

# Maritime Decarbonization Monthly

November 2022

*Thought of the Month:*

*“Shipping companies are beginning to do more than just talk about green shipping”*

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## The Big Picture

In **2021 Denmark** set a strategic objective for **5% of the Danish-owned** fleet to operate using **green fuels** by 2030. Trade organization Danish Shipping recently revealed that **half** of the 51 ships on order by Danish shipowners will be capable of burning green fuels. It is encouraging to see Danish shipowners making progress to achieve their government’s environmental objectives by ordering ships compatible with green fuel, but it is important to keep in mind the biggest challenge for these owners will be sourcing the green fuels to operate such ships. For comparison, **less than 30%** of the much larger **Greek-owned** orderbook has **alternative fuel** capabilities. The Danish-owned orderbook is not the largest by any means, but it indicates a collective interest in adopting new, clean technologies. As a point of reference, Clarksons Research shows that 37% of all ships on order are capable of using green fuels or can easily be retrofitted to do so in the future.

## What’s New

The **European Commission** has announced that it will invest an additional **€10 million** in an energy efficiency project to reduce greenhouse gas emissions from international shipping through a global network of Maritime Technology Cooperation Centers (MTCCs) managed by the International Maritime Organization (IMO). Past objectives of the project have included port energy efficiency assessments, equipping port ships with solar power, and establishing data collection systems for greenhouse gas emissions (GHG) from ships. The new funding will enable a **second phase** of the plan, which will focus on energy efficiency measures in ports.

## Our View

Now that zero-emission shipping is squarely in the pipeline stakeholders are switching focus to achieving the goal as quickly as possible, and **fuel** is now the **hot topic** of analysis. According to industry headlines, **green methanol** appears to be the leading choice of fuel for alternatively fueled newbuilds. In the latest example, Hong Kong based **Pacific Basin** selected **methanol** for its first generation of zero-emission ships. The decision was based on the results of a feasibility study conducted in collaboration with Nihon Shipyard and Mitsui & Co. The study examined various environmentally friendly fuels in terms of availability, scalability, technical advantages/disadvantages and capital costs. **Long term** offtake agreements for **green fuels** are necessary for owners to own and operate the zero emissions ships of the future, and this barrier to entry means **long-term decisions need to be made** in short order.

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## Industry Trends

### Fuels

**Lloyd's Register** has introduced a five-step framework for assessing a ship's readiness to transition to zero-carbon fuels. The 'Zero Ready Framework' ranks the readiness of ships to operate on zero-carbon fuels from 1 (highest readiness level) to 5 (lowest readiness level) and is measured on a well-to-wake basis. The framework was created to provide clarity on the term 'readiness', which is used in a variety of ways in the marine industry.

### Biofuels

**Trials:** Japanese shipping company **Mitsui O.S.K. Lines** (MOL) has revealed that its company Aquarius LNG Shipping Limited conducted sea trials with one of its LNG carriers using biofuel. Biofuel is positioned as an effective alternative to fossil fuels in the MOL Group's new environmental strategy, which was announced in June 2021. Approximately 1,500 tons of biofuel was supplied by ExxonMobil Marine to MOL's vessel in Singapore.

### Regulations

Amendments to **MARPOL Annex VI** have gone into effect requiring owners and managers to measure the energy efficiency of their ships by calculating a one-time Energy Efficiency Index (EEXI) rating for existing ships beginning in **January 2023**. The EEXI applies to all ships of 400 GT or more that trade internationally and the CII applies to ships of 5,000 GT or more that trade internationally. The EEXI is a one-time assessment, while the CII is a dynamic index, with the framework becoming steadily more stringent **between 2025 and 2030**.

### New Vessel Designs

Japanese major **NYK Line** has revealed its intentions to order two LNG fueled large coal carriers from compatriot shipbuilder Oshima Shipbuilding. This order is part of a bulk carrier fleet development program aimed at achieving net-zero GHG emissions in the NYK Group's oceangoing businesses by 2050.

