



Tideway

**TIDEWAY USES GREEN D+ LOW CARBON
FUEL TO TRANSPORT CONSTRUCTION
MATERIALS BY RIVER**



MOTIVATION AND CONTEXT

Tideway's renowned More By River strategy was developed in 2018 with the intention of reducing the number of HGVs required to deliver the project and minimise the environmental and social impacts associated with the transportation of construction materials and excavated materials. Specifically, Tideway's set goal was to achieve the transportation of at least 90% of excavated material by river.

More By River has achieved notable results, obtaining the Environment and Sustainability Initiative of the Year at the British Construction Industry Awards in 2019 and the Edie – Mobility award (available [here](#)) in the same year. Since then, the scheme has generated several measurable benefits and has been constantly adjusted, improved, and accompanied by research, testing, and innovation. To date, Tideway has reduced the number of HGVs movements by an estimate of 72%, moving over four million tonnes of material by river.

In parallel, Tideway stands out for its environmental sustainability commitments and for its continuous efforts to collaborate with partners and suppliers who provide innovative and ethical sustainable alternatives.

In 2019, when the UK Government officially introduced the legally binding Net Zero By 2050 legislation, the technology to achieve net-zero emissions in the maritime sector was at a very early stage. The main challenges faced then were associated with procurement costs, supplier scarcity, transportation issues and an unprepared and incompatible port infrastructure.

INNOVATIVE SOLUTION

Tideway and GPS Marine, the main marine contractor for the Central Delivery area, are now delivering materials via a tug that functions on an ultra-low emission sustainable fuel.

At Kirtling Street, Tideway's contractor Ferrovial-Laing O'Rourke are using the tug GPS Vincia that burns 100% Green D+ hydrotreated vegetable oil supplied by Green Bio-Fuels Ltd. The GPS Vincia tug transports tunnel lining segments from Thamesport.

Green D+ is an enhanced hydrotreated vegetable oil (HVO) with an additive system that chemically reduces NOx (to N2) in the exhaust gases and oxidises incomplete combustion products (HC, PM and CO). Green D+ is generated from a feed stock of solely waste vegetable oil and doesn't include palm oil in its production.





BENEFITS

In addition to the classic measurable benefits of our More By River strategy (e.g. reduction in HGVs needed to transport construction materials which reduces the impact on other road users, in particular cyclists, and reduced congestion in our neighbouring communities), burning Green D+ fuel generates a number of additional positive results:

- NOx reduction by approximately 30%
- Particulates reduction by 70%
- Greenhouse emissions reduced by approx. 90%
- Assists regeneration processes in exhaust gas treatment systems

IMPACT

It is estimated that Green D+ produces 2.82 kg less CO₂e for each litre used compared with traditional B7 diesel. In addition, Tideway has supported and funded the upgrading of the tugs providing a catalytic reduction (CRT) and diesel particulate filters (DPF), collaborating with GPS Marine to reduce their environmental impact of all their Thames fleet.

As a result of this set of activities, Tideway and GPS Marine have been able to provide an adequate port infrastructure, installing a barge to deliver Green D+ fuel which makes it widely available and a viable alternative to marine gas oil. Green D+ fuel will be available for other vessels, operators on the Thames, and all future projects in London. This represents an important step for the marine industry towards aligning with the UK Government Net Zero commitment and reduce its impact on the environment and the future.

‘GPS Marine markets its water freight business by emphasising its cost-effectiveness, reliability, sustainability and CO₂e savings. By using Green D+, a 100% waste-derived and plant-derived drop in gas oil substitute, we are able to dramatically improve the sustainability and overall CO₂e savings benefits of water freight with little or no effect on reliability or cost-effectiveness.’

**John Spencer, Managing Director,
GPS Marine**

Project: Tideway
Authors: Darren White, Andra Jurju
Supplier: Marine GPS, Green Biofuels Ltd

