

## Marine biofuels: a greener alternative

TFG Marine is committed to the transition to lower-carbon fuels. As part of our rapidly expanding offering, TFG Marine now offers customers in the ports of Amsterdam, Rotterdam and Flushing in the Netherlands a range of advanced marine biofuels. All products are EU Renewable Energy Directive (RED I/II)-compliant and International Sustainability and Carbon Certification (ISCC) certified.

The second-generation fatty acid oil (FAME) B20 and B30 biofuel blends are derived from waste oil feedstock and provide vessel owners and charterers with a sustainably-sourced, lower-carbon alternative to the current industry standard marine fuels.

Using either of our B20 or B30 blends can help reduce a vessel's carbon fuel consumption by up to 30 percent and each fuel is inherently low in sulphur hence improving air quality through lower ash and emission profiles.



## Testing on the Marlin Amethyst

The range of products supplied by TFG Marine are regularly used by TFG Marine and its shareholders Trafigura, Frontline and Golden Ocean for their own fleets.

Stringent testing has been commissioned to ensure that our biofuel blends meet performance and quality standards of regular marine fuel.

We have conducted laboratory and extended sea trials on the Trafigura-owned and operated Marlin Amethyst vessel using our FAME B30 blend. During the extended trial period, no modifications to the engine or infrastructure were required and no handling issues were experienced during the combustion process.

## **DELIVERY AGAINST ALL KPIS**

- · Smokeless emissions
- Reduction in exhaust gas temperature
- Normal engine sound and vibration
- No abnormal sludge formation
- No precipitation
- Clear line filters and auto back wash system
- Consistent pressure in circulating pump

  line

30,000mt

B20/B30

FAME blend biofuels available

**FAME PRODUCTION PROCESS:** ISCC-certified vegetable and rapeseed oils Second generation or waste fatty acid oil collection Transesterifcation process Processing plant 0 Second generation VLSFO fatty acid oil biodiesel (FAME) B20 B30 **20% FAME 30% FAME** 80% VLSFO 70% VLSFO