

Construct Zero Performance Framework 7th Quarterly Report



Department for
Business & Trade



Construction
Leadership
Council

ConstructZERO

The Construction Industry's Zero carbon change programme

CLC 7th Performance Assessment Q3 2023

Background

The Construction Leadership Council (CLC) is leading the sector's response to the Net Zero challenge, through the Construct Zero change programme.

Building on the success of the sector's collaborations during COVID, the CLC has engaged the industry to develop the Performance Framework, which sets out how the sector will commit to, and measure its progress towards, Net Zero.

What is Performance Framework?

The Performance Framework has been developed to provide the CLC with a sector level dashboard on our progress towards Net Zero aimed at motivating businesses to action and to help those outside the sector understand our progress.

We collate data for the dashboard on a quarterly basis (suggest adding so we introduce the metrics before referring to them: 'through a set of 31 metrics') albeit not every metric will be available quarterly. The data itself will be drawn from sources which already aggregate it, known as data point owners.

The Performance Framework is very closely aligned with Government policy and draws on emerging thinking on carbon measurement and assessment, as such enabling us to regularly update and improve the metrics.



Executive Summary

There was a lot of noise about the recent Net Zero announcements by the UK Government which were seen as big policy changes to reduce the level of ambition. From looking at the data actually the reality of the impact is not so significant. However, there are some short-term changes which will influence business decisions.

The bigger risk is perhaps the political rhetoric convincing businesses that somehow Net Zero is less of a priority, when the truth is this is only enabled by the Government. In fact, it's our financial markets and investors and ultimately our end customers or rather the children of our end customers who will be determining what is and is not a priority. We shouldn't be fooled that this is going away, instead we need to be flexible and evidence based in our approach to solving the challenge. If anything, it's a shift towards private sector entrepreneurial thinking focused on our customers' needs rather than a Government mandating the path.

Low carbon transport and commuting

- September DfT launched their plan for all vehicles sold to be EVs by 2035, pushing back from the previous date of 2030 as part of the PM's proportionate approach to NZ.
- The headline target of most interest to us is that 70% of new vans will need to be EVs by 2030, a target on the vehicle manufacturers. This is quite an ask given our current data shows only 5.5% of the vans sold are EVs in the year to date.
- The good news is that there are a few positive steps to support businesses in this: -
 - o Assuming that annual chargepoint growth remains constant the UK is on track to meet its 2030 estimated chargepoint demand.
 - o The plug-in van grant is available up to £2500 for small vans under 2.5t, and up to £5000 for large vans between 2.5 and 4.25t.



Executive Summary

The CLC is making progress with the Zero Diesel sites roadmap to co-ordinate our efforts across Developers, Infrastructure Clients and House Builders with negotiations underway on common approach and the pace of change with an announcement due in the new year. In the meantime, we have been making progress on the here and now with Plant Operator training launched, aimed not just at plant operators but also clients and designers.

Buildings policy changes

The fundamental shift in the PM's speech around our approach to Net Zero in Buildings was to shift from regulation to choice. More time to make the necessary shift to Heat Pumps, with the transition at the point of changing the boiler rather than a blanket ban on new boiler installations. To put this in perspective the number of buildings connected to low carbon heat networks and heat pumps installed as % of overall building stock is currently 14% whereas the CCC target is 50% by 2035. It will be interesting to see how the increase in heat pump subsidies announced will mitigate the slowdown in the rate of heat pump installers trained we have seen this quarter, currently we are at just over 5000 aiming to get to over 7000 required by the end of the year to meet our target.

Moving onto energy efficiency, heat demand in buildings needs to fall by over 25% from 2019 to 2035 according to the CCC pathway. Currently we're showing an increase, 2020 & 2021, most likely linked to the shift to working from home. This raises an interesting question about the business and personal responsibilities here, particularly if we see the proposed plans for businesses in the industry to include Scope 3 emissions in their reporting. As far as Government policy is concerned, the most significant impact of the PMs speech (by number of properties) was to scrap policies to force landlords to upgrade the energy efficiency of their properties in 2028. This equates to 2.3m homes against a CCC target of increased % of EPC C to 100% by 2035 which is roughly 11m homes.



Executive Summary

The CLC through CZ will undertake further analysis to determine the gap however overall, it wasn't a strong starting point before the PM's speech; the planned Policy & Regulatory interventions were likely to deliver retrofit to 2.9 million homes by 2030 falling short of the 11 million required.

Creating a productive environment for construction

The data here tells us a positive story about productivity and our role in waste and reuse of materials. Firstly, on waste, we have seen a continued downward trend in waste generated per £ of output, currently down to 502 tonnes per million pounds – a 25% reduction in 10 years. Now some of this will be down to materials cost inflation and the financial benefits of avoiding waste, however whatever the drivers the impact on our carbon emissions is the same – reducing. There is however more to do if we are to continue on our target of eliminating all but hazardous C&D waste entering landfill by 2040 set out by the GCB in their zero avoidable waste roadmap.

Onto productivity and there's a continued positive story here with both the impact of the Construction Sector Deal and the learning from Covid showing a continued upward trend in our productivity with our 5 year average showing a 10% improvement – bucking the wider economic trend. Over the last 5 years the construction sector has collectively invested £2bn in research and development, a tenfold increase on the previous 10 years.

