Carbon Reduction Plan

September 2025

Engineering a sustainable future

Document Quality Control

Document Revision Record

Revision	Date	Author	Reviewed by	Approved by	Details of amendments
1	14.06.23	M. Wilson	P. Gwynn	B. Hamer	N/A
2	04.07.24	M. Wilson	P. Gwynn	B. Hamer	Format & data update
3	04.09.25	M. Wilson	P. Gwynn	B. Hamer	Update data

Contents

1 Mackley's Carbon Reduction Commitments

Climate change adaptation is Mackley's core business as we deliver infrastructure to improve the resilience of coastal and riverside communities and support regional growth and sustainable use of resources. We are also committed to helping reduce carbon emissions from our operations. We are members of the SME Climate Hub and fully support the UN Sustainable Development Goals relevant to our activities through our Business Strategy and Sustainability Policy.

Mackley's vision is:

'***To be valued as a collaborative contractor delivering river, marine, water and complex infrastructure to build a sustainable future***.'

'I believe we should have a positive impact through our work and our three pillars of sustainability are People – our most important asset and we need to support a diverse staff base to achieve their full potential in all aspects of the business through training, mentoring and opportunities. Planet - we will ensure all of our operations have minimum negative impact on the environment and that we create and improve habitats by working with nature and reducing our carbon emissions. Profit – in order to provide our staff with a sustainable future and support the community we must create value in all our projects so we can plough investment back into the business and through innovation grow our business year on year.'

Ben Hamer, Mackley Managing Director

We make the following pledges compared to our 2020 baseline year:

1. **Reduce our absolute Scopes 1 and 2 emissions by 50% by 2030**
2. **Reach Net Zero before 2050 – in line with the UK Government's target and Science Based Targets.**
3. **Reduce our absolute Scope 3 emissions as far as possible by 2030 in line with our commitment to reach net zero before 2050.**
4. **Strive to support innovation in the use of sustainable materials.**

We are a rapidly growing company and our emissions total is very reliant upon construction materials over which we have very limited influence. We therefore cannot commit to reducing our absolute emissions from Scope 3 by 50% by 2030. Nevertheless, our reduction plan includes actions aimed at reducing our Scope 3 emissions within the limits of our influence.

A summary of our baseline figures and progress is shown in Section 3, with details of how we calculate our emissions in Appendix 1.

2 Carbon Reduction Initiatives

The following completed and proposed initiatives will help us meet our carbon targets.

2.1 Completed initiatives – 2018-2024

a. Joined SME Climate Hub – raised awareness and publicly committed to a low carbon future.
b. Switched to green tariff electricity – saved up to 40T CO2e per year (pre-Covid figure).
c. HVO fuel on 2 projects and confirmed its suitability for use in our plant. These trials saved 199T CO2e compared to the equivalent gas oil.
d. Installed 12 EV charge points at head office and yard.
e. EV charge point on 1 site.
f. Trialled and then used low carbon concrete and basalt reinforcement on a coastal project.
g. Increase from 0% - 13% of total fleet vehicles plug-in hybrids in 2024 with less than CO2e 50kg/km.
h. Increase from 0% 10% of fleet full EVs in 2024
i. HVO fuel used for multiple Environment Agency contracts 2023 onwards (due to be phased out by 2030).

2.2 Planned Initiatives - 2025-2030

Scope 1: Site fuel (approx. 70% of Scope 1 and 2 emissions):

1. **Transition to low carbon fuel for plant** – target 70% of HVO or other low emission power by 2030
   1.i. Audit HVO supply commitments with Crown Fuels and others to confirm sustainable sources.
2. **Trial hydrogen or electric powered plant** when available.
3. **Trial hydrogen powered site welfare / offices** when available.
4. **Renew plant with newer, more fuel efficient models –** routine 3 year replacement
5. **Trial modern site eco-offices/welfare with solar power.**

Scope 1: Fleet fuel (approx. 30% of Scopes 1 and 2 emissions)

6. **Transition to hybrid plug in / EV fleet – target 80% full EV by 2030**
   5.i. Install temporary EV chargers on larger sites.

   5.ii. Identify means of reclaiming expenses for EV charging remotely from head office.

   5.iii. Provide staff incentives to switch to Hybrid and EV vehicles.

Scope 2: Electricity

7. **Maintain green tariff electricity – target 100% green tariff power at head office, regional offices and site offices from 2022 until 2030.**
   6.i. Promote connection to grid power for larger sites

Scope 3: Purchased Materials

Often, Mackley does not have influence over the designs or specifications of materials used in our projects. Our actions therefore, aim to encourage designers and clients to use low carbon options.

8. **Continue trials of low carbon concrete and pre-cast concrete on coastal environments –** share data with clients and designers.

