Case Study: Mayo Civil Engineering Limited

Challenges:

Through encouragement from Tier 1 national construction contractors, Mayo Civil Engineering seek to decarbonise. The company is also interested in replacing red diesel with Hydrotreated Vegetable Oil (HVO) fuels for their operations, which can typically see machinery in use for 8-10 hours daily over 3-12 months of a typical project lifecycle.

Mayo Civils use a minimum of 200,000 litres of diesel a year, equating to 501 tonnes of CO2e - for every 1,000 litres of HVO burned, 0.195 tonnes of CO2 is produced, offering huge greenhouse gas savings.

When the initiative was being developed, the duty on red diesel increased, taking the duty paid from 11.14p per litre to 57.95p per litre. Any new fuels will be used on existing plant equipment that has previously been fuelled with traditional diesel.

Externally, Indications from the fuel supply industry suggest the cost of HVO will reduce over time until it reaches parity with conventional diesel. This is mainly due to the importance that the UK Government is applying to low-carbon fuels and the renewable fuel obligation buy-out price.

Mayo Civils, keen to pursue decarbonisation, are worried about the negative impacts HVO fuels might have on their plant/equipment, some of which are aged. Given the diversity of equipment and, therefore, the need for suitable adjustment of engine parameters to enable the full potential lower exhaust emissions and reduced fuel consumption, a research collaboration between Mayo Civils and Manchester Metropolitan University to explore HVO fuel further is being considered to pursue the company's sustainability goal. There is scope to understand further the potential technical combustion and emission implications on diesel engines using HVO as renewable diesel fuel.

Impact:

Since becoming a member of the Supply Chain Sustainability School, Mayo Civils has engaged in different activities, online learning and action planning.

This has encouraged and supported the company to develop their in-house understanding of HVO fuel (Hydrotreated Vegetable Oil), a fossil-free, renewable, and sustainable fuel produced by hydrotreatment of vegetable oils and animal fats. HVO is a chemical structure almost identical to regular diesel and can, therefore, fully replace fossil diesel, offering a 90% reduction in carbon dioxide emissions compared with regular diesel.

Increased knowledge: Despite the company having little prior knowledge, the School's assessment process has helped Mayo Civils

Fact box

Company

Mayo Civil Engineering Limited

No of employees

350

HQ

North Manchester (Rochdale)

Website

www.mayocivils.com

Main contact

Stewart Scott (Operations Director)
Stewart@mayocivils.com

Services

Roads, sewers, structural concrete frames

About

Mayo Civil Engineering was established in 2005 as a civil engineering and groundworks contractor. It is now a major contributor to the bustling Manchester City Centre, Salford and London construction development scene. A thriving multi-divisional, northwest-based company, Mayo Civils delivers comprehensive services across multiple projects, including roads, sewers, and structural concrete frame solutions.

understand some of the sustainability implications, challenges and targets facing the construction industry. The company believes that if they were not a member of the School, Mayo Civils would have been years behind in its understanding.

Benchmarking: Mayo Civils has found that the action plans provided by the School have helped set a benchmark to build upon when setting sustainability action plans with their key client partners, who are Tier 1 suppliers to the industry, such as Willmott Dixon and ISG.

Ease of learning: The value and ease of use of the e-learning modules have been immense. Mayo civils has discovered that Life and work can often be time demanding, so to access e-learning with flexibility and repeat modules to understand fully is highly beneficial.

Value gained:

Working and learning from the wealth of resources available from the School, Mayo Civils has undertood that the benefits of HVO fuel are entirely emissions-based by the reduction of fleet carbon emissions.

Collaboration: Continuing to be a member of the School and collaborating with other School members allows Mayo Civils to further scope and understand the potential technical combustion and emission implications on diesel engines using HVO as renewable diesel fuel in a bid to continue to understand and balance the trade-off between NOx, particulate emission and fuel consumption.

Access to a knowledge hub: Being a member of the Supply Chain Sustainability School has given Mayo Civil Engineering a distinct advantage concerning access to a knowledge base and educational resources. This has helped the company continue to develop and enhance its understanding of the sustainability drivers of its clients and how they can match those to their developing planning cycle.

Future proofing:

As a developing company working alongside its client portfolio, Mayo Civils will continue to develop its learning, continue to spread that across key members of its own workforce and rise to the learning challenges set by its clients through engaging with the School.