



DELIVERING THE GREEN GATEWAY:
**OUR 2020/21
ESG REPORT**

2020/21

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**WELCOME TO THE
HS1 ESG REPORT
2020/21**

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FOREWORD

DYAN CROWTHER, CEO



OUR GREEN GATEWAY TO EUROPE

Our mission, as the UK's only high-speed railway, is to provide a world-leading rail experience, whilst encouraging more people to choose greener and more sustainable transport options.

We are the Green Gateway to Europe and provide the most sustainable option for travel from the UK to France, Belgium and The Netherlands.

It has now been almost a year since HS1 became the first railway to run entirely on renewable electricity and we set our target to become fully carbon neutral by 2030.

We have been working closely with our partners to bring about real change in the rail industry and place an environmentally friendly future at the forefront of everything we do. Working towards these targets has been a key area of focus in 2021 and will continue to be so in the build up to 2030.

In terms of reporting and transparency, we have gone further and included our sustainability progress in periodic

reports, board/quarterly reports and in our 2020/21 ESG return for our shareholders.

We also recognise that the COVID-19 pandemic has impacted our progress in this reporting period, as you will see in this update. However, as we look to the future, we know we have a unique opportunity to put sustainability at the very heart of our business, the economy and society to drive a green recovery.

We are galvanised to continue making progress towards our goals, whilst encouraging more people to choose high-speed rail. We are hosting a landmark workshop at the World Climate Summit's The Investment COP at COP26 to discuss how we can achieve a modal shift to high-speed rail.

At the start of our sustainability journey, we published an independent report which showed that HS1:

- **Removed 60,000 flights** from the skies every year, the equivalent of **750,000 tonnes of CO₂**.
- **Generated £66m** of international green house gas emission reductions because of people choosing to take the train rather than fly.
- **Operates at 50% capacity**. If we can get a projected **4.9m more international high-speed rail journeys** per annum (based on air travel patterns pre covid), we can prevent a further **450,000 tonnes of CO₂e** from entering our atmosphere every year.
- Domestic services on the line remove **6,000 lorries** and cars from the roads every year.

A year into this journey, we have made significant progress and I am proud to share this with you in our first ESG Report.

In the past year, we have:



Reduced our CO₂ emissions by 80%.



Reduced our electricity use by 28%.



Recycled 54% of all waste.



Undertaken 435 hours of volunteering or providing pro bono support to local communities.



Equitix is excited to continue to support HS1's industry-leading efforts to drive ever greater sustainability in relation to the operation of the UK's only high-speed railway as these align to our values. HS1's approach to identifying, prioritising and progressing action on key sustainability issues engages stakeholders constructively, brings out a wide array of opportunities and builds consensus for durable long-term impact.

Geoff Jackson
CEO, Equitix Ltd



We commend HS1 for taking the lead on climate action within the rail industry by having set the bold ambition of becoming fully carbon neutral by 2030. We are delighted to work with a company that shares our objective to mitigate climate change and aligns with InfraRed's commitments as a signatory to the Net Zero Asset Managers initiative.

Werner von Guionneau
CEO, InfraRed Capital Partners





Our sustainability approach and ambition

395 006

Javelin

OUR PURPOSE

At HS1 Ltd, our aim is to be the world's leading high-speed rail experience, providing the most sustainable option for transport across the UK and Europe.

To support our goal, HS1 Ltd has created a 2030 Vision based around four key pillars - "Contemporary; Agile; Sustainable and Trusted".

Within the 'Sustainable' pillar sits our Sustainability Strategy – the plan that helps us to deliver the sustainable element of the 2030 Vision.

The 2030 Vision and the Sustainability Strategy are also underpinned by HS1's values. 'Punching above our weight' and 'Winning by inches' are integral elements of our approach as the only railway in the UK operating solely on renewable electricity. Demonstrate our approach to making changes with our sector and our business. Small things matter as much as big ones.

We truly believe we have an important role to play in addressing the climate emergency and are continuing our great work to achieve our targets.

[View our Sustainability Strategy](#)



OUR PURPOSE

To be the world's leading high-speed rail experience

OUR 2030 VISION

Contemporary

Agile

Sustainable

Trusted

OUR STRATEGY

Protect

Evolve

Grow

OUR VALUES



Safety is no accident, we all play our part



Punching above our weight



Personal feel, professional delivery



Winning by inches

OUR 2020/21 PERFORMANCE

A year into this journey, this report spotlights each of our six sustainability priorities, detailing what we have delivered, what we have learnt, our objectives for 2022, and notable case studies.

Each priority area is also accompanied by a roadmap which lays out our ambitions and the actions we will take each year to deliver on these targets.

It is important to acknowledge here that this reporting year has been a year unlike any other because of the COVID-19 pandemic.

Throughout this document, there will be some instances where the impact of reduced passenger numbers has helped speed up our progress, whereas in other areas our progress has been slowed as a result of implementing COVID-19 Government guidance, such as reducing the amount of recirculated air in our stations.

OUR SUSTAINABILITY PRIORITY AREAS

-  Transparency
-  Resource use & waste impacts
-  Climate change & adaptation
-  Biodiversity
-  Energy use
-  Social impacts

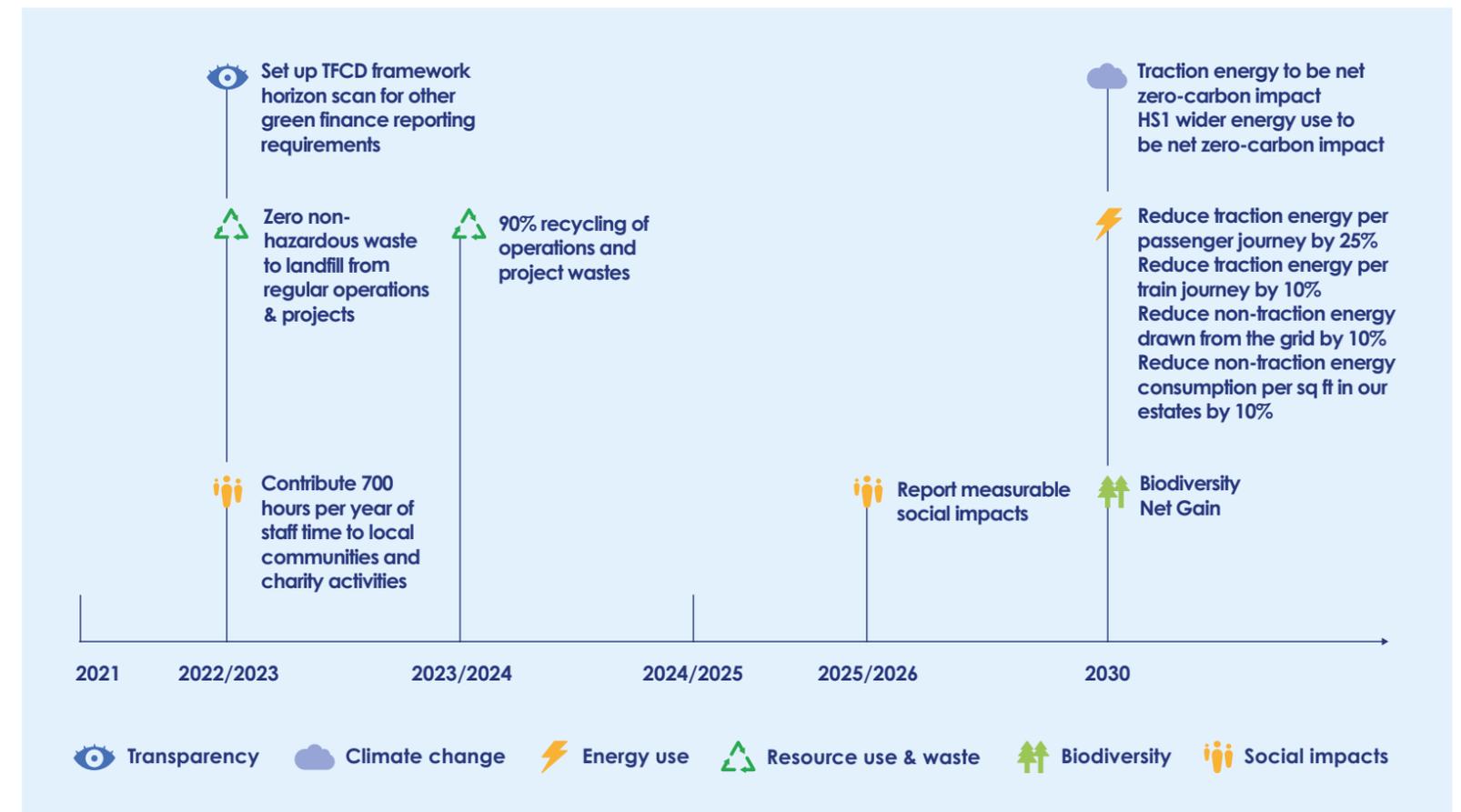
Our 2030 Vision and Sustainability Strategy have helped us shape a more sustainable and environmentally-friendly future.

We are clear about what we want to deliver.

We are aware of the challenges ahead of us, but we are not complacent and are working closely with our partners to deliver improvements to the rail industry and local communities, as well as to promote best practice. In turn, we will provide our passengers with opportunities to make better environmental travel choices and enjoy more sustainable shopping at St. Pancras.

Sustainability targets

The timeline below sets out our sustainability targets through to 2030.



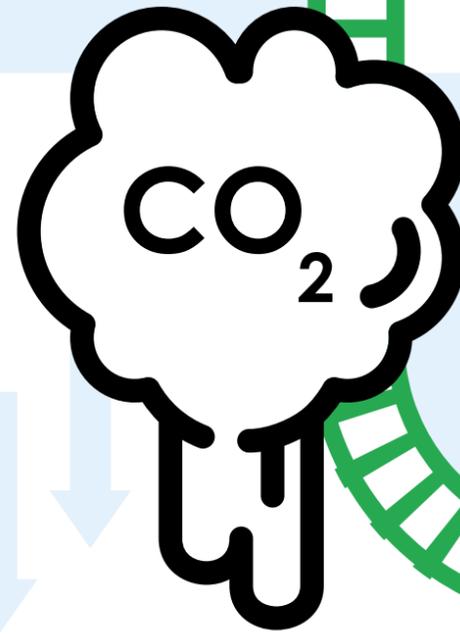
OUR PERFORMANCE AT A GLANCE

2020/2021



FIRST UK RAILWAY TO RUN ENTIRELY ON RENEWABLE ELECTRICITY

435 HOURS OF VOLUNTEERING & PRO BONO SUPPORT



80% REDUCTION IN CO₂ (WITH OFFSET) FOR HS1, & 97% FOR THE HS1 SYSTEMS INCLUDING TRACTION (WITH OFFSET)

£30,500 DONATED TO CHARITABLE CAUSES AND VALUE IN KIND. THE VALUE OF HOURS IN KIND GIVEN ESTIMATED AT £17,400



14% REDUCTION IN ELECTRICITY USE



11% INCREASE IN GAS USE



54% WASTE RECYCLED



74% OF HABITAT 'TILES' SURVEYED (100 TILES)