Looking ahead, we have set ourselves the challenge of closing the productivity gap between construction output per worker and economy average by 2035, recognising that improving productivity will drive benefits across all four sectors (Housing, RMI, Buildings and Infrastructure). However, confidence in our pipeline is at its lowest point since 2008, through a combination of planning constraints and inertia in leadership decision making and nervousness in both homeowners and the private sector asset owners, undermining our confidence to invest. In addition, the volatility of material inflation in recent months has added further uncertainty.



Executive Summary

To address this risk and seek to continue our upward trend in productivity and associated carbon reduction benefits, the CLC has recently published the 'Creating a productive environment for Construction report' which sets out a quantitative look at what will shift the dial on our productivity between now and 2035 such that we can close the productivity gap between construction and the wider economy. This paper recommends a series of actions for industry leaders and government decision makers to support productivity growth and the CLC will be working hard to land these in Government policy alongside taking action ourselves to deliver for the industry through our workstreams.



Matt Palmer

Industry Sponsor
Net Zero & Biodiversity



Hannah Vickers

Programme Director
Construct Zero Programme



Ministerial Foreword



Nusrat Ghani

The Minister of State for Industry and Economic Security and the Minister of State for the Investment Security Unit at the Cabinet Office



Department for
Business & Trade

As Co-Chair of the Construction Leadership Council, I'm pleased to support the publication of the CO2nstruct Zero Performance Framework: 7th Progress Update Report. This report sets out the sector's latest progress towards Net Zero, against a set of 31 metrics the Construction Leadership Council is using to track the sector's collective progress to Net Zero.

We recently launched a project on Electric Vehicles, with thanks to Balfour Beatty as our lead partner. Over the coming months, we will be utilising the knowledge and experience of our CO2nstruct Zero members to better understand the barriers to the construction sector adopting electric cars and vans. We will publish an evidence-based assessment of those barriers in the New Year.

We continue to make progress on the Zero Diesel Route Map, with negotiations underway with developers, infrastructure clients and house builders to agree a common approach to establishing a date to phase out diesel on their sites. An announcement on this is due in the New Year.

Measuring the impacts of net zero is crucial. Today's report tells us of the positive progress we have made in the use of waste, with a continued downward trend in waste generated per £ of output, currently down to 502 tonnes per million pounds - a 25% reduction over the last decade.

However, we know there are challenges ahead. We need to pick up the pace in two areas.

Ministerial Foreword



Nusrat Ghani

The Minister of State for Industry and Economic Security and the Minister of State for the Investment Security Unit at the Cabinet Office



Department for
Business & Trade

Firstly, today's report notes that whilst 70% of new vans will need to be electric by 2030, only 5.5% of vans sold so far this year are electric. We will be discussing the challenges this presents, as part of our Electric Vehicle project.

Secondly, the growth in the number of trained heat pump installers has slowed, with a further 2,000 needed by the end of this year to meet our target of 7,000. We will continue working with the Heat Pump Association on this.

It's clear we have made progress. However, challenges remain. By working in partnership with our growing network of over 220 companies, we will continue to learn from each other, and lead the sector's progress to Net Zero.

I would like to thank each of you for your support and look forward to continuing to work with you.

Performance Framework Dashboard | November 2023

The RAG rating indicates whether industry is on track to meet the headline commitment and whether we have government policy in place to support industry in reaching it. The RAG ultimately shows where we need intervention, if a commitment is in red it means there is no government policy intervention and industry is not hitting it.



TRANSPORT

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

2. Optimise the use of Modern Methods of Construction and improved onsite logistics, in doing so reducing waste and transport to sites

3. Championing developments and infrastructure investments that enable low carbon modes of transport

4. Work with Government to deliver retrofitting to improve energy efficiency of the existing housing stock



BUILDINGS

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

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



CONSTRUCTION ACTIVITY

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

8. 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

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

78%

of diesel plant to be eliminated from construction sites by 2035

70%

of new vans to be EVs by 2030.

Close the productivity gap

between construction and economy average output per worker by 2035

Eliminate Waste

Eliminate all but hazardous C&D waste entering

Connect public/active transport

From 2025, planning applications from the sector must connect to public / active transport and include EV charging where parking is provided.

300,000 charging points

Installed by 2030

11.13 million homes

11.13M homes to reach EPC C by 2035

Low carbon heating

All new buildings will be designed with low carbon heating solutions from 2025.

50% of all housing

stock connected to low carbon heat sources (heat networks, heat pumps & PV) by 2035

Minimise energy demand

From 2025 we will deliver new homes and buildings which will minimise energy demand and reduce emissions in operation by 75% (dwellings) and at least 27% (commercial buildings) compared to current standards

25% reduction in heat demand

In homes from 2019 to 2035

Carbon data provided to our clients

Every client of the sector will be provided carbon data by 2030 to make informed lower carbon choices

Becoming Net Zero

From 2022, we will give all our clients the chance to become net zero by offering alternative low carbon design options and advice to clients, even if not scoped

66% reduction in emissions

By 2035 we will have reduced construction product emissions down by 66% from 2018

RAG STATUS

GREEN – ON TRACK

AMBER – MORE WORK NEEDED

RED – NOT ON TRACK

GREY – NO DATA

How Laing O'Rourke is working to eradicate diesel from its sites



CZ Priorities 1-3

Eliminating fossil fuels to power construction equipment and plant is a crucial part of the construction industry's net zero challenge. Laing O'Rourke has adopted a two-pronged approach to tackling diesel use on its sites:

1. Using alternative technologies, such as electric or hydrogen-powered options, where they are available
2. Mandating the use of hydrotreated vegetable oil (HVO) on all sites where it is primary contractor

With specialist business unit, Select, Laing O'Rourke has been instrumental in making innovative plant solutions available across the UK construction industry. Electric crawler cranes play an important part in reducing fuel usage on the company's sites today. Beyond that, innovative technologies have been sourced to minimise fuel consumption and drive efficiencies, including PUNCH Flybrid, adapted from Formula One to reduce generation capacity, and Ampd batteries, from Hong Kong-based 2022 Earthshot finalists.

