

Maritime Decarbonization Monthly

February 2022

*Thought of the
Month:*

“Green corridors can ease shipping’s decarbonization process”

The Big Picture

We are now five months away from the June **MEPC78** International Maritime Organization’s Marine Environmental Protection Committee meeting and the industry is still weighing differing fuel options. Among the news, LNG, methanol, ammonia and biofuels appear to dominate, while carbon efficiency is grasping more attention and the IMO is projecting a 2% annual increase in the global fleet between 2023 and 2026. At the **One Ocean Summit**, organized by French President Emmanuel Macron in Brest, France, the shipping voice was raised to urge EU member states to **lead efforts not just at a regional, but also at a global level**, to achieve targets of green shipping.

What’s New

The voice for the liner shipping industry, the World Shipping Council, has outlined six critical pathways for early decarbonization. **1. The settlement of a global price on carbon** that will play a major role in influencing companies to put zero GHG ships on the water for operation; **2. New build standards** that support the energy transition, such as requiring ships built after a certain date to be able to operate on zero GHG fuels or not allowing the construction of vessels that operate on fossil fuels alone after a certain date; **3. Transparent well-to-wake life cycle analysis of fuels**, breaking out well-to-tank emissions and tank-to-wake emissions, combined with regulatory mechanisms to incentivize first-movers using alternative fuels; **4. The integrated development of global production and supply of zero GHG fuels** through partnerships between IMO member States and energy providers; **5. Green Corridors Programme** to accelerate an equitable fuel and technology transition, introducing zero GHG ships and fuels across trade lanes; **6. Applied R&D** for shipboard and shoreside systems that allow the safe use of zero GHG fuels is necessary to put zero emission ships on the water.

Our View

Green corridors are a crucial element to speeding up decarbonization and benefit shipowners investing in zero emissions ships. There is some doubt that **LNG** infrastructure is going to adequately meet LNG demand, while **methanol** is in the spotlight as a potential solution. A new trend is emerging with **biomethane** as a possible next step. The biomethane market is currently growing and there are opportunities for it to become a global industry. However, regulatory measures are needed to address the higher cost of biofuels for it to become a viable fuel in the long term.

Industry Trends

Fuels

February is characterized by various developments in the production of **green fuels**, while green **biofuel availability** has started to expand around the globe:

- The Swiss commodities trading giant **Trafigura** has partnered with German-based startup Hy2gen and Danish fund management company Copenhagen Infrastructure Partners (CIP) to produce **green ammonia** on the S.W. coast of Norway (~600 mt of green ammonia/day).
- **Shell** has started **green hydrogen** production at the power-to-hydrogen electrolyser in Zhangjiakou, one of the world's largest H2 electrolysers. In addition, Shell became the first in the Netherlands to offer **bio-LNG** to all of its customers, following the launch of Nordsol's bio-LNG installation at Amsterdam Westpoort.
- Swedish shipping company **Furetank** has signed a letter of intent with Eskilstuna Biogas, enabling the development of a new biogas plant producing around 5,000 tonnes of **liquefied biogas (LBG)** annually.
- Green Fuels Ventures (GFV) and Telfer Tanks have signed an MOU concerning deployment and operation of distributed-scale biodiesel production facilities in the republic of Panama.

Technology

We have started seeing new important partnerships for the enhancement of green technology services.

