



Construction  
Leadership  
Council

**ConstructZERO**  
The Construction Industry's Zero carbon change programme



# Five Client Carbon Commitments

Setting a path to  
Net Zero construction

April 2024





## Foreword

The UK construction industry is critical to the country's success, we build and maintain the infrastructure on which our society and economy relies and our expertise in infrastructure is one of our greatest exports. But we are also a significant contributor to the planet's greatest existential threat – climate change.

The legally binding 6th Carbon budget set by the UK government in 2021, as part of the UK's journey to Net Zero by 2050, requires a 78% reduction from 1990 carbon levels. As an industry, our emissions have grown since 1990 and for the UK to continue investing in its infrastructure we need to change. This is the time for action. CO2nstructZero is calling for clients to act with the launch of our Five Client Carbon Commitments. These commitments can be enacted now and will help us make the next significant step on our journey as a sector to Net Zero.

Driving carbon out of what we build needs bold, but ultimately achievable steps. As infrastructure leaders and clients, we can do this through our Five Client Carbon Commitments. It is a five-point client led approach that will create clear demand for the transition to Net Zero within the construction industry. We will use our combined long term pipeline of work and associated procurement to clearly signal our Net Zero ambitions to partners and suppliers; embrace new and innovative materials; change how we power plant and machinery; and use a single, universal approach to measuring our carbon emissions through PAS 2080.

We have been up and down the country seeking support and buy in to our Five Client Carbon Commitments, and I've been blown away by the enthusiasm and bravery to sign up from some of the biggest infrastructure owners and operators. The first cohort of organisations have taken a bold step by signing up, but many more will follow over the weeks and months ahead.

We have a moral responsibility to address our contribution to climate change head on and to set the standards needed to lead the sector into a Net Zero future. By working together as an industry to make real changes – reducing our carbon footprint by embracing cleaner, greener and more sustainable ways of working – we have the potential to make an enormous, positive difference for a bright, green future for us all.

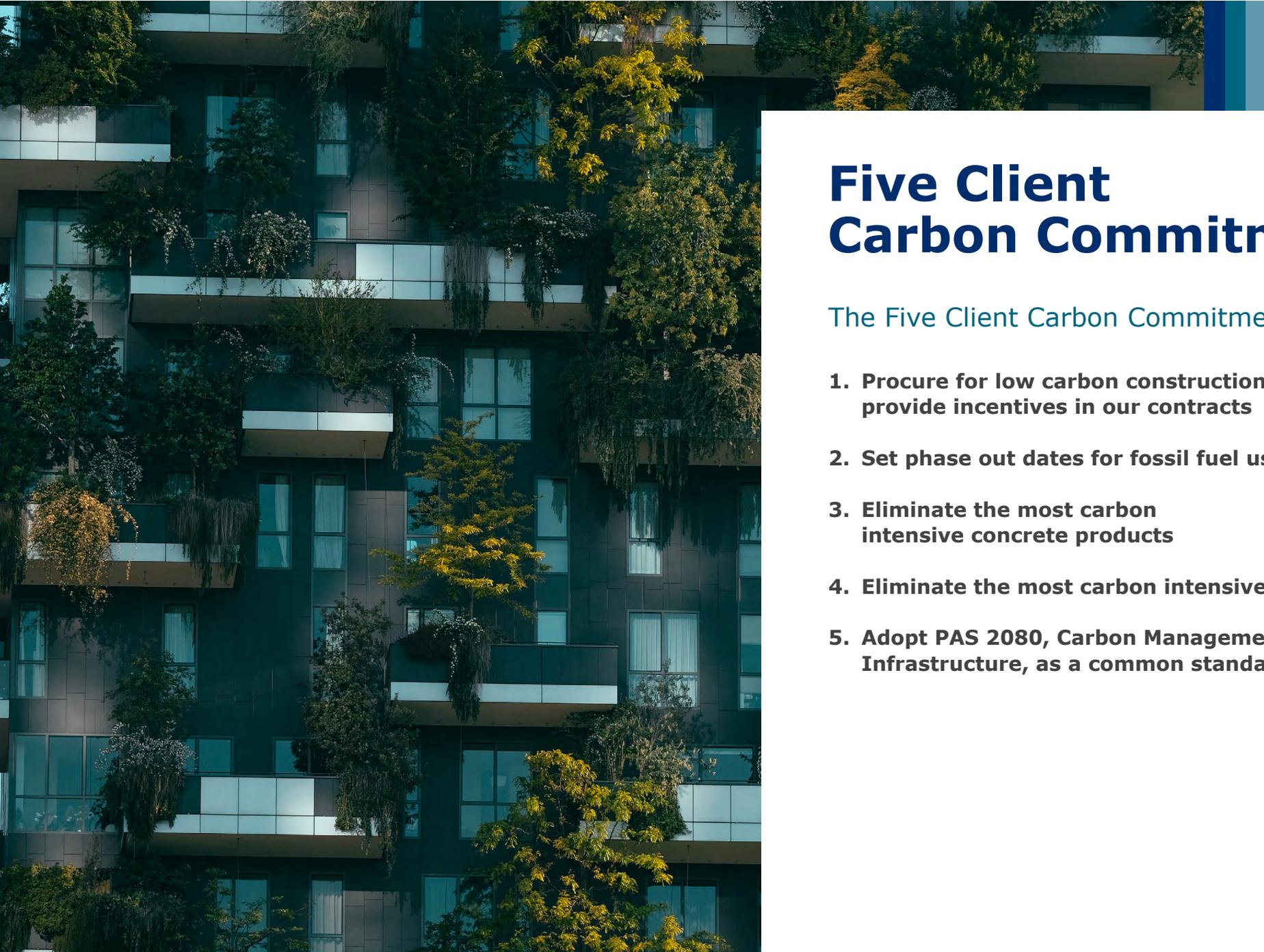
I urge everyone in the construction industry to get involved and make that difference. Over the next few pages you will see the commitments from the organisations signed up to the Five Client Carbon Commitments so far.

