



Precious Shipping Public Company Limited



What has PSL done so far?

What PSL plans to do in the near term.

What the IMO could do to get to net zero by 2050.

09 May 2023

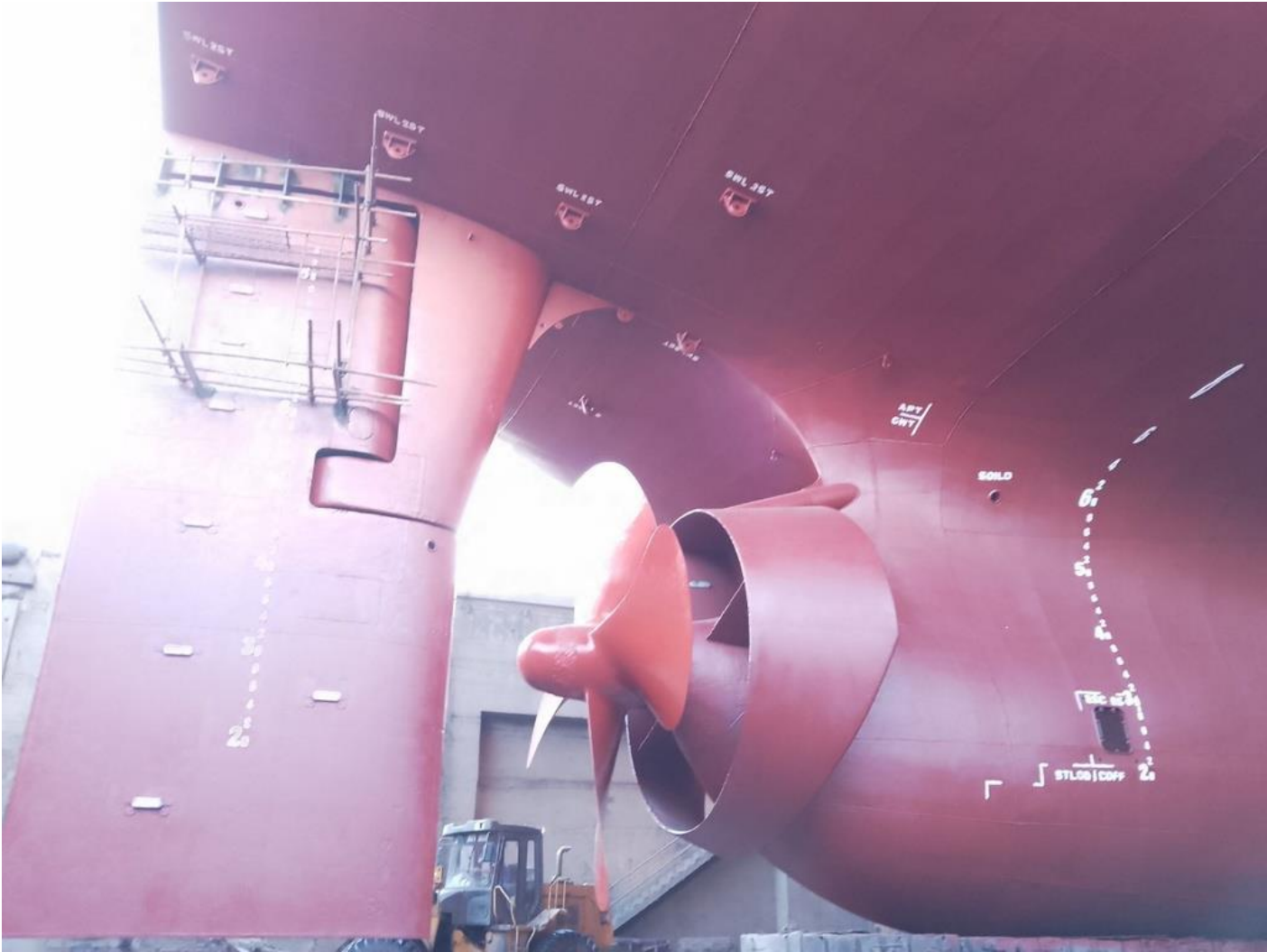
**Energy saving
technologies being used
or trialed on PSL ships**