8 BIODIVERSITY TILES UPGRADED

MAPPING OUR ESG OUTCOMES TO INTERNATIONAL AND SECTOR GOALS

ESG	Our target ESG outcomes		 Alignment to United Nations Sustainable Development Goals	Alignment to Sustainable Rail Strategy (SRS) Principles[1]
Environment	Climate impacts	Carbon impacts: whole company	 3: Good health and wellbeing	Achieve net zero greenhouse gas emissions by 2050
	Energy use	Energy use – trains & buildings/estate	 9: Industry, innovation and infrastructure	Net Zero Carbon Rail
	Resources and waste	Material use – selection and circularity	 11: Sustainable cities and Communities	Prepared for a changing climate
	Biodiversity	Waste – minimise, manage and divert from landfill	 12: Responsible consumption and production	Transition to a circular economy
		Water efficiency & quality	 13: Climate Action	Biodiversity net gain
		Air pollution	 14: Life below water	Minimise impact of noise
		Land pollution	 15: Life on land	Protect and conserve water
	Social	Social Impacts	Mobility as a Service (MaaS) – commuting / community	 3: Good health and wellbeing
Volunteering			 8: Decent work and economic growth	Rail at the heart of communities
Wellbeing programme			 11: Sustainable cities and Communities	Positive impact on air quality
Social value				Minimise impact of noise
Charity				
Noise				
Governance	Transparency	Internal and external governance	 16: Peace, justice and strong institutions	Delivering on the SRS Sustainable Development (SD) transparency principles by measuring and reporting progress.
		Compliance		
		Reporting		
		Employee objectives		

This table explains how our Sustainability Strategy and targets align with the United Nations Sustainable Development Goals (SDGs) and the UK Sustainable Rail Strategy (SRS) Principles. The SDGs are widely considered to be the blueprint to achieve a better and more sustainable future for all, whilst the SRS is a UK industry-led set of principles that define what sustainable development means for the railway. The Sustainable Rail Strategy (SRS) is an industry first Sustainability Strategy for the rail sector, being led by RSSB. The SRS is still in draft however a Skeleton Strategy has been shared which contains a number of Flagship Goals for the industry across environmental and social sustainability. HS1 has sought to align its reporting to these emerging flagship goals so that it is clear how the work being done will contribute towards sustainability within the GB rail industry.

A woman with long blonde hair, wearing a red vest over a dark long-sleeved shirt and blue gloves, is kneeling in a field and planting a small green seedling. The background shows a field with some trees and a building in the distance. The overall scene is dimly lit, suggesting dusk or dawn.

Looking ahead to our 2022 Task Force on Climate-related Financial Disclosures (TCFD) reporting

OUR APPROACH

OUR APPROACH TO TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD) REPORTING

Climate change is a risk to investments, based on the challenges it causes and opportunities it brings.

This could be extreme weather impacting operations, damage to infrastructure caused by environmental disasters, emerging technologies or new climate related policies. Financial markets, therefore, need clear, comprehensive high-quality information on the impacts of climate change.

The TCFD was created to improve and increase reporting of climate-related financial information within a framework for reporting in a companies' mainstream annual reports.

This reporting will become mandatory for us in 2022/23 but we plan to meet many of the requirements ahead of that deadline. In 2021/22 we will be creating the internal reporting mechanisms to enable us to meet TCFD.

HS1 Ltd has developed its roadmap to meet this statutory requirement as part of our overall transparency priority area.

Task Force on Climate-Related Financial Disclosures

We will report on the four elements set out by the TCFD and in the section below we will provide an outline on what we have done to date and what the next steps will be:

Governance

Governance is one of the cornerstones of our strategy and falls under the 'Transparency' priority. During 2020/21 we have started to design our governance structures for the whole Sustainability Strategy delivery.

Our objective for 2021/22 is to implement and embed these structures so that we have greater confidence and support for the implementation of our Sustainability Strategy.





Strategy

HS1's core business is moving people and goods on a high-speed railway powered by green energy. The infrastructure is only at 50% utilisation and driving a modal shift to high-speed rail is not only good for the environment and wider society, but also good business - therefore, sustainability sits at the heart of our business.

Our rail business is regulated over five-year control periods which are the funding cycles we operate within. By working with our customers, supply chains and regulators, we will build in sustainable outcomes through the operations, maintenance, and renewals of the infrastructure. Investment decisions already include the requirement for a sustainability case alongside the financial and service case which ensures that we make the best long-term decisions for the business, the environment and our local communities.

Our current TCFD strategy is built around gaining a deeper understanding of the risks and opportunities that changes in weather patterns will present, through robust and scientific assessments. Once completed, these assessments will inform the next phases of our TCFD strategy and the wider business strategy as we address the actual and potential impacts of climate-related risks and opportunities in our business, strategy, and financial planning.

Risk management

The HS1 risk management framework is deemed robust and now includes a sustainability risk at a corporate level. The need to manage climate-related risks are now included. We started to undertake Climate Change Risk Assessments (CCRA), these assessments will be completed during the 2021/22 reporting year and will inform our mitigation plans.

We have voluntarily committed to report under Adaptation Reporting Power round three and as such we are required to carry out a CCRA and submit a report to the UK Government which we are on track to do.

Metrics and targets

HS1's carbon emissions are disclosed in the Company's Streamlined Energy and Carbon Reporting and additionally within section 5 of this report.

SPOTLIGHT OUR SIX PRIORITIES



TRANSPARENCY



ENERGY USE



BIODIVERSITY



CLIMATE CHANGE
& ADAPTATION



RESOURCE USE
& WASTE IMPACTS



SOCIAL IMPACTS



01 TRANSPARENCY

SPOTLIGHT: OUR SIX PRIORITIES

Our ambition

In our Sustainability Strategy stated that we would report the progress towards our targets annually to our investors, partners and stakeholders to demonstrate how we are progressing towards achieving our goals.

In doing so, we are demonstrating to others within our field and beyond what openness and transparency truly looks like when it comes to setting ambitious targets, as well as what can be achieved with collective action.

Targets

- To underpin all our sustainability targets we will have monitoring systems set up & in operation
- Ensure we are 100% compliant with relevant environmental regulatory requirements
- Report annually on our progress to inform investors, partners and stakeholders

Headline figures for 2020/21

In 2020/21, we aligned our sustainability and ESG ambitions with our reporting structure to help us move towards adopting a formalised ESG reporting framework in 2022/23.

Our carbon and energy data are certified by the Achilles and the Carbon Reduce (powered by Toit) scheme, (formally CEMARS) certification.

Incorporating sustainability within employee's annual performance

This year we successfully achieved our aim to incorporate sustainability objectives into each employee's annual performance targets. In 2021 personal objectives on sustainability will be tracked through our people management system and are assessed regularly. The personal contribution to our "Social Impacts" priority area will also be recorded as part of our future measures.

Actions taken in 2020/2021

- We included our sustainability progress in periodic reports, board/quarterly reports, periodic KPI reporting and in our 2020/21 ESG return for our shareholders Infrared and Equitix.
- All our employees are required to have a sustainability objective in their annual performance review.
- We complied with all our environmental regulatory requirements and report against these in our annual corporate reporting.
- We recorded 0 reportable environment incidents.
- We started a reporting dashboard for targets and KPIs for each theme in our Sustainability Strategy.

Focus for 2021/2022

- Publish our first annual sustainability report.
- Roll-out dashboard reporting across the themes and directorates.
- Develop a plan for regular resilience reporting and embed into internal reporting systems.
- Identify our material risks and opportunities arising from climate change under differing future climate scenarios.
- Set up our systems for mandatory TCFD reporting in 2022/23.
- Test and enable the tracking of sustainability personal objectives through our new HR system.



ROADMAP TO 2030 TRANSPARENCY



To underpin all our sustainability targets we will have monitoring systems set up & in operation.



Ensure we are 100% compliant with relevant environmental regulatory requirements.



Report annually on our progress to inform investors, partners and stakeholders.

Being transparent is important and we will demonstrate our leadership in the rail sector through our published sustainability strategy. To deliver against our ambition and targets we are developing a reporting approach to include all key metrics, we will also work with our supply chain to implement this across our business. These metrics will support the development of our annual ESG reporting and be part of the pathway to our Task Force on Climate-Related Financial Disclosures (TCFD) in 2022.

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

TCFD requires us to improve and increase reporting of our climate-related financial information by 2022. We will report the following:

Governance	Strategy	Risk Management	Metrics & Targets
On our climate-related risks and opportunities	Actual and potential impacts of climate-related risks & opportunities in our business, strategy, and financial planning	Our process to identify, assess and manage climate-related risks	Assess and manage our climate-related risks and opportunities



2020 We publish our first sustainability report.

Resilience Plan reporting embedded into reporting systems TCFD reporting requirements (governance, strategy, risk management, metrics & targets) assessment completed.

2021 /2022

2022 /2023

TCFD framework set up and first TCFD-aligned disclosures report published.

Customer and supplier sustainability charters published.

2023 /2024

2024 /2025

TCFD compliant

Reassess and identify further best practice (linked to procurement and green financing).

2025 /2026

Our ambition to be transparent clearly links and contributes to the United Nations Sustainable Development Goals (UN SDGs) both strategically and operationally.

Our transparency roadmap contributes to **Goal 16 Peace, Justice and Strong institutions** through compliance, reporting and our employee objectives.



2027 /2028

Implement further best practice.

2030





02 CLIMATE CHANGE & ADAPTATION

SPOTLIGHT: OUR SIX PRIORITIES

Our ambition

Despite rail being 80-90% more carbon friendly than air travel, we understand running our railway has an impact on our climate and contributes to the UK's carbon footprint. When we started our sustainability journey, traction energy use was our biggest carbon impact, contributing around 95% of our total carbon emissions. We are now on a rapid transition to zero-carbon in support of the Paris Agreement global climate targets.

We are also looking to understand what future extreme weather events may do to our infrastructure through a robust risk assessment. In doing so we will be able to adapt our assets to be more weather resistant which will improve safety and performance while protecting the long-term viability of the asset.