All of Laing O'Rourke's sites are powered by 100% renewable electricity, backed by REGO (Renewable Energy Guarantee of Origin) certification.

Hydrotreated vegetable oil (HVO) was introduced at scale in April 2022, at which point the company mandated the use of HVO in place of diesel on its sites. In the most recent financial year, use of alternative fuels delivered 8500tCO₂e in carbon reduction.

Switching away from diesel is not only good for reducing plant carbon emissions - alternative fuels are better for workforce and neighbours too. Air quality is improved, as particles associated with diesel are eradicated. Other benefits include noise reductions, a reduction in deliveries to site (and associated transport emissions) and the elimination of spill risk. As electric alternatives continue to become available, these benefits will be realised at a larger scale.



LAING O'ROURKE

Sainsbury's and Mace – Low Carbon Programme

Mace has managed Sainsbury's energy efficiency / self-generation programme for 8 years, having originally been appointed to turn an outline business case into a co-ordinated, low carbon programme of works, including establishing partnerships with key suppliers.

This allowed a programme-level average payback period to be used for energy efficiency upgrades on building systems, such as voltage optimisation, refrigeration upgrades and LED lighting, which were rolled out across the estate. PV installations were installed in several sites, and one store was connected to an adjacent anaerobic digestion generator.

- Managed and delivered into multiple sites, including store distribution centres and store support centres
- Responsible for procurement and programme management of numerous specialist contractors
- Return on investment secured within four years for all low carbon investments.

Benefits:

100% of Sainsburys estate converted to LED lighting

1,800 energy audits carried out resulting in a step change in energy usage

60% of sites generating PV energy



CZ Priorities 4-6 and 7-9



National Grid – A flexible, lower carbon grid



CZ Priorities 7-9

National Grid's Electricity Distribution business is planning to invest €6.7 billion across its network as a key part of its commitment to a net zero future and its aim of operating as a net zero business by 2028 - 22 years ahead of government targets. In addition to tackling its own carbon footprint, the investment will help National Grid's customers and stakeholders to achieve their own low carbon ambitions.

According to Mark Shaw, Electricity Distribution Transformation Lead at National Grid "Our plans have connected ability and sustainability at their core. We're making sure that our network is ready to facilitate the mass connection of low carbon technologies (LCTs), playing a leading role in delivering the UK's net zero targets and enabling others to follow. This is the reason why being part of Leading the Charge was such an obvious fit for us."

As the demand for low carbon technologies grows and customers become more invested in optimizing their energy profile, they expect more from their network provider. That's why National Grid have become the first network operator to make a connect ability pledge, promising its customers that network capacity will never be a barrier to the adoption of domestic LCTs.

As part of this pledge, National Grid aims to provide the capacity needed for an additional 1.5 million electric vehicles and 600,000 heat pumps by 2028, empowering their eight million customers to make.

The responsibility faced by National Grid in maintaining a network that allows communities to go about their daily lives also comes with the opportunity to lead by example on the way to net zero.

As part of its ambition to be a net zero company by 2028, the company is committed to replacing at least 89% of their existing operational vehicle fleet with EVs by 2028 and installing EV charging at all operational sites. In addition to reducing carbon emissions, National Grid is setting several sustainability and biodiversity goals at major new project sites, including a 10% net gain in plant, insect and animal life.

National Grid's commitment to a well-connected, sustainable, low carbon future is creating a greener and more flexible network that will allow both employees and customers to be an integral part of the drive towards to UK net zero carbon.



Construct Zero Performance Framework Dashboard



Construction
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The Construction Industry's Zero carbon change programme

Priority 1

Transport

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

Performance framework target

78% of diesel plant to be eliminated from construction sites by 2035.

70% of new vans to be EVs by 2030.



TRANSPORT

- Performance framework metric

1

Annual increase in non-diesel plant in use from plant hire firms
- Performance framework metric

2

15% idling reduction in 2023 based on 45% industry average
- Performance framework metric

3

Phase out diesel generators on site by 2025 (target 500 firms signed up by 2025)
- Performance framework metric

4

Plant operator training launched in 2023
- Performance framework metric

5

Annual increase in electric vans in – new registrations of battery electric vans

Data Under Collection

New Metric

New Metric

LAUNCHED

Data: CECA

5.5%

Market share

YTD 2022 – 11,359

YTD 2023 – 14,296

2,937 more than this time last year

Data: SMMT

Priority 2

Transport

Optimise the use of Modern Methods of Construction and improved onsite logistics, in doing so reducing waste and transport to sites.

Performance framework target

Close the productivity gap between construction and economy average output per worker by 2035.

Eliminate waste in all but hazardous C&D waste entering landfill by 2040.