9. **Early Contractor Involvement (ECI) contracts to include low carbon options for designers and clients**

10. **Maintain use of FSC/PEFC certified timber on our projects –** timber from sustainably managed forests stores carbon if recycled at end of life. As we use 100% FSC/PEFC certified timber and the majority of our construction timbers are re-used, we can record carbon stored within our Scope 3 figures. FSC/PEFC timber equated to -3,500 TCO2e in our baseline year using figures from the ICE Database 2019.

11. **Estimators and Procurement Team to offer products from the UK where available to reduce transportation emissions**

12. **Promote lower carbon options in tenders**

    11.i Produce a low carbon options appendix

Actions across all scopes

13. **Improve Mackley's carbon literacy**

    12.i. Include low carbon engineering within new starter inductions and site inductions

    12.ii. Produce low carbon TBT for use on sites

    12.iii. Carbon and engineering training for site managers, estimating, design and procurement staff

    12.iv. Identify staff to develop more detailed carbon knowledge

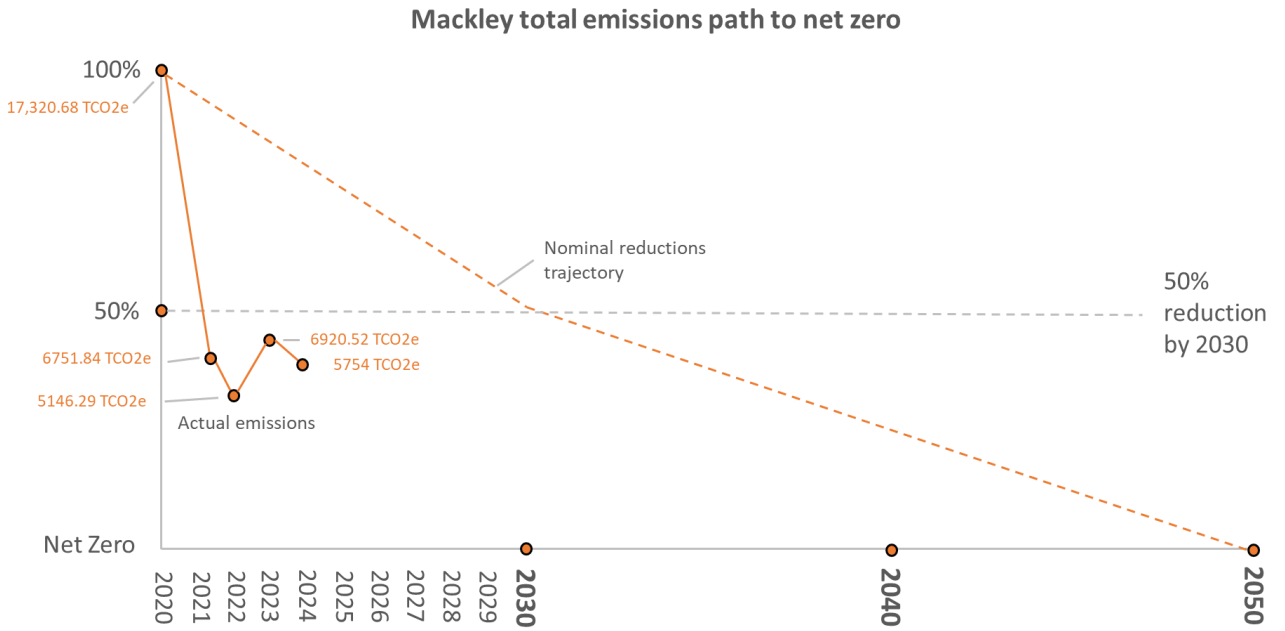
13. **Improve the accuracy of carbon measurements**