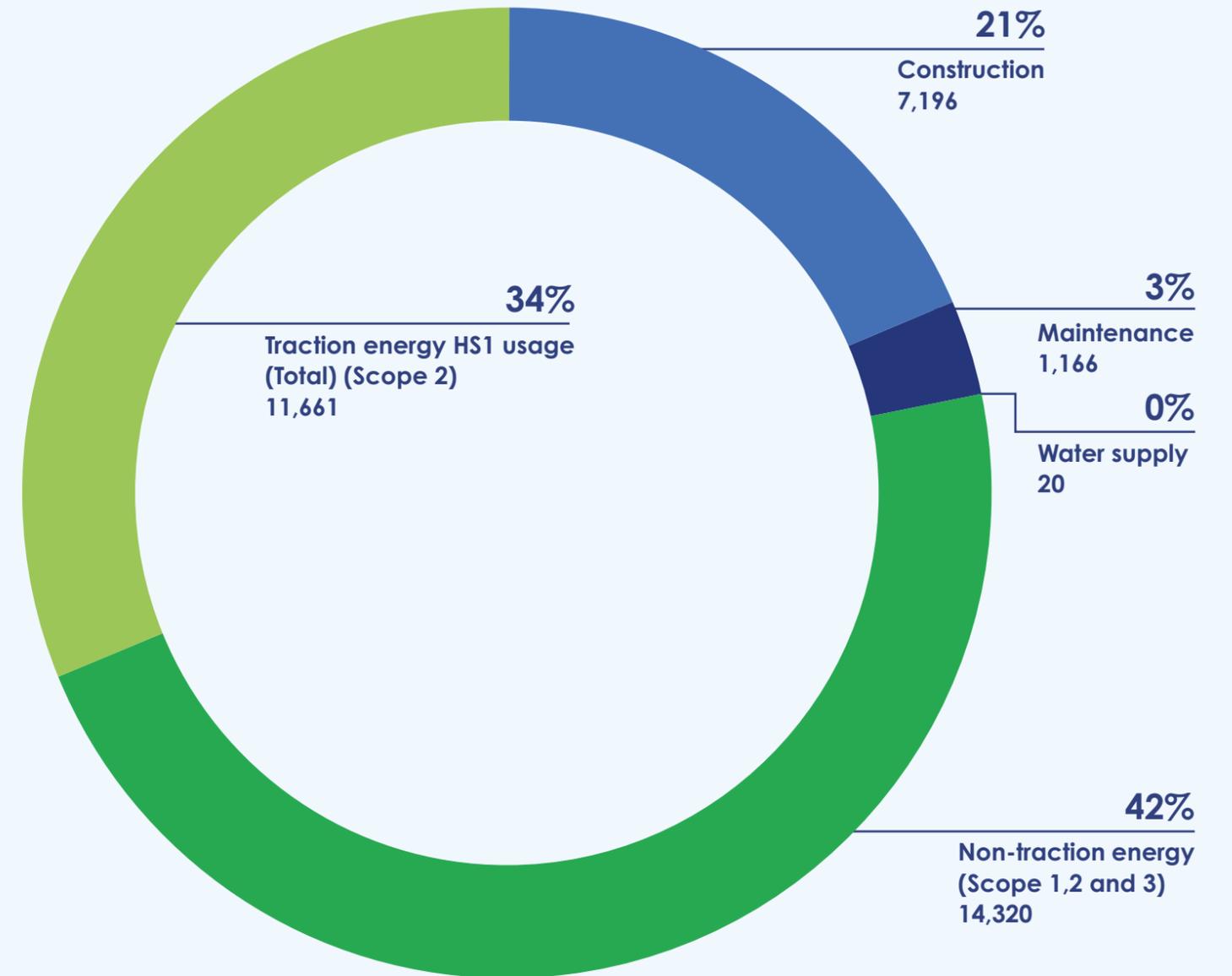
Our carbon footprint baseline

We have measured our carbon footprint which equates to 34,404 tonnes CO₂e per annum.

Targets

- Traction energy (used to power trains) to be net zero-carbon impact by 2030.
- HS1 non-traction energy use (wider estates and buildings) to be net zero-carbon impact by 2030.

Approximated source of CO₂ emissions from utilities and embodied carbon during baseline period



CARBON FOOTPRINT

Our ambition

We measured net carbon footprint (tonnes) for baseline years FY2017/18 to FY2019/20 when the UK was in the middle of the COVID19 pandemic which resulted in the assets being used in a nonstandard operation. Therefore, we created a reliable and realistic baseline by using a weighted calculation across the following years FY2019-2020 / FY2018-2019 / FY2017-2018.

Now we have measured our baseline carbon footprint, we are able to see which areas of our business contribute to our carbon impact and our 'hotspots'. This has enabled us to identify the priority areas for action and the completion of the assessment in 2020-2021 enables us to develop a carbon reduction plan.

Actions taken in 2020/2021

- We measured our carbon footprint and identified our carbon 'hotspots'.
- We set up our Renewable Energy Guarantees of Origin (REGO) and Power Purchase Agreements to buy renewable power across our whole estate.
- We reassessed the business case for Electric Vehicles (EV) and developed an EV strategy which sets out how and when we roll out EV charging across our infrastructure for both supply chain and service users.
- Freight business case assessed ahead of schedule and now operational.

Focus for 2021/2022

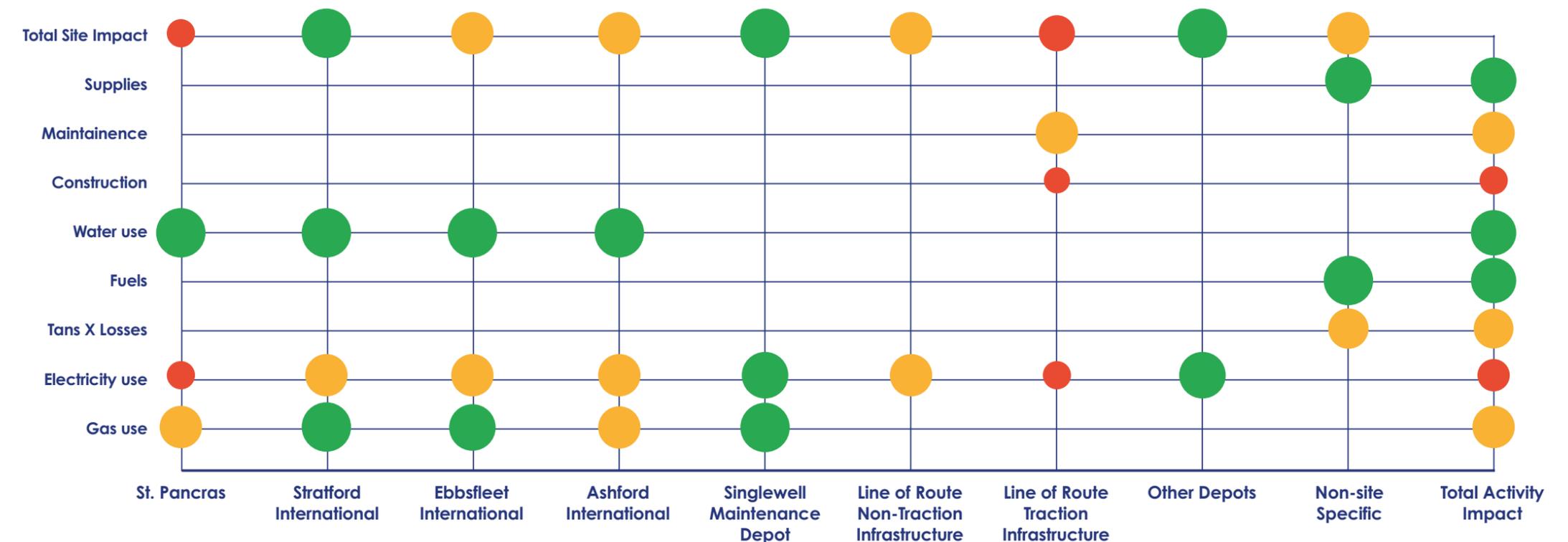
- Develop a renewals plan to transition away from gas.
- Trial the Rail Carbon Tool on a selection of projects.
- Contracts/leases to have a requirement for an ISO14001 compliant EMS system.
- Assess the climate change risk and develop costed mitigation and adaptation plans.
- Assess the business case for increasing the freight business.
- Progress Power Purchase Agreements.

The Rail Carbon Tool

This is a web-based tool to calculate, assess, analyse, report and reduce a rail project carbon footprint by evaluating low-carbon options using verified, centrally available carbon factor data.

[View our Sustainability Strategy](#)

Net carbon footprint (tonnes) for baseline years FY2017/18 to FY2019/20



RENEWABLE ENERGY

As part of our move to understand our passengers' footprint, we plan to map how passengers currently travel to and from HS1 stations and to end destinations when normal travel patterns resume.



Case study

HS1 is the first UK railway to run entirely on renewable electricity

We have secured Renewable Electricity Guarantee of Origin (REGO) certificates, from our electricity supplier Npower Business Solutions, enabling us to secure zero-carbon electricity to power our trains and stations.

Already underway, wind and solar power lie at the heart of our procurement process to ensure the only high-speed railway in the country runs solely on sustainable electricity.

Our switch to renewable electricity

Last year we moved towards 100% renewable electricity through purchasing our traction and estates directly purchased electricity from renewable sources covered by Renewable Energy Guarantee of Origin (REGO) and Power Purchase Agreements (PPA) certificates.

This means we are the first UK railway to run entirely on renewable electricity and shows an 80% saving in carbon.

2020/21 Carbon Reporting

Total carbon emissions	10,209 tCO ₂ e
Carbon offset due to REGO/PPA	7,378 tCO ₂ e
Net emissions	2,831 tCO ₂ e
Carbon savings with offset	80%
CO ₂ per user using net emissions	0.360 kg CO ₂ e per user
CO ₂ per user in non-COVID year	0.270 kg CO ₂ e per user
Increase in normalised net emissions	33%

The increase in normalised gross emissions has expectedly been caused by the COVID-19 lockdown and while all efforts were made to close down unused facilities, the stations have had to remain open as usual despite fewer trains and passengers.

ROADMAP TO 2030 CLIMATE CHANGE

CLIMATE CHANGE & ADAPTATION OUTCOMES



Traction energy (used to power trains) to be net zero-carbon impact by 2030.



HS1 non-traction energy use (wider estates and buildings) to be net zero-carbon impact by 2030.

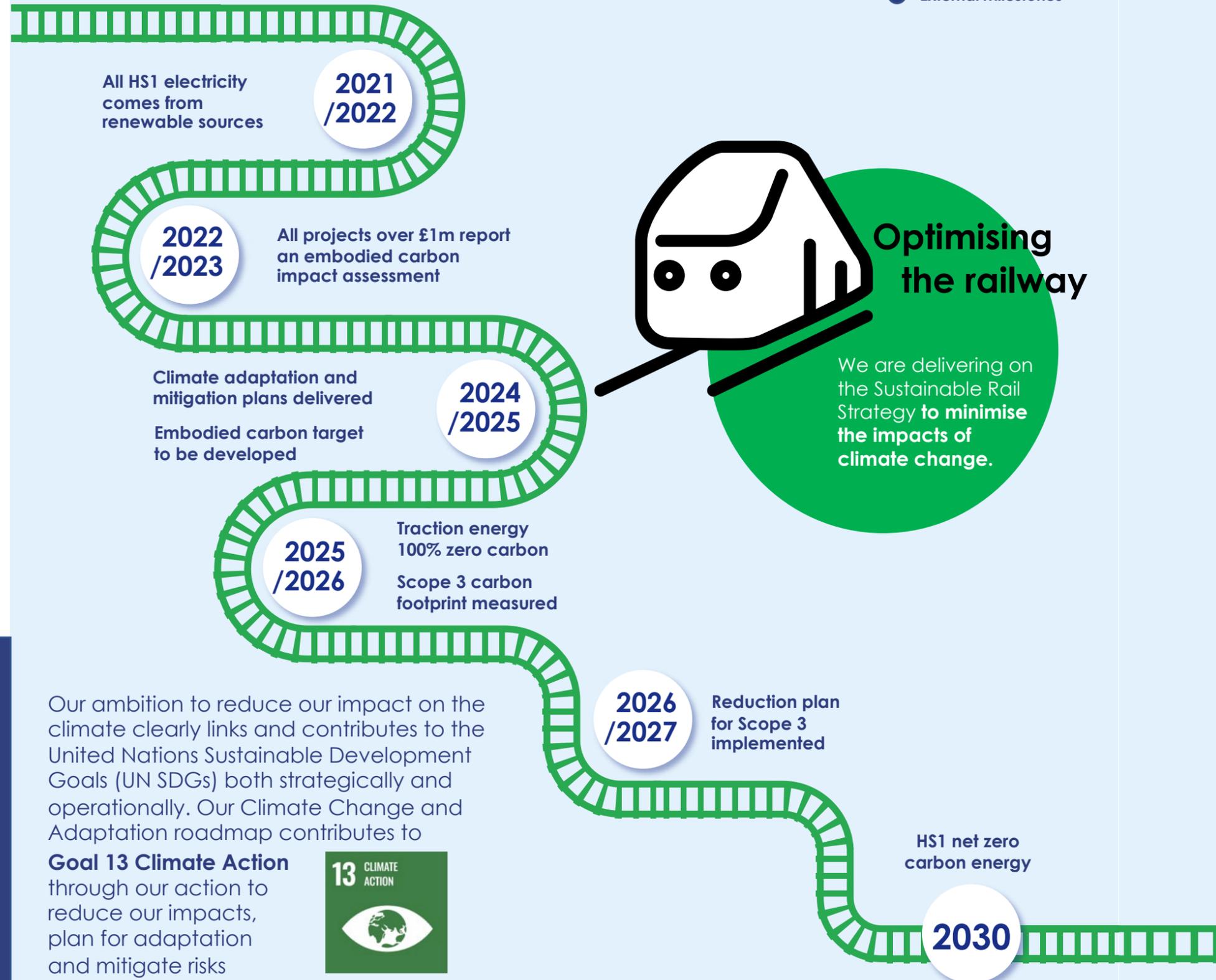
We have developed a green energy procurement strategy which is part of our pathway to net zero. This strategy includes a mix of options such as energy reduction, efficiency and sourcing energy from renewable generation. We report our zero-carbon emissions for the electricity used to power trains and stations. We will produce a Climate Change Risk Assessment and Report based on the requirements of ARP3 as required by the Climate Change Act 2008, which will enable us to develop adaptation plans for our infrastructure.

