

Transforming lives, building for the future



HS2 Sustainability Approach
April 2017

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Introduction

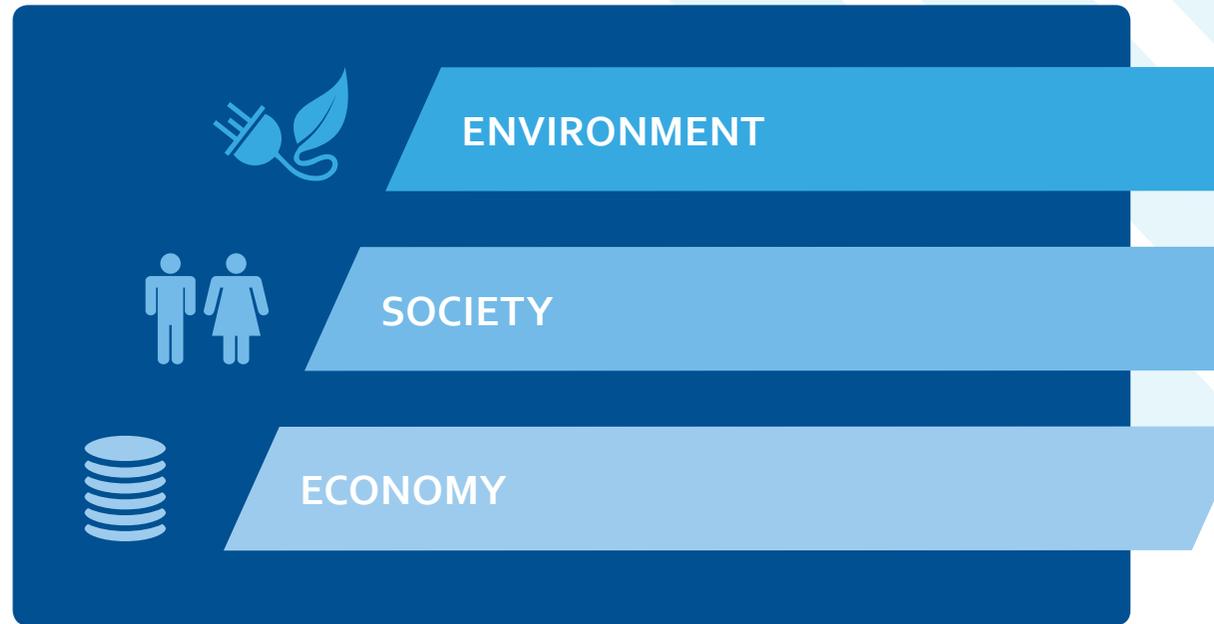
At HS2 Ltd we have set ourselves a high bar. We want Britain to be proud of HS2 by being proud of what HS2 does for Britain: a unifying force that brings the country closer together, with a stronger more balanced economy and a legacy that improves the lives of this and future generations. The watchword of that legacy is sustainability.

We aim to deliver a world-class high speed railway, on time and on budget, that adds capacity as part of an integrated transport system and will set new standards for passenger experience.

In doing so we are determined that HS2 will be an exemplar project designing out and reducing waste, minimising our carbon footprint and protecting Britain's heritage; by having a health and safety culture where no one gets hurt; and by building the skills of the UK workforce to provide opportunities and new careers that will be open to all parts of society.

Our strategic goals are set out in our Annual Report. The report recognises we will only be successful in this huge undertaking if sustainability is embedded in our DNA.

We will only be successful in this huge undertaking if sustainability is embedded in our DNA



As the biggest and most ambitious infrastructure project in the UK, HS2 presents a great opportunity for businesses, big and small to compete for HS2-related contracts. To work successfully with our supply chain, we want to create a shared vision of what we can achieve together. That includes our approach to sustainability.

At HS2 Ltd, we define sustainability in its broadest sense – not just environmental but social and economic sustainability too.

HS2 will be built using public money. Not only do we have a duty to use that money efficiently and to stay within our budget, we also have an obligation to ensure that in all our activities we provide wider social, economic and environmental benefits for the people of this country.