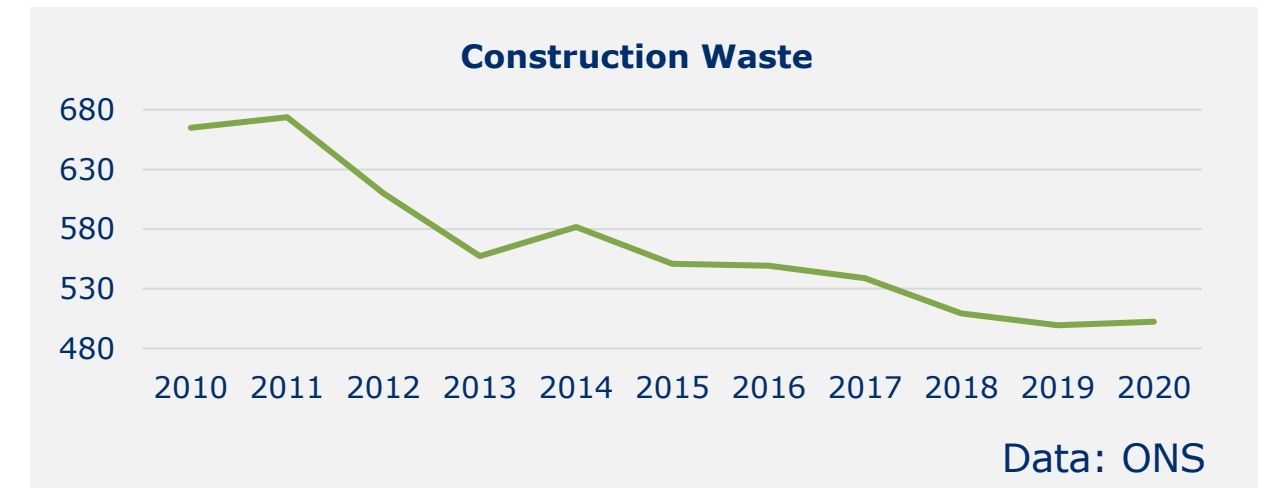


TRANSPORT

Performance framework metric

6

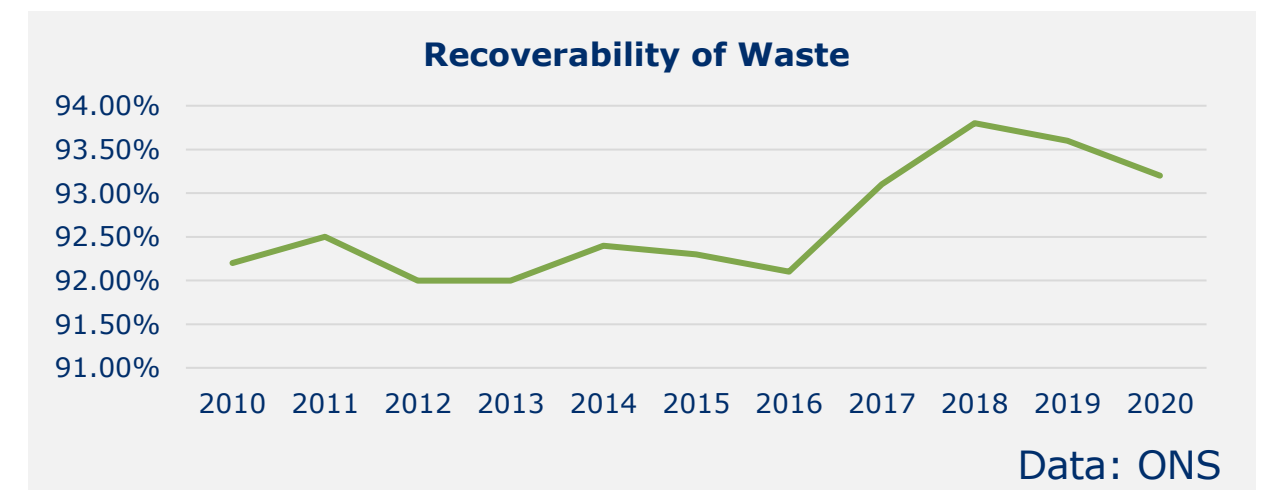
Annual reduction in construction and demolition waste and excavation waste tonnes/£m output



Performance framework metric

7

Target recoverability of Construction and demolition waste to increase to 95%



Performance framework metric

8

Demolition waste reused and recycled

Data Under Collection

Priority 2

Transport

Optimise the use of Modern Methods of Construction and improved onsite logistics, in doing so reducing waste and transport to sites.

