

## Discounts for cutting ship emissions

CHRIS RAY THE AUSTRALIAN 12:00AM June 15, 2018

Australia's ports are taking steps to encourage shipping to cut greenhouse gas (GHG) emissions, which will have to be halved by 2050 if they are to meet new global targets.

In an Australian first, Port Botany and Port Kembla in NSW, operated by NSW Ports, will give discounts to vessels that outperform International Maritime Organisation emission standards from January 1, 2019.

In Western Australia, Fremantle port is collecting data from visiting ships to understand their environmental impact and the technologies they are using to reduce GHG emissions.

Fremantle and Dampier ports are Australian leaders in offering liquefied natural gas (LNG) bunkering as a potential solution for vessels seeking to reduce GHG emissions.

In April, the UN's International Maritime Organisation adopted a program to phase out shipping's carbon dioxide (CO<sub>2</sub>) emissions, which account for 2.2 per cent of all CO<sub>2</sub> emissions or about the same as Germany's.

IMO targets include minimum CO<sub>2</sub> reductions of 40 per cent by 2030 and 70 per cent by 2050 with total GHG emissions to fall by at least 50 per cent by 2050 regardless of trade growth.

Unlike the IMO's pending low-sulphur fuel regulations, the emissions targets are "aspirational objectives" not yet legally binding.

To help achieve the cuts, port-based financial incentives for greener vessels should be extended beyond the relatively few cases so far, the OECD's International Transport Forum says.

A recent ITF study found only 28 of the world's 100 largest ports offered such incentives.

NSW Ports came on board in May when it announced an environmental incentive to apply to vessel-related charges levied at Botany and Kembla.

Vessels registered with the environmental ship index (ESI), a system that rates air pollution from ships that perform above IMO emission standards, will qualify for discounts.

The ESI score accounts for various pollutants including nitrogen oxide (NO<sub>x</sub>), sulphur oxide (SO<sub>x</sub>) and CO<sub>2</sub>.

NSW Ports chief executive Marika Calfas estimates the incentive scheme will cost the company about \$1 million in the first year.

“The beauty of the ESI is that it recognises ships which perform better than IMO adopted standards. Therefore, it rewards early movers and drives continual improvement as tighter regulations come into force,” she says.

Calfas says incentives will be scaled so that higher environmental performance receives a higher discount at her company’s Botany and Kembla ports.

“Everyone in the transport sector has a role to play in decarbonising our supply chains.”

At Fremantle port, environmental surveys of cruise ships have been extended to all types of visiting vessels on a voluntary basis.

Fremantle Ports chief executive Chris Leatt-Hayter says the online surveys are helping it to understand the technical capabilities of vessels and what emerging technologies are being used to reduce emissions.

In addition to questions regarding fuel and emissions, survey topics include ballast water systems, hull cleaning, general waste storage, noise management and environmental certifications.

In 2017, EVOL LNG established Australia’s first commercial LNG bunkering operations at the ports of Fremantle and Dampier while Woodside Energy launched the Siem Thiima, Australia’s first LNG-fuelled marine support vessel, which operates out of Dampier.

Walter Purio, chief executive of the LNG Marine Fuel Institute, says all Australian ports should be preparing to establish infrastructure for LNG bunkering.

“Australia has the cargoes, the gas, the capability and the people to take advantage of the global shift towards LNG as a marine fuel,” Purio says.

“We should learn from Singapore, which is positioning itself as the number-one LNG bunker port in the world.”

Purio, a former ship captain, says Singapore offers a 25 per cent reduction in port fees for LNG-powered ships with an additional 10 per cent reduction if they use LNG-powered tugs.

LNG is said to be cleaner than marine diesel, emitting 25 per cent less CO<sub>2</sub>, 80 per cent less NO<sub>x</sub>, almost no SO<sub>x</sub> and zero particulates.

Purio argues LNG can help achieve IMO emissions targets when combined with new technologies, including batteries, changes to ship design and reduced speeds.

“I’m 62 years old. When I first went to sea we navigated with a sextant which had been in use for over 200 years,” he says.

“Now we can navigate with a mobile phone and our industry is changing at a pace we have never had to deal with before.”

He describes the decision by the French CMA CGM Group to order nine giant LNG-powered container ships for the northern Europe to north Asia trade as a “game changer”.

Members of the LNG Marine Fuel Institute include the Pilbara Port Authority, gas producers Woodside and Quadrant Energy, ore miners Rio Tinto and BHP, LNG investor Mitsubishi and shipper Mitsui OSK Line.

The institute is part of the Green Corridor Joint Industry Project, which is assessing the commercial viability of LNG as a fuel in the Australia to China iron ore and coal trades.

The project, which brings resource companies together with ship owners and designers, has come up with an LNG-fuelled Newcastlemax bulk-carrier design and is also designing an iron-ore carrier.

Meanwhile, institute member Mitsubishi is examining the feasibility of operating a small-scale liquefaction plant for bunkering at Port Hedland.

Angela Gillham, deputy chief executive of Maritime Industry Australia Ltd, says a lot of work is going on to examine the feasibility of LNG for deepwater shipping.

“However, up until recently, the consensus has been that LNG is not commercially viable for long-haul trades,” she says.

Gillham views LNG as a transitional fuel and says ships will require “genuine zero-carbon alternative fuels” to meet IMO targets.

“Biodiesel, generated via a variety of sources could help us get there, as some biofuels can be used in existing engines without too many changes, but we are really talking about the adoption by the sector of as yet unproven technology, such as fuel cells.”

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RUSSELL GOULD

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REMY VARGA

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RICK MORTON

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