INSIGHT: OUR CARBON IMPACT



We have assessed our carbon footprint in 2021 assessing our full carbon impacts. The Task Force on Climate-Related Financial Disclosures requires us to improve and increase reporting of our climate-related financial information by 2022/23.

● External Milestones



Our ambition to reduce our impact on the climate clearly links and contributes to the United Nations Sustainable Development Goals (UN SDGs) both strategically and operationally. Our Climate Change and Adaptation roadmap contributes to

Goal 13 Climate Action through our action to reduce our impacts, plan for adaptation and mitigate risks





03 ENERGY USE

SPOTLIGHT: OUR SIX PRIORITIES

Our ambition

The electricity used to power the trains on our tracks is the biggest contributor to our energy use. As we aim to maximise the number of trains on our track, we will reduce the energy intensity.

Therefore, we looked at how we could reduce the energy needed to run our transport systems, and the impact of the energy we buy. As part of the energy strategy, we are not only looking at the transition to cleaner forms of power but to affect this move, we will need to reduce the amount of energy we consume.

Our targets ensure that in addition to focusing on train energy efficiency and reducing energy across our estate, we are also focusing on passenger utilisation so that the energy use per passenger is reduced.

Targets



Reduce traction (train movement) energy per passenger journey by 25% by 2030.



Reduce traction energy per train journey by 10% by 2030.



Reduce non-traction (estates and buildings) energy drawn from the grid by 10% by 2030.



Reduce non-traction energy consumption per m2 in our estates by 10% by 2030.

PERFORMANCE IN 2020/21

Headline figures for 2020/21 (non-traction energy)

↓ 80%

reduction in carbon with offsetting

↓ 14%

reduction in electricity use

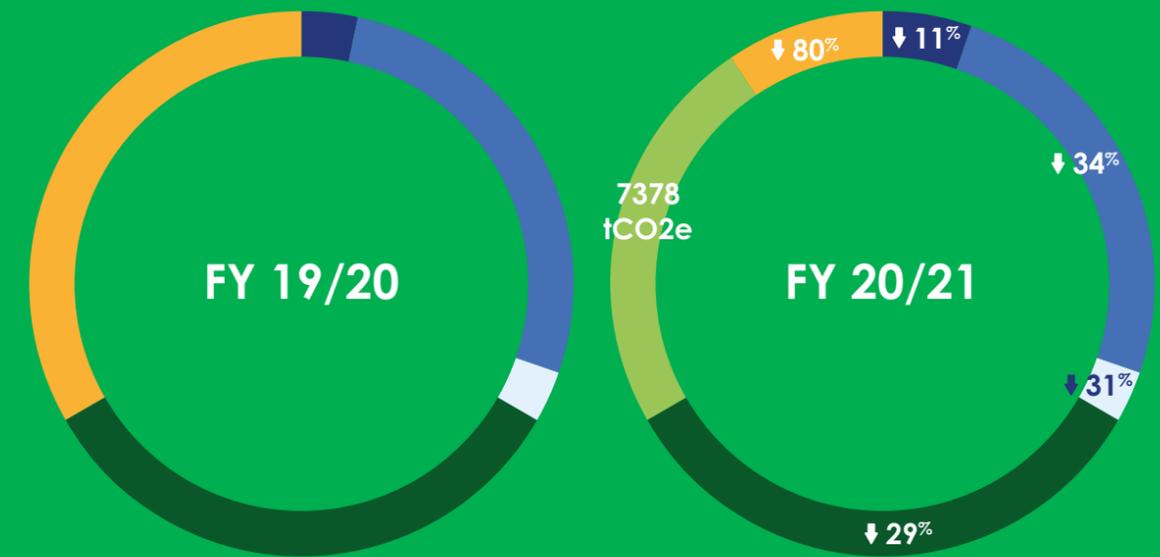
↑ 33%

increase in CO₂e per user (net)

↑ 11%

increase in gas use

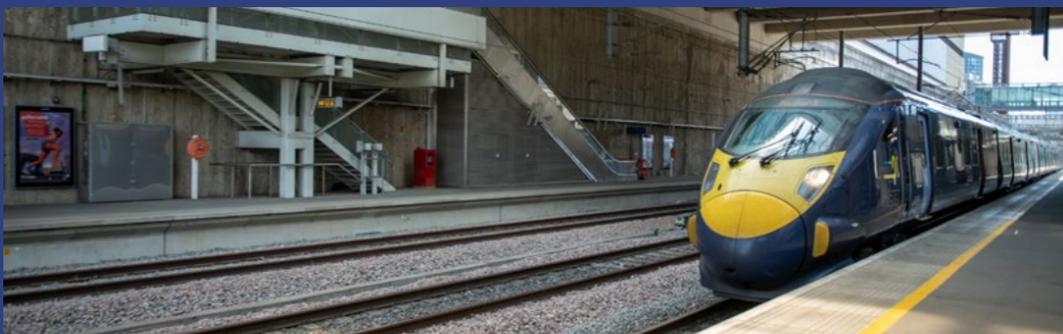
- Scope 1 Emissions**
Direct emissions from owned or controlled sources
- Scope 2 Emissions**
Indirect emissions from the generation of purchased electricity, steam, heating and cooling
- Scope 3 Emissions**
All other indirect emissions that occur in a company's value chain
- Total Gross Emissions**
- Carbon Offset Due to REGO/PPA**
- Net Emissions**



ENERGY USE

The drop in our electricity use was due to the energy efficiency measures we carried out in 2020 and the closure of some facilities during the COVID-19 lockdown.

We are disappointed to report an increase in gas consumption during 2020 which was due to the need to reduce the amount of recirculated air in our stations in the COVID-19 pandemic and compounded by an infrastructure fault.



We have developed an energy strategy which includes procuring green energy, but also maximising energy reduction opportunities.

Actions taken in 2020/2021

- We have built a consolidated list of all energy initiatives from Energy Savings Opportunity Scheme (ESOS) and other reports.
- We have started to implement these initiatives and have delivered a range of energy reduction projects.
- We have launched an energy awareness behaviour change programme.
- We have extended our energy metering so that 99.3% of our usage is now metered.
- We have taken action to reduce the stations' energy requirements in line with the reduced occupancy due to COVID-19.

Longer term, we will work with the Train Operating Companies (TOCs) to address what an energy efficient train looks like and encourage all our partners to adopt train design standards which lead to lower energy consumption.

Focus for 2021/2022

- Embed energy efficiency and monitoring requirements into procurement of future estates, new build and refurbishment programmes.
- Set a requirement for energy metering and energy efficiency in our tenant fit-out guide.
- Manage tenant performance against energy requirements and drive future reduction through league table performance.
- Work in collaboration with our partners to drive the implementation of regenerative braking on rolling stock to reduce net energy consumption.
- Continue to support and lead the implementation of energy reduction projects at St. Pancras, Stratford and Ebbsfleet which will reduce CO₂ emissions by approximately 236 tonnes per annum.
- Explore the construction and operation of renewable energy generation solutions and energy storage within the restrictions of the planning system.
- Develop a 10-year energy management plan.

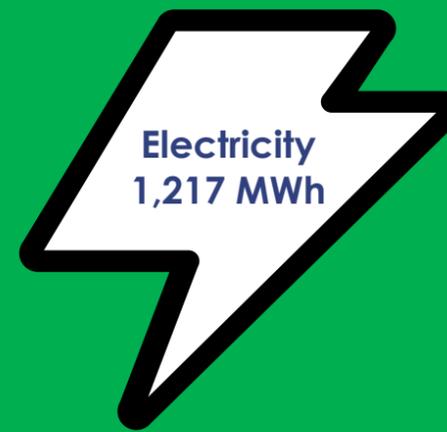
CASE STUDY

ENERGY EFFICIENCY

ENERGY EFFICIENCY PROJECTS IN 2020/21

We undertook a series of projects to reduce our energy consumption which included:

1. Improved control of the St. Pancras International departures area heating system using a new wireless reporting system.
2. Optimisation of the chilled water generation control.
3. Replacement of substructure lighting with high efficiency LED luminaires with presence detection.
4. Various optimisation tasks on each site's Building Management System including improved pump control, more accurate time schedules and temperature control for air conditioning, ensuring our main heating and cooling plant doesn't operate in the non-heating and cooling seasons, and better use of demand-based supply of air.
5. Implementation of an energy and environmental Behavioural Change Programme engaging with our supply chains.



The estimated aggregate annual savings from these initiatives

£197k

The total cost of the investment was £50,000 with an expected annual return on investment of £197,000.

The projects undertaken in 2020/21 are part of our ongoing ambition to reduce energy consumption. We have been looking for and implementing similar projects for several years and working with our stakeholders, we will continue to implement many more in a targeted approach.

CASE STUDY

ENERGY SAVING

ENERGY SAVING BY ENHANCING OUR BMS IN 2020/21

During the first full financial year of the COVID-19 lockdown, use and occupancy of facilities within our stations, offices and depots was drastically reduced.

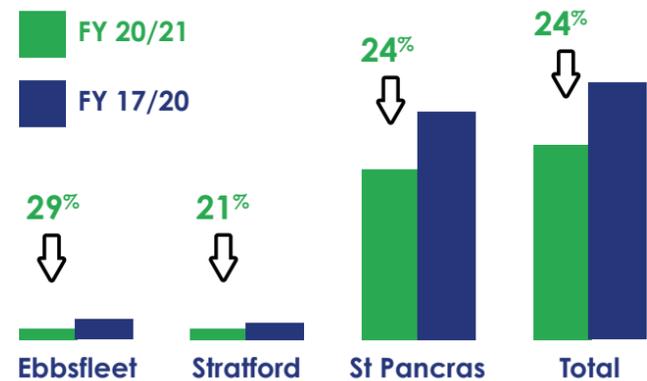
Whilst we reduced our energy use by turning off the services in certain areas, we also optimised the Building Management Systems (BMS) through 'continuous commissioning' which led to a 24% reduction in electricity compared with the FY2017-2019 average.

The BMS in our buildings integrates a variety of controls and sensors to ensure that Heating, Ventilation and Air Conditioning (HVAC), lighting and other services provide scheduled and tightly controlled internal conditions. If the BMS does not recognise dropping building occupancy levels, the services and their energy use is not managed or reduced.

Our 'continuous commissioning' approach and the extensive installation of energy sub-meters with half-hourly logging capabilities meant it was possible to fine tune the BMS and spot exceptions and shortfalls in performance and take remedial action.