### **Will you join us?**



**Matt Palmer**  
**Industry Sponsor for Net Zero**  
**and Biodiversity at the Construction**  
**Leadership Council**  
**and Executive Director,**  
**Lower Thames Crossing**





# Five Client Carbon Commitments

The Five Client Carbon Commitments are:

- 1. Procure for low carbon construction and provide incentives in our contracts**
- 2. Set phase out dates for fossil fuel use**
- 3. Eliminate the most carbon intensive concrete products**
- 4. Eliminate the most carbon intensive steel products**
- 5. Adopt PAS 2080, Carbon Management in Infrastructure, as a common standard**

## The Five Client Carbon Commitments in practice:

The Five Client Carbon Commitments are simple, practical steps that organisations can take to show how they are reducing their carbon emissions and by when.

They provide clarity for the construction industry on the phasing out of carbon intensive materials and the end of fossil fuel use. They provide a consistent language and terminology, to help the industry collaborate on the common goal of delivering Net Zero.



## 1. Procure for low carbon construction and provide incentives in our contracts

### Organisations will set the date by which:

- Low carbon construction will be part of the criteria for the award of their contracts
- Incentives to reduce carbon emissions from construction will be included in new contracts

Contracts are an essential tool for translating client needs into action. Clients that are serious about carbon reduction must set clear requirements for low carbon construction, select partners that are ready to deliver it, and provide contracts that reward success.

