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Leadership  
Council

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The Construction Industry's Zero carbon change programme

  
Infrastructure  
and Projects  
Authority



  
**MAJOR PROJECTS  
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# Five Client Carbon Commitments

An update from the construction industry

March 2025







## Foreword

A year ago, we launched the Five Client Carbon Commitments – simple, practical steps that organisations can take to show how they are reducing their carbon emissions and by when.

In 2024, six firms were bold enough to make a public commitment to drive down carbon on their projects. Anglian Water, Heathrow, National Highways, Northumbrian Water and Sellafield Ltd joined me and my team at the Lower Thames Crossing by being the first to sign up to the Five Client Carbon Commitments.

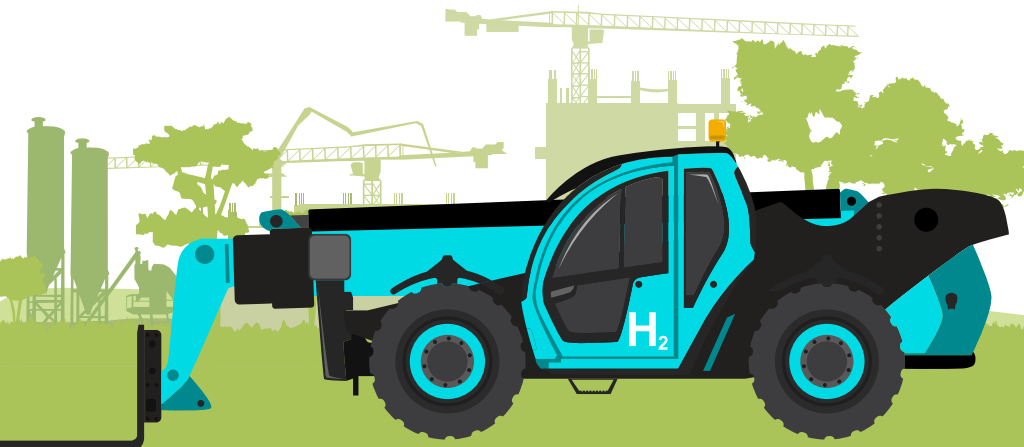
One year on, we're now joined by three of the biggest names in UK infrastructure - the Environment Agency, Scottish Water and Transport for London.

Although working across different sectors, with different customers, geographies and challenges, these powerhouses of UK infrastructure have something in common – a recognition that the construction industry can and must lead by example to drive down carbon – and the courage to take those first pioneering steps.



No one is arguing that we don't need new infrastructure: new roads, railways, hospitals and schools. The question is how can we deliver them in a Net Zero future? We must protect our precious environment whilst delivering the built environment our economy needs to thrive.

We've made good progress in the last year, and momentum is building in the Net Zero space – indeed, the CBI recently published new figures showing that the sector employs almost a million people in full time jobs, across 22,000 companies. It's an exciting, important field – and we must be a part of it.



As Executive Director of the Lower Thames Crossing, I've made it my mission to build the UK's greenest road, and I'm constantly impressed by the innovative products, methods and materials I am seeing – from my team, our supply chain and our partners. There's a real drive across the whole construction community to upskill the workforce in new green skills, an enthusiasm to strive for better.

The construction industry plays a vital role in the success of our country – but it is also a significant generator of carbon emissions – around 44% of the UK's total. With the government committed to the UK reaching Net Zero by 2050, now is the time for us to come together, embrace change and deliver a cleaner, greener future for us all.