Performance framework target

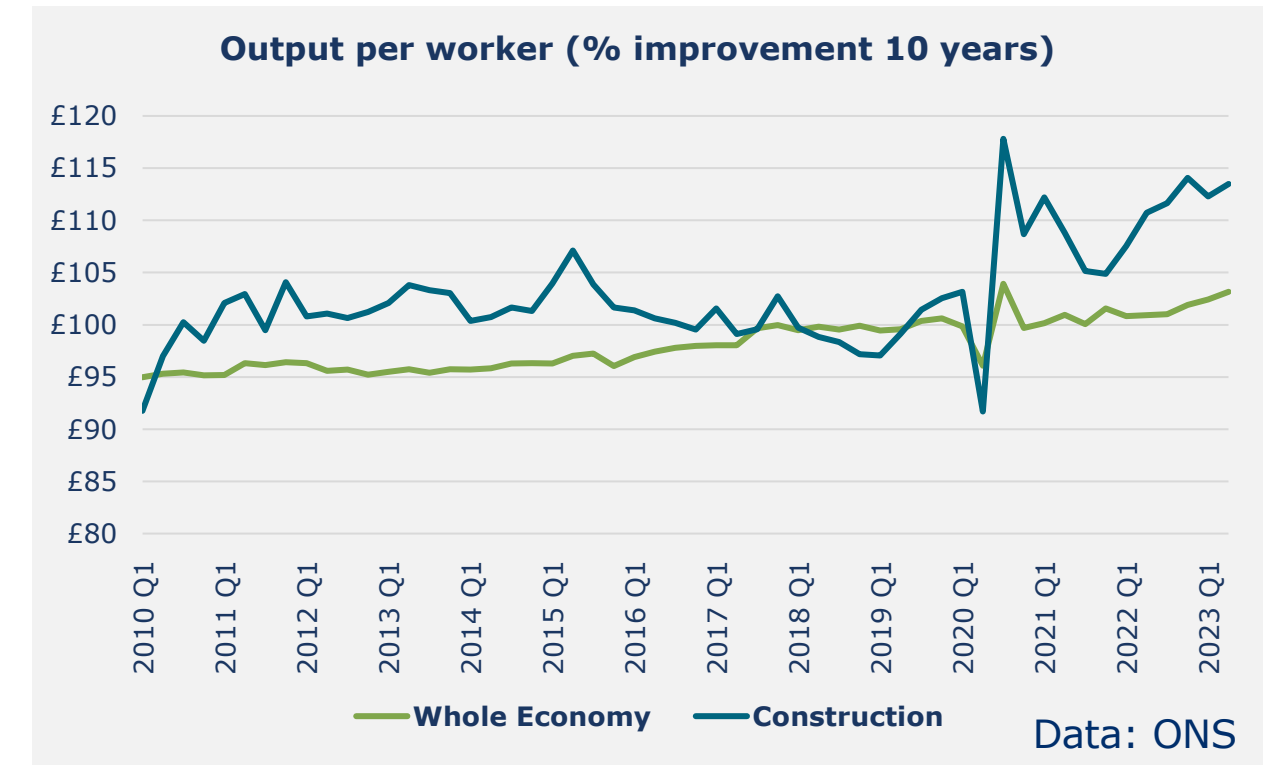
Close the productivity gap between construction and economy average output per worker by 2035.

Eliminate waste in all but hazardous C&D waste entering landfill by 2040.

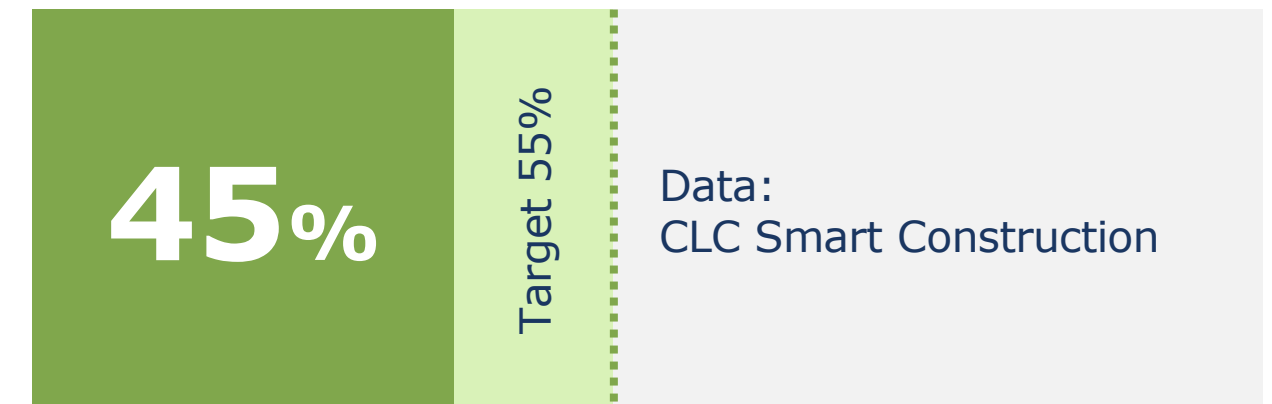


TRANSPORT

9 Performance framework metric
Measure industry onsite productivity output/FTE



10 Performance framework metric
Increase % of pre-manufactured value across sector year on year



11 Performance framework metric
New stat from Construction Productivity Taskforce

Data Under Collection

Priority 3

Transport

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

Performance framework

From 2025, planning applications from the sector must connect to public / active transport and include EV charging where parking is provided.

300,000 charging points installed by 2030



TRANSPORT

RAG STATUS

GREEN – ON TRACK

GREY – NO DATA

12

Performance framework metric

Uptake on Continued Professional Development on climate change mitigation for all professional members targeting 100% by 2025

13

Performance framework metric

Annual increase in number of EV charging points installed by the sector

Data Under Collection

Data: CIC

44%

Data: DfT

Priority 4

Buildings

Work with Government to **deliver retrofitting** to improve energy efficiency of the existing housing stock.

