

Introduction

HS1 launched its original sustainability strategy in Autumn 2020 with a plan to review it after two years. We did this to ensure that our targets were still relevant, ambitious, and achievable.

Our original strategy was initially designed to provide us with an understanding of the context HS1 Ltd found itself in regarding its sustainability, which would help inform the targets it set.

We benchmarked our sustainability performance and ambition against a range of comparators. Comparing our progress to others in the market, it is clear that HS1 continues to make great strides on sustainability. It is worth celebrating this fact and the progress HS1 has made.

The need for action remains as urgent as ever. As attendees of COP26 and hosts of cross sector workshops, we understand the urgency and the need for action. Our infrastructure provides a significant opportunity for decarbonisation and our strategy sets out how we plan to support the global shift to a low carbon economy through a modal shift to rail.

We will continue to challenge the status quo, pushing for significant sustainability gains in the market, and look to inspire our industry and those beyond it to take action.



How we are driving sustainability within the HS1 system

As we look to deliver progress on sustainability matters, we are continually looking to better understand how we can deliver progress more effectively, and help the wider railway system as a whole to deliver progress too. This has led us to develop several strategic priorities to understand and categorise our work by.

For each of our strategic priorities we have identified our key stakeholder groups and how we will work with them to achieve our targets, objectives and ambitions. Our work with stakeholders will fall into three types of activity.

Since the inception of our strategy in 2020 we have focussed on baselining our position and driving sustainable improvements in what we do. As we have started to achieve our targets and objectives, the strategy will look both at improvements and ongoing activity. This approach will allow the strategy to evolve and drive wider improvements within our identified six priority areas.

We will continue to monitor our progress and will report our performance in our annual ESG reports.

How we communicate with our stakeholders is vitally important. To support this, we have set up a charter so that we are all able to champion sustainability together where appropriate. We will also communicate with the people who use our infrastructure to educate them on the benefits of high speed rail and how the HS1 system is working to improve our sustainability credentials.

We have set out the context behind this update to our strategy, and an overview of how we're trying to deliver sustainability. Based off of this, the following pages will go into specific detail on areas of our strategy and how we're delivering against them. This includes providing a roadmap of the next steps we're taking in each of these areas to achieve our goals.

Purpose

To manage a high speed rail system, connecting London, Kent and Europe that is good for communities, business and especially the environment.

Vision

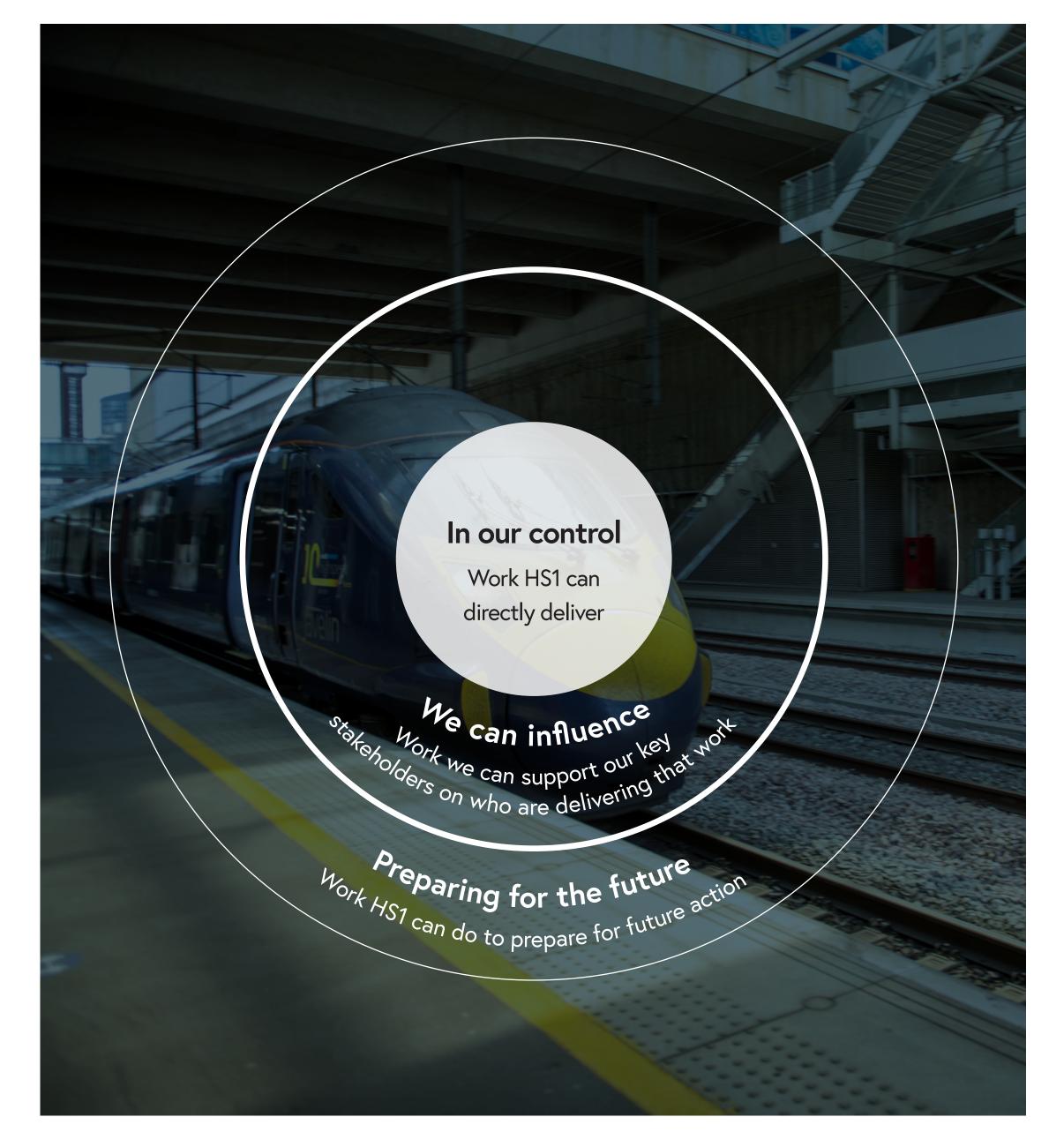
Rail travel is everyone's number one choice.