**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.



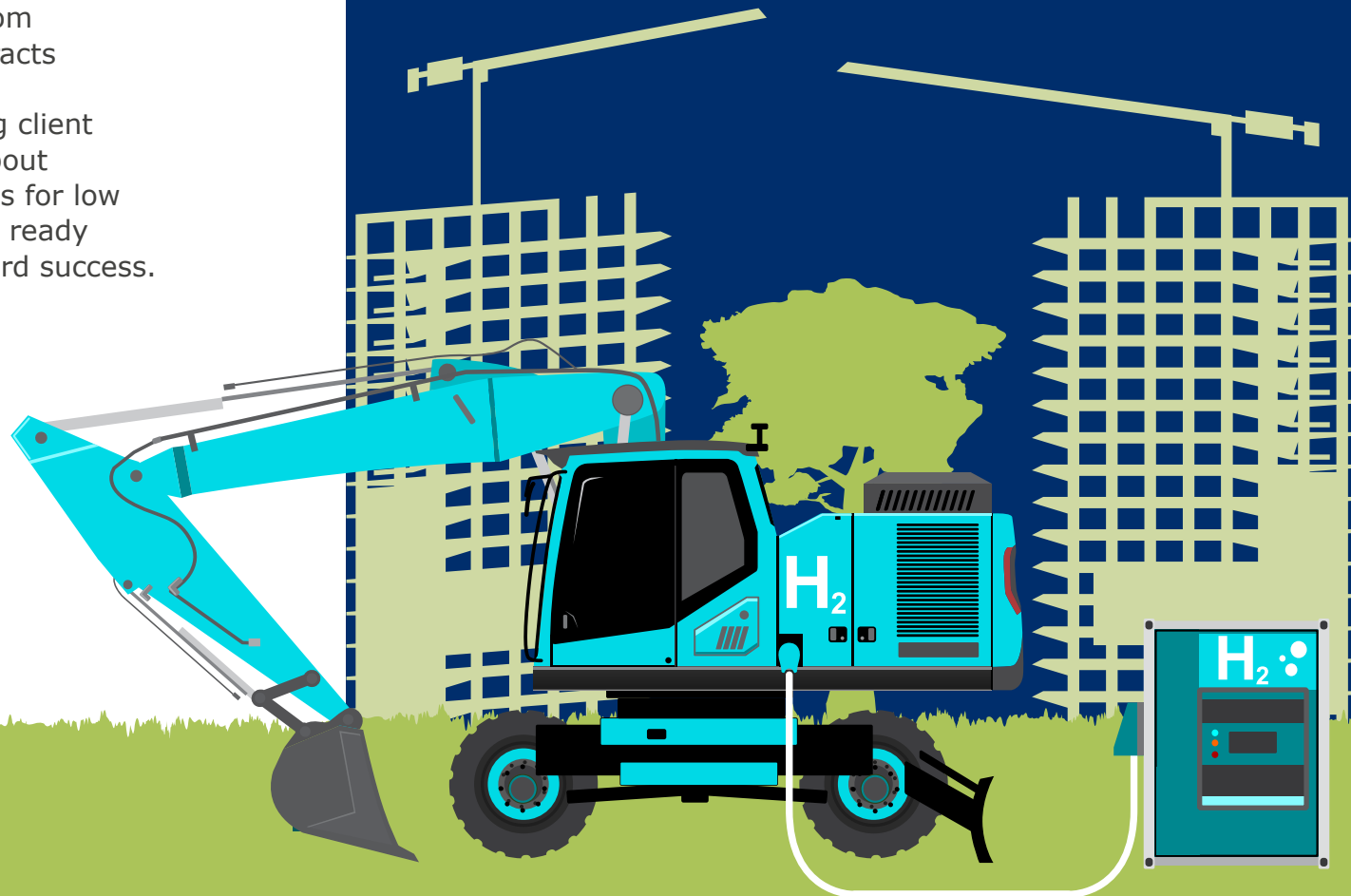


## 1. Procure for low carbon construction and provide incentives in our contracts

### 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

Zero emissions <b>A</b>	Biofuels and fossil fuels are not used. Hydrogen derived fuels comply with the UK Low Carbon Hydrogen Standard.
Zero fossil <b>B</b>	Fossil fuels are not used.
Zero diesel <b>C</b>	Diesel is not used.
Telematics <b>D</b>	Telematics are used to support on-site management and data capture.
Anti-idling <b>E</b>	Plan in place to eliminate engine idling.
Published plan to eliminate diesel use <b>F</b>	Plan in place to eliminate diesel use.
Diesel / fossil fuel combustion <b>G</b>	Fossil fuels are widely used.