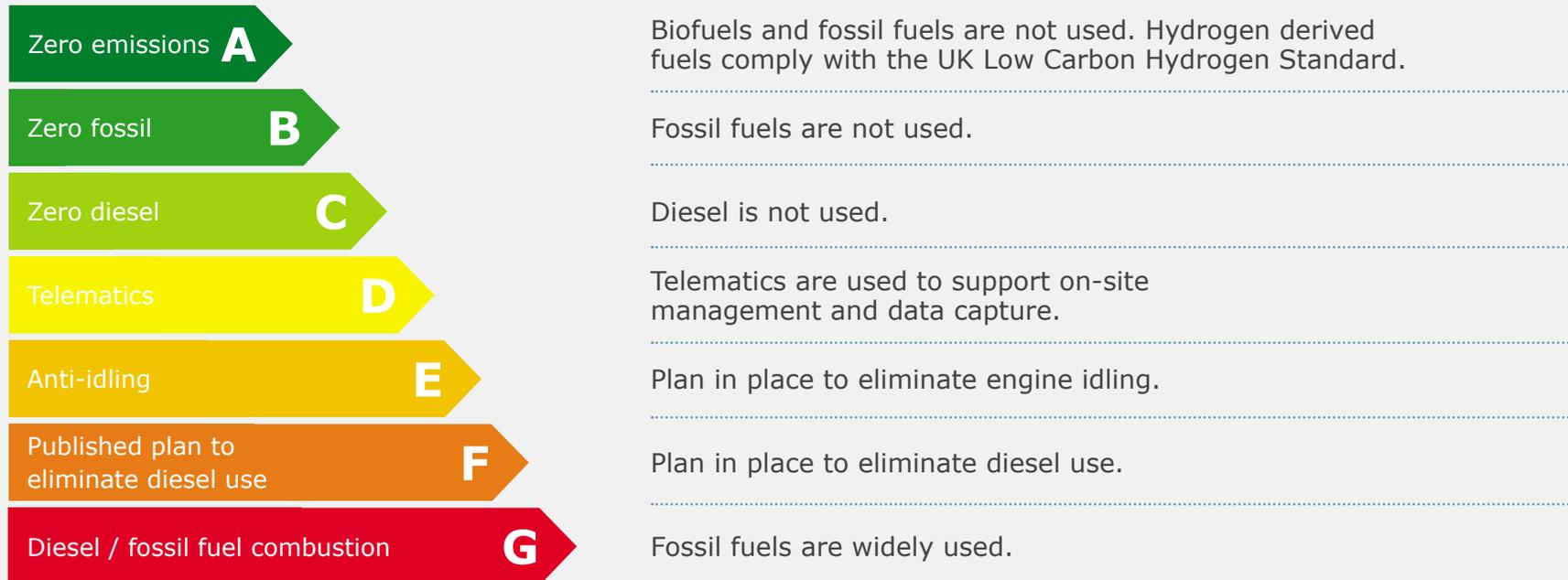


## 2. Set phase out date for fossil fuel use

**The client organisation sets the dates by which its construction sites will attain the levels established by the diesel free sites scale.**

In today's construction sites, machines like excavators, cranes and haulers are typically diesel powered. Smaller tools like saws and drills are often powered using diesel or petrol generators. All of these can be used more efficiently to reduce their emissions. There is also growing availability of cleaner alternatives, that can be powered using hydrogen and electricity.

### Definition of the scale

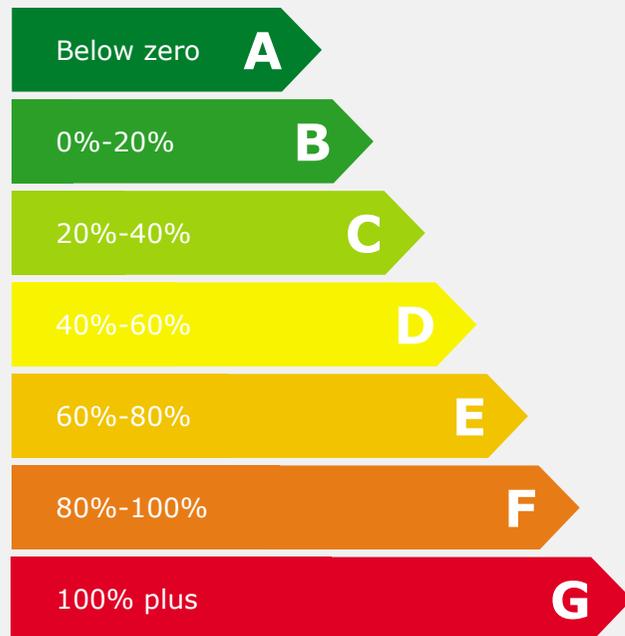


### 3. Eliminate the most intensive concrete products

**The client organisation sets the dates by which its construction sites will attain the levels established by the low carbon concrete scale.**

As the world's most used construction material, concrete accounts for about 8% of carbon emissions. Clear projection of client demand for low carbon concrete will help manufacturers plan the investment needed to supply it.

#### Definition of the scale



The low carbon concrete scale is expressed using percentage bands of a baseline carbon intensity. The baseline carbon intensity is defined for each concrete strength class so that the banding provides a consistent level of ambition for all strength classes.

The scope of the carbon calculation includes quarrying and transport of raw materials and the manufacture of cement and concrete. It excludes transport from the place of manufacture, placement, curing and reinforcement.

