

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

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.

Learnings & Challenges

The introduction of the HVO mandate followed a period of trial and testing, including air quality studies, to ensure there were no adverse effects when compared with diesel use. The trials concluded that HVO represented a suitable transitional option while electric and hydrogen-powered plant technologies mature.

HVO fuel can vary, and sustainable sourcing is at the heart of Laing O'Rourke's strategy. The company recognised that in making the move to a more sustainable fuel, it was vital to ensure it did not inadvertently increase emissions or contribute to unsustainable practices elsewhere in the supply chain.

Three requirements are central to its procurement of HVO:

- 1) All fuel must comply with the Renewable Energy Directive, known as RED II. All of the HVO that Laing O'Rourke purchases comes from waste and meets RED II requirements.
- 2) It must meet the requirements of the Renewable Transport Fuel Obligation (RTFO). This provides minimum sustainability standards and gives the company assurance that its fuel is fully compliant.
- 3) It must be certified by an appropriate body, such as the ISCC (International Sustainability and Carbon Certification) or a comparable alternative certifying body. Certification means that the supply chain associated with the company's HVO fuel is fully traceable, so it can be sure that it does not become indirectly responsible for practices it is opposed to, such as deforestation, or other kinds of land clearance that would negatively impact the natural environment.

While HVO is the most deployed solution today, Laing O'Rourke recognises that it represents a transitional step in its net zero journey. Electric/battery-powered plant, coupled with energy-

efficient technologies and renewable power, is the company's preferred option, however today it is not available at the scale needed. Hydrogen-powered options are also being explored, but today the technology is very much in its infancy.

Switching away from diesel isn't only good for reducing plant carbon emissions - alternative fuels are better for workforce and neighbours too. Air quality is improved, as particulates 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.