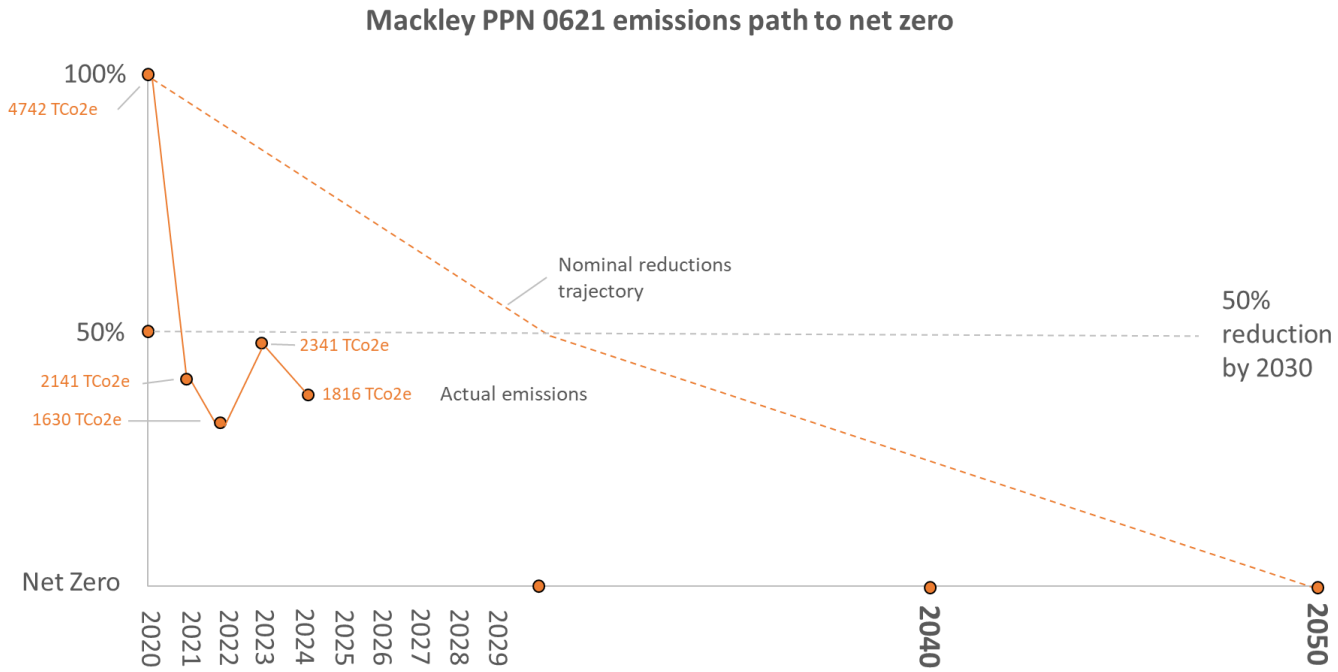
    13.i Examine ways to capture emissions from electricity used from EV vehicles within our Scope 1 footprint

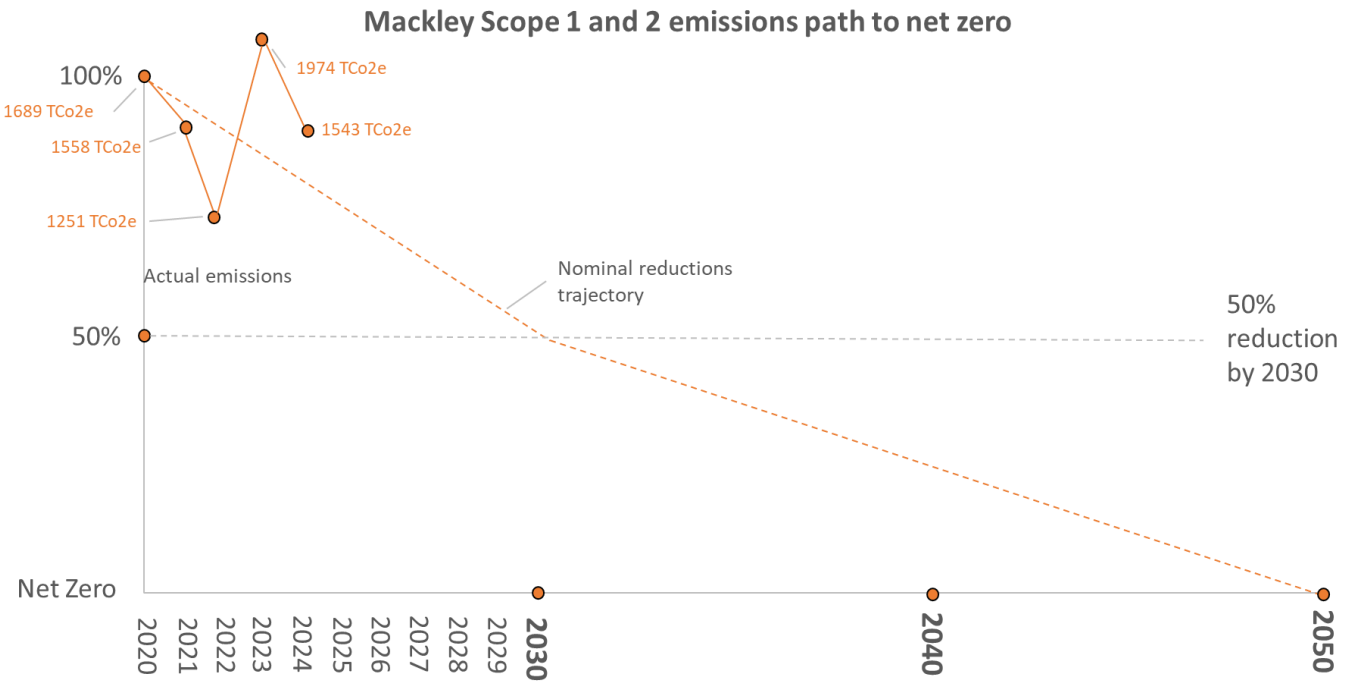
    13.ii Increase the accuracy of upstream transportation figures

