



Go Plant Fleet Services trial Gas to Liquid alternative fuels with significant results

Our goal was to provide a solution to help our customers achieve their carbon reduction efficiencies and reduce our own impact on the environment. Given the current high cost of electric vehicles and the necessary infrastructure required to support such fleets we wanted to look at the problem from the alternative aspect of providing the same vehicles but with an alternative low emission fuel. This would help to provide an immediate reduction in NOx emissions around operation, without the costs involved around updating entire fleets of vehicles. We also recognize, as a fleet operator ourselves, our commitment to reducing the emissions caused by our large fleet of vehicles. Go Plant Fleet Services runs a fleet of over 5000 commercial vehicles, including a fleet of more than 1200 road sweepers. As a business, we are wholly committed to delivering a safe, reliable, and professional service to our customers whilst also doing all we can to ensure our operations are as environmentally-friendly as possible – with our senior team dedicated to running our fleet in a more sustainable way.

Whilst replacing our current fleet with electric commercial vehicles is certainly a long-term objective, we recognise that the adoption of electric vehicles (particularly across the commercial sector and heavy-duty road sweepers/RCV's in particular) is in its very early stages with technology, associated high costs, and immature infrastructure significant current barriers.

Hugely committed to acting 'now' to minimise the impact of its operations on the environment and to support its customers in achieving greater sustainability, Go Plant Fleet Services has become the first commercial vehicle hire company in the UK to undertake a pioneering fuel replacement trial – an initiative which has seen road sweepers at two of our nationwide depots (Telford and Welwyn Garden City) run on state-of-the-art Gas to Liquid (GTL) fuel instead of diesel.



Working with our fuel supplier Certas Energy (the exclusive distributor of Shell GTL in the UK), Go Plant Fleet Services has led the way by seeking a viable, long-term solution to the challenges faced by the industry in the search for alternatives fuels and an ever pressing need to reduce emissions.

Introduced to the UK in 2016, Shell GTL Fuel is a drop-in alternative to diesel that has an immediate effect in reducing emissions and improving local air quality without engine modification. It is produced by a refinery process that converts methane-rich natural gases into liquid synthetic fuels.

The two vehicles (Johnston 651 and 652 truck-mounted sweepers) were trialed for six months during 2019/20 and each had GTL fuel used within their main and auxiliary engines. The sweepers were fitted with special telematics devices to capture all data relating to performance, and economy.

Using telematics, we were able to capture key data on performance, and economy – with the results of using GTL fuel in the main and auxiliary (donkey) engines. In addition, by working in conjunction with IPU Group we were able to carry out extensive tests involving equivalent GTL and none GTL run vehicles illustrating the differences of NOx emissions on both the main and auxiliary engines.

The results show that the vehicle running on GTL fuel has 57% lower NOx ppm on the main engine (no load), 58% reduction on the auxiliary engine (no load), **91%** reduction Main Engine (travelling) and 23% reduction on the auxiliary engine (sweeping). This represents a significant reduction which is immediately obvious in the operating locale.

In addition, a vehicle running on standard diesel fuel would need to undergo regeneration of the diesel particulate filter on average twice a week. The trial results show that the same vehicle running on GTL fuel only needed to be regenerated every two to three weeks – resulting in a significant reduction in wear and tear of the vehicle and possible downtime.



AdBlue Consumption - every one of Go Plant's vehicles requires the use of AdBlue in its exhaust system to reduce the NOx emissions produced by the diesel engine. Results from the trial show that the vehicles run on GTL fuel required 50% less AdBlue than those on conventional diesel.

No Need for Modifications - Shell GTL is a drop in fuel and can be used as a direct fuel replacement in heavy and light duty engines without the need for any modifications to the vehicle or parts

No Infrastructure Changes Required - unlike electric vehicles which require the availability of dedicated points to regularly re-charge the battery, the simple replacement of diesel by GTL fuel requires no infrastructure changes at all.

Immediate Impact - whilst lifecycle electric vehicle emissions are reported to be around three times lower than a conventional vehicle, the impact of lower NOx emissions from a GTL-fuelled vehicle is immediate (NOx emissions from a non-GTL vehicle are around 68 parts per million whilst emissions from a GTL vehicle are on average 6 parts per million – a huge **91%** reduction)

More Biodegradable - Shell GTL fuel is proven to be less harmful to the environment than conventional diesel fuels and can be classified as 'readily biodegradable'

The results above are hugely encouraging and have showcased the effectiveness across the board of utilising alternative fuel options. With immediate reductions in emissions, and no need for costly modifications – the use of GTL fuel in heavy duty commercial vehicles is a huge step forward for us as an organisation future-proofing our fleet and supporting our customers to meet growing environmental targets and combat their impact on the world's climate.