Any carbon sequestration - where carbon is captured from the atmosphere and permanently stored in the concrete during its production - can be included in the calculation of carbon intensity but offsetting cannot be used.

Full definition of the scale is provided in the ["Embodied carbon classification scheme for concrete"](#), published by UKRI/Arup in 2023.

#### 4. Eliminate the most carbon intensive steel products

**The client organisation sets the dates by which its construction sites will attain the levels established by the green steel scale.**

Construction uses a huge amount of steel, almost half the world’s production. Clear projection of client demand for green steel will help manufacturers plan the investment needed to supply it and see the phasing out of carbon intensive production.

#### Definition of the scale



The commitment relates to construction products like the reinforcement used in concrete and structural steel.

The scope of the carbon calculation includes the quarrying, mining and transport of raw materials, and the manufacture of hot rolled steel.

Coatings, fabrication, transport to site and assembly are excluded. Offsetting cannot be used to achieve the desired carbon intensity.

See the Global Steel Climate Council publication [“The Steel Climate Standard”](#) for full details of the carbon scoping.

## 5. Adopt PAS 2080, Carbon Management in Infrastructure, as a common standard

**Client organisations will set the date by which they will achieve independent verification of management systems complying with PAS 2080.**

Clarity and transparency will be achieved across the sector by using consistent methods of carbon management and reporting.

**PAS 2080:2023** specifies requirements for the management of whole-life carbon in buildings and infrastructure. It has been sponsored in the UK by the Construction Leadership Council, Institution of Civil Engineers and the Green Construction Board.

It is available free of charge and there are a number of independent bodies that can verify a management system against the standard.





## Companies

Lower  
Thames  
Crossing

**NWG**  
*living water*

**Heathrow**

 national  
highways

love every drop  
anglianwater 

 Sellafield Ltd

**Lower Thames Crossing**

## Lower Thames Crossing and the Five Client Carbon Commitments

The Lower Thames Crossing is a pathfinder project, designed to be the UK’s greenest road. With clear carbon reduction ambitions, it has already achieved around a 50% reduction from its baseline.

Carbon reduction was at the heart of the procurement process and, in a UK first its Development Consent Order (DCO) application included a legally binding carbon limit. If the scheme gets the go-ahead, construction is due to start in 2026 and will be complete by 2032. The team have already met several commitments, including contracting for low carbon and achieving PAS 2080. Looking ahead the programme is procuring hydrogen to replace 20m litres of diesel to power heavy plant, and by 2027 all construction sites will be zero emissions with no fossil or biofuels used on site.

### The Lower Thames Crossing will:

	1. Contract for low carbon	2A. Diesel free sites (on-site)	2.B Diesel free sites (deliveries)	3. Low carbon concrete	4. A Green steel (long steel)	4.B Green steel (other steel)	5. Know your numbers (PAS 2080)
<b>A</b>	2022	2027	2030				2022
<b>B</b>		2025	2025		2025		
<b>C</b>				2025		2025	
<b>D</b>							
<b>E</b>							
<b>F</b>							
<b>G</b>							





## Northumbrian Water’s Emission Possible

Northumbrian Water has made the commitment to achieve Net Zero emissions (Scope 1, 2 and 3) by 2050.

Over the past 15 years Northumbrian Water’s operational emissions (Scope 1 & 2) have reduced by more than 90%, and the company recently made ambitious commitments to reduce carbon emissions associated with constructing new assets.

### Northumbrian Water will:

	1. Contract for low carbon	2. Diesel free sites	3. Low carbon concrete	4. Green steel	5. Know your numbers (PAS 2080)
<b>A</b>	2026	2040	2040	2040	2026
<b>B</b>		2035	2035	2035	
<b>C</b>		2032	2032	2032	
<b>D</b>					
<b>E</b>		2025	2027	2027	
<b>F</b>					
<b>G</b>					





## National Highways and the Five Client Carbon Commitments

Our ambition is to achieve Net Zero for construction and maintenance by 2040. In 2021 we published Net Zero Highways, an ambitious programme that puts roads at the heart of Britain’s net zero future.

Since then, we became the first road company in the world to be validated to PAS 2080, set a carbon in contracts policy and published our roadmaps for concrete, steel and asphalt. Our Five Client Carbon Commitments are the next step towards meeting our goals.