Environmental, social and economic considerations do not stand alone; they are interconnected. For instance, acting to ensure that HS2 minimises its carbon footprint and is resilient to climate change will protect the environment and will contribute to future economic sustainability too. And delivering skills to a new generation and sustainable careers that are open to all in society will provide social and economic benefits to people, communities and the country as a whole.

Our approach to sustainability is not time limited. HS2 will be carrying passengers and serving communities well into the next century. Sustainability must be embedded in the way the railway is designed and constructed and through the whole of its operating life. This will ensure we use public money wisely.

With the go-ahead and powers now granted by Parliament for Phase One of HS2, the project is moving off the drawing board and into construction. Our approach to sustainability, as set out in this guide, is designed to help our suppliers understand what we

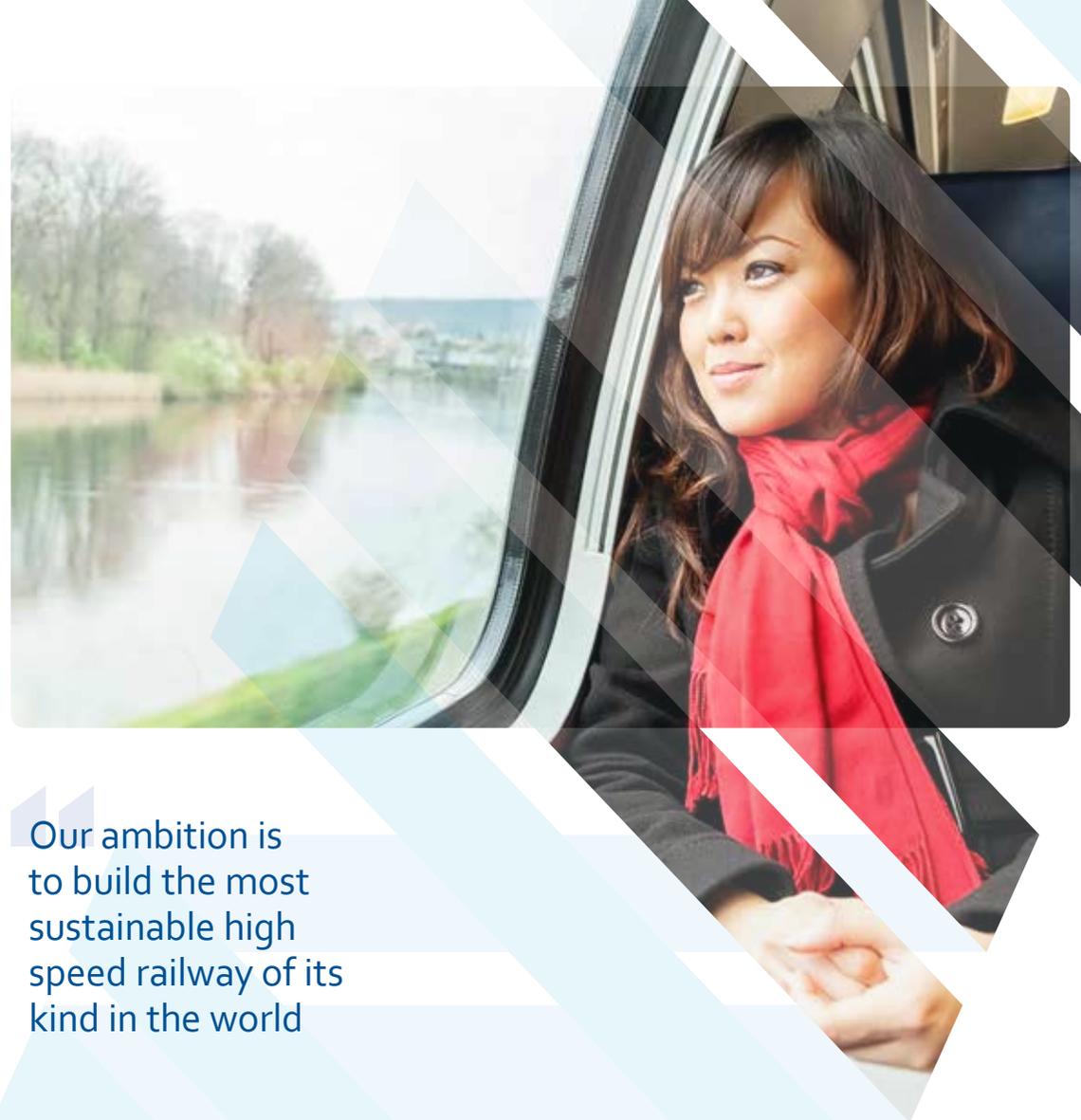
value and prepare to help realise the benefits we have promised to the British people.