Mission

Getting people to fall in love with high speed rail travel.

Values

BE AMBITIOUS | BE COLLABORATIVE
BE TRUSTED | BE SUSTAINABLE





Climate change and adaptation

We understand that our railway has an impact on the environment. Therefore, we strive to operate to the highest sustainability standards to minimise our environmental impacts. Over the past year, HS1 has implemented policies and strategies to reduce our emissions and maximise our use of renewable energy.

2020 strategy targets

- Traction energy to be net-zero by 2030.
- HS1 non-traction energy use to be net-zero carbon impacts by 2030.

Are these targets still relevant?

Yes, we must improve our understanding of how we will achieve all of the net zero aspects and build on our assessment and plans for adaptation to climate change and severe weather impacts.

Progress so far (2020-2022)

We have had huge success in meeting targets and also going beyond. Our successes include:

- Scopes 1 & 2 and part of 3 have been assessed and reported against.
- Adaptation assessments have been completed and plans are in progress and on track for 2024-2025.
- SBTi validated & ahead of original plan.

Proposed strategy improvements

Refine Scope 3 understanding and measurement.

Understand our non-energy carbon impacts and where/how they can be made net-zero.

Develop an overall net zero action plan.

Understand the adaptation scenarios based on various climate change scenarios.

Proposed target enhancement

Condense all energy carbon emission targets into a combined 2030 net-zero target.

Develop a climate adaptation plan which will inform future target setting on adaptation readiness and investment.

2022 REVISED STRATEGY TARGETS



Develop adaptation strategy and implement.



All HS1 energy to be net-zero carbon.



HS1 wider emissions to be net-zero (GHG protocol).

In our control

- Carbon reductions of energy and wider emissions (all scopes).
- Carbon impacts of physical resources we procure.
- Define capital investment programme for adaptation to climate change scenarios.
- Develop plans for extreme weather events.

We can influence

- Carbon impact of energy we procure on behalf of the HS1 system.
- Increase passenger and freight use on network.
- Develop baseline for all scopes, identify reductions and create an action plan.
- Communicate carbon reductions achieved in stations and offices.

Preparing for the future

- Develop action plan to transition to a zero carbon economy.
- Define the level of adaptation necessary and the associated likely costs.
- Determine the carbon impact of successful modal shift to support business change.

Roadmap to 2030: Climate change and adaptation

The total carbon emission from the HS1 system from energy was 34,404 tonnes (excluding traction power) in 2019/20.

Emissions from energy account for our largest impact and addressing this has been our first priority in reducing our overall carbon footprint. Now that we have robust plans in place and we are reducing these emissions, we will start to tackle our wider emissions and, following detailed analysis, we will develop reduction plans.

The HS1 infrastructure is vitally important as the only rail link between the UK and mainland Europe. The infrastructure provides high potential for a reduction in carbon emissions. Ensuring that it remains fit for purpose is essential. We will continue to develop our climate resilience plans based on assessments into potential future weather impacts.

Net zero carbon

All HS1 energy to be net zero carbon impact by the end of 2030/31.

Net zero emissions

All HS1 emissions to be net-zero.

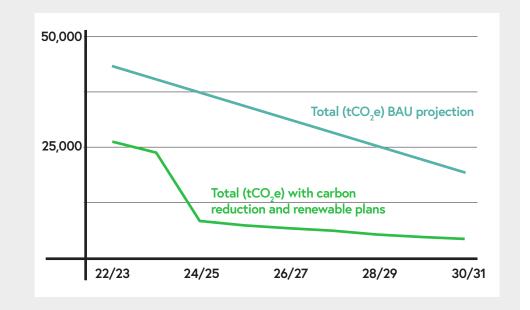
Adaptation strategy

Develop adaptation strategy and implement.

GLIDE PATH

Net zero carbon energy reductions

Our current plans will see us reduce our energy emissions significantly by 2030/31. We have set a target in 2026/27 to develop a plan to address the residual carbon emissions from energy, once we have implemented our cost-efficient CPPAs and are more progressed in our reduction and onsite renewables plans. In doing so, we will look to reduce our emissions as far as reasonably possible before considering offsetting.