Performance framework target

11.13m homes to reach EPC C by 2035



BUILDINGS

RAG STATUS

RED – NOT ON TRACK

14 Performance framework metric
11.13m homes to reach EPC C by 2035

15 Performance framework metric
Establish industry 'quality scheme' routes and licensing consistent with PAS2035 and target annual increase in number of businesses registered

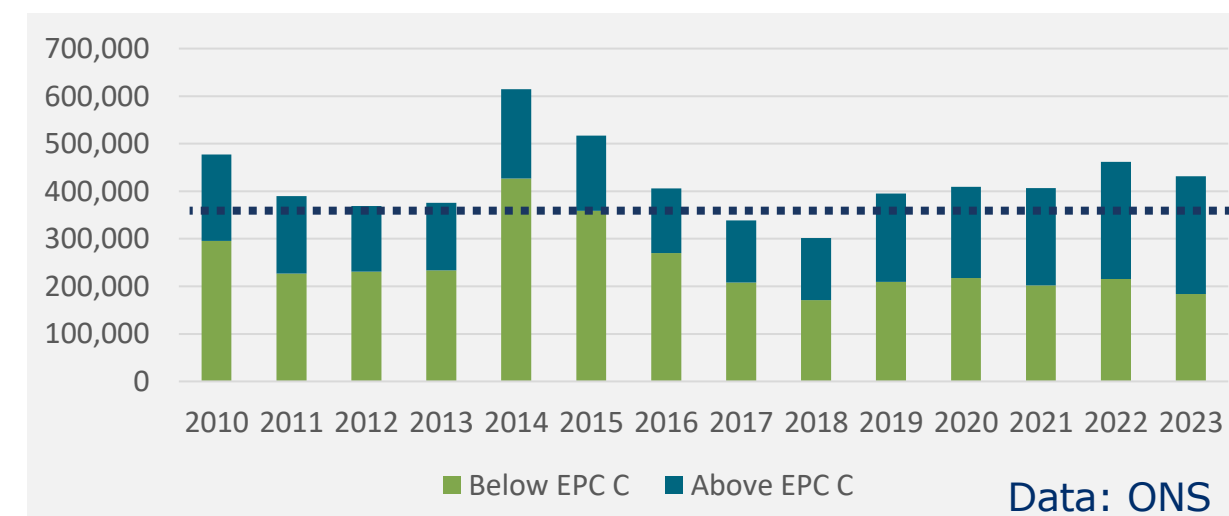
16 Performance framework metric
Number Trustmark Retrofit Coordinators targeting 30,000 by 2028

17 Performance framework metric
Annual reduction in average energy requirements for new dwellings and existing (EPC based), increased % of EPC C to 100% by 2035

Data Under Collection

138 Scheme launched in Q1 2023
Businesses registered to date in 2023
Data: Trustmark

End of 2023 Target 8300
731 Total 30k
Data: Trustmark



Priority 5

Buildings

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

Performance framework target

All new buildings will be designed with low carbon heating solutions from 2025.

50% of all housing stock connected to low carbon heat sources (heat networks, heat pumps and PV) by 2035.



BUILDINGS

18 Performance framework metric

Increase in Heat Pump installations per year to exceed Government target of 600,000 per year by 2028