This approach is not set in stone, it will be a living and breathing part of HS2 as we learn, innovate, collaborate and grow. Sustainability will be woven into the fabric of all that we do as we continue to develop our delivery strategies in each area.

Some areas are already well developed, and we will be setting further sustainability standards and measurements on which we will report every year in our Annual Report.

Our approach to sustainability will go beyond business-as-usual. Our ambition is to build the most sustainable high speed railway of its kind in the world. So we will seek in all areas to deliver best practice. But we will also be breaking new ground to be an exemplar for industry, setting world-class standards wherever we can.

This is how we will build a legacy that Britain can be proud of – a high speed railway that forms the spine of a new integrated and sustainable transport system, which benefits the whole country and the whole of society.



Our ambition is to build the most sustainable high speed railway of its kind in the world

2.

HS2 sustainability approach

The purpose of this sustainability approach is to set out the broad parameters of how HS2 Ltd defines sustainability, how sustainability will help achieve our strategic goals and objectives, and how we embed its disciplines in our work.

Our ambition is to build the most sustainable high speed railway of its kind in the world. We will benchmark our progress against other large infrastructure schemes in the UK and abroad, and we will learn from and build on the progress made by projects such as Crossrail. Our approach seeks to surpass the expectations of our key stakeholders, and demonstrate that we will improve continuously to first meet and then go beyond best practice wherever possible.

Our sustainability approach groups our work into five themes that reflect our sustainability policy and the Government's guiding principles for sustainable development.

Our sustainability approach groups our work into five themes

These themes support our vision and strategic goals. The next chapter outlines that vision and sets out how we will work to achieve it. Further chapters set out the approach we will take under each of our sustainability themes.



Our sustainability themes



Spreading the benefits: Economic growth and community regeneration

Being a nationwide catalyst for regeneration and economic growth through development of an integrated transport system, maximising the benefits to communities and individuals and minimising any potential negative impacts.



Opportunities for all: Skills, employment and education

Providing rewarding jobs and careers that are open to all in society, setting new standards for equality, diversity and inclusion and providing a legacy of skills, learning, expertise, and experience.



Safe at heart: Health, safety and wellbeing

Creating a world-class 'safe at heart' culture where no one gets hurt, and which prioritises the health and wellbeing of those who build, operate, use and host HS2 services and infrastructure.



Respecting our surroundings: Environmental protection and management

Breaking new ground wherever possible on environmental standards including resource use, waste, carbon minimisation, the protection of the natural and historic environment and safeguarding communities.



Standing the test of time: Design that is future-proof

Building a network that is resilient to climate change in the long term, adaptable to future trends and demands, and built around the needs of the people who will use it, in line with our Design Vision.

3.

HS2 vision

HS2 will have a transformative effect on the the UK. Our vision is for HS2 to be a catalyst for growth across Britain. It will help rebalance our economy by bringing cities closer together, encouraging the expansion of business and personal horizons.

By transforming journey times, HS2 will bring more opportunities within closer reach for work, trade, leisure and education. For working people it brings new job opportunities within reach. For businesses it opens up new markets, bringing new clients and customers within reach. Those considering higher and further education will have more colleges and universities within commutable distance.

In spending public money we have a duty to stay within our budget, and we also have an obligation to ensure that public spending helps to build wider social, economic and environmental benefits for the country.

This approach is reflected in our strategic goals and objectives. These are not about 'what' we are building but 'why' we are building it. Sustainability has been embedded within these strategic goals.

We are developing a benefits register to track the progress of the programme as a whole and a scorecard to measure the performance of our company. We will regularly report on our performance.