Ongoing activity

Maintain Achilles Reduce Carbon certification or similar to externally validate energy and carbon data and claims

- CPPA 2 implemented (up to additional 40% of electricity)

- Adaptation plans implemented

2023 /24

2024

- CPPA 1 fully implemented (40% of electricity)
- Full carbon footprint measured
- Review results of the Rail Carbon Tool
- Implement and review potential for carbon 'insetting' via the KWT Carbon Plus Habitat Tool
- CCRA consulted with supply chain
- Develop outline CC&A strategy linking to 5YAMS
- Set embodied carbon target
- Detailed adaptation plans developed
- supply chain own, HS1 assure

2026 /27

- Scope 3 reduction plan implemented
- Evaluate effectiveness of reduction measures and CPPA coverage

- Develop residual carbon reduction plan

- CCRA Review (ARP4)

dual plan

29

- Gas boilers renewed with heat pumps
- Set process to support CP5 CCRA (2028/29)

029

2030 /31

- HS1 net-zero carbon energy





Energy Management

HS1 is committed to reducing electricity used to power HS1 trains and through our portfolio. We continue to embed programmes into our business and supply chain to reduce our energy consumption and improve energy efficiency. HS1 is also transitioning to Corporate Power Purchase Agreements (CPPA) to ensure we use certified renewable energy sources, improving the sustainability credentials of our energy.

2020 strategy targets

Reduce traction 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.

Are these targets still relevant?

Yes, they are material and vital to HS1 however the two non traction metrics will not differ and a different normaliser may be beneficial.

Additionally, the target to reduce energy per passenger by 25% may be too ambitious.

Progress so far (2020-2022)

Energy sources successfully in transition to low-carbon alternatives.

Metering and measuring of energy consumption with underpinning behavioural change actions through a 10-year energy management plan.

Regenerative braking implementation on domestic fleet complete.

Route & station energy reduction groups created.

Proposed strategy improvements

Develop an energy strategy, including:

- Costed reduction plans with timescales.
- Ensure sub-metering monitors the transition from fossil to renewable energy use.
- Rationalise and align non traction energy targets with SECR and SBTi.

Evaluate the effectiveness of energy reduction measures and the potential energy reduction per passenger percentage.

Proposed target enhancement

- Overall the targets are still ambitious and remain relevant.
- Align energy targets with SECR and SBTi reporting.

2022 REVISED STRATEGY TARGETS



Reduce traction energy per passenger journey by 25%.

Reduce traction energy per train journey by 10%.

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

Reduce non-traction energy consumption by 10% per £ revenue.

In our control

- Gain full understanding of what energy reductions are possible and what schemes are needed to reduce consumption, based on business cases.
- Support regen braking for TOCs & estate energy system actions.
- Develop a HS1 energy dashboard and publicise internally.

We can influence

- Increase passenger and freight use on the network.
- Review case for energy reduction, capture and storage.
- Procurement of ultra-efficient services & products.
- Install an 'energy-o-meter' in stations & HS1 offices.
- TOC energy reduction e.g. regenerative breaking, driver training etc.

Preparing for the future

- Review and publish energy standards for operations, maintenance and renewals including retail.
- Significantly reduce traction energy use through influence of modal shift.

Roadmap to 2030: Energy Management

Traction energy is our biggest source of power consumption and impact. The trains are operated by the TOCs and we will influence them to operate in a more energy efficient way.

For all other energy, we will work with our employees, partners and suppliers to identify and implement measures to reduce energy use.

Across our estate and stations, we are working with our partners to identify and implement energy efficiency measures and ensure these are embedded into the procurement of future estates, new builds and refurbishment programmes.

Traction energy

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

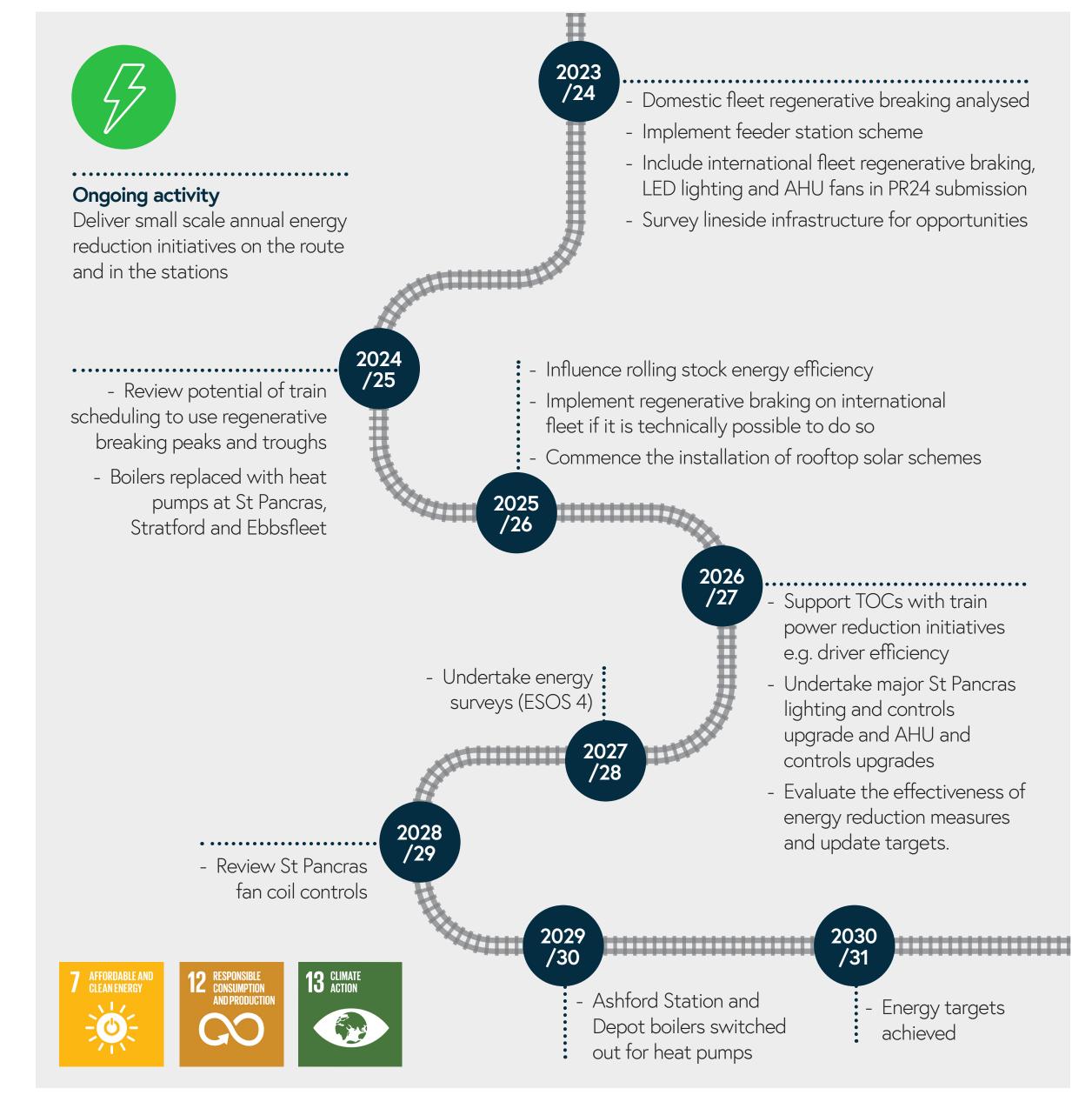
Reduce traction energy per train journey by 10% by 2030.