Results

Table 1 shows the comparative electricity consumption between the baseline and FY2020-21 with the percentage reduction for each station.



Comparison of average baseline to FY2020-21



ROADMAP TO 2030 ENERGY USE

-  Reduce traction (train movement) energy per passenger journey by 25% by 2030.
-  Reduce traction energy per train journey by 10% by 2030.
-  Reduce non-traction (estates and buildings) energy drawn from the grid by 10% by 2030.
-  Reduce non-traction energy consumption per m2 in our estates by 10% by 2030.

Traction energy is our biggest power consumption and impact, and our primary focus and driver for procuring a low carbon energy supply. We are also looking at reduction through implementation of regenerative braking for trains.

Across our estate and stations, we are working with our partners to identify and implement energy efficiency measures, for example upgrading to more efficient LED lighting, updating air handling units and optimisation to boiler and building management system (BMS).

We will develop standards outlining principles of energy minimisation in construction, operation and maintenance.

INSIGHT: TRACTION ENERGY



We will embed energy efficiency and granular monitoring requirements into all future estate refurbishment projects to better understand our energy use through monitoring and enabling us to develop more robust energy reduction plans.

● External Milestones

Energy efficiency and monitoring requirements set in projects & tenant fit out guide

2021 /2022

TOCs move towards best practice for energy efficient trains

Evidence-based energy reduction plan in action across traction & all business functions

Energy targets progress published (ongoing)

Tenant energy performance reported and league tables implemented

Estate-wide performance reported

2023 /2024

All new trains incorporate energy monitoring

Commercial relationships developed to incentivise energy minimisation on new train stock

2025 /2026

TOCs sign sustainability charter & agree to best practice

TOCs set energy efficient targets & report progress

Regen braking impacts measured & published

2026 /2028



Carbon Smart

We are working to achieve **net zero greenhouse gas emissions** by 2030.

Our ambition to be reduce our energy consumption contributes to the United Nations Sustainable Development Goals (UN SDGs) both strategically and operationally. Our energy reduction roadmap contributes to

Goal 12 and Goal 13 through reducing energy use for traction and across all our stations/ estates.



2028 /2030

Energy use is clearly reported and minimised across our track and estates

25% per passenger journey, 10% per train journey, 10% non-traction energy, 10% per m2 reduction in estates

beyond 2030



04 RESOURCE USE & WASTE IMPACTS

SPOTLIGHT: OUR SIX PRIORITIES

Our ambition

To be responsible and reduce our environmental footprint requires us to manage the type and quantity of resources we use and minimise the waste generate from our tracks, stations and offices.

We work with our supply chain, our retailers and our TOCs to minimise and manage our waste.



510^T

510 tonnes of waste generated



54%

waste recycled



2%

7.83 tonnes waste to landfill which represents 2% of our overall waste

Targets



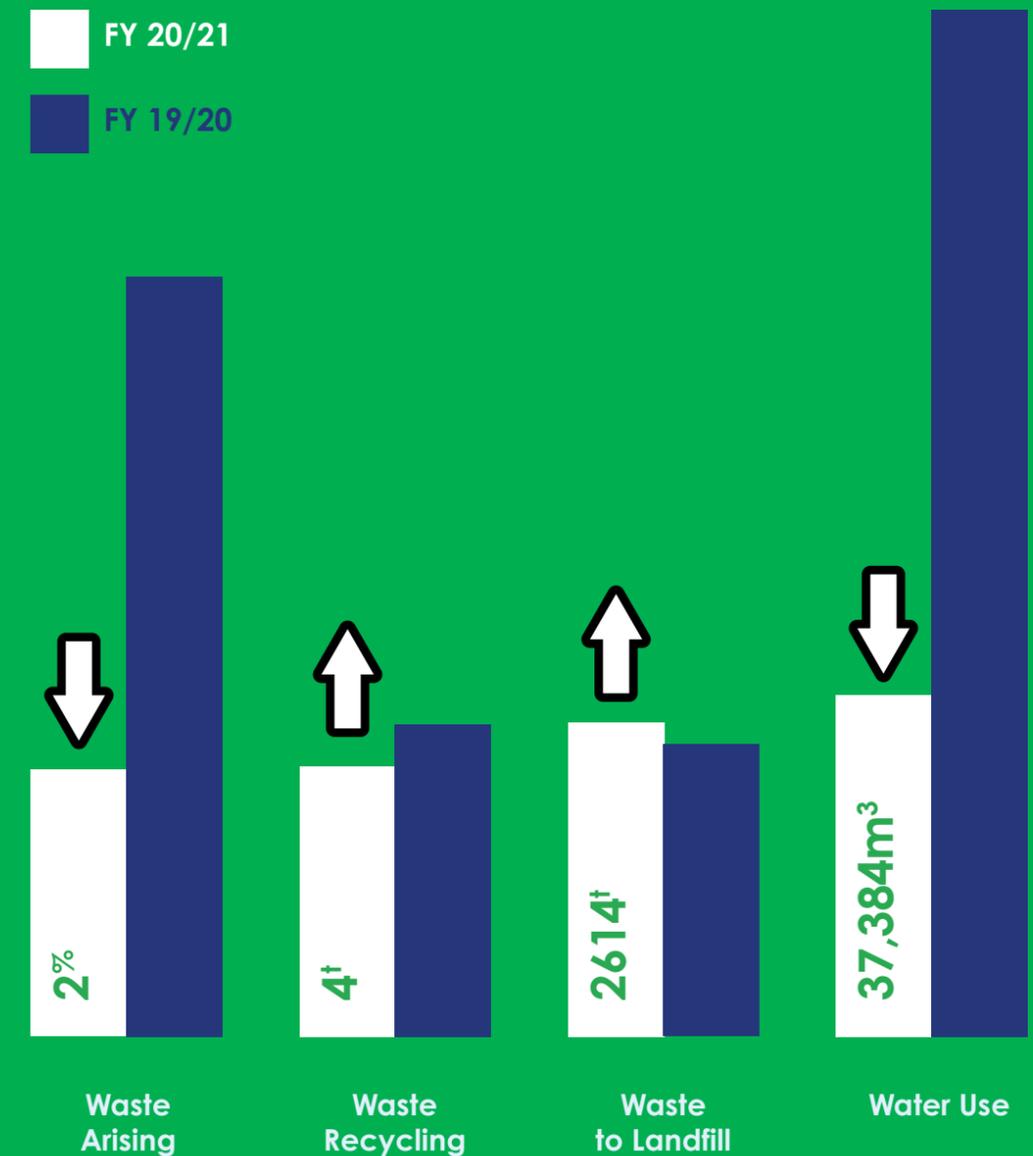
Zero non-hazardous waste to landfill from regular operations & projects by 2022/2023.



90% recycling of operations and project wastes by 2023/2024.

Performance in 2020/21

Our waste and water impacts



WASTE

Waste is generated from our construction and refurbishment projects, and from our stations and offices.

2020 was an unusual year and we saw the volume of waste produced drop compared with previous years due to the impacts of the COVID-19 pandemic: both from fewer passengers using our system and from projects being suspended or cancelled.

Our priority is to minimise waste and divert the maximum amount of waste from landfill. In the early stages of the pandemic, much of our waste was not recycled due to concerns with contamination from infected masks and other consumables disposed of by passengers and staff. Many retailers adjusted how they operated and couldn't accept re-useable cups.

There was also a period in 2020 when our waste was quarantined for 72 hours in line with central Government COVID guidelines but over time this practice was phased out.

Actions taken in 2020/2021

- We included our resource use and waste data in our internal corporate dashboard.
- We diverted 98% of our waste from landfill for operations.
- We have required all construction project suppliers both for HS1 and our supply chain, to report their waste data.

Focus for 2021/2022

- Collate current waste composition and quantity from all waste streams: project, stations, depots and offices.
- Develop waste standards and implement them.
- Create a plan to divert all construction/fit out waste from landfill, roll out through procurement contracts.
- Identify top non-construction waste streams (using 80:20 rule) and devise a plan to increase recycling of the waste arising across the estate e.g. plastic cup, coffee capsules.
- Identify when 90% recycling of operations and project wastes can be achieved.
- Develop a sustainability charter for customers and partners to include waste minimisation as a requirement.
- Assess the need for the installation of additional drinking water dispensers in stations and retail areas.



MATERIALS

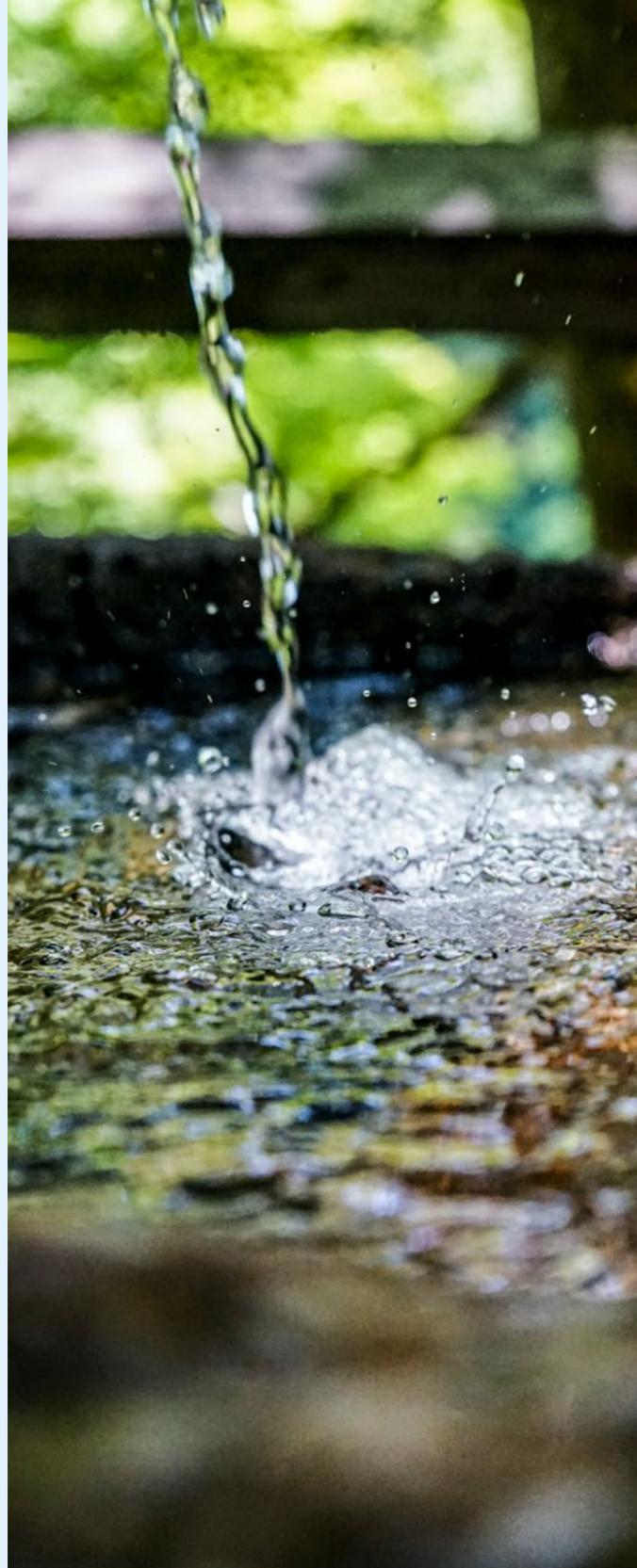
Our construction and refurbishment projects use large quantities of materials, and we will ensure we follow industry best practice.

