours of boots on ballast by up to 50%.

50%

reduction of  
boots on ballast

## Infrastructure monitoring with Network Rail

### The challenge

Switches and crossings are the highest risk assets in track engineering. Network Rail's standards require them to be inspected as often as once a week. Inspections had been taking place exclusively on foot at night, but after several serious incidents, near misses and one fatality in 2020, the Network Rail Board required a safer solution for inspections.

### The solution

Led by Porterbrook and Network Rail, a multi-company project team formed to develop a rolling stock solution. Our ex-passenger trains, first introduced to the network in the 1980s, were given a second life as infrastructure monitoring vehicles. Thermal imaging cameras record data about the condition of switches and crossings. The units were designed in consultation with frontline engineers to best understand what was needed to forgo in-person track inspections.

### The benefits

- **Quick, clear data.** Track visuals are clear enough that engineers can see individual bolts in the video footage, which can be accessed in as little as 20 minutes after recording.
- **Better data, better predictions.** A complete view of switches and crossings lets engineers move to a predict and prevent maintenance regime, as opposed to an entirely manual, reactive process.
- **Safer inspections.** Although the service cannot yet fully replace manual inspections, the driver-only visual inspection units can mean c.3,900 hours less boots on ballast each year.

### A success

Alongside Network Rail, One Big Circle, DG8 and Machines With Vision, we were honoured to win Safety Achievement of the Year at the National Rail Awards 2023.





# Developing a high-performing and inclusive workforce





**People** are Porterbrook's most valuable asset. We recognise that our ability to attract, develop and retain the **best talent** from all backgrounds is key to our long-term success. That's why we are engaging with young people to inspire the railway workforce of the future, whilst supporting our own employees' personal and professional journey

#### Our priorities:

1

Protect the health, safety and wellbeing of our employees and contractors

2

Inspire and develop tomorrow's talent

3

Build a diverse and inclusive workforce





# Early careers

The rail industry is facing the double challenge of a widening skills gap and ageing workforce. More than a third of industry colleagues are over 50, whilst we've seen a six per cent reduction in under 30s in the last five years, down to 10 per cent

That's why we're working with students at GCSE and college level to give them an introduction to the industry and what it can offer. Our early careers strategy supports those with special educational needs and disabilities (SEND), to ensure we are building a diverse workforce for the future.



## Tailored support for Holbrook School

This year, our HR team led CV and interview workshops in schools local to our Derby office, including Holbrook School for Autism.

Our work with the school provides specialised one-to-one CV and interview preparation. The 15 to 16 year olds were asked what kind of career they might like to do in future, and the sessions were tailored to their own interests.

As we continue our collaboration into 2024, we are also partnering with Kedleston Group, who offers similar support for SEND students in Warwickshire.

18%

of Porterbrook's  
workforce is under 30

vs

10%

of the industry  
workforce

29%

of Porterbrook's  
workforce is over 50

vs

33%

of the industry  
workforce





## Work experience at Porterbrook

Ten students joined Porterbrook in 2023, each with programmes that introduced them to a variety of teams whilst focusing on the areas they had identified as most interesting. At the end of their two-week placement, all said they'd like to hear more about opportunities at Porterbrook in future.



# 10

student  
placements  
in 2023





# Inspiring primary school children

Encouraging the younger generation can start before they reach GCSE or A-Level age

Our Primary Engineer programme supports pupils aged 8-11, and their teachers, to practically engage with science, technology, engineering and maths (STEM). At the Dales school in Northumberland, young children with special educational needs can learn about trains and railway safety whilst at school.



## Primary Engineer programme reached 789 children across Warwickshire

10 schools participated in the year-long project, culminating in a celebration where pupils showed off the trains they had designed and built with the help of Porterbrook engineers.

Our volunteers attended sessions at all the 10 schools in Warwickshire. Children from across the programme joined our team at Long Marston to showcase their designs and have them judged by a panel including Ben Ackroyd, Porterbrook's Chief Operating Officer.