Non-traction energy

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

Reduce non-traction energy consumption by 10% per £ revenue by 2030/31.

NON-TRACTION AND TRACTION GLIDE PATHS Traction Non-traction 1% worse **Energy per journey** than target 39% better than target 16% worse Non-traction than target 22/23 24/25 26/27 28/29 30/31 22/23 24/25 26/27 28/29 30/31





Resources and waste impacts

HS1 strives for continual improvement in minimising water usage and waste produced and increasing the efficiency of materials used in construction and operation. We are moving towards embedding circular principles and discussing these with our supply chain to ensure we continue to reduce our environmental impact and operate in the most sustainable manner.

2020 strategy targets

Zero non-hazardous waste to landfill from regular operations & projects by 2022/23.

90% recycling of operations and project wastes by 2023/24.

Are these targets still relevant?

Yes, but they need expanding: at present there is no emphasis to reduce the amount of waste generated or encourage supply chain (inc TOCs as well as retail) to prevent waste being generated.

Progress so far (2020-2022)

We are working with partners and contractors to identify more opportunities to reduce and divert more waste from landfill and set these in contracts/charters.

We have developed an HS1 materials standard which is aligned to industry best practice and innovation.

There are water reduction and pollution risk plans with monitoring in place.

Proposed strategy improvements

We must identify opportunities to reduce consumption of resources and prevent waste.

These might be back-office or retail locations, and are likely to require traveller/customer behaviour influence as well as influence over supply chains including retailers and TOCs etc.

Proposed target enhancement

In addition to the existing targets, add:

- By 2025, develop a waste prevention plan. This may have phases of implementation - e.g. to 2030, 2035 etc.
- By 2024, define a separate hazardous waste plan and reporting targets.

2022 REVISED STRATEGY TARGETS



Zero non-hazardous waste (direct) to landfill from regular operations & projects by end of 2022-23.



90% recycling of operations and project wastes by end of 2023-24.



Develop a circularity and minimisation plan for stations and depot, and implement the plan.

Understand hazardous waste and waste indirect to landfill – include in waste minimisation.

In our control

- Set standards in retailer guides, supplier contracts, station access agreements etc to reduce consumption of materials and resources.
- Ensure all HS1 facilities support TOCs & retailers to implement best practice.
- Understand waste and materials profiles.
- Develop and implement circularity and minimisation principles.

We can influence

- User behaviour influencing in offices, retail settings and passenger spaces.
- Set zero waste requirements to all relevant projects.
- Facilitate sustainable packaging for service and passenger operations.
- Promote positive sustainability within system users e.g. retailers.

Preparing for the future

- Constant monitoring for radical innovation that tackles resource use.
- Set up and use data insights to tackle waste streams.
- Promote sustainable retail options.

Roadmap to 2030: Resources and waste impacts

Given the growing scarcity of natural resources, HS1 is limiting its impacts by moving towards a circular economy.

This includes improving our design and maintenance programmes, reducing extraction of virgin raw materials, implementing efficient techniques, adopting effective behaviour patterns, and reusing and recycling.

To reduce our environmental impact, we aim to reduce waste throughout our assets and through our supply chain, including waste generated from construction and operations.

Recycling

90% recycling of operations and project waste by the end of 2023/24.

Landfill profiles

Understand hazardous waste and waste indirect to landfill profiles by end of 2023-24 and then develop a plan to reduce by end of 2024-25.

Circularity plan

Develop a circularity plan targeted at all key resources for stations and our depot by end of 2023-24 and implement the plan by end of 2024-25.

INSIGHT

How we will achieve our targets

For the last two years we have looked to increase our recycling rates across the HS1 estate. As we start to drive towards a 90% recycle rate, we will move our focus to circularity and resource minimisation.

We will reduce the amount or raw materials we consume and reuse/repurpose where possible.

Through embedding these principles, we will develop further targets and measure our success against them.