19 Performance framework metric

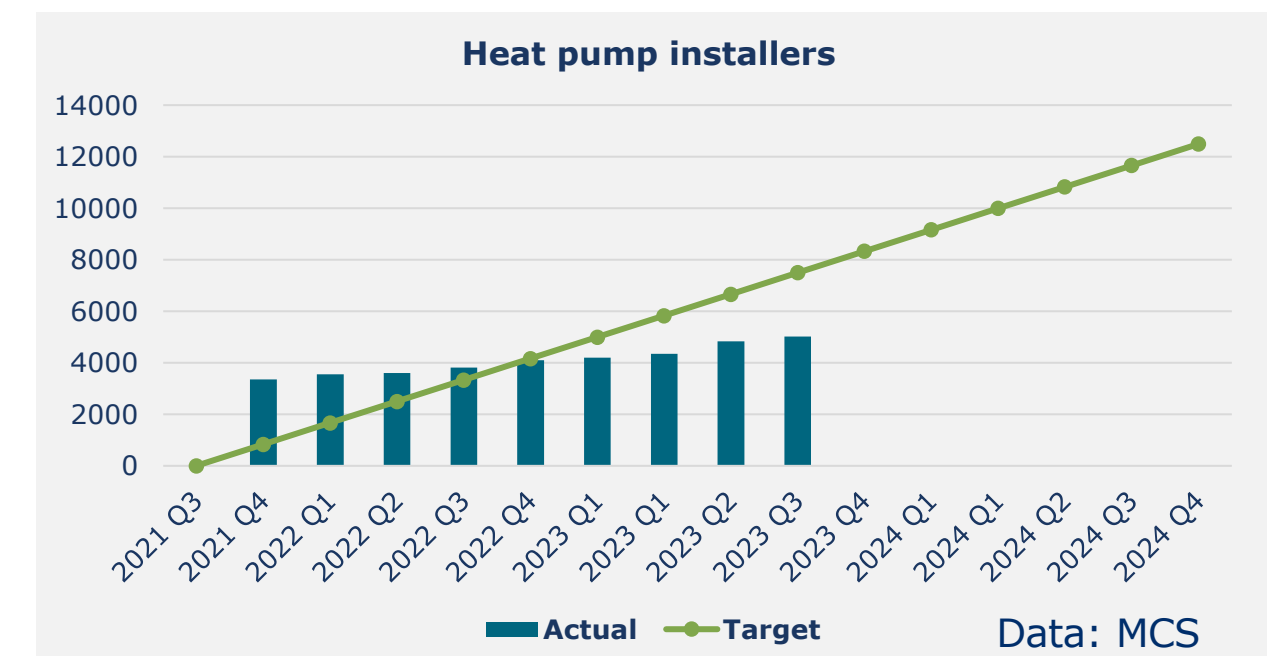
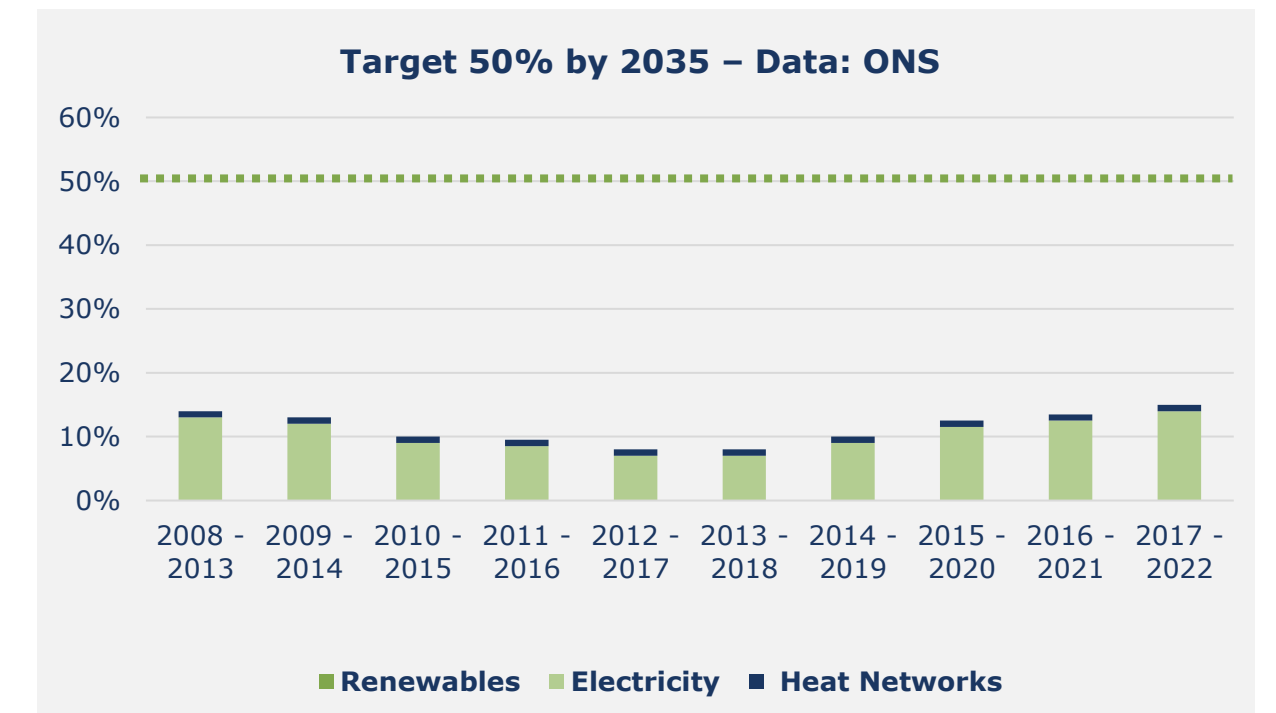
Number of buildings connected to low carbon heat networks and heat pumps installed as % of overall building stock. CCC target 50% by 2035

20 Performance framework metric

Annual increase in trained Heat Pump Installers (MCS Registrations) aiming for 30,000 by 2030

71,000 Total 600k

Data: BSRIA
Achieved in 2022



Priority 6

Buildings

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

Performance framework target

From 2025, we will deliver new homes and buildings which will minimise energy demand and reduce emissions in operation by 75% (dwellings) and at least 27% (commercial buildings) compared to current standards.

25% reduction in heat demand in homes from 2019 to 2035.