- The programme supported 789 pupils of all social backgrounds, 20% of whom are eligible for free school meals
- 100% of teachers said their pupils had a greater understanding of what engineering is and its importance
- All of them found the programme valuable to the teaching of STEM subjects





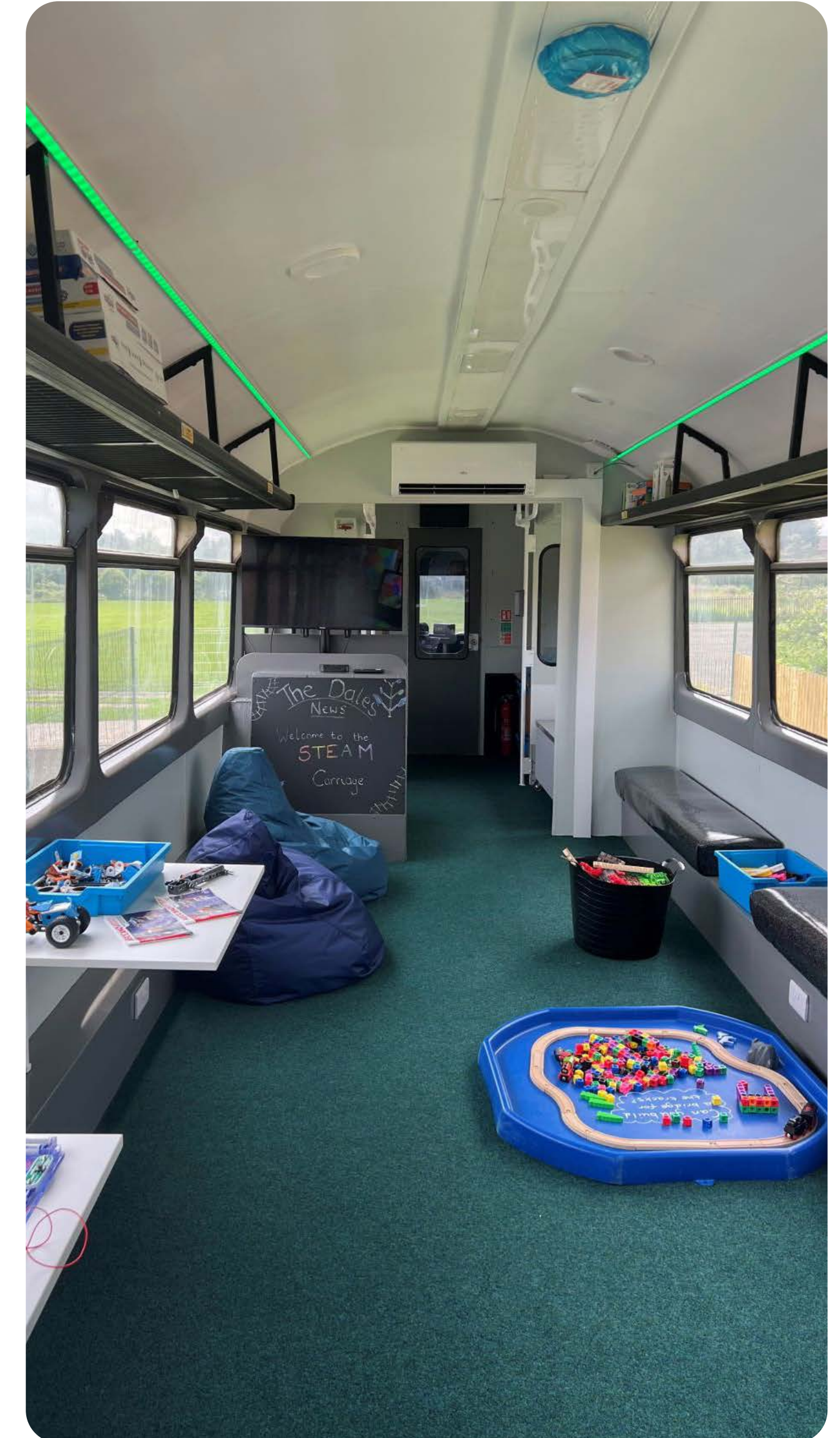


## Pacer finds new home at the Dales School

Our Class 144 Pacer train carriages have become a 'Reading Together Library' and STEM carriage at the Dales School in Northumberland, which supports pupils with special educational needs or disabilities.

Having the carriages at the school has allowed over half of the children to board a real train for the first time, helping to introduce independent travel and railway safety.

Projects like this divert our retired vehicles from the end-of-life recycling process, whilst engaging and inspiring young people who may not have the chance to access the railway in a more traditional setting.







# Exploring the future of rail with the National Railway Museum

In 2022, we announced a £2.5m sponsorship deal with the National Railway Museum. 'Railway Futures: The Porterbrook Gallery', currently in development, is a key component of the museum's redevelopment

The gallery will be a **multi-dimensional** and **interactive** experience which explores and imagines the role of the railways in the transport system of tomorrow.