Our key activities to achieve our target of 90% recycling rate will be to focus on segregating waste at source and building in the systems across our infrastructure to support segregation.



Ongoing activity

Zero non-hazardous waste direct to landfill from regular operations & projects

- Achieve a recycling rate of 90% for operations and project waste
- Circular economy opportunities identified and assessed
- Circular economy projects selected and implemented

CHIIIIIII TO

- Collate data on hazardous waste and waste indirect to landfill. Build solutions through circularity and minimisation

- Influence system focus from recycling to minimisation
- Evaluate the success of circularity projects and roll out more widely where appropriate

- Continue to implement circularity and minimisation principles











Biodiversity

HS1's estate covers a wide area, from central London to Kent, and we are committed to protecting and enhancing these natural environments. Our work with partners, including the Kent Wildlife Trust, ensures we monitor species progress, update our biodiversity baseline, and ensure our lineside habitats support and enhance biodiversity.

2020 strategy targets

Achieve 20% biodiversity net gain on the 135 lineside tiles by 2030 compared with a 2021 baseline.

Are these targets still relevant?

Yes, HS1 has "stewardship" of the land we use: we are responsible landlord and neighbour. In future, we must distinguish ourselves from other infrastructure projects (e.g. HS2 with its biodiversity no net loss target).

Progress so far (2020-2022)

We have made significant progress: a biodiversity baseline has been set.

Biodiversity Tile quality has improved in line with targets.

We have completed surveys and reviews to help deliver Biodiversity Net Gain.

Proposed strategy improvements

We need to consider how our biodiversity plans are sensitive to climate adaptation needs, including species loss and resilience.

This is linked to the climate change and adaptation activities.

Consider the possibility of carbon 'insetting' aligned with the net gain ambition.

Proposed target enhancement

- Target remains effective and appropriate as its been upgraded to 20% BNG during the last 2 years.

2022 REVISED STRATEGY TARGETS



20% BNG compared with the 2021 baseline.

In our control

- Continue to deliver our existing plan through the time land management approach.
- Deliver a plan linking biodiversity objectives with future ecosystem resilience.
- Review the effectiveness and delivery of our plans to assure that they will meet the target.

We can influence

- Continue to develop our reputation as a good neighbour.
- Remain vigilant on noise and pollution of HS1 activities (within the local context).
- Create interactive ways to engage communities to interact with our biodiversity assets.

Preparing for the future

- Monitor pollution potential and ensure that recovery plans are in place to prevent and recover.
- Leverage mapping software to better understand leading and lagging biodiversity indicators.
- Keep a watching brief on the pollution impacts of high-speed rail and competing modes, and how information is communicated.

Roadmap to 2030: Biodiversity

We manage a diverse estate and are committed to ensuring our spaces are healthy and biodiverse.

Under the Channel Tunnel Rail Act 1996, we have an obligation to protect and enhance the lineside habitat. We have worked in partnership with the Kent Wildlife Trust Consultancy to carry out natural asset surveys, revise our biodiversity baseline, and develop a strategy for lineside assets and habitats. We will continually measure against this baseline to assess our progress towards 20% BNG by 2030/31.

We will achieve this by continually enhancing our landscape management plans and delivering them through the maintenance of our railway.

Biodiversity Net Gain

To deliver a 20% 'Biodiversity Net Gain' (BNG) by 2030/31, based on the 2020/21 baseline.

Biodiversity Net Gain To deliver our ambitious biodiversity improvement programme and achieve a 20% BNG we will monitor our habitat condition in line with best practice. We will monitor key species as indicators of a positive biodiversity asset. Together both metrics will allow us to robustly report against our target.