Shaft Generators for economical power generation



Installation of Mewis Duct



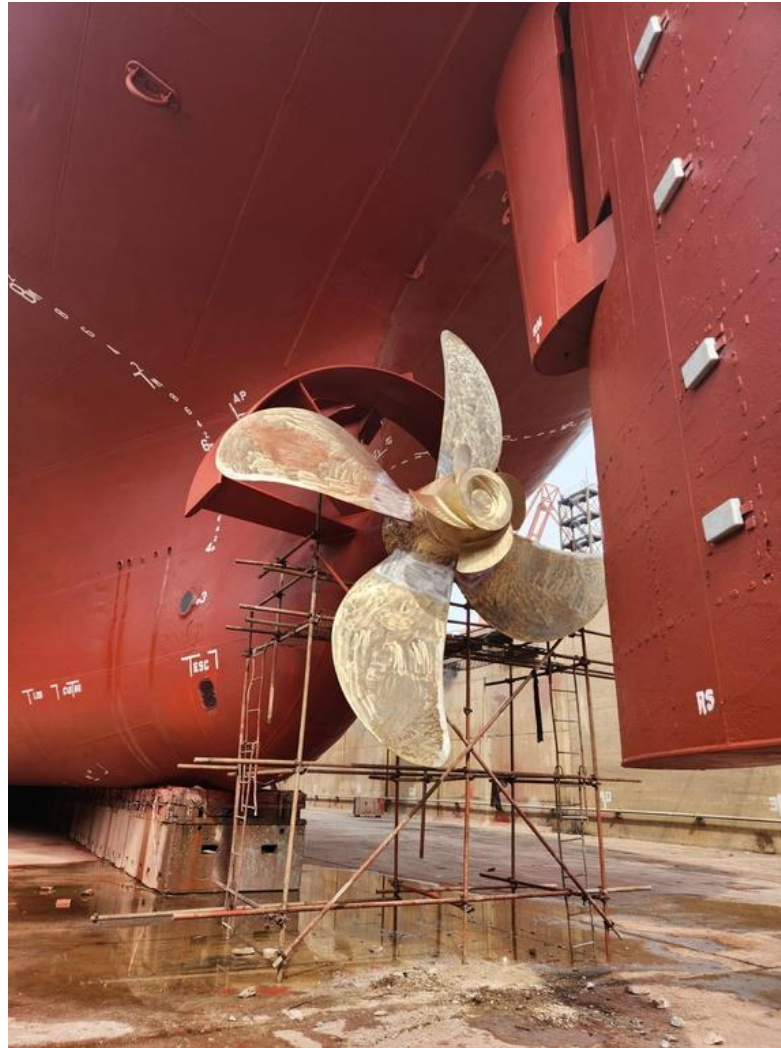
Mewis Duct in combination with HVAF



Special paint coating on propeller (Baranee Naree)



PSV + HVAF combination



Special High Performance Hull Coating



Trim optimization on every voyage

Trim Optimization Report

of

Bulk Carrier SARITA NAREE

(Rev. 01)

Owner

Precious Venus Limited

Bangkok, Thailand


Performance Monitoring in real time using sensor technology



Ship: Kirana Naree

Solar panels on trial (Sunisa Naree)



An aerial photograph of a large black and white ship, likely a tugboat or supply vessel, sailing on a dark sea. The ship has 'PSL' written on its superstructure. In the background, there are distant landmasses and a cloudy sky. A green rectangular box is overlaid on the left side of the image, containing yellow text.

Additional Energy saving technologies being used or trialed on PSL ships in the near term

Deepsea Technologies





PSL

Engaging Marsoft to purchase our CO2 savings from ESTs installed on our ships in last 12 months

SCHER

DWT

DWT

15m
14m
11COST 12COST 20COST 20COST | APT

BEW
O
PROP

What could the IMO do, and why?

Target net-zero by 2050 and impose a tax of \$100 PMT of CO2 emitted starting 1 Jan 2024, increasing to \$200 PMT by 1 Jan 2030.

- Every ton of fuel oil burnt in an IC engine would cost an additional \$320 from 1 Jan 2024 as a Carbon tax increasing to \$640 PMT by 1 Jan 2030, to be collected and used by the IMO.
- A universal tax by the IMO would stop similar taxes by others. The world would benefit.
- Use this fund to conduct Research and Development into alternate fuel burning engines.
- Subsidize cost of alternate green fuels of 'first movers' to a level with Fuel Oil prices.
- Push bunkering hubs to create land-based infrastructure for alternate fuels.
- Subsidize Island Nations that are most at risk due to Climate Change and have been demanding such a Carbon tax.
- Push shipyards to build many more alternate fuel engine ships as quickly as possible.
- A total of 100,000 fuel burning ships need to be replaced. Assuming 20 years (2030-2050) time horizon you need to build 5,000 ZEVs every year. So, yard capacity must increase significantly.

What could the IMO do, and why?

IMO puts a hard stop for IC fuel oil burning new ships by 1 Jan 2030.

- Engine makers will produce alternate fuel burning engines.
- Shipyards will purchase zero emission steel for ZEVs.
- Regulations on safety and other rules needed for the new fuels, will be put in place.
- Training of ship crew to handle these alternate ZEV fuels, will be done.
- Bunkering hubs will create the entire land-based infrastructure needed for the ZEV fuels.
- Alternate fuel manufacturers will create sufficient green fuels for the world ZEV fleet.
- Charterers will enter long-term partnership contracts with first movers of ZEVs.
- Purchasers of cargoes moved on ZEVs will pay their Shippers an increased price per ton.
- End consumers will accept and pay the marginal increase on their consumption.



What could the IMO do, and why?

IMO puts a hard stop to Scrap all 20 years or older ships from 1 Jan 2035

- Investment in ZEV ships to replace existing world fleet will cost about \$1.5 trillion.
- Ship owners will make profits (2030-2040), to allow funding of ZEVs.
- Shipyards will get orders for ZEVs (2030) and price them reasonably for first movers.
- Shipyards will become profitable, invest in mega yards, build required number of ZEVs in time.
- Regulators will have created all needed regulations for ZEVs and their fuels.
- Trained ship crew will be available in sufficient numbers to crew green ZEVs.
- Bunkering hubs will be created, supplied, and ready to distribute alternate fuels to ZEVs.
- Alternate fuel manufacturers will have created sufficient green fuels for the world ZEV fleet.
- Charterers will have long-term partnership type contracts in place with first movers of ZEVs.
- Cargo buyers will pay their Shippers an increased price per ton for goods shipped on ZEVs.
- End consumers will accept and pay the marginal increase for their goods shipped on ZEVs.

Thank You !



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