Our vision is for HS2 to be a catalyst for growth across Britain

25,000
private sector jobs
to build HS2



100,000
jobs created
through growth
around HS2 stations

800
lorries per day
HS2 could help take
off the roads



300,000
passengers per day
HS2 will carry

120
years in HS2's design lifespan
-operating well into the
next century



7 million
trees and shrubs that
will be planted along
the Phase One route

HS2 strategic goals and objectives

| <p>HS2 will be a catalyst for sustained and balanced economic growth across the UK</p> | <p>HS2 will add capacity and connectivity as part of a 21st century integrated transport system</p> | <p>HS2 will deliver value to the UK taxpayer and passenger</p> | <p>HS2 will set new standards in passenger experience</p> | <p>HS2 will create opportunities for skills and employment</p> | <p>HS2 will create a railway designed, built and operated with world-class health, safety and security standards</p> | <p>HS2 will create an environmentally sustainable solution and be a good neighbour to local communities</p> |
|---|---|---|---|---|---|---|
| <ul style="list-style-type: none"> • To enhance the productivity of the UK by connecting cities and supporting local, regional and rural growth strategies • To maximise the business growth opportunities in the UK for our suppliers, including in the sharing of international best practice, and make bidding for appropriate contracts as accessible as possible for local businesses and SMEs • To develop all stations and depots in ways that facilitate regional and local regeneration and development | <ul style="list-style-type: none"> • To deliver the required capacity, journey time, reliability and availability • To integrate seamlessly with complementary transport modes • To maximise benefits for the whole UK transport network | <ul style="list-style-type: none"> • To deliver the programme on time and on cost while achieving the expected benefits • To deliver and operate a quality railway efficiently and to ensure commercial viability • To actively seek innovative opportunities to achieve new standards and practices in order to increase whole life value | <ul style="list-style-type: none"> • To be the mode of first choice and to deliver passenger experience and customer service that is recognised worldwide as leading the way in high speed travel • To place people at the heart of our design, setting new standards for travel and ensuring HS2 is accessible to all passengers | <ul style="list-style-type: none"> • To create sustainable job opportunities for young people, local people and those from diverse groups • To foster and develop talent and to create an engaged and highly skilled workforce for the delivery of HS2 • To be an exemplar of EDI practice | <ul style="list-style-type: none"> • To prevent injury and proactively manage risk • To manage the health and wellbeing of all our workers to create a new better standard in occupational health • To protect HS2 assets and those of its suppliers | <ul style="list-style-type: none"> • To design every part of HS2 and its service to be sympathetic to the people and places we affect and to stand the test of time • To actively communicate with neighbours and interest groups to minimise the impact of HS2 construction and operation on people and the environment • To design, construct and operate HS2 to reduce carbon and promote sustainably sourced resources |

How we work

Our success will be measured not just on the infrastructure we build, but also on 'how' we deliver it. HS2 will be of huge economic benefit, and we will also improve people's lives and wellbeing, and safeguard Britain's natural heritage through the way we work.

We have elevated sustainability to be one of the three key methods of successful delivery, alongside innovation and collaboration. This document concentrates on sustainability but these three methods of delivery are interlinked.

Sustainability is one of HS2 Ltd's three key methods of delivery alongside innovation and collaboration

Sustainability

Delivering social, environmental and economic benefits for this and for future generations. This encompasses living within environmental limits, contributing to a strong and healthy society and helping deliver a sustainable economy. Sustainability will be embedded in the way we work, including setting new world-class standards where possible.

Innovation

Pushing the boundaries of conventional thinking to improve on industry best practice and position UK industry as a world leader. We want our supply chain to share innovations that set new standards in the way we design, build and operate our rail network, including sustainable solutions.

Collaboration

Working with all our partners to achieve our goals. Through our contractual arrangements we will establish shared goals with powerful incentives. We will hold our Tier 1 suppliers to account and we will ensure that our approach to sustainability is widely understood and measured.

Our values of leadership, integrity, respect and safety shape our culture and inform our decision-making process. To lead by example we set clear directions for how to deliver excellence and find new ways of doing things.

By acting with respect and integrity we appreciate the impact of our actions, are fair, and do the right thing even in difficult circumstances. This is underpinned by our commitment to create an environment where no one gets hurt and acting now to mitigate potential risk.