Actions taken in 2020/2021

- We reviewed our specifications for construction materials, including the approved/banned lists.
- We identified best-in-class, environmental-based material standards for our construction, fit out and refurbishment projects.

Focus for 2021/2022

- Specify a requirement on all construction / fit out projects over £1m to implement a sustainability assessment method - for example, BREEAM or CEEQUAL, in line with expected construction industry practice.
- Implement the best-in-class standards (e.g. FSC timber, flame retardants) on our construction, fit out and refurbishment projects as appropriate.



WATER

We are becoming increasingly aware of the need to protect our water courses and minimise water use, which has led us to assess our consumption and set targets for water use in future years.

The reduction in water use in 2020/21 was due to adjustments in operations in St. Pancras because of reduced passenger numbers due to the COVID-19 pandemic.

Actions taken in 2020/2021

- We are fully compliant with water pollution discharge consents and requirements, and report through our internal dashboard.
- We measured our water usage and it's relation to our carbon footprint.

Focus for 2021/2022

- Develop water use reduction plans where appropriate (e.g. stations use, offices use, on-site use, and water harvesting).
- Horizon scan for any emerging water pollution standards and set up required implementation.



CASE STUDY

MIDLAND ROAD SERVICE YARD

In April, HS1 started a trial to monitor and control the waste coming through the Midland Road Service Yard.

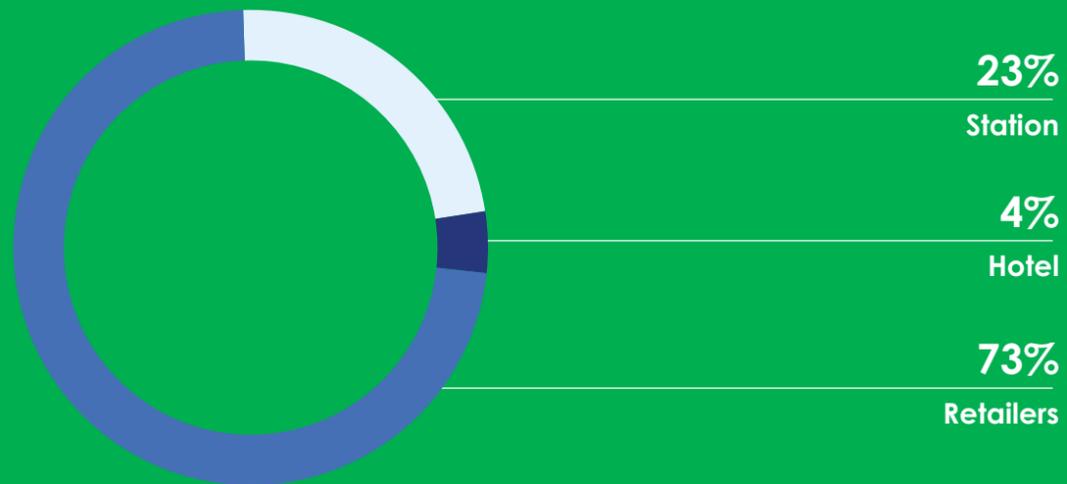
The Midland Road waste management service is used by station retailers, the hotel and for station operational waste. The trial will help us see what action we can take to get our recycling rate up to 90% by 2023/24.

Prior to the trial it was impossible to quantify how much waste each segment was generating and who was maximising their recycling. This lack of visibility made it difficult to undertake any waste management improvements.

Our new process allocates each tenant a QR code to scan each bag of waste disposed of. The rubbish bags are separated into general, recycling, food, and glass and weighed.

We now have full visibility of where the waste is being generated, the levels of contamination and the recycling rates at an overall level and by individual retailers.

Waste generated from:

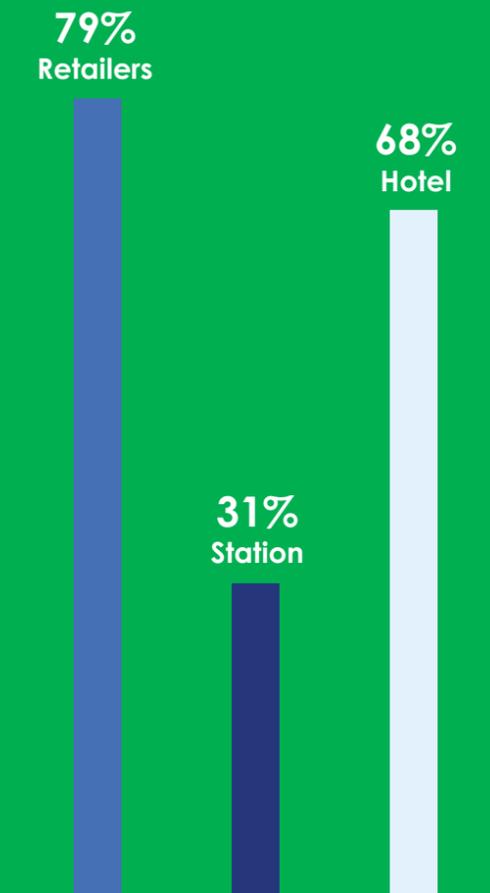


What's next?

Through the tracking and measuring we can identify tenants that need support and guidance to meet our waste targets. We will investigate waste reduction initiatives, for example, retailers using recyclable coffee cups, and set up used coffee cup collection points in the station.

We will also be able to compare the waste generated and recycling rates at St. Pancras with data by the TOCs in Shore base to understand how the TOC practices contribute to the overall recycling rates at St. Pancras station.

Waste recycled by source:



ROADMAP TO 2030 RESOURCES

RESOURCE USE & WASTE



Zero non-hazardous waste to landfill from regular operations & projects by 2022.

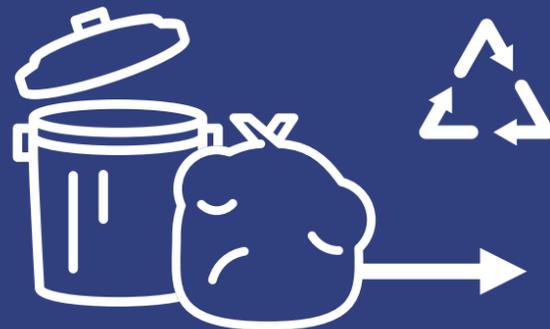


90% recycling of operations and project wastes by 2023.

We will improve our resource use and reduce our waste by a review of our waste portfolio throughout 2021 and develop standards for our project suppliers so that all our non-hazardous waste can be diverted from landfill.

We will minimise any waste produced, making use of established best practice in waste minimisation.

INSIGHT: WASTE MINIMISATION



We will work with our stakeholders to reduce waste from our operations through resource efficiency and increasing recycling

● External Milestones

Analysis to understand our waste profile completed

Site waste managements plans required on all projects over £1m

Water use quantified and potential high risk sources of water contamination assessed

Materials specification revised and set in procurement and sustainability charter

All construction / fit out projects over £1m implemented a sustainability assessment method

2021 /2022

2022 /2023

Common campaign with TOCs to encourage in-station & on-train waste reduction by passengers and to meet DfT requirements established

Progress against resource use & waste targets (incl zero to landfill & 80% recycling)

2023 /2024

2025 /2026

Broader circular economy opportunities identified and assessed

2030 onwards:

Our resource use is minimised, all preventable waste is avoided and we actively select lower-impact resources

Our environmental impact

Making the transition to the circular economy and Protection and conversation of GB water resources.

Our ambition to be resource efficient clearly links and contributes to the United Nations Sustainable Development

Goals Goal 6, 9, 11, & 12 through assessing, measuring and reducing our environmental impacts.



beyond 2030



05 BIODIVERSITY

SPOTLIGHT: OUR SIX PRIORITIES

The HS1 portfolio covers 230ha of native broadleaved woodland, 40km hedgerow, 1.2 million native trees and shrubs, 370ha of permanent grassland and 45ha of grass and wildflower seeding.

Our ambition

We manage a diverse estate, from Central London to Kent, often known as the Garden of England and we are committed to maintaining a healthy and diverse natural environment. We have an obligation to protect and enhance the lineside habitat and have set a target to achieve a 'Biodiversity Net Gain' (BNG) by 2030. The degree of BNG will be identified following the completion of the ecological surveys.

Targets



To deliver a 'Biodiversity Net Gain' by 2030, based on the 2020 baseline.



To further support our 2030 target, we will assess the quality of the 136 areas of habitat, known as 'tiles'. Each 'tile' will be rated 'good' 'moderate' or 'poor' and the approach will be:

- Good to be maintained as Good
- Moderate to be moved to Good
- Poor to be moved to Moderate



BIODIVERSITY

Biodiversity Benchmark Award

Our supplier Network Rail (High Speed) hold the Biodiversity Benchmark Award for the HS1 infrastructure and are one of only 13 organisations to hold this award. Biodiversity Benchmark is designed to test the design and implementation of a business management system to achieve continual biodiversity enhancement and protection on their landholdings and we are proud to support NR(HS) with this award.

Our biodiversity tiles

The area along our track is divided up into 136 'tiles': these are areas of habitat which are divided into sections for ease of identification and management. Each tile is surveyed and assessed individually based on the type of habitat, the plants and trees on it and the wildlife.



Actions taken in 2020/2021

- We made progress on establishing a baseline - however, 2020 was not a typical year due to reduced trains and passenger number.
- Network Rail (High Speed) and Kent Wildlife Trust started surveys of our natural asset to underpin our baseline year.
- We created our Biodiversity Action Plan with KPIs for the next 20 years.
- We agreed a BNG metric and a Protected Species Protocol.
- We updated the Geographical Information System (GIS) for the line with Landscape Focus Areas and Habitat Condition Assessments.
- Our target is zero land pollution incidents, and in 2020/21 we had one incident.

Focus for 2021/2022

- Biodiversity baseline to be finalised.
- Complete the Landscape Focus Areas habitat surveys and four protected species surveys.
- Complete coppicing and scrub management plans.
- Review all pollution risks (air, land water) and measure the baselines where appropriate.
- Develop a plan and start to monitor of station and lineside air pollution levels.
- Plan a volunteering day.

HEADLINE FIGURES FOR 2020/21 Biodiversity Net Gain metric agreed

 **74%**

of habitat 'tiles' surveyed

 **50%**

of habitat 'tiles' condition assessed

 **8**

biodiversity tiles upgraded



CASE STUDY

ENHANCING BIODIVERSITY

ENHANCING BIODIVERSITY THROUGH OUR PARTNERSHIP
WORKING WITH NRHS AND THE KENT WILDLIFE TRUST

To deliver our biodiversity ambition, with Network Rail (High Speed) and the Kent Wildlife Trust, our biodiversity action plan focuses on habitats and species, but also the significant potential for long-distance connectivity which only railway networks can provide.

Our Biodiversity Action Plan (BAP) plays its part in the contribution towards reversing the trend in wildlife decline and ensure that wildlife is there for future generations. It is aligned with both national policies and strategies, but also with the Kent Nature Partnership's recently updated Biodiversity Strategy 2020 to 2045.

The BAP identifies key objectives, targets, and Key Performance Indicators (KPIs) and provides a series of Landscape Focus Areas (LFAs) with an overarching management plan demonstrating from start to finish how KPIs can deliver real gains for wildlife, in a way that makes best use of our existing resources.

Following a five year baseline survey of the line, we are now embarking on a ten year survey schedule. This also focuses on engagement with the wider community and stakeholders / partners to maximise county-wide resources and skills, as well as ensuring long-term legacy.