Throughout 2023, the National Railway Museum has been working with international design studio Ralph Appelbaum Associates on early concepts, including the spatial planning, look and feel of the gallery, and object arrangement.

These early concepts include an interactive exhibit to enable visitors to explore the future of digital signalling. Content research and development will continue throughout 2024, showcasing the most exciting engineering projects to inspire the industry's brightest talent.



# £2.5m

sponsorship deal with the National Railway Museum

## Porterbrook volunteers support NRM's Full STEM Ahead Workshop

As 'Railway Futures' develops, we are continuing to support the NRM as they run STEM events at the museum.

In August, a handpicked team of 5 from across the business spent two days in York, supporting the Full STEM Ahead Workshop.

Through a paper plane, helicopter and glider demonstration, they showcased air resistance and gravity to children and explained how they are important properties that help our trains run safely and efficiently.





# Empowering our people

2023 saw 90% of employees engaged in at least one form of structured development, with an average training spend of £1,210 per person. The 23 staff who were awarded internal promotions in the year are a testament to the success of our training and development commitments

Our team members are encouraged to **guide their own learning**, through Personal Development Plans. As a result, when surveyed, 91% of employees believe they are able to develop the skills required to progress in their role.

Our development programmes continued into 2023. The Inspired Leaders course is designed for any member of staff taking on a line management role. Aspiring Leaders, which has been delivered to 41 team members to date, highlights how all members of staff can play a leadership role from any position within our business. Since completing the course, a quarter of those employees have been awarded internal promotion.

## Removing barriers

At Porterbrook, we seek to remove barriers to ensure that the best talent is engaged for each role. We are a Level 2 Disability Confident Employer, recognised as a Silver Employer by the Armed Forces Covenant, and signatories of the Dying to Work Charter.

# 91%

employees believe they are able to develop the skills required to progress in their role.



## Partnering with Neurodiversity in Business

**Our CEO, Mary Grant, signed Neurodiversity in Business Charter in April 2023.**

The Charter supports the participation of neurodiverse employees in the workplace. Studies estimate that between 15-20% of people in the UK have conditions that fall under the umbrella of neurodiversity, including autism, ADHD, dyslexia and dyscalculia.

The partnership with Neurodiversity in Business encouraged employees diagnosed with these conditions to talk more openly about their experiences.





# Over 600 hours in our communities

Staff are entitled to two days volunteering leave each year, supporting events within rail community, or organisations close to their hearts. The number of volunteering hours more than doubled this year with 53 team members completing at least one volunteering day

David Naylor, Maintenance Planning Manager, trained as a First Aider with St John Ambulance and used his days to support events in Nottingham and Tamworth.

Shaun Taylor, Fleet Services Engineer, pulled together a team of nine individuals from across the business to help develop a local nature trail, Bennerley Viaduct, across four sessions during the summer months.

Another nine volunteers spent days volunteering at two foodbanks in Derby. Inspired by what they experienced, our employees asked to support further, so we ran additional food drives in the run up to Christmas.



## 20th anniversary of Three Peaks by Rail Challenge

We were proud to have been Headline Sponsor of the Railway Children's Three Peaks by Rail Challenge in its 20th year.

A team of eight Porterbrook staff boarded the charter train at Crewe to climb Mount Snowdon, Scafell Pike and Ben Nevis in 36 hours. A second team of four joined the challenge for the Scafell Pike leg, providing support and cheering each other on, helping to push through despite heat and tiredness.

This year was the most successful event to date, raising over £300,000 to provide protection and opportunities to vulnerable children in the UK and worldwide.

## Mary Grant completes New York Marathon

Our CEO, Mary Grant, took on the iconic New York Marathon in November, raising £123,000 for Railway Children.

As a proud ambassador for Rail Aid, Mary took on the challenge for the charity so that it can protect even more vulnerable children from the dangers they face on the streets.





● Adopting the highest standards of corporate governance and behaviours





Adherence to high standards is key to managing ESG related risks and **building trust** among stakeholders. We believe it ultimately drives long-term operational efficiency, sustainability and business performance. Where practicable, we aim to go beyond compliance to align with internationally recognised **best practice**

#### Our priorities:

1

Always put safety first, by exercising due diligence in the supply of products for use on the operational railway

2

Maintain a robust set of policies and procedures, with strong risk controls and management oversight

3

Promote cyber security and data privacy





# Focusing on what matters

Understanding our impacts and stakeholder expectations helps us refine our strategy, prioritise actions and allocate resources

We undertake a formal materiality assessment every three years. The matrix opposite summarises the findings of our 2022 assessment, which remained relevant in 2023. This confirmed operational safety, air quality and climate change mitigation as priority areas.