INTEGRITY

Acting fairly, transparently and consistently

LEADERSHIP

Using innovation and challenging to lead by example

RESPECT

Understanding others, recognising their value and behaving accordingly

SAFETY

Caring for our workforce, our passengers and the public by creating an environment where no one gets hurt

How we work: HS2 for the whole of society

From the very start of design, through planning, construction and operation, HS2 Ltd puts people first. Everything starts and ends with the needs of the people who will use our rail services, the people who will work on building and operating our network, and the communities who will host HS2 infrastructure. A 'people first' approach has sustainability at its heart.

Host communities will be most directly affected by construction and will live with the impacts for years to come. Their support and understanding will ensure our long-term sustainability. That needs to be earned and we are determined that we and our suppliers listen, learn and act on community concerns. We aim to be a good neighbour, becoming part of the communities where we work. We will minimise environmental and community impacts, such as limiting noise, air pollution or transport congestion. We will maximise social and economic benefit by the providing economic and employment opportunities for people and businesses.

For us, putting people first means everyone in society. To ensure HS2 is truly sustainable, our approach is underpinned by equality, diversity and inclusion. We are setting out to change lives, and we can make a big difference for disadvantaged communities. Our railway is being designed so that all in society can access its services.

By helping UK industry to harness diversity for competitive advantage, we can leave a lasting economic and social legacy for future generations. To achieve this the UK needs to boost its skills base and draw those skills from all parts of society. Research tells us that the most efficient and innovative companies are those that are the most diverse companies. So we will ensure that HS2 Ltd is an exemplar organisation for equality, diversity and inclusion and we will spread that culture throughout our supply chain, through contractual arrangements.



HS2 Ltd puts people first

How we work: HS2 for the whole of its life

We will embed a sustainable approach in all aspects of HS2's lifecycle, searching out and maximising opportunities to facilitate environmental protection and enhancement, economic growth and social progress. In doing so, we will maintain strict budget discipline – but we will take decisions that seek to get the best value for money through the whole operating life of the railway. Sustainable design does not mean 'gold-plating' everything and going for the most expensive option. It means going for the most efficient solution.

From concept, through design, construction and operation,

we will adopt circular economy principles. This is more than simply recycling. It involves looking at the entire life cycle of any process and identifying opportunities to achieve the best whole-life outcome. Resources will be kept at their highest quality and value for as long as possible. This will help us generate outcomes that are environmentally, socially and economically beneficial.

We will take decisions that seek to get the best value for money through the whole operating life of the railway



BREEAM is the Building Research Establishment Environmental Assessment Method. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe the sustainability performance of buildings.

We will be assessing the design and construction of our stations,

depots and other railway buildings with BREEAM New Construction Non-Domestic criteria. We have set a target that all stations, depots and other railway buildings will achieve a minimum of an 'Excellent' rating in this standard.

To ensure that our infrastructure is designed and constructed to a similar high standard, HS2's Phase One infrastructure works – Enabling Works, Main Works Civils and Rail Systems - will be designed and constructed to meet BREEAM Infrastructure (Pilot) scheme standards with the aspiration to achieve an 'Excellent' rating.



5. Spreading the benefits: Economic growth and community regeneration

HS2 is a £55.7 billion investment in Britain and our construction programme will last until 2033. Our services will be running well into the next century. This is an opportunity not just for the current generation, but for our children, grandchildren and even their grandchildren.

Constructing HS2 will have significant economic benefits in and of itself. From 2017, for Phase One alone, contracts to the value of £8.6 billion will be awarded to successful suppliers. Every major contract we award will lead to opportunities to win work for thousands of businesses in the supply chain, including small and medium-sized businesses.

The opportunities for economic growth go far beyond building the railway. Poor connections between

parts of the country that should be trading and working together much more are holding the country back. HS2 will relieve congestion, increase capacity for passengers and freight, and better connect the country in order to boost economic growth.

Making the most of this unique opportunity, and ensuring economic growth is sustainable and the benefits are spread widely and equitably, requires leaders across Government, business and in communities to work together to maximise the opportunity. HS2 trains and services will not be confined to the high speed track we are building. They will run on up the East Coast and West Coast Mainline to the North East, North West and Scotland. The opportunity is for the whole of Great Britain.