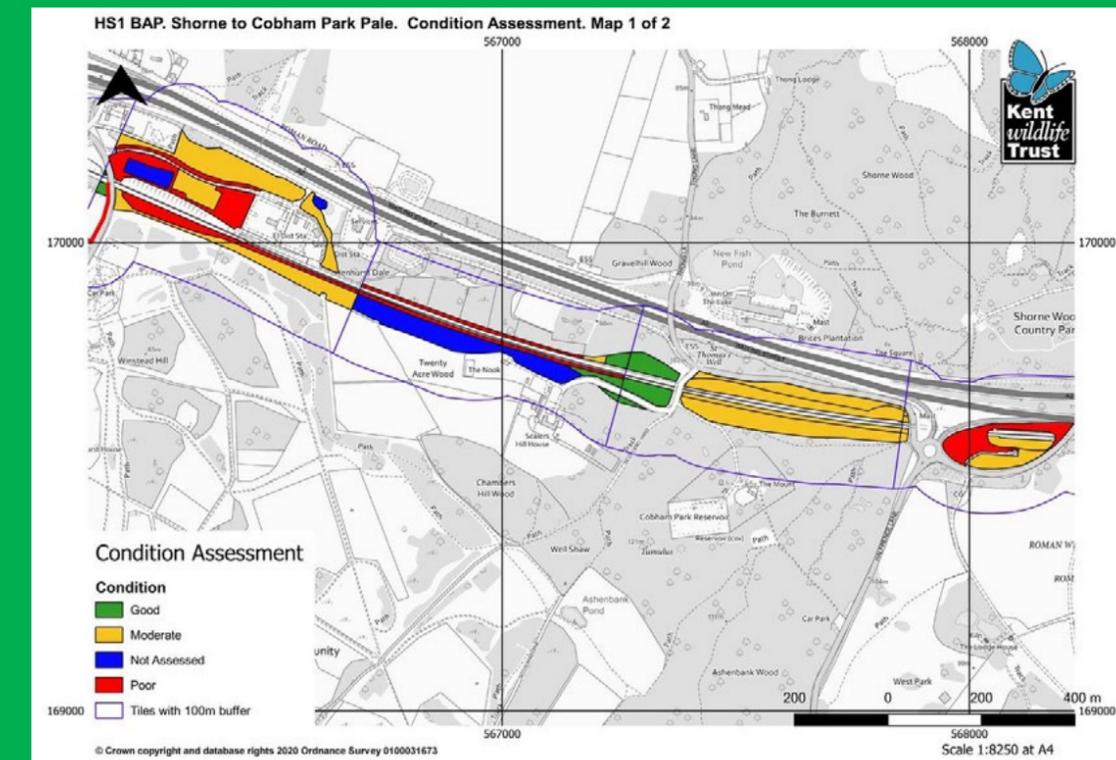
The BAP, GMP and LFAs provide a much-needed framework for delivery of biodiversity net gain and reflects a true desire to drive cultural change within the rail industry and to reflect today's concerns regarding sustainability.



The BAP for HS1 is an exemplar on how to plan for biodiversity and treat lineside vegetation as a real asset. The nature of such areas where wildlife can thrive, if treated in such a way across the rail network, would be a hugely significant stride for wildlife in the UK.

Vincent Ganley MD
Kent Wildlife Trust

A sample of biodiversity files which have been assessed and ranked



ROADMAP TO 2030 BIODIVERSITY



To deliver a 'Biodiversity Net Gain' (BNG) by 2030/31, based on the 2020/21 baseline.



To further support our 2030/31 target, we will assess the quality of the 136 areas of habitat, known as 'tiles', that we have for HS1.

Each will be rated 'good', 'moderate' or 'poor' and the approach will be:

- Good to be maintained as good
- ↑ Moderate to be moved to good
- ↑ Poor to be moved to moderate

We manage a diverse estate, from central London to the Garden of England (Kent). We are committed to maintaining a healthy and diverse natural environment.

Under the requirement of the Channel Tunnel Rail Act 1996 we have an obligation to protect and enhance the lineside habitat. Our partners Network Rail (High Speed) and Kent Wildlife Trust will survey our natural assets in 2021/22 and develop a baseline on which to deliver a net-gain by 2030/31.

The full survey will identify if BNG by 2030/31 is achievable and if not, what can be delivered. Monitoring will be carried out based on the habitat type and will range between one to five years.

INSIGHT: OUR APPROACH TO AIR QUALITY

We will assess our contribution to air pollution in and around our stations & trackside, to develop a plan to reduce and mitigate abrasion and particulate pollutants.

Our target is zero land pollution incidents, which we will continue to monitor.

Biodiversity action plan & GIS/recording system agreed
BNG metric agreed & gap analysis undertaken
Landscape focus areas habitat surveys completed

2021 /2022

2022 /2023

Pollution reduction plan/pathway implementation underway
Biodiversity baseline set (file assessment & partnership assessment)
Update plan for moderate files to good, and poor files to moderate quality developed

2023 /2024

St. Pancras to Ebbsfleet habitat survey complete

2024 /2025

Biodiversity no net loss assessed, and further enhancement plan agreed

2025 /2026

Report annually on BNG through to 2030

2027 /2028

Second round of improvement actions completed

2030 /2031

BNG reviewed against 2022/23 baseline

BNG plan in place and regularly measurable
beyond 2030

Our ambition to deliver a biodiversity net gain contributes to the United Nations Sustainable Development Goals (UN SDGs). Our biodiversity roadmap contributes to **Goals 14 and 15 Life** below, Water and Life on Land through enhancing the biodiversity of the area on and around our track and stations.

Our reduction on our contribution to air pollution contributes to **Goal 3** Good Health and Wellbeing.



● External Milestones

Enhancing Biodiversity

We are working towards a sustainable **increase in wildlife habitats and diversity** across the GB rail network and **improving air quality.**





06 SOCIAL IMPACTS

SPOTLIGHT: OUR SIX PRIORITIES



Our ambition

At HS1, being a great neighbour to our local communities is a high priority for us. We contribute our time, expertise, and resources to create positive social value for our lineside, station and depot neighbour communities.

Targets



Contribute 700 hours of staff time, each year, to local communities and charity activities related to HS1's activities by the end of 2022/2023.



Report measurable social impacts delivered by end 2025/2026.

HEADLINE FIGURES FOR 2020/21

 **435**

hours of volunteering and pro bono



 **£47.9k**

£47,900 - donations and in-kind value

We are a small organisation (under 60 employees) and contributing to the local community and the rail sector is important to us. It aligns with our 'punching above our weight' value and contributes to the two Investors in People accreditations we have recently received; We Invest in People and We Invest in Wellbeing, where we were awarded Gold standard.

In 2020/21, our volunteering and pro bono time dropped due to the restrictions from the COVID-19 pandemic and the inability to deliver face-to face support. However, we still achieved an impressive contribution and our aim for 2021/22 is to get back to our pre-COVID levels.



SOCIAL IMPACTS

Actions taken in 2020/2021

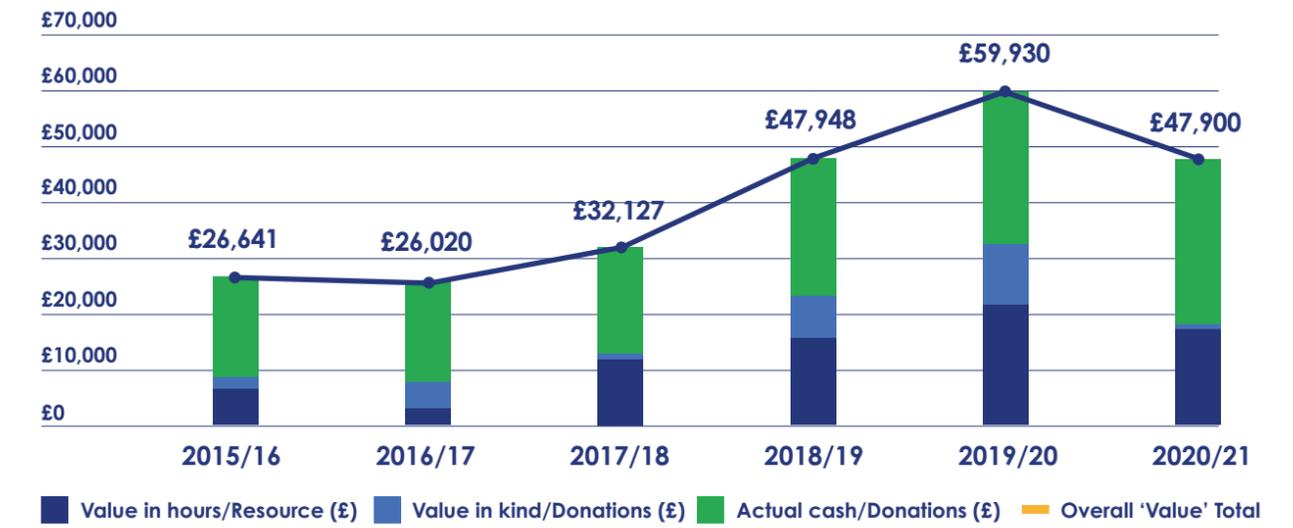
- We included a requirement for sustainability in everyone's employee objectives.
- We delivered 435 hours of mentoring for Women in Rail and ORT UK; coaching by several staff including our CEO Dyan Crowther; providing trustees and Chairs to the Camden Business Board and rail industry groups.
- We have continued our contribution to Urban Partners including providing their Chair.
- Our payroll giving, donations and time/gifts in kind is at a value of £47,900 provided to numerous charities including The Youth Hostel Association, Cystic Fibrosis Trust, Pathway, BTP Retired Dogs, Railway Children, Camden Giving, Fareshare, Ben Saunders Foundation, Pancreatic Cancer and The Royal Marsden Cancer Charity.

Focus for 2021/2022

- Increase our contribution towards 700 hours of staff time to local communities and charity activities.
- Develop a wellbeing programme for our staff.
- Progressing our Equality Diversity & Inclusion charter and our mental health charter.
- Identify potential new charity partners to increase our reach.
- Research and agree on an impact methodology to measure the benefits of the activities and assess our social value outcomes.
- Create a plan to report our social value in a reporting system in 2023/24.

OUR CSR DONATION VALUE: IN HOURS & IN KIND

HS1 CSR Donation Report



HS1 Staff Hours Donated



CASE STUDY

SUPPORTING OUR COMMUNITIES

Station cafés donate food to lorry drivers stuck on M40

On a few nights in the lead up to Christmas 2020, a large number of lorry drivers were stranded on the M20 in Kent during Operation Brock. The St. Pancras International station team worked alongside Southeastern Railway to get food donated by the station's cafés and food brands (EL&N Café, Le Pain Quotidien, Marks & Spencer, PAUL Express, Pret and Starbucks) to the lorry drivers caught up in the delays. The food was taken by Southeastern high speed via the HS1 line to Ashford International where The Salvation Army and the UK Coastguard were able to distribute to lorry drivers overnight.



CASE STUDY

SUPPORTING COMMUNITIES

SUPPORTING OUR LOCAL COMMUNITIES IN CAMDEN

Urban Partners

Urban Partners is a voluntary business partnership of organisations in the Euston, King's Cross and St. Pancras area. The members range from global corporate organisations to local independent businesses, spanning sectors such as transport, technology, media, hospitality and more.

The members commit funds, expertise, and time to deliver initiatives that benefit the local neighbourhoods for those working, living, studying and visiting the area.