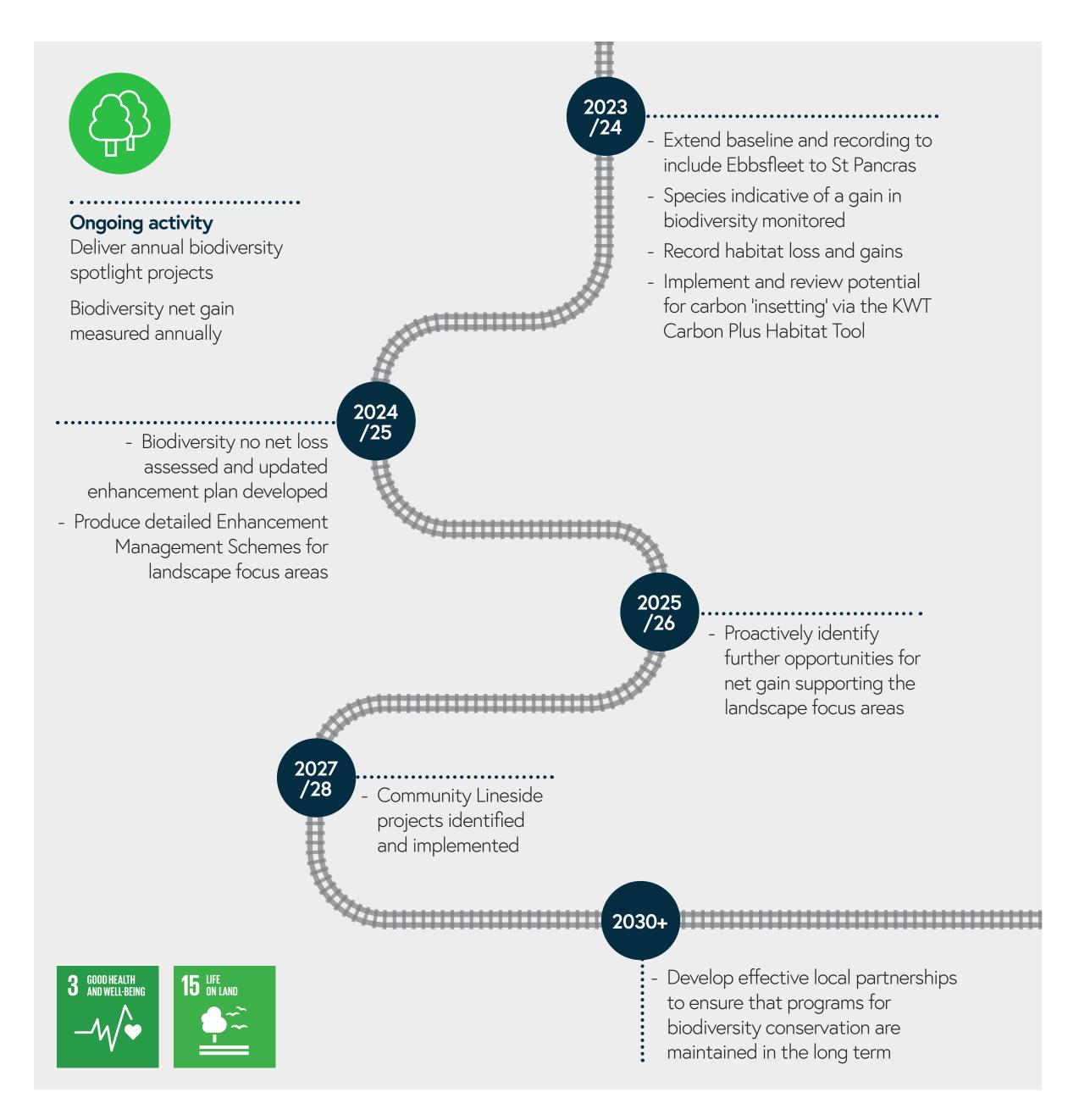
22/23

24/25

26/27

30/31

28/29





Social value

HS1 recognises the importance of understanding and contributing to our communities. Regular volunteering initiatives have been undertaken with organisations to support local communities. HS1 is committed to the development and wellbeing of our employees and seeks to create a thriving workspace for all, as reflected in our People Strategy.

2020 strategy targets

The original targets for social impact were internally focused:

- 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 end 2025/26.

Are these targets still relevant?

The internal targets are satisfactory, but HS1 could broaden its reach to greater social value.

Progress so far (2020-2022)

HS1 has already completed the original 700 hour volunteering target and has met the target for this financial year. This means that these targets will remain as business as usual.

HS1 has investigated social impact tools for measurement but these are generally too cumbersome and HS1 needs something more fit for purpose.

Proposed strategy improvements

HS1 should ensure its supply chains are engaged and aligned with our values. We should consider the impacts of these supply chains and contractors, and consider what due diligence processes to focus on.

HS1 should continue to work with social organisations close to the HS1 estate to support local communities and share our expert skills.

Proposed target enhancement

Modify the 700 hours target to be an ongoing commitment. In addition to the existing reporting target:

- Consider how our asset can be at the centre of driving social value both in the communities that we serve and our supply chain.

2022 REVISED STRATEGY TARGETS



Engage our local communities to interact with our transport hubs.

Inspire young people from our local communities towards railway careers of the future and work toward improving local social mobility.

Protect, enhance, adapt and engage with our irreplaceable heritage assets.

Promote positive EDI, H&S and wellbeing within our workforce, our supply chain and those that interact with our asset.

Embed and influence good business ethics across the HS1 system and supply chain.

In our control

- Including business ethics in our contracts with our supply chain and review due diligence processes.
- Continue to focus volunteering work to support local social organisations aligned to this strategy.
- Use HS1 public areas to better support neighbours and local groups.

We can influence

- Encourage assessment of social value in our supply chain and partners.
- Support and encourage participation of our partners to engage with our local communities.
- Deliver social value through procurement of socially just services.

Preparing for the future

- Magnify HS1's local social value through better co-ordination with charity partners and local communities.
- Remain engaged with industry groups to drive best practice and where appropriate, be an early adopter.

Roadmap to 2030: Social value

We recognise the role HS1 has to play in supporting our communities, valuing and understanding their needs to provide the best quality service.

Business ethics

Embed and influence good business ethics across the HS1 system and supply chain.

Heritage

Protect, enhance, adapt and engage with our irreplaceable heritage assets.

Communities

Engage our local communities to interact with our transport hubs.

Inspire

Inspire young people from our local communities to take up railway careers of the future and social mobility.