### National Highways is committed to:

	1. Contract for low carbon	2. Diesel free sites	3. Low carbon concrete	4. A Green steel (rebar)	4.B Green steel (plate)	4.C Green steel (sections & tubes)	5. Know your numbers (PAS 2080)
<b>A</b>	2023	2030					2022
<b>B</b>				2030		2040	
<b>C</b>				2025		2030	
<b>D</b>			2040				
<b>E</b>			2030				
<b>F</b>			2025				
<b>G</b>				2040	2025		





## Anglian Water and the Five Client Carbon Commitments

Anglian Water is the largest water company by geographical area in England and Wales with a purpose to bring environmental and social prosperity to the region we serve through our commitment to love every drop.

We are committed to being carbon neutral by 2050 having already delivered a 64% reduction in capital carbon in 2024 from a 2010 baseline.

### In designing and constructing 'new build' projects Anglian Water will:

	1. Contract for low carbon	2. Diesel free sites	3. Low carbon concrete	4. Green steel	5. Know your numbers (PAS2080)
<b>A</b>	2026	2035	2045	2040	2016
<b>B</b>		2030	2040	2035	
<b>C</b>			2030		
<b>D</b>			2025		
<b>E</b>					
<b>F</b>					
<b>G</b>					



# Heathrow

## Net Zero Plan Goal 6 Supply Chain

Heathrow can have a significant impact delivering carbon reduction across its supply chain. Construction is the biggest source of carbon - representing 70% of emissions in 2019.

Through collaboration with supply chain partners, Heathrow is aiming for a 35% reduction in carbon emissions by 2030 on a pathway toward achieving its 2050 net zero target.

### Heathrow is committed to:

1. Contract for low carbon
2. Diesel free sites
3. Low carbon concrete
4. Green steel
5. Know your numbers (PAS 2080)

	1. Contract for low carbon	2. Diesel free sites	3. Low carbon concrete	4. Green steel	5. Know your numbers (PAS 2080)
<b>A</b>	2025	2040		2040	
<b>B</b>		2030		2036	2027
<b>C</b>				2031	
<b>D</b>		2025	2036		
<b>E</b>		2025	2031		
<b>F</b>			2026		
<b>G</b>					

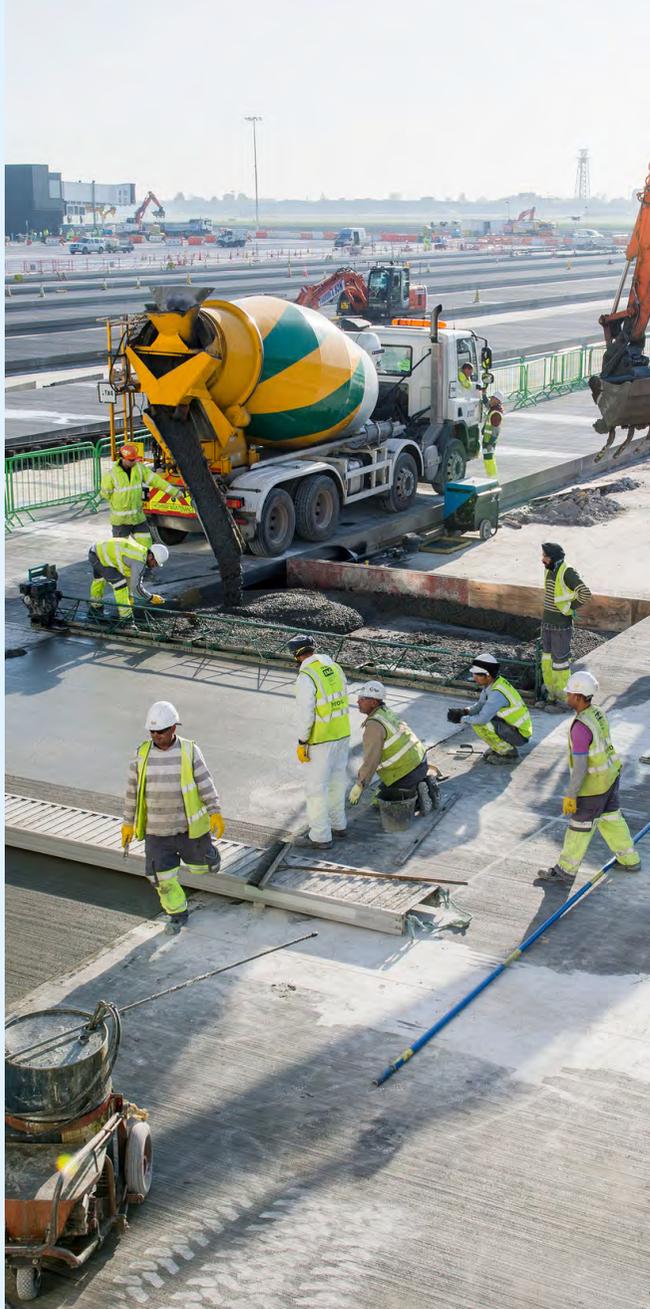
- Core Target Dates
- Long-Term Stretch Targets

