

Helping our customers conserve the environment



An AET factsheet on our eco-design vessels

Protection of the natural environment is extremely important to our customers and we have an active programme in place to ensure that new tonnage joining our fleet is significantly kinder to the planet than the vessels they replace.

Since 2012, we've taken delivery of four newbuild Suezmax tankers, four newbuild VLCCs and as of May 2015, two newbuild DP2 shuttle tankers that are all fuel efficient and environmentally friendly.

Our eco-solutions

DP2 shuttle tankers

- **Wet hybrid SOx scrubber system** with open / closed loops and high trapping efficiency of sulphur oxides and particulate matters
- **Ballast water management system** comprising mechanical separation and electrolysis-based chlorination
- KVOC¹ and CVOC² installed with increased cargo tank pressure for **reduced VOC emissions during cargo loading and transit**
- DP low load software for **reduced main engine fuel consumption** during DP operations
- NMVOC³ gas measurement system for **cargo / inert gas emissions monitoring**
- Cargo flow meter for **leak detection** during offloading from FPSO⁴
- Environment monitoring system infra-red camera for **oil spill detection**

VLCCs

- **IMO⁵ NOx tier II compliant** main engine and aux engines
- Voluntary compliance and early installation of **ballast water treatment system**

- Featuring **energy saving devices** such as pre-swirl stator / duct, PBCF⁶ and rudder bulbs for **improved fuel efficiency**
- **Trim optimisation and weather routing** software
- Centrifugal type oily water separator
- 3rd, 4th vessels: De-rated / optimised main engine application of latest super long-stroke, Green, electronically controlled main engine that **delivers more power using less fuel**, together with more efficient propeller

Suezmax tankers

- Wave optimised bow for **reduced wave resistance**
- Hull form optimisation for **improved wake and reduced drag**
- Samsung saver fins for **improved propulsion efficiencies**, and **reduced propeller cavitations and hull vibrations**
- Star propellers for **increased lift-drag ratio** and **improved propeller efficiency**
- **Improved superstructure aerodynamics**
- De-rated / **optimised main engine**

Outcome

Taken together, these additions will produce a tangible reduction in overall fuel use and an **EEDI⁷ that is significantly below the IMO baseline**.

¹ Knutson Volatile Organic Compound

² Compact Volatile Organic Compound

³ Non-methane Volatile Organic Compound

⁴ Floating Production, Storage and Offloading

⁵ International Maritime Organisation

⁶ Propeller Boss Cap Fin

⁷ Energy Efficiency Design Index