EDI, H&S Wellbeing

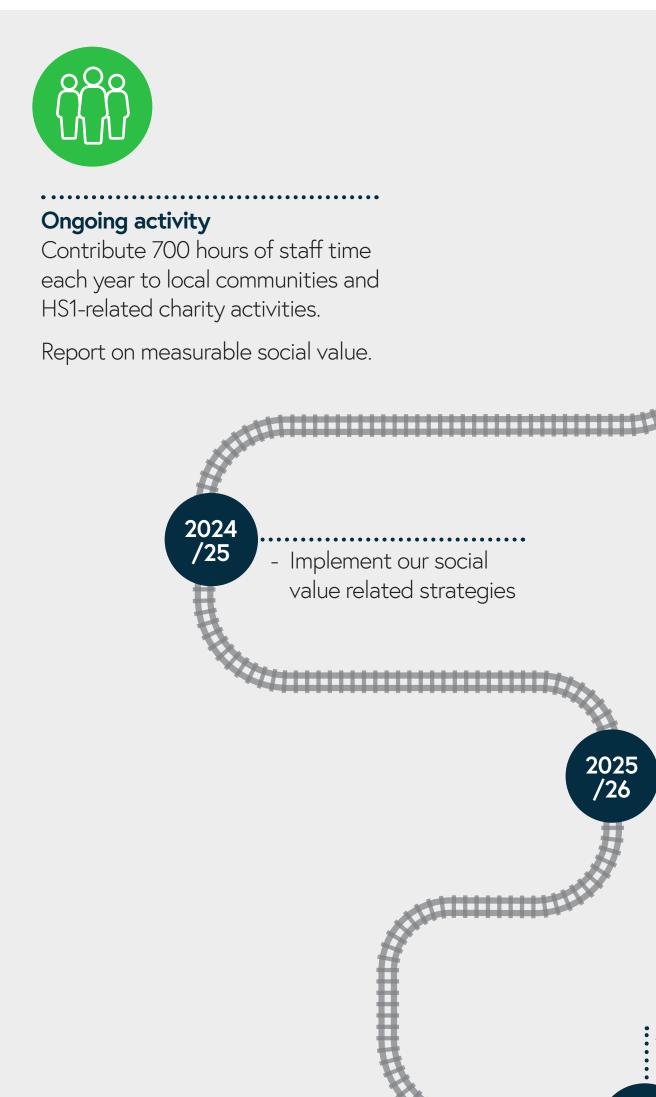
Promote positive EDI, H&S and wellbeing within our workforce, our supply chain and those that interact with our asset.

INSIGHT

How we have developed our social value agenda

HS1 will continue to focus our volunteering activities towards the communities we serve. We will engage locally, both around our stations and line of route, to allow these communities to flourish. We will continue to support our current partners and seek new opportunities to support local charities and establishments.

HS1 will strive to be a leader in how we encourage our supply chain to do the right thing, raising standards for those interacting with our asset.



Q DECENT WORK AND 11 SUSTAINABLE CITIES

Continue to implement our People and Health & Safety strategies - Develop strategies to address: community engagement, heritage and business ethics - Integrate social value with our transport hub approach : - Set social impact targets for beyond 2030 2030



Transparency

We aim to clearly disclose the impact of HS1 on our local environment and communities through regular reporting. To ensure transparency, we have robust monitoring systems that measure and track our progress and monitor performance.

2020 strategy targets

Strong transparency underpins all sustainability activities across HS1. Targets include:

- Full compliance with environmental regulatory requirements and underpin with monitoring systems.
- Report progress annually.
- Embed Resilience Plan reporting, including Task Force on Climate-Related Financial Disclosures reporting.

Are these targets still relevant?

Yes, reporting compliance is essential.

Progress so far (2020-2022)

Significant progress has been made. Two ESG reports were published and all TCFD reporting mechanisms are in place. In addition, sustainability-linked finance has been investigated and a horizon scan of other green financing requirements has been undertaken.

Proposed strategy improvements

We need to emphasis the good work HS1 is doing.

We should share the transparent approach with partners and passengers – we need to test what topics resonate with different key audiences – e.g. energy, carbon, safety, punctuality, time, other benefits.

This move links to the board's focus on influencing campaigns.

Proposed target enhancement

Now that HS1's formal reporting is in place, the targets should include:

- Maintain full compliance with environmental and social regulatory requirements.
- Report progress annually.
- Continually monitor for appropriate transparency framework.
- Consider transparency in championing modal shift to rail.

2022 REVISED STRATEGY TARGETS



Develop a modal shift plan for each HS1 transport hub.

In our control

- Celebrate the benefits of HS rail: focus on carbon & energy with messaging around transparency.
- Own our part in developing modal shift plans for each of our transport hubs.

We can influence

- Encourage supply chain and partners to report openly.
- Influence local stakeholders to engage with us on modal shift plans for our joint transport hubs.
- Communicate performance to passengers and stakeholders.

Preparing for the future

- Prepare for interfacing with live data systems to communicate real-time impacts (carbon, air quality etc).
- Monitor the shift in sustainable messaging in the retail sector, especially real or perceived greenwash.
- Monitor suitability related reporting frameworks and build in best practice.

Roadmap to 2030: Transparency

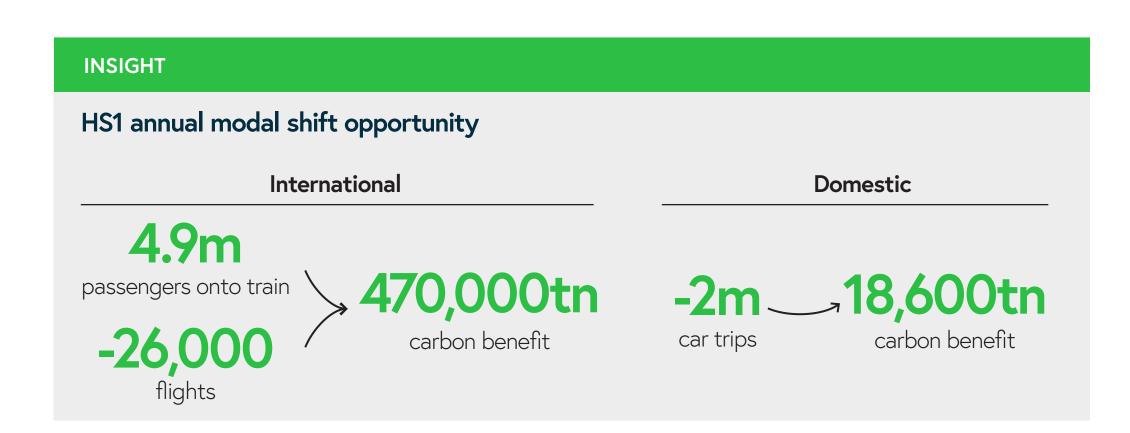
Operating transparently is important to us to ensure we are demonstrating the impact of our organisation on our environment and the communities in which we operate.