Our commitment

HS2 Ltd, working with the HS2 Growth Partnership, will engage with stakeholders at all levels to ensure that:

- Sustainable practice is embedded into HS2 Growth Strategies to make sure regeneration opportunities are maximised;
- We promote economic growth and investment in areas surrounding our stations, depots and other infrastructure, and these are integrated into the lives of the local community;
- Local businesses and local people share in the economic benefit of construction – including jobs, contracts, and service opportunities;
- Opportunities are maximised for small and medium-sized enterprises in our supply chain, including contracting directly with SMEs where appropriate;
- Fair payment practices are implemented across the supply chain.

As HS2 moves forwards, cities, towns and regions across the country are already putting in place growth and regeneration plans to capitalise on the impact of HS2 – and how it will integrate with other transport and economic initiatives.

Every major contract we award will lead to opportunities to win work for thousands of businesses



6.

Opportunities for all: Skills, employment and education

HS2 presents Britain with a huge opportunity to develop the talents of our people and provide new, rewarding jobs and careers for many thousands of people. To make the most of this opportunity, we want to ensure that we produce a legacy of highly skilled, highly experienced and highly motivated people for UK industry and infrastructure in the future.

We want to help change the face of Britain's workforce, encouraging people from all backgrounds – especially young women and those from disadvantaged backgrounds – to have the confidence to break into new, challenging and rewarding careers, and provide themselves with skills for a fruitful life in work. To make this happen, we will include measures to deliver Skills, Employment and Education

(SEE) objectives in all relevant contracts, assessing bidders on their ability to deliver, and monitoring their performance throughout the contract life.

The construction of HS2 will directly create tens of thousands of jobs. We will need highly skilled people to work across all disciplines including design, technology and business as well as construction and engineering. Around 25,000 jobs will be created through construction and over 3,000 jobs will be created to operate the railway itself. We also estimate that development sparked by HS2 stations could support up to 100,000 jobs.

The new National College for High Speed Rail will help redefine how people view a career in rail

Our commitment

HS2 Ltd will create sustainable job opportunities for local people, young people and those from diverse groups. HS2 Ltd will foster and develop talent to create an engaged and highly-skilled workforce for the delivery of HS2. We will:

- Support and promote technical and professional learning through the greater availability and take-up of apprenticeships in the construction and operation of HS2;
- Improve the talent pool in the UK construction and engineering industries through the HS2 education programme. This programme aims to stimulate young people's interests in STEM subjects and related careers in rail and infrastructure, as well as inspiring groups traditionally under-represented in these industries;
- Enable the greater availability and take-up of jobs within HS2 Ltd and the supply chain for local, diverse and under-represented groups.

and transport infrastructure, with industry helping to develop the curriculum, provide work placements and employ its graduates.

HS2 Ltd will support the development of the National College for High Speed Rail, directly and through our supply chain.

We will produce a legacy of highly skilled, highly experienced and highly motivated people for UK industry



Safe at heart: Health and safety and wellbeing

For HS2 Ltd, sustainability means caring for everyone involved in HS2. We are passionate about health, safety and wellbeing. It touches every part of our work.

By looking after our own workforce and those who build and operate the line, we increase productivity and efficiency. By designing health and safety into our railway we help to protect customers, employees and local communities from potential accidents and causes of ill-health.

It is our belief that everyone has the right to go home unharmed. We will take every opportunity to reduce risk and create an

environment where no one gets hurt. This will apply to the materials we use, the construction methods we select and the design principles we apply. Sustainable health and safety means making this our first consideration through the whole life-cycle of the programme.

We will empower our workforce to speak up and intervene if something is unsafe or a risk to health. Everyone will understand their accountabilities for health and safety and will be given the power to take responsibility for their and others' health, safety and wellbeing.

