



SUSTAINABILITY REPORT 2023

STEPPING STONES TO NET ZERO: 2023 DATA

Another year has gone past, which has brought us ever closer to our 2030 net zero deadline. In 2023, we therefore moved forward with several key projects in order to ensure our progress towards this finish line.

This report provides a summary of this action, along with verified data for key metrics.

Celebrating sustainable success

In 2023, we had plenty to celebrate when it came to our sustainable work.

After a fantastic year of action in 2022, we reaped the benefits of our achievements by taking home the award for Leading Sustainable Building Material Manufacturer – Suffolk in the 2023 BUILD Magazine Design & Build Awards.

We also renewed our commitment to the Suffolk Carbon Charter, earning a 'Gold Level' as a result. Gold Level holders must exemplify best practice and show a clear reduction in carbon emissions, going above and beyond that achieved by Bronze and Silver Level holders.

In 2023, we were also a finalist in the Energy and Sustainability (Midlands & East region) category at the Make UK Awards.

Our success in all of these prestigious awards is a testament to the hard work we have done so far in our journey to carbon neutrality and will spur us on until our goal is achieved.

A factory for the future

The year 2023 also saw the completion of our brand-new manufacturing facility at Brandon.

Outfitted with the latest technology, the factory was designed to be as efficient as possible to reduce energy consumption and waste. Monitoring systems keep a close watch on the amount of power we use, allowing us to spot opportunities for improvement.

Energy efficiency is further bolstered by the factory's low-energy light system and power factor correction. Solar panels, highly efficient inverters and heavily insulated curing chambers have also been installed to help us meet our energy goals.

We reduced the size of mixers too, which cuts the risk of dumped mixes. When the mix comes to be cured, it enters heavily insulated chambers, which stay warmer for longer.





Cutting fuel carbon

Reducing our fuel consumption and finding greener fuel alternatives is a key business priority for us due to our reliance on HGVs and plant vehicles.

In 2023, we took a significant step forward by switching all of our plant vehicles over to HVO fuel (hydrotreated vegetable oil). This renewable fuel has 90% of the carbon emissions of standard white diesel, making it an ideal choice for our business.

The results speak for themselves: in 2021, plant vehicles contributed 687 tonnes of carbon to our footprint. After switching to HVO, this reduced to just 72 tonnes in 2023.

We are now investigating the viability of switching our HGV fleet to the same fuel source.

Monitoring sustainable product performance

At Lignacite, we have always had a strong focus on making our products as sustainable as possible. In previous years, we worked closely with organisations such as the British Precast Concrete Federation and the Concrete Block Association to develop, monitor and improve our sustainability performance.

In 2023 we took our commitment to the next level by developing our own range of Environmental Performance Declarations (EPDs), which were independently verified. The focus is now on reviewing our performance and putting measures in place to reduce our blocks' embodied carbon levels.

As a result, a range of ECO blocks is now being developed, which will contain up to 90% recycled material. These will be delivered to customers by trucks fuelled by HVO, making them our most sustainable blocks yet.



The ongoing race to net zero

Our target of reaching net zero by 2030 is an ambitious one, but achievable. We took a major step towards this goal in 2023 by setting up a more efficient factory, aligning our sustainable processes and switching our plant vehicles over to HVO fuel.

Indeed, the latter change alone has meant that we have increased our renewable energy consumption to 26%.

Thanks to the hard work of our teams, in 2023 we reduced our carbon footprint to 1,411,876 tonnes. This is a notable step down from the 1,782,062 tonnes logged in 2022.

The next step is to improve our performance even more. Switching our HGV fleet over to HVO fuel is being strongly considered, as is the possibility of switching the heating of our kilns to bio-LPG or bio-kerosene.

We're also working on reducing the use of cement in our blocks, with the end goal being the development of a cement-free product. In the meantime, we will continue to work on increasing our use of recycled and secondary aggregates and making better use of local suppliers.

It is no secret that there is much to do. But although the road to net zero is long, it is one that is well worth travelling.

20.7%
The reduction in
our carbon
output in 2023

Verification of Data

A key improvement initiative is to obtain external verification of data used to set objectives and targets. Independent data verification has been achieved through NR Richards Associates Limited, a respected construction-focused organisation in the field of environmental and sustainability performance.

The data presented below shows our performance during 2023, with previous years' performance presented alongside where available. Significant improvements were made last year regarding the recording of KPIs to allow for more accurate monitoring of energy usage and carbon emissions.

ASPECT	UNIT OF MEASURE	INDEPENDENTLY VERIFIED DATA		
		2021	2022	2023
Electricity Use	Total KWh	2,531,586	2,201,474	2,403,587
	% Renewable	6%	7%	3%
	KWh / M ²	0.87	0.76	0.89
Natural Gas Usage	Total KWh	38,323	69,899	56,534
	KWh / M ²	0.07	0.02	0.02
Total Diesel Usage	Total KWh	5,231,132	5,218,982	3,287,139
	KWh / M ²	1.77	1.81	1.22
LPG Usage	Total KWh	363,196	0	0
	KWh / M ²	0.12	0	0
HVO Usage	Total KWh	N/A	210,180	2,026,346
	KWh / M ²	N/A	0.07	0.75
Total Energy Usage	Total KWh	8,164,237	7,700,534	7,849,073
	KWh / M ²	2.76	2.69	2.92
Carbon Footprint	Total Kg	1,839,724	1,782,062	1,411,876
	Kg/ M ²	0.62	0.62	0.52
Mains Water Usage	Total Litres	7,116,000	9,898,000	9,912,000
	Litres / M ²	2.41	3.43	3.68
Borehole Water Usage	Total Litres	14,357,000	15,381,100	10,180,000
	Litres / M ²	4.86	5.33	3.87
Total Water Usage	Total Litres	21,473,000	22,279,100	20,092,000
	Litres / M ²	7.26	7.72	7.47
Transport (Raw Materials to Site)	Total Deliveries	39,955	22,352	20,978
	Average Tonne/Delivery	24.29	23.14	23.18
	Average Delivery Distance	47.54	89.7	84.10
Transport (Delivery of Products)	Total Deliveries	44,700	22,752	21,454
	Total M ²	2,378,053	2,797,912	2,701,291
	Average Distance (KM)	2,247,215	894,940	2,111,894
Own Waste Recycled Off Site	Total Tonnage	15,396	16,399	19,339
	KG / M ² Production	0.005	0.006	0.007
Waste Disposal to Landfill	Total Tonnage	3.86	8.00	0
Aggregate Consumption	Total Tonnage	548,578	518,409	486,020
	% Secondary / Recycled Material	13.3	7.9	6.1