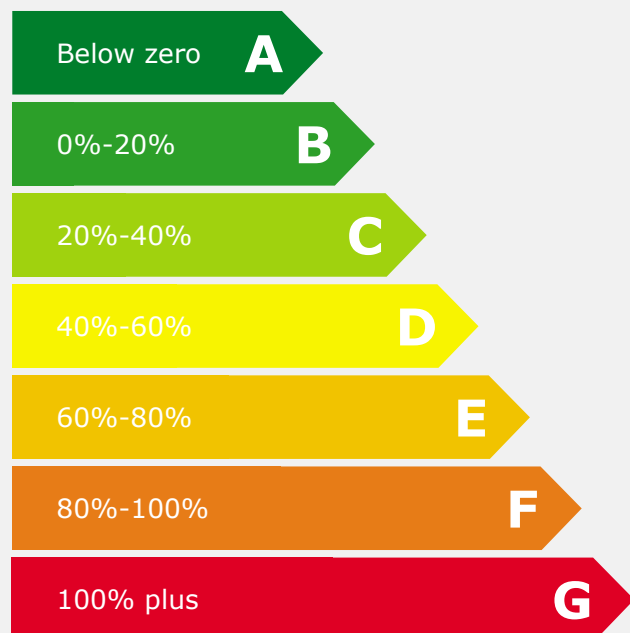


### 3. Eliminate the most intensive concrete products

**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.

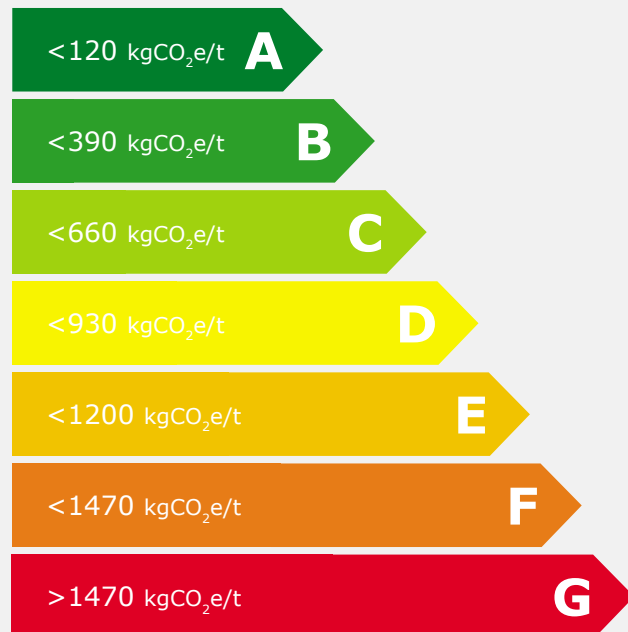


#### 4. Eliminate the most carbon intensive steel products

**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

Scottish  
Water  
Trusted to serve Scotland

Heathrow

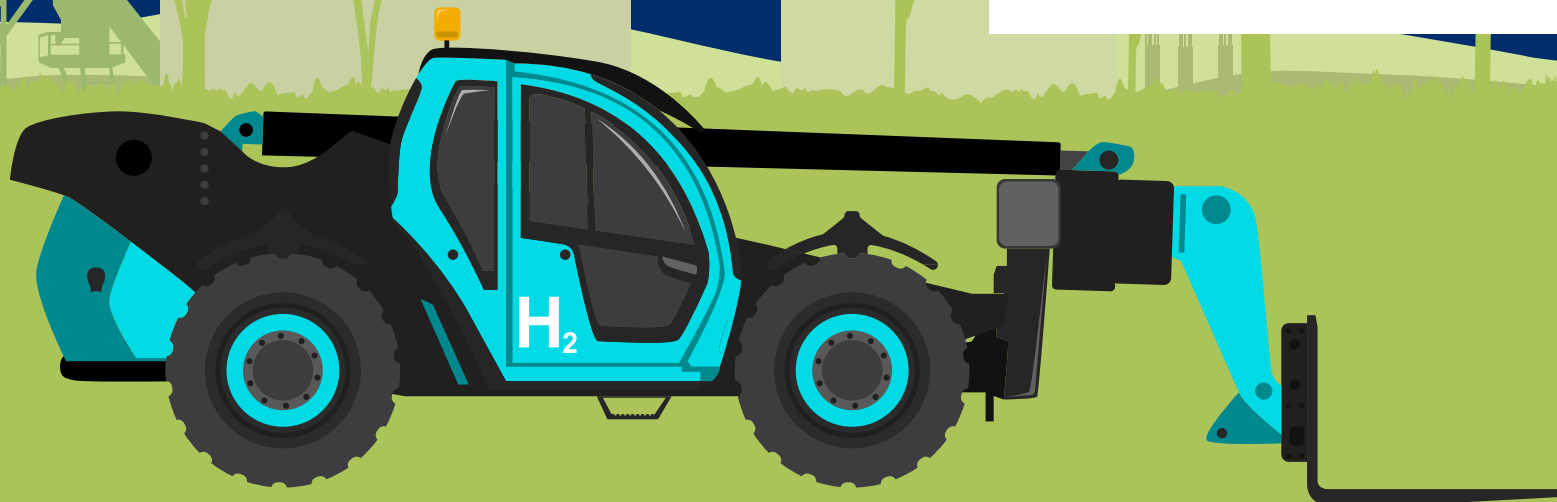
national  
highways

TRANSPORT  
FOR LONDON  
EVERY JOURNEY MATTERS

love every drop  
anglianwater

Sellafield Ltd

Environment  
Agency





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 recently revealed a new target to reduce its construction carbon emissions by 70%.

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. The team has 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)
A	2022	2027	2030				2022
B		2025	2025		2025		
C				2025		2025	
D							
E							
F							
G							







## 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)
A	2026	2040	2040	2040	2026
B		2035	2035	2035	
C		2032	2032	2032	
D					
E		2025	2027	2027	
F					
G					







## 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)
A	2023	2030					2022
B				2030		2040	
C				2025		2030	
D			2040				
E			2030				
F			2025				
G				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)
A	2026	2035	2045	2040	2016
B		2030	2040	2035	
C			2030		
D			2025		
E					
F					
G					





# 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)
A	2025	2040		2040	
B		2030		2036	2027
C				2031	
D		2025	2036		
E		2025	2031		
F			2026		
G					

- 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)
A	2026	2030	2050	2040	2040	2040	2026
B							
C							
D							
E							
F							
G							







## Supporting a Flourishing Scotland

Our greatest responsibility is to manage Scotland’s public water and waste water systems, providing our customers with reliable and resilient services. However we must do this in a way that is truly sustainable; and that is why we commit to Beyond Net Zero as we play our part in supporting a flourishing Scotland.

We are committed to achieving net zero emissions by 2040 having already delivered a 25% reduction in embodied carbon in 2024 from a 2021 baseline.

### In designing and constructing projects on our Capital Programme Scottish Water aim to achieve the following commitments:

	1. Contract for low carbon	2. Diesel free sites	3. Low carbon concrete	4. Green steel	5. Know your numbers (PAS 2080)
A	2027	2035	2040	2040	2025
B	2021	2030	2035	2035	
C		2027	2030		
D			2027		
E		2023			
F			2021		
G		2021			