The process helped us better align with frameworks and reporting standards including the UN Sustainable Development Goals (SDGs) and RSSB's Sustainable Rail Blueprint.

## → Methodological approach

### Online survey

Stakeholders were asked to rate ESG issues by level of importance to their relationship with Porterbrook

### Interviews

key stakeholders from government, local authorities, customers and interest groups were invited to take part in one-to-one interviews with sustainability experts from Eracura Consulting Ltd

### Concern and control

An internal review of ESG issues was undertaken to assess their impact on Porterbrook's performance, along with the level of influence and control over each

## Relevance to stakeholders

Relevance to stakeholders	Major	N/A	<ul style="list-style-type: none"> <li>Legal compliance</li> <li>Climate change resilience</li> <li>Accessible railway</li> <li>Stakeholder engagement and sanctification</li> <li>Cyber security</li> </ul>	<ul style="list-style-type: none"> <li>Operational safety</li> <li>Air quality</li> <li>Climate change mitigation</li> </ul>
	Significant	<ul style="list-style-type: none"> <li>Supply chain sustainability</li> <li>Independent review and challenge</li> </ul>	<ul style="list-style-type: none"> <li>Circular business practices</li> <li>Equality, diversity and inclusion</li> <li>Labour standards and working conditions</li> </ul>	<ul style="list-style-type: none"> <li>Ethics and integrity</li> <li>Occupational health, safety and wellbeing</li> </ul>
	Moderate	<ul style="list-style-type: none"> <li>Noise pollution</li> <li>Community development</li> </ul>	<ul style="list-style-type: none"> <li>Biodiversity and habitat management</li> <li>Land contamination</li> <li>Economic contribution and social value</li> </ul>	<ul style="list-style-type: none"> <li>Skills and talent</li> <li>Robust management systems &amp; process</li> </ul>
		Moderate	Significant	Major

## Relevance to Porterbrook

- Environment and innovation
- Social responsibility and Economic Contribution
- People
- Governance and leadership





# Managing sustainability

## → Board ESG oversight

The Board of Directors (1) is responsible for the Group's effective management and strategy for ESG-related risks and opportunities. Responsibility is delegated to the Group Company's Board of Porterbrook Leasing Company Limited ("PLCL Board").

The CEO, who serves on the PLCL Board, is responsible for ensuring that material risks are appropriately evaluated and mitigated.

The PLCL Board reviews its long-term strategic plan annually to assess the Group's approach, including for ESG matters. The PLCL Board is responsible for setting, maintaining and regularly reviewing policies and processes to manage the Group's exposure to risk, including those that are ESG-related.

## → Management role in overseeing ESG risks and opportunities

The Audit & Risk Committee (2) reviews the Group's risk register. It oversees disclosures, including those on finance and risk, in the Group's financial statements. The Executive Management Team (3) is the decision-making forum for key sustainability items, with oversight from the PLCL Board. The Director of Strategy and Sustainability has managerial oversight for the Group's ESG activities and reports directly to the CEO.

The Environmental, Social and Governance Committee (4) is responsible for overseeing ESG issues, reviewing progress and making recommendations to the Executive Management team and the PLCL Board. The ESG committee is comprised of relevant heads of department and meets quarterly.







# Health and safety

As a provider of rolling stock for use on the operational railway, we fully recognise the extent of our responsibilities to all those people who may be affected by our business activities. With a growing portfolio of assets and the development of new, innovative products, safety remains our number one priority



**Health  
& Safety**  
at Porterbrook

**Work Safe Act Safe Home Safe**

Robust arrangements are in place for the effective discharge of our obligations. We exercise due diligence in the supply of products, monitor safety performance in service and, in appropriate cases, advise customers or suppliers of relevant safety issues. Key initiatives this year included:

- The full delivery of our 2023 Annual Strategic Safety Plan
- Our COO leadership team attended and successfully passed the rail industry strategic safety management course
- We developed and rolled out a Safety & Environment app to improve proactive reporting of safety issues



## Our approach is based on the following key principles:

- 1 Select and manage competent suppliers who understand their safety obligations
- 2 Provide specification and procedures which are clear and unambiguous
- 3 Implement effective management of ongoing activities
- 4 Implement effective management of change
- 5 Carry out relevant audits with our supply chain and customers





# Climate-related risks and opportunities

In 2023, we undertook an assessment with third-party experts to better understand the impact of climate change on our business

The analysis explored climate-related risks and opportunities in two physical and two transition scenarios. Three time horizons were considered – 2030, 2040, 2050 and beyond.