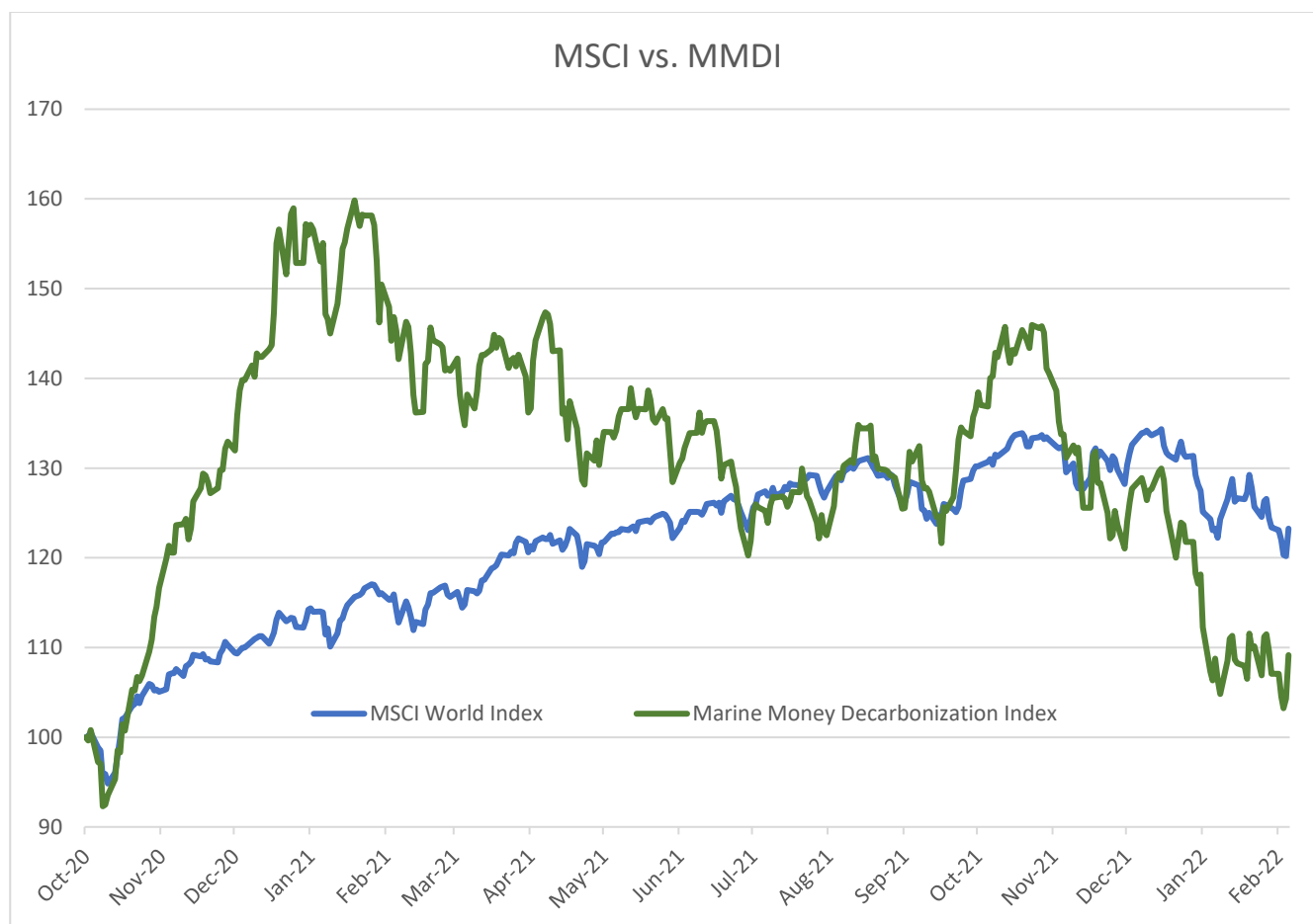
- **Cargill**, **Mitsui** and **Maersk Tankers** have launched the **Njord** green service to bring

owners, charterers and financiers together to accelerate cost-effective and industry-wide reductions. Their combined technical and operational experience can help to increase the energy efficiency in tramp and liner shipping. Depending on vessel size, trading patterns and installations, they estimate to be able to reduce the yearly fuel consumption of a vessel by 7% to 16%.

- **Japan's Mitsubishi Shipbuilding**, part of Mitsubishi Heavy Industries (MHI), has established a new marine decarbonization business that will utilize technologies in response to the energy transition of the shipping sector.
- **In the carbon storage field**, Japanese shipping company **Kawasaki Kisen Kaisha (K Line)** has joined Global CCS Institute (GCCSI), an international think tank. GCCSI is advancing worldwide deployment of carbon dioxide capture and storage (CCS) technology which is necessary for the realization of a carbon neutral society.

Green Ships

Methanol-fueled designs for bulker and tanker ships are in development at shipyards and classification societies, mainly for the larger vessel sizes i.e capesize/kamasarmax bulkers, VLCC tankers. However, we are now seeing a new trend in Japan of **liquefied CO2 carriers**. The Engineering Advancement Association of Japan (ENAA) and local owner Sanyu Kisen have signed a bareboat charter contract for a demonstration test ship. Mitsubishi Heavy Industries has been tasked with building the ship, which will feature special tanks designed by ENAA.



Relevant Prices

Fuel Prices

	Price	YOY
Crude Oil, Brent	100.87 \$/bbl	154.0%
Natural Gas, Henry Hub	4.44 \$/MMbtu	60.3%
LNG, Korea/Japan	27.95 \$/MMbtu	351.2%
Coal, Rotterdam	217 \$/mt	241.7%
VLSFO, Rotterdam	468 \$/mt	31.4%
Methanol, China	43.21 \$/mt	10.7%
Palm Oil, Malaysia	70.49 \$/mt	87.7%

Stock Indices

Marine Money Decarbonization Index	357	-18.2%
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Carbon Emission Allowances

EU Emission Allowances	91.71 \$/kt	119.8%
UK Emission Allowances	104.45 \$/kt	72.2%

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

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Contact:

Breakwave Advisors LLC
 17 State Street, 40th floor
 New York, NY 10004
 Tel: +(1) 646 775 2898
 Email: research@breakwaveadvisors.com