PILBARA CLEAN FUEL BUNKERING HUB

PILBARA PORTS

UNLOCKING THE PILBARA'S POTENTIAL FOR A CLEANER FUTURE

As the world's largest bulk export port authority, Pilbara Ports is at the forefront of developing a clean fuels bunkering industry that will drive the global transition to low-emission shipping. Our goal is for 100 per cent of bulk export vessels departing the Pilbara to be powered by clean fuels, supporting both our customers and communities in a sustainable future.

Explore our strategy below to see how we're turning this vision into a reality.

Strategy overview

Pilbara Ports aims to establish a Pilbara clean fuel bunkering hub by facilitating locally produced clean fuels that help our customers reduce their emissions.

The Pilbara Clean Fuel Bunkering Hub is a key initiative within the Pilbara Ports Climate Action Plan, supporting the decarbonisation of the shipping, maritime and resource industry. As the global maritime sector accelerates its investment in alternative fuels, the Pilbara is expected to be one of the first locations worldwide to see large-scale deployment of vessels powered by clean fuels.

This Strategy focuses on providing locally produced clean fuels for use as a marine fuel, enabling our customers to reduce emissions and align with 2050 decarbonisation targets. Leveraging the Pilbara's proximity to ammonia production facilities and shorter transit distances, resulting in lower well-to-wake carbon intensity and a high-quality, commercially viable and sustainable fuel supply.

Strategy benefits

The Pilbara's role as a global bulk export hub, supplying half the world's iron ore, makes it central to efforts to decarbonise the shipping fleet servicing the Pilbara to North Asia shipping route. This transition presents one of the most significant economic opportunities for the Pilbara, unlocking new industries in renewable energy and clean fuels.

The maritime industry contributes approximately three per cent of global emissions, with vessels operating in the Pilbara region emitting more than nine million tonnes of CO2 annually. Transitioning bulk carriers to clean ammonia as a marine fuel could cut emission by 94 per cent reducing them to less than 560,000 tonnes per year, a major step towards a cleaner, more sustainable future for global shipping.

There are over
7,000
bulk carrier vessels that visit the Pilbara each year

Emission reductions with ammonia as a fuel could reduce emissions by
94% or under
560,000 tonnes per year

Ammonia fuelled vessels expected to begin visiting the Pilbara as early as
early 2026

Located in the
Pilbara
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Ship-to-ship ammonia transfer trial at the Port of Dampier

In September 2024, Pilbara Ports, in collaboration with the Global Centre for Maritime Decarbonisation (GCMD) and Yara Clean Ammonia completed a world first ship-to-ship ammonia transfer trial at anchorage at the Port of Dampier.

The trial was a significant step in demonstrating the possibility of safely bunkering ammonia at anchorages in a port environment. The successful transfers have been recognised globally as a significant step towards decarbonising shipping fuel.

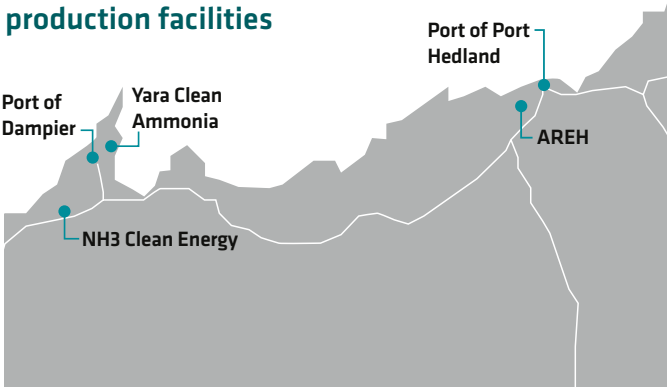
Pilbara Ports experienced marine team is leading an ammonia bunkering operational study at the Port of Port Hedland, in collaboration with industry partners.

Commitment to safety

Safety is central to every choice we make at Pilbara Ports and is a key factor in the Pilbara Clean Fuel Bunkering Hub. Alternative fuels come with a different hazard profile than traditional bunker fuel, and that is why ship-to-ship ammonia bunkering trials are critical

Ammonia is already safely exported around the world. Pilbara Ports has a long history of safely handling anhydrous ammonia at the Port of Dampier, with Yara Clean Ammonia having shipped an incident free 12.2 million tonnes of ammonia to date.

Current and planned ammonia production facilities



Strategy workstreams

To establish the Pilbara Clean Fuel Bunkering Hub, Pilbara Ports is advancing nine integrated workstreams to assess viable bunkering solutions across our ports, ensuring a safe, efficient, and commercially viable pathway to decarbonisation.

Our approach will position the Pilbara as a global leader in low-emission shipping, supporting both economic growth and environmental sustainability.

Key focus areas:

- **Infrastructure planning:** Identifying and developing the necessary port infrastructure.
- **Ammonia bunkering licensing:** Establishing a regulatory framework for safe and compliant ammonia bunkering.
- **Demand aggregation:** Researching and forecasting the demand of ammonia as a marine fuel.
- **Economic analysis:** Identifying economic drivers and opportunities to icentivise clean fuel uptake.
- **Government partnerships:** Partnering with State and Federal Government to achieve net zero by 2050.
- **Stakeholder engagement:** Collaborating with industry, shipping companies, and international ports.
- **Supply option Assessment:** Understanding supply options including, transport, storage and various bunkering options.
- **Incentive structures:** Exploring mechanisms and financial incentives to encourage industry adoption.
- **Marine operations:** Conducting operational studies and trials to assess safety, efficiency, zoning and feasibility.

Strategy partners

The Pilbara Clean Fuel Bunkering Hub Strategy is a collaborative initiative with key industry partners. By working with our industry partners, we will continue to facilitate efforts to safely, productively and effectively decarbonise the maritime industry.

For more information visit our website

Please note that "clean fuels" refers to all different versions of low carbon ammonia with varying carbon intensities.