➔ Higher emissions scenario<sup>2</sup>

Porterbrook was found to have a low net level of risk and opportunities across all future time horizons. ‘Unsuccessful investment in low-carbon technologies’ was identified as the highest risk as demand for hydrogen trains fails to materialise in the scenario considered.

→ **Lower emissions scenario<sup>3</sup>**

Porterbrook is well positioned to capitalise on opportunities linked to the transition to a low carbon economy, including a policy-driven modal shift to rail for passenger and goods. There is limited exposure to the phasing out of diesel-only trains due to prudent life-end date assumptions

Climate-related risks & opportunities <sup>1</sup>
Policy driven modal shift in freight transport
Financing of low emissions rolling stock - Hydrogen
Financing of low emissions rolling stock - Electric
Policy driven modal shift in passenger transport
Access to more favourable financing
Reduced access to capital
Changing regulatory standards on diesel rolling stock
Unsuccessful investment in low-carbon technologies
Reduced asset reliability

[illegible][illegible]

<sup>1</sup> Risks (red) and opportunities (green) are rated as unchanged, low, moderate, high

<sup>2</sup> SSP5-8.5 scenario selected for physical risks. Network for Greening the Financial System (NGFS) 'Current Policies' scenario used for transition risks

<sup>3</sup> SSP1-2.6 scenario selected for physical risks. NGFS 'Net Zero by 2050' scenario used for transition risks

 Unchanged
  Low opportunity
  Moderate opportunity
  High opportunity
  Low risk
  Moderate risk
  High risk





# Transport Sector Leader in global sustainability assessment

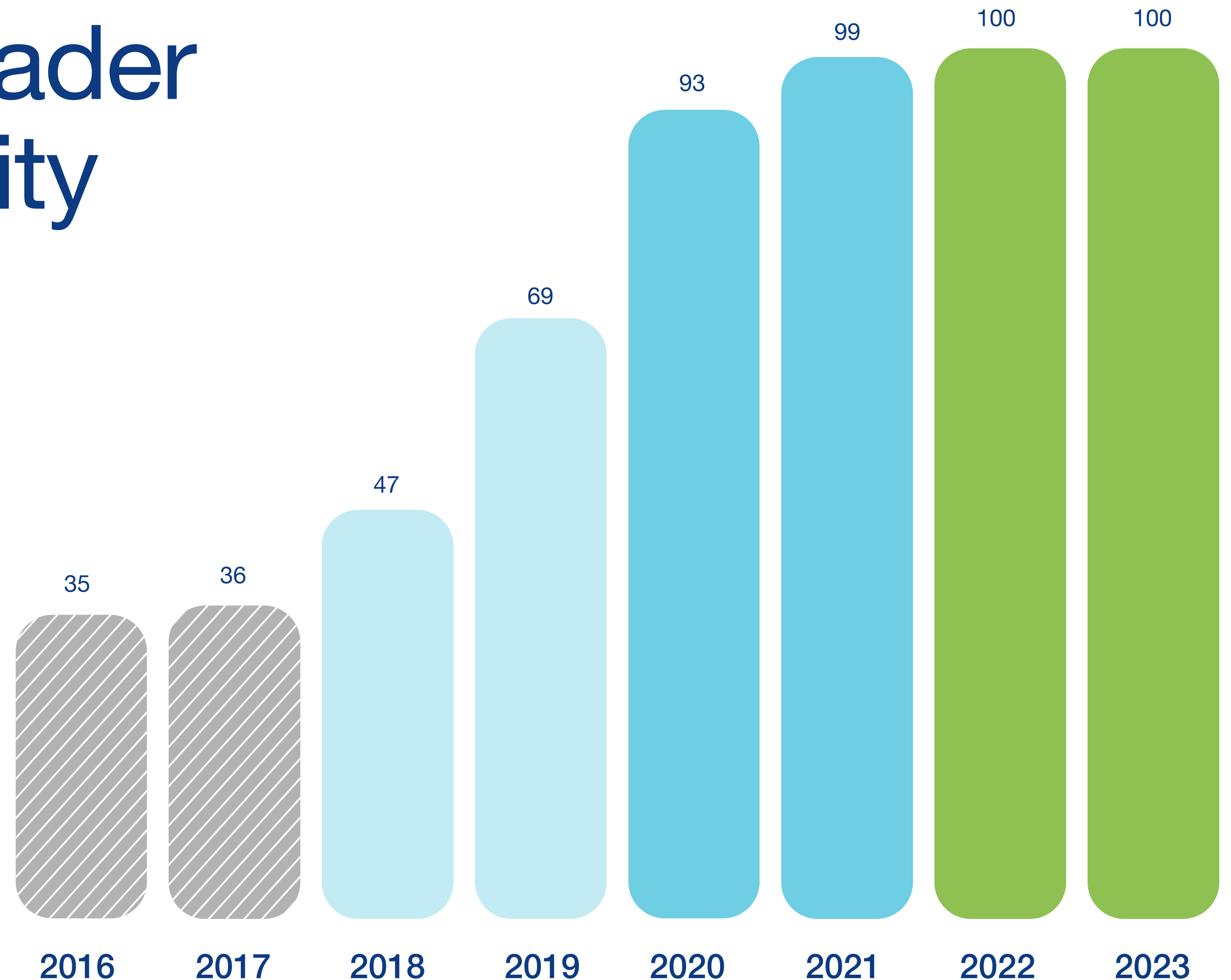
Measuring and benchmarking our sustainability performance helps us ensure that standards are constantly kept up and improved