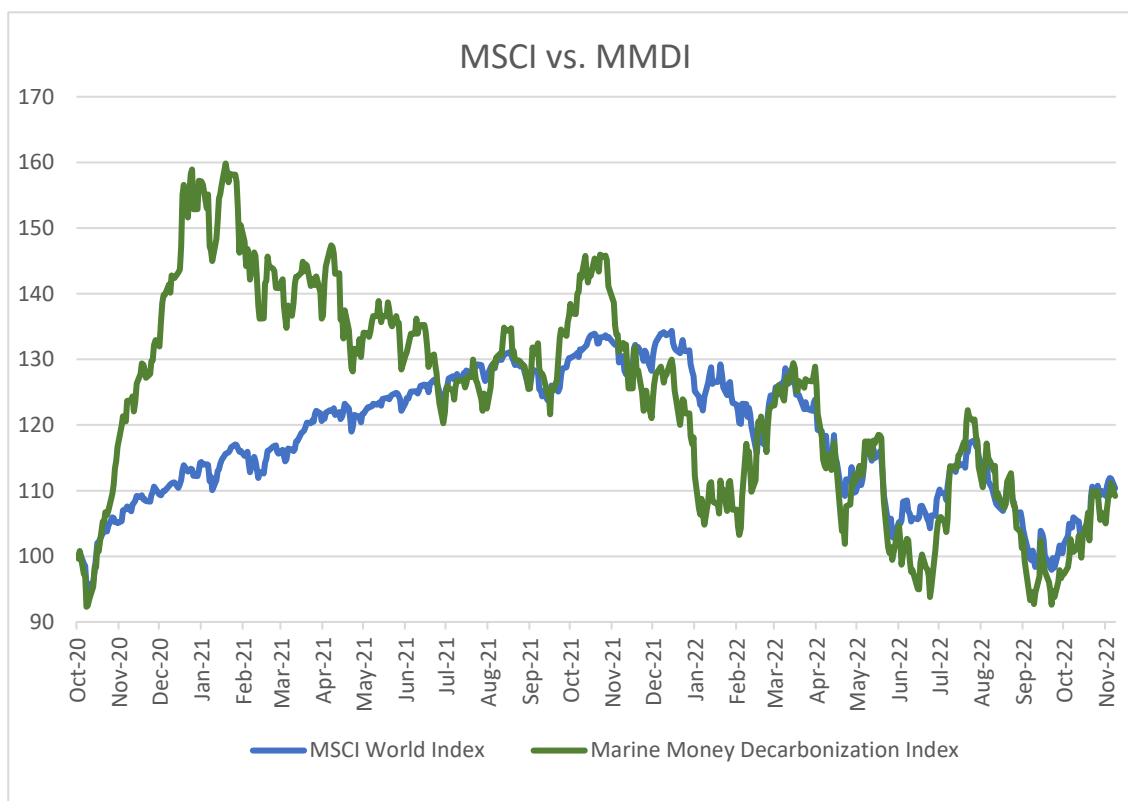
Classification society **RINA** has granted approval-in-principle for a 50,000-ton ammonia-fueled oil/chemical tanker developed and designed by Shanghai Shipyard. The company expects that the application of ammonia fuel will have significant advantages in dealing with CO2 reduction and GHG regulations.

### Technology

The **United Nations** has announced a new **satellite-based system to detect** methane emissions and enable governments and businesses to respond. **The Methane Alert and Response System** (MARS) is a data-to-action platform established under UNEP's International Methane Emissions Observatory (IMEO) strategy to put policy-relevant data into the right hands for emissions mitigation. Developed under the Global Methane Pledge Energy Pathway, MARS will enable UNEP to confirm emissions reported by companies and characterize changes over time.

### Green Ships

New Times Shipbuilding in China has launched two LNG dual-fuel bulk carriers being built for Bermuda-based bulk carrier company **Himalaya Shipping**. The two 210,000 dwt vessels, named Mount Norefjell and Mount Ita, are the first two vessels from a series of twelve **Newcastlemax** dry bulk vessels under construction at the yard. According to Himalaya Shipping, the design of the vessels will also allow for future conversion to next-generation fuels.



## Relevant Prices

### Fuel Prices

	Price	YOY
Crude Oil, Brent	83.85 \$/bbl	14.2%
Natural Gas, Henry Hub	7.23 \$/MMbtu	48.9%
LNG, Korea/Japan	30.51 \$/MMbtu	-15.8%
Coal, Rotterdam	203 \$/mt	57.4%
VLSFO, Rotterdam	541 \$/mt	-2.5%
Methanol, China	37.51 \$/mt	1.2%
Palm Oil, Malaysia	36.69 \$/mt	-20.2%

### Stock Indices

Marine Money Decarbonization Index	332	-18.4%
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### Carbon Emission Allowances

EU Emission Allowances	83.96 \$/kt	9.5%
UK Emission Allowances	82.63 \$/kt	35.7%

Note: All prices as of last closing prior to the report; Sources: Bloomberg and Breakwave Advisors

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