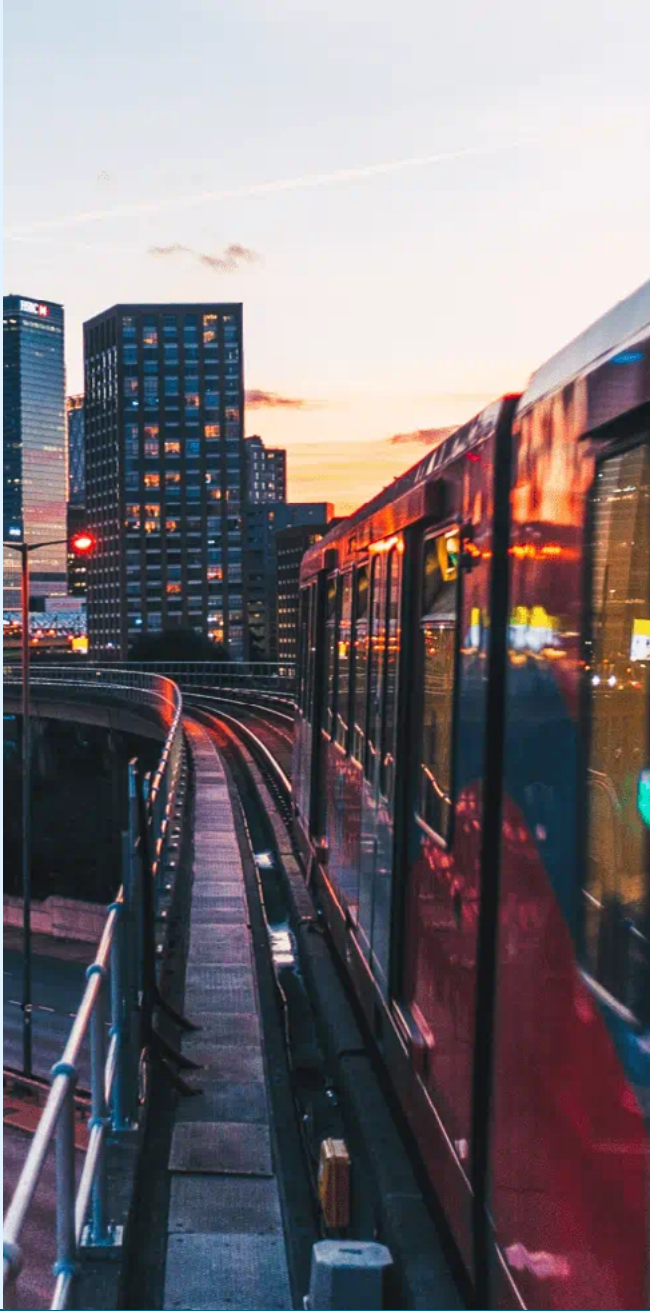
## Transport for London and The Five Client Carbon Commitments

Transport for London (TfL) is committed to reducing whole life carbon emissions from its capital projects and construction activities. Concrete and steel represent an estimated 25% and 20% respectively of the embodied emissions of TfL’s capital portfolio.

TfL is aiming for a 45% reduction in its upstream carbon emissions by 2030 as part of its journey to net zero.

### On new contracts, Transport for London will:

	1. Contract for low carbon	2A. Diesel free sites (on-site)	2B. Diesel free sites (deliveries)	3. Low carbon concrete	4A. Green steel (long steel)	4B. Green steel (other steel)	5. Know your numbers (PAS 2080)
A	2027	2035	2030	2045	2045	2045	2027
B				2035	2035		
C				2030		2035	
D				2025	2030		
E						2030	
F							
G							







## The Environment Agency supports the Five Client Carbon Commitments

The Environment Agency recognises the importance of committing to bold action to achieve Net Zero Carbon, while not compromising on its primary role of adaptation and resilience. With increasing use of lower carbon materials and technology in construction, we incentivise our supply chain to apply the principles of PAS2080 and seek carbon efficiencies at the earliest stages of project development.

### The Environment Agency is driving progress through:

- Procurement measures for low carbon construction, including award criteria and incentivisation of carbon reduction
- A hierarchy in our contractor requirements driving selection of lower carbon options for construction site set-up and plant
- Lower carbon concretes using the Market Benchmark Ratings as a minimum requirement, and a targeted accelerator project focussing on optimisation and decarbonisation in our use of concrete.
- The use of lower carbon steel sheet piles and reinforcement bar (accounting for the majority of steel used in Environment Agency projects)
- Commitment to the PAS2080 framework and working collaboratively with our supply chain.

	1. Contract for low carbon	2. Diesel free sites	2.A Diesel free (fleet)	3. Low carbon concrete	4A. Green steel (sheet piles)	4B. Green steel (rebar)	5. Know your numbers (PAS 2080)
A	2026	2035	2028				2027*
B		2030		2035	2030	2030	
C		2027		2030	2025	2025	
D				2025			
E							
F		2025					
G							

\*Subject to a maturity assessment and phasing of construction activities first.







## 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



### Buildings



### Construction Activity

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

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

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





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