For a third year in a row, Porterbrook has been named the **Transport Sector Leader** in the annual GRESB assessment, with a top score of 100/100. We came first in our peer group and 10th out of 681 participants globally.

The sustainability assessment looks at the ESG performance of assets worldwide, providing clarity and insights to financial markets on complex sustainability topics.

With particular emphasis on policies and procedures, the assessment provides assurance that ESG topics that are most material to Porterbrook are effectively managed.

Our 2023 assessment marked our fifth year with a five-star rating.







# KPI Summary

Metric	2022	2023	Details
GRESB Score	100	100	Score awarded by GRESB for annual sustainability assessment
Energy consumption (MWh)	751	725	Includes energy consumption from company cars, red diesel, and purchased electricity
GHG Emissions			
Scope 1 (TCO2e)	82	59	Emissions from company car, refrigerant, natural gas and red diesel from all three sites
Scope 2 (TCO2e)	83	98	Emissions from purchased electricity (location based). Increase due to opening of new maintenance facility in 2023
Scope 3 (TCO2e)	563,125	604,581	Increase primarily driven by methodological changes (like for like comparison shows a 3% reduction)
End-of-life recycling rate (%)	91	91	Percentage of materials recycled from end-of-life vehicles
Community Investment (£)	534,240	611,811	Total monetary donations and sponsorship of charitable organisations
Volunteering hours	274	615	Number of hours used by staff for volunteering activities
Absentee rate (%)	1	1	Percentage time lost to sickness
Training spend per employee (£)	654	1,210	Total training spend divided by number of employees at year end
Gender diversity (%)	29	29	Percentage of female employees
ESG-related incidents	0	0	ESG-related misconduct, penalties, incidents or accidents





# Sustainable Development Goal (SDG) index

Decarbonising our transport network and improving user experience are considered key aspects in the UK government’s delivery of UN SDGs – specifically Goal 3, ‘good health and wellbeing’, and 11, ‘sustainable cities and communities’ (UK Gov)

→ How our actions and ambitions align with the UN SDG targets:

SDG	Target	How we contribute
03. Good Health and Wellbeing	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	Driving environmental performance throughout the asset lifecycle  Our approach to diesel emissions
10. reduced inequalities	10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	Empowering our people
11. Sustainable cities and communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	Improving the passenger experience
12. Responsible consumption and production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	Driving environmental performance throughout the asset lifecycle  Preparing for a changing climate
13. Climate Action	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	Climate-related risks and opportunities
17. Partnerships for the goals	17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships data, monitoring and accountability	Investing in the future

SOURCE: <https://www.gov.uk/government/publications/implementing-the-sustainable-development-goals/implementing-the-sustainable-development-goals--2>





You can find out more about how Porterbrook manages sustainability by visiting our website: **Sustainability · Porterbrook**

We welcome feedback from our stakeholders. Should you have any comments, thoughts or ideas on how we might improve, please email to **[sustainability@porterbrook.co.uk](mailto:sustainability@porterbrook.co.uk)**