BUILDINGS

RAG STATUS

GREEN – ON TRACK

AMBER – MORE WORK NEEDED

21

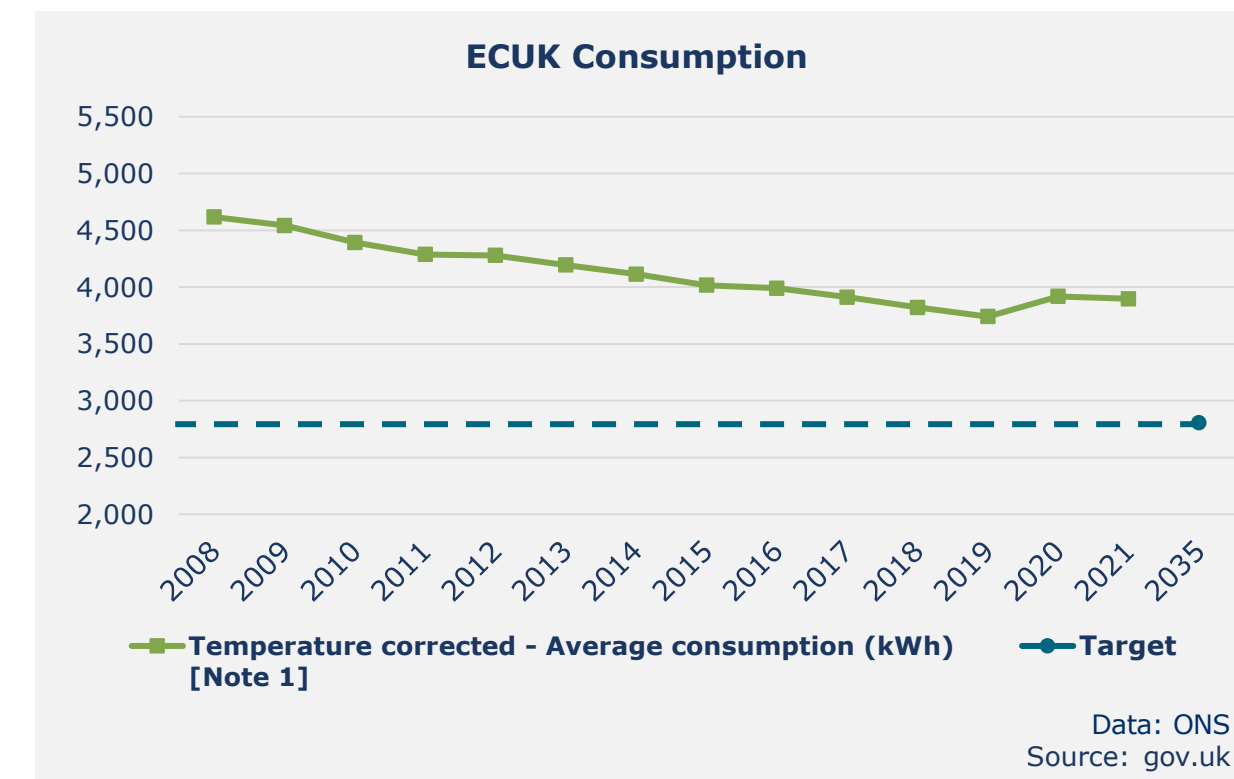
Performance framework metric

Annual reduction in actual energy usage in Buildings (EUK based). Heat demand in buildings needs to fall by over 25% from 2019 to 2035 in the CCC pathway

22

Performance framework metric

Milestone on Future Buildings Standard & Future Home standard (date TBC)



**ON TRACK
FOR 2025**

Data: DLUHC

Priority 7

Construction

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

Performance framework target

Every client of the sector will be provided carbon data by 2030 to make informed lower carbon choices.



CONSTRUCTION
ACTIVITY

23

Performance framework metric

Uptake on Continued Professional Development on climate change mitigation for all professional members targeting 100% by 2025

Data Under Collection

24

Performance framework metric

40% of product portfolios to have EPDs by 2025 with 100% by 2030, targeting a baseline and annual updates from 2025

Data: Q1 2024

25

Performance framework metric

Every business or client over 250 staff in infrastructure to achieve PAS 2080 accreditation, monitor % coverage, target 100% by 2025

20 Accredited

Data: BSI

Priority 8

Construction

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

Performance framework target

From 2022, we will give all our clients the chance to become net zero by offering alternative low carbon design options and advice to clients, even if not scoped.



CONSTRUCTION
ACTIVITY

26

Performance framework metric

Uptake on Continued Professional Development on climate change mitigation for all professional members targeting 100% by 2025

27

Performance framework metric

Commercial models to reward low carbon

28

Performance framework metric

Building type benchmarks on embodied and operational carbon

Data Under Collection

New Metric Data Under Collection

2024	Offices Education Industry Retail Hotels Healthcare Linear Infrastructure
2025	Homes

Data: FHH & UKNZCBS

Priority 9

Construction

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

Performance framework target

By 2035 we will have reduced construction product emissions down by 66% from 2018.



CONSTRUCTION
ACTIVITY

29

Performance framework metric

Work with Government to have CCUS operational on 2 clusters by 2028

30

Performance framework metric

Energy consumption - Establish 2018 baseline and target annual reduction in energy used in production kWh/Tonne for key product lines. CCC target is 47%

31

Performance framework metric

CO2 emissions intensity. Establish 2018 baseline and target annual reduction in embodied carbon CO2/Tonne for key product lines.

By 2035 we will have reduced construction product emissions down by 66% from 2018

Phase 1:

Published the Evaluation of the Track-1 Cluster Sequencing Process document

Phase 2:

Launched Track-2 of the Cluster Sequencing process. Acorn and Viking are best placed to deliver our objectives for Track-2

Data: DBT

	2017	2018 baseline	2019	2020	2021	2022	2023	2035 Target
Steel*								
Concrete	146.2	145.3	145.4	147.6				49.402
Timber*								

	2017	2018 baseline	2019	2020	2021	2022	2023	2035 Target
Steel*	-	-	-	-	-	2.8	-	0.952
Concrete	81.2	80.2	79	80.9	-	-	-	42.506
Timber*	-	-	0.16	-	-	-	-	0.09

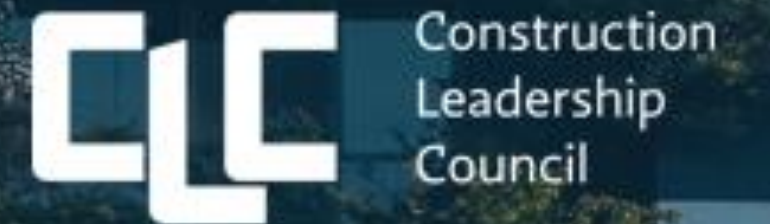
Data:
Structural Timber Association
Sustainable Concrete Forum
Steel Zero

*Steel and timber figures are still being collected

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For more information, please visit
[Construction Leadership Council](#)



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