Our commitment

HS2 Ltd will set a new benchmark for health and safety performance and leave a legacy of a safe railway system. We will:

- Design HS2 to be constructed, maintained and operated safely with the health, safety and wellbeing of our workforce consistently in mind, including minimising site visits and providing safe access for track maintenance;
- Protect the health, safety and wellbeing of the people and communities we work in, investing in local health services, secure sites, and safety training for staff who work in the local area, including our drivers;
- Focus on harm prevention, particularly on eliminating or mitigating at source the top five causes of occupational disorders such as cancers, respiratory disorders, skin conditions, vibration and noise;
- Select our supply chain partners on their ability to demonstrate shared health and safety leadership and hold them to account for safe delivery;
- Develop a learning culture where people are motivated to report, take responsibility for and predict risks to health, safety and wellbeing.



Respecting our surroundings: Environmental protection and management

Britain's landscape, natural environment and heritage are cherished by the people of our country –this is our 'green and pleasant land'. HS2 Ltd shares this deep respect and will be a worthy custodian. Our ambition is to employ world-class environmental standards that protect and enhance the natural and historic environment for the enjoyment of this and future generations.

We believe that environmental standards are not just about places, they are about people too. Our 'putting people first' approach means that we will act to maintain and improve the quality of life of the people who use our services, build our network and host our infrastructure. Clean air, clean water and safe streets are important for good health and

wellbeing. So we will be strict in applying sustainable environmental standards on noise, vibration, air pollution and waste.

HS2 Ltd will be a worthy custodian of Britain's landscape, environment and heritage

Climate change is the one of the greatest long-term threats to our country's economic prosperity. HS2 Ltd will set standards for resource and carbon efficiency that meet our national and global responsibilities to reduce carbon emissions. The network will be designed so that the impacts of HS2 and climate change in combination, on eco-systems and local communities, are reduced.

Our commitment

In order to guide and manage our potential environmental impacts, we will seek to:

- Achieve no net loss in biodiversity, reducing impacts on species and creating and enhancing habitats;
- Design visible elements of the built and landscaped environment in both rural and urban areas to be sympathetic to their local context, environment and social setting;
- Effectively manage and control noise and vibration to avoid significant adverse impacts on health and quality of life;
- Minimise the carbon footprint of HS2 and deliver low-carbon, long-distance journeys that are supported by low-carbon energy;
- Minimise the combined effect of the project and climate change on the environment;
- Avoid pollution and reduce emissions to air, and minimise public and workforce exposure to pollutant emissions;
- Protect water resources and ensure no material increase of flooding to communities;
- Reduce harm to the historic environment and deliver a programme of heritage mitigation including knowledge creation through investigation, reporting, engagement and archiving;
- Reinstate agricultural land to its original quality where it has been disturbed as a result of construction;
- Source and make efficient use of sustainable materials, reduce waste and maximise the proportion of material diverted from landfill.



Standing the test of time: Design that is future-proof

The 120 year design life of HS2 will extend well into the next century. Even if global greenhouse gas reduction targets are met, we can expect Britain's climate to change. Technology will advance, both during the construction of HS2 and beyond, so we need to maintain an adaptable and flexible approach to ensure future trends can be incorporated in HS2.

Designing to stand the test of time is a core theme in our design vision. Our network will be designed to be resilient to the potential effects of climate change including flooding, storms and temperature extremes. We will also ensure the materials and technologies used to construct and operate the network are durable and low-maintenance.

We need to maintain an adaptable and flexible approach

Our 'people first' approach means that we will design our network to be operated flexibly, safely and with the customer experience always in mind, particularly when it comes to incorporating new technologies and serving disadvantaged communities. The design of our rolling stock and stations will be based around the people using them and we will provide an accessible service that can be used safely, independently, easily and with dignity, by everyone.

Our commitment

HS2 Ltd will future proof our design to allow the system to evolve over time so as to address the changing needs of society and a changing climate. We will:

- Build a network which is resilient for the long term;
- Ensure our design will be resilient to a 1-in-1000-year flood event;
- Design landscape to improve local quality of life and be resilient, robust and adaptable to environmental change.
- Design to adapt for the needs of future generations, taking advantage of new technologies and making room for those concepts that have yet to reach fruition;
- Design a customer experience that is second to none, beginning and ending with the needs of people, with simplicity and consistency embedded in the design;
- Ensure HS2 serves the whole of society, embracing an inclusive design model that removes barriers in procedure and attitude, offers choices, and minimises the need for additional support.





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