Fortescue™ ZERO

GREEN PIONEER

SHIPPING IS CURRENTLY RESPONSIBLE FOR 3 PER CENT OF GLOBAL EMISSIONS. THAT IS EXPECTED TO GROW TO 5-8 PER CENT OF GLOBAL EMISSIONS BY 2050.

With the maritime industry responsible for more than 80 per cent of world trade by volume, this trajectory must change to limit global warming.

Additionally, in a sector where assets can have a trading lifetime of 25-30 years, strong decarbonisation measures must start now.

As one of the world's largest iron ore miners, Fortescue has an industry-leading plan to decarbonise its Australian iron ore operations (Scope 1 and 2 emissions) to Real Zero – meaning no offsets – by 2030.

Shipping, however, poses a significant challenge. The Company owns eight very large ore carriers (VLOCs) and charters many more.

In FY23, the shipping of Fortescue's products from Western Australia to its customers accounted for approximately 3.04 million tonnes of CO2-eq, of which almost 9 per cent was from Fortescue's fleet of VLOCs (Scope 1) and 91 per cent was from contracted tonnage (Scope 3).

THE SOLUTION

Fortescue's Marine division was founded in March 2021 with a mandate to decarbonise Fortescue's shipping operations.

The Marine team was tasked with researching the widespread adoption of green ammonia as a marine fuel.

While Fortescue was ready to move towards a zero-carbon future, neither the technology nor the regulatory environment was ready for such fuels.

Fortescue has spent the past two years developing the innovative applications, processes and technology needed to safely run the Fortescue Green Pioneer – a 75m vessel – as an ammonia dual-fuel ship.

It did this by working collaboratively with leading maritime engineers and innovators, and through the strong support provided by the Maritime Port Authority of Singapore, associated agencies and institutions.

The two-year journey reached its pivotal moment in March when the Fortescue Green Pioneer successfully completed the world's first dual-fuelled ammonia fuel load and trial in the Port of Singapore, receiving flag approval from the Singapore Registry of Ships and a "Gas Fuelled Ammonia" notation by classification society DNV to use ammonia, in combination with diesel, as a marine fuel.

Through the Fortescue Green Pioneer, Fortescue has demonstrated that safe, technical solutions for ammonia fuelled vessels exist now, initiating and accelerating the development of an ammonia fuel market for maritime.

Like it did in November 2023 when it took the Fortescue Green Pioneer to Dubai for COP28, and when it showcased the vessel at Singapore Maritime Week in April 2024, Fortescue is determined to continue to advocate for the novel technological solutions and regulatory changes needed to decarbonise shipping.

KEY FACTS

- Developed under the auspices of the Class society DNV and the Singapore flag in just two years as a demonstration of what could be possible for the sector.
- Two of four engines were converted to run on a dual-fuel ammonia and diesel mix, with conversion undertaken in Seatrium Shipyard's Benoi facility in Singapore.
- Successfully completed first ammonia fuel transfer in March 2024 in Singapore.
- Perfectly suited to run on green ammonia derived from green hydrogen produced from Fortescue's global portfolio of proposed hydrogen projects – a critical component of the decarbonisation trajectory for shipping.