    13.iii Increase accuracy of staff commuting mileage

3 Carbon Reduction Figures







Commentary on figures: The figures above and the tables on the following pages show a steep decrease in carbon emissions between 2020 and 2022, a rise in 2023 and a decrease in 2024. The 2020-2024 overall decrease in Scopes 1 and 2 emissions have been influenced by carbon reduction initiatives, most significantly HVO fuel making up 15% of the total plant fuel in 2021, 32% in 2022 and 31% in 2024. HVO use decreased to 19% of Mackley's fuel use in 2023, and we also completed projects with high fuel requirements, resulting in the higher emissions. The decrease from 2023 to 2024 represents a lower fuel usage, combined with the increased proportion of HVO. Our Scope 1 and 2 figures do not include biogenic emissions from HVO which are outside scopes.

The Scopes 1 & 2 totals have reduced despite an increase in turnover. This likely due to the use of HVO mentioned above, more fuel efficient plant in our fleet, an increase in EVs in our fleet and projects requiring less plant fuel. The latter factor is likely the most significant in reducing overall emissions from plant, where 2024 saw fewer beach contracts with a large number of plant travelling longer distances with more projects focused on constructing fixed structures within a smaller works area.

Scope 3 emissions: The sharp decline in PPN0621 emissions and overall emissions between 2020 and 2021 is due to variation in our project requirements. 2020 saw unusually high figures for Scope 3 'purchased goods' as the result of large purchases of steel piles, rock armour and timber, and high emissions from Scope 3 'upstream transportation' with the timber and rock imported from overseas. 2023's figure shows an increase in purchased goods (particularly concrete) and their associated embodied emissions and transportation.

Mackley's Scope 3 emissions are highly variable year on year and we are largely reliant upon industry wide emissions reductions to tackle this aspect of our operational carbon emissions.

The low emissions from Scope 3 business travel and commuting in 2020 were largely the result from Covid restrictions which are seen in the increase in emissions from these sources from 2022 onwards.

All 3 graphs and the Section 4 emissions data indicate fluctuating absolute emissions and carbon intensity (CO2e/turnover). The figures over several further years will indicate whether this is due to variability in project types or whether there is a de-coupling of CO2 emissions from turnover.

4 Carbon Emissions Monitoring

Carbon emissions for PPN 06/21 sources

		Baseline year				Most recent (current) year						
		2020	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Carbon Intensity (Scopes 1 & 2) – 1000T CO2e / £million turnover		37.52	41.79	35.72	39.41	25.71						
Sources of emissions												
Scope 1	(fleet and plant fuel)	1,688	1,558	1251	1974	1537						
Scope 2	Purchased electricity	0.00*	0.00*	0.00*	4.7**	5.31**						
Scope 3	Total PPN 06/21 categories	3054	582	355	362	273						
Total	**All PPN 06/21 emissions**	**4742**	**2141**	**1630**	**2341**	**1816**						

*The zero emissions for Scope 2 electricity reflect the UK rules for reporting green tariffs. Mackley's electricity usage equates to approximately 40T of CO2e if a standard tariff were used.

** calculated from Opus Energy's Fuel Mix Disclosure, 92% renewables, 3.6g / kWh

Scope 3 emissions broken down by Categories

		Baseline year			Most recent (current) year							
		2020	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
PPN 06/21 Scope 3 categories	Business Travel	1.12	1.17	3.34	5.12	3.08						
	Employee commuting	15.00	18.75	37.38	35.47	31.92						
	Waste	45.66	40.60	23.09	9.37	23.87						
	u/s transportation of goods	2,992.35	522.42	291.89	313.01	214.65						
	d/s transportation and distribution	0.00**	0.00**	0.00**	0.00**	0.00**						
Additional Scope 3	Water use and treatment	0.29	0.41	0.18	0.21	0.37						
	Purchased goods and services	12577.64	4609.56	3515.33	4023.88	3928.51						

**The zero emissions for downstream transportation reflect the nature of our business in that we have no product deliveries separate from our construction.

5. Declaration and Sign Off

This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard and uses the appropriate Government emission conversion factors for greenhouse gas company reporting.

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard.

This Carbon Reduction Plan has been reviewed and signed off by the JT Mackley Board of Directors

Signed on behalf of the Supplier:

Ben Hamer, Managing Director

4th September 2025

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