THE PRIORITIES ARE:

Benefiting employees

Representing our businesses

Engaging the next generation



HS1 sponsors the Women in Rail: Best Graduate Programme award

The rail industry is facing a shortage of engineers. Our company, driven by our CEO Dyan Crowther, is passionate about encouraging women into the sector, especially engineering, so becoming a lead sponsor for the Best Graduate Programme award with Women in Rail underpins our commitment to creating great job roles and supporting the future of the rail industry.

The 2020 winner was The Rail Delivery Group (the main rail industry forum) for their programme where graduates can experience different parts of the industry and the wide range of engineering roles in rail. Given its cross-industry focus, and the age profile time bomb of engineers who will exit the industry in the years to come, the programme cleverly addresses a real issue in rail.

The extensive coverage of the award in the press and social media enables us to encourage women into rail and help to plug a future gap in the jobs market.

We are sponsoring this award category again in 2021 and will continue to promote the rail sector as a great place to work and grow your career.



CASE STUDIES

SUPPORTING OUR COMMUNITIES

The Red Box Project: “FIGHTING PERIOD POVERTY”

The Red Box project is a voluntary scheme where organisers collect donations of sanitary products and clothing which they distribute to young women who may not be able to afford, or do not have, sanitary products at school.

HS1 identified a volunteer group based near to Ashford International (one of HS1's four railway stations) who collect and distribute the collected products each month to 20 schools, youth centres and outreach centres in the Ashford area. In April 2019, our staff made five donations of sanitary products (circa £45 worth of donated product per donation).

This filled a gap between the announcement and roll-out of the new Government funded distribution scheme. As the Government initiative gained speed and the need decreased, we donated surplus stocks (circa £150 worth of goods) to the Crisis @ Christmas fund in December 2019, which distributes supplies to homeless people around London.

Complimenting this, one of our members of staff volunteered for three days at the Crisis @ Christmas Centre, raising over £1.8K (including a contribution from HS1 Limited of £400) in donations in the process.



DELIVERING ANOTHER CONTRIBUTION TO THE RED BOX PROJECT ASHFORD

JOSIE MURRAY
HS1 Senior Heritage Advisor

ROADMAP TO 2030 SOCIAL IMPACTS



Contribute 700 hours of staff time each year to local communities and charity activities related to HS1's activities by the end of 2022/23.



Report measurable social impacts delivered by 2025/26.

We demonstrate our leadership by providing a positive contribution to the communities in and around our stations and lineside, by giving our time and expertise to enable those communities to flourish.

We will continue to contribute time, expertise and resources in order to build and sustain a thriving urban neighbourhood that is a good place to work, live and do business.

We work to understand our noise impacts and put a mitigation plan in place to reduce the noise levels and impact on our neighbours.

INSIGHT: OUR SOCIAL IMPACT

1

We will continue our current work with organisations such as Urban Partners which HS1 Ltd helps fund as one of its members.

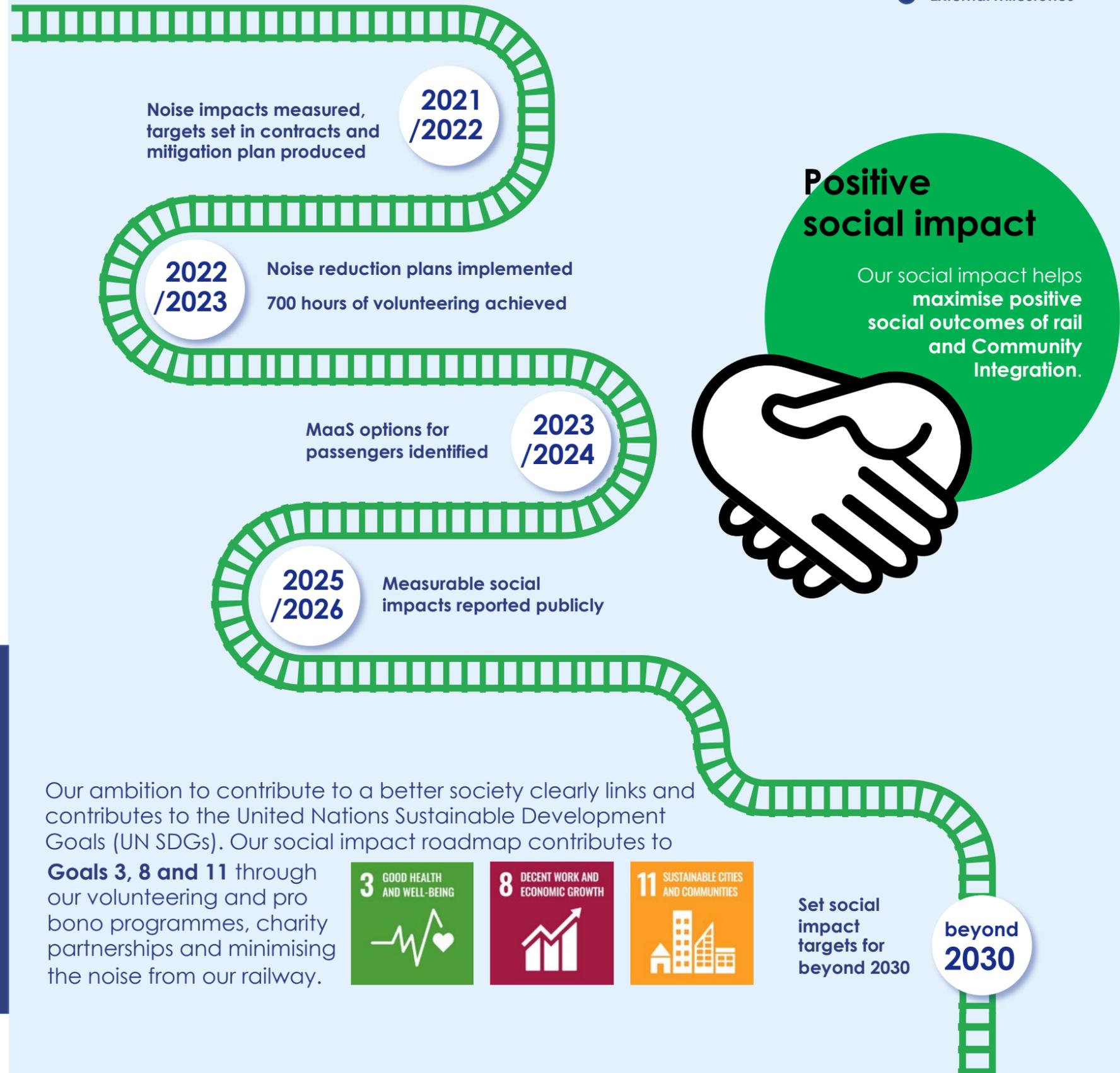
2

We will identify additional partner charities which align to our Sustainability Strategy and support the work they do.

3

We will look to identify a suitable social impact methodology to report our impacts against beyond just the hours we contribute.

External Milestones



Our ambition to contribute to a better society clearly links and contributes to the United Nations Sustainable Development Goals (UN SDGs). Our social impact roadmap contributes to

Goals 3, 8 and 11 through our volunteering and pro bono programmes, charity partnerships and minimising the noise from our railway.



Set social impact targets for beyond 2030

LOOKING AHEAD TO 2022 AND BEYOND

“ At HS1 Ltd, our aim is to be the world’s leading high-speed rail experience, providing the most sustainable option for transport across the UK and Europe.

This report illustrates how far we have come since we started our collective sustainability action journey in 2019 and puts us on track to deliver the Company’s 2030 Vision.

Our highlights include achieving 100% zero-carbon electricity and reducing our carbon emissions by 80%, amongst the significant progress we have made in waste disposal and supporting our local community through pro bono opportunities.

Like the rest of the world, the COVID-19 pandemic has raised huge challenges over the past year but our commitment to becoming the most sustainable way to travel in the UK and beyond remains stronger than ever.

We know we still have a lot of work to do, and looking ahead, we see the COVID-19 pandemic as a turning point in how we travel, move goods and do business.

There is an opportunity for us to truly reset the way we move around, making it easier for passengers to choose sustainable transport options that deliver from a speed, convenience, carbon, and service point of view.

Our involvement at The Investment COP towards the end of the year is another exciting opportunity to progress our Sustainability Strategy and calls for an annual modal shift of 4.9 million people from planes and cars to high-speed rail. Critically, it will also allow us to speak to a wider group of people about how we can expand and improve the HS1 system to bring about the modal shift.

We are well underway with our action plans for 2022 and beyond. We have developed detailed roadmaps for each of our sustainability priorities which show what we are planning to do.

This includes rolling-out dashboard reporting across our priorities, developing a renewals plan to transition away from gas, contributing 700 hours of staff time to local communities and charity activities and creating a plan to divert all construction/fit out waste from landfill.

We will continue to develop our TCFD reporting following a full climate change risk assessments on our infrastructure.

At HS1 we are not working in isolation, we are actively involved in industry working groups as we share knowledge and expertise. We have helped shape rail industry sustainability strategies and ensured that we are aligned so that the work we do is much more impactful.

I am proud of what we have achieved over the last year and I am looking forward to working collaboratively with our existing and new partners over the next year and reporting back on our efforts. I would also like to thank QSA Partners for their support in driving sustainability forward at HS1.



Steven Van Niekerk
Head of Assurance and Sustainability



KEY FACTS & FIGURES

FINANCIAL YEARS 2019 TO 2021 AT A GLANCE

* Passenger numbers for 2020/21 we were impacted by the COVID 19 pandemic, and the data used for passenger numbers in previous year was not deemed accurate. Passenger numbers used for 2020/21 were notional and although not fully accurate, provide a clearer picture than the historic methodology.

	2019/2020 fin yr	2020/2021 fin year	Reduction
Scope 1 Emissions (direct emissions from owned or controlled sources)	1,511 tCO ₂ e	1,681 tCO ₂ e	11% increase
Scope 2 Emissions (indirect emissions from the generation of purchased electricity, steam, heating & cooling)	11,682 tCO ₂ e	7,653 tCO ₂ e	34%
Scope 3 Emissions (all other indirect emissions that occur in a company's value chain)	1,275 tCO ₂ e	875 tCO ₂ e	31%
Total gross Carbon emissions	14,468 tCO ₂ e	10,209 tCO ₂ e	29%
Carbon offset due to REGO/PPA		7378tCO ₂ e	
Net emissions	14,468 tCO ₂ e	2831 tCO ₂ e	80%
Electricity use	45,705 MWh	32,825 MWh	14%
Gas use	8,216 MWh	9,142 MWh	11% increase
Kg CO ₂ e per user (net)	0.270 kg CO ₂ e per user	0.360kg CO ₂ e per user	Increase 33%
Waste arisings	3124 tonnes	510 tonnes	2614 tonnes
Waste recycling	52%	54%	2%
Waste to landfill	4 tonnes	8 tonnes	4 tonnes increase
Water use	46,997 m ³	9,613 m ³	37,384 m ³
Volunteer hours	538	435	103 hour decrease
Traction energy per passenger	3.4KWh	20.3KWh	16.9KWh increase
Traction energy per train journey	2,426kWh	2,295kWh	0.131 KWh decrease
Non traction energy total (excluding diesel)	Electricity: 38,009 MWh Gas: 8,216 MWh	Electricity: 32,824 MWh Gas: 9,141 MWh	Electricity: 14% Gas: -11%
Non traction energy per m ²	262kWh/m ²	237kWh/m ²	25KWh/m ² decrease



ESG REPORT

2020/21