#### Target table footnotes

Heathrow is committed to sending the signal that we want to cut carbon from our construction supply chain. We cannot achieve these commitments alone – we will need the right low carbon vehicles and materials available and affordable, which will require the Government to set the right policies and our suppliers to work with us to deliver. We will keep our commitments under review with our supply chain and look to increase our commitment level where possible.

\*For concrete in particular, significant volumes of high specification "Pavement Quality Concrete" (PQC) are required on the airfield – we are seeking to set individual targets for airfield, buildings and buried concrete during the remainder of this year.

\*\* Our targets to transition to green steel reflect the volumes of long steel procured. We plan further work on our targets for embedded steel within aviation specific products such as baggage systems.





## Sellafield Ltd and the Five Client Carbon Commitments

The Sellafield site has one of the most complex portfolios of construction projects in the world, helping to create a clean and safe environment for future generations.

To reach Net Zero carbon by 2050, Sellafield Ltd is embedding sustainability and low carbon practices into major projects.

As a CO2nstructZero partner, our commitments against the five topics align to industry standards to ensure benchmarking against, and learning from, other infrastructure programmes and the supply chain.

### Sellafield Ltd will:

	1. Contract for low carbon	2A. Diesel free sites (on-site)	2.B Diesel free sites (deliveries)	3. Low carbon concrete	4.A Green steel (long steel)	4.B Green steel (other steel)	5. Know your numbers (PAS2080)
<b>A</b>	2026	2030	2050	2040	2040	2040	2026
<b>B</b>							
<b>C</b>							
<b>D</b>							
<b>E</b>							
<b>F</b>							
<b>G</b>							





## Future partners

We have been speaking to industry clients from every sector of the UK infrastructure community. Our first cohort of signatories to the 5 Client Carbon Commitments are just the beginning, and the organisations below will all be making their own commitments during the coming months:





## Get involved!

Any organisation working within the construction industry – large, small and everything in between, is encouraged to sign up to the Five Client Carbon Commitments.

Organisations can set their own timescales for achieving each of the steps on their path to Net Zero, and support and advice is available from the Construction Leadership Council. By coming together as an industry, with clear expectations and common standards, we can make a real impact. Get involved!

**[construction.enquiries@businessandtrade.gov.uk](mailto:construction.enquiries@businessandtrade.gov.uk)**

## The Nine Priorities

The Nine Priorities underpin the CO2nstructZero approach.

Construction clients can use the Five Client Carbon Commitments to standardise, create clarity of demand and accelerate the delivery of each of the priorities as highlighted below.

### **Transport**

Accelerating the shift of the construction workforce to zero emission vehicles and onsite plant

Optimise the use of modern methods of construction and improved onsite logistics, in doing so reducing waste and transport to sites

Championing developments and infrastructure investments that both enable connectivity with low carbon modes of transport and design to incorporate readiness for zero emission vehicles

### **Buildings**

Work with government to deliver retrofitting to improve energy efficiency of the existing housing stock

Scale up industry capability to deliver low carbon heat solutions in buildings, supporting heat pump deployment, trials of hydrogen heating systems and heat networks

Enhancing the energy performance of new and existing buildings through higher operational energy efficiency standards and better building energy performance

### **Construction Activity**

Implementing carbon measurement, to support our construction projects in making quantifiable decisions to remove carbon

Become world leaders in designing out carbon, developing the capability of our designers and construction professionals to design in line with circular economy shifting commercial models to reward measurable carbon reductions

Support development of innovative low carbon materials as well as advancing low carbon solutions for manufacturing production processes and distribution



Construction  
Leadership  
Council