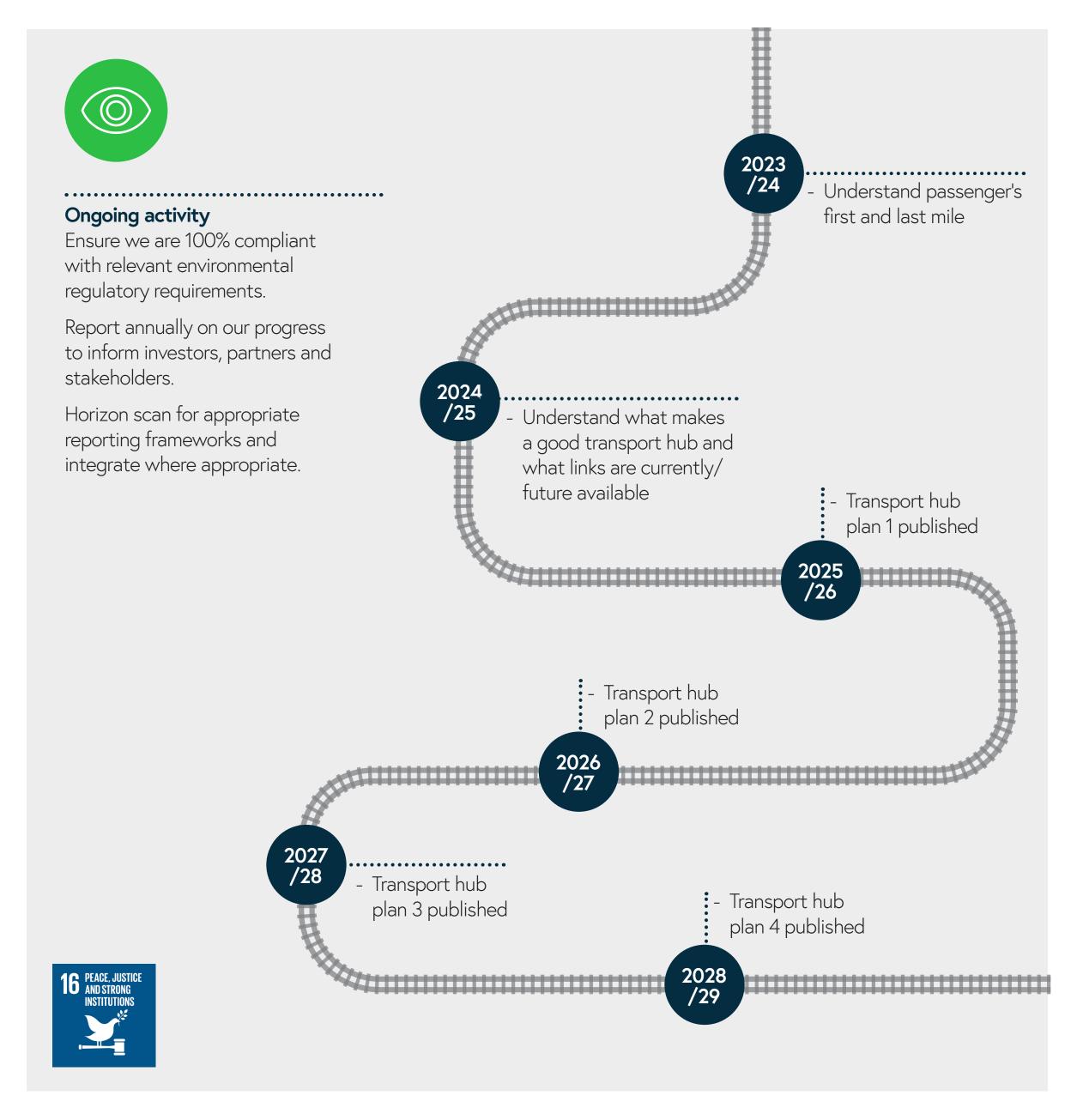
Our regular reporting, against accredited benchmarks and standards, demonstrates our commitment to monitoring. Sharing key metrics allows us to track progress for years to come.

We have included modal shift as our driver for change under transparency and we will look at how we develop our transport hubs to be centres for our communities for years to come.

Modal shift

Develop a modal shift plan for each HS1 transport hub.





HS1 System Sustainability Charter

The HS1 system comprises of separate businesses. Each business has its own approach to sustainability which is detailed in separate sustainability strategies.

There will be considerable overlap between these strategies and in many cases, aligning workstreams will deliver far greater benefits to the system as well as each individual business.

The intent of this charter is to harness a systems approach where these overlaps naturally occur, and amplify the benefits and establish efficiencies through joint working.

The charter does not seek to direct any business to take action outside of its own business plan but rather to support planned work, share good practice and experience, and improve sustainability for the system and the communities it serves.

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Summary of targets

