

Maritime Decarbonization Monthly

April 2023

Thought of the Month:

“Decarbonizing shipping is not a question of ‘if’ but a question of ‘how’.”

The Big Picture

The International Maritime Organization (IMO) commissioned Ricardo Plc and DNV to complete a study on the **availability and preparedness** of future alternative bunker fuels in February. The findings, which were recently released, claim that **an ambitious pathway to decarbonization will not be hampered** by the commercial readiness of alternative fuel technologies, alternative fuel infrastructure and shipyard capability. That said, it called for more aggressive policy. Without a change in policy, it may be difficult for widescale investment and development of alternative fuel infrastructure to take place. There is hope that the report, which has been sent to the MEPC members ahead of their July meeting, **will push the committee to adopt** more stringent ambitions. Many industry stakeholders have been waiting for the MEPC to adjust the IMO’s 2050 goal from 50% reduction to 100% reduction of greenhouse gas emissions.

What’s New

The Innovation Fund, a component of the EU Emissions Trading Scheme (ETS) that was recently approved by the European Parliament, has allocated **€2 billion of allowances** to the shipping sector. The fund is one of the largest low-carbon emissions funding programs in the world and is supported by the ETS revenue. The €2 billion allocation will be given in the form of carbon credits. Inclusion of maritime shipping in the ETS and Innovation Fund helps support shipping decarbonization by providing financial assistance to innovators and a regulatory framework that **incentivizes change throughout the industry**. The European Community Shipowners' Association (ECSA) has been supportive of the ETS framework, and claims that formally making it law is a turning point for decarbonizing the industry.

Our View

Digital transformation is playing a vital role in helping the shipping industry meet present decarbonization challenges. Regulations will make it more difficult for existing ships to stay compliant, but digital tools can be utilized to meaningfully reduce emissions. Green fuels will be an essential part of the overall energy transition, but green ammonia and methanol are not yet readily available. 2023 is a milestone year for the decarbonization of the shipping industry with the IMO implementing the new Energy Efficiency Existing Ships Index (EEXI). The ongoing measurement of each ship’s efficiency is forcing shipowners to look for decarbonization solutions that already exist. The CEO of Seenergy Maritime recently explained that ordering fresh dry bulk vessels that burn alternative fuels is **not the right solution** at the moment, because it is not yet feasible to implement these technologies. Engine and route optimization technologies can **improve the efficiency of a ship without making physical changes** to the ship, and data can be leveraged to reduce costly maintenance. Employing technology that is already at hand is a way for shipowners to begin decarbonizing immediately.

Industry Trends

Fuels

Yara Clean Ammonia, a subsidiary of the Norwegian fertilizer group Yara International, is cooperating with the gas company **VNG** in the field of **clean ammonia** to actively support the implementation of the German hydrogen strategy. The agreement is seen as a first step toward a future supply agreement between the two parties and may eventually enable further projects to bring clean ammonia to the German market.

Finnish technology group **Wärtsilä** and Norway-based **Höegh LNG**, together with other partners, have received funding of approximately €5.9 million (~\$6.4 million) from the Norwegian government for the development of **ammonia as a hydrogen carrier for the energy market**. The funding is part of Norway's Green Platform program of initiatives and amounts to approximately 50% of the total budget for the joint project.

Biofuels

German engine manufacturer **MAN Energy Solutions** (MAN ES) has revealed that its MAN 175D engine is **formally approved for operation using biofuels**. The approval applies to all standard biofuels such as hydrotreated vegetable oil (HVO) and fatty acid methyl ester (FAME) fuels. Specifically, the engine itself does not require any technical adjustments, according to the company.

Classification

Japanese shipping major Mitsui O.S.K. Lines (MOL), along with compatriot companies Tsuneishi Shipbuilding and Mitsui E&S Shipbuilding Co. has received approval in principle (AiP) for **ammonia-**

fueled liquefied gas carrier design. The AiP was granted by two classification societies, namely **ClassNK** and **Lloyd's Register** (LR). According to MOL, this is the first case ever that two classes of AiP, ClassNK and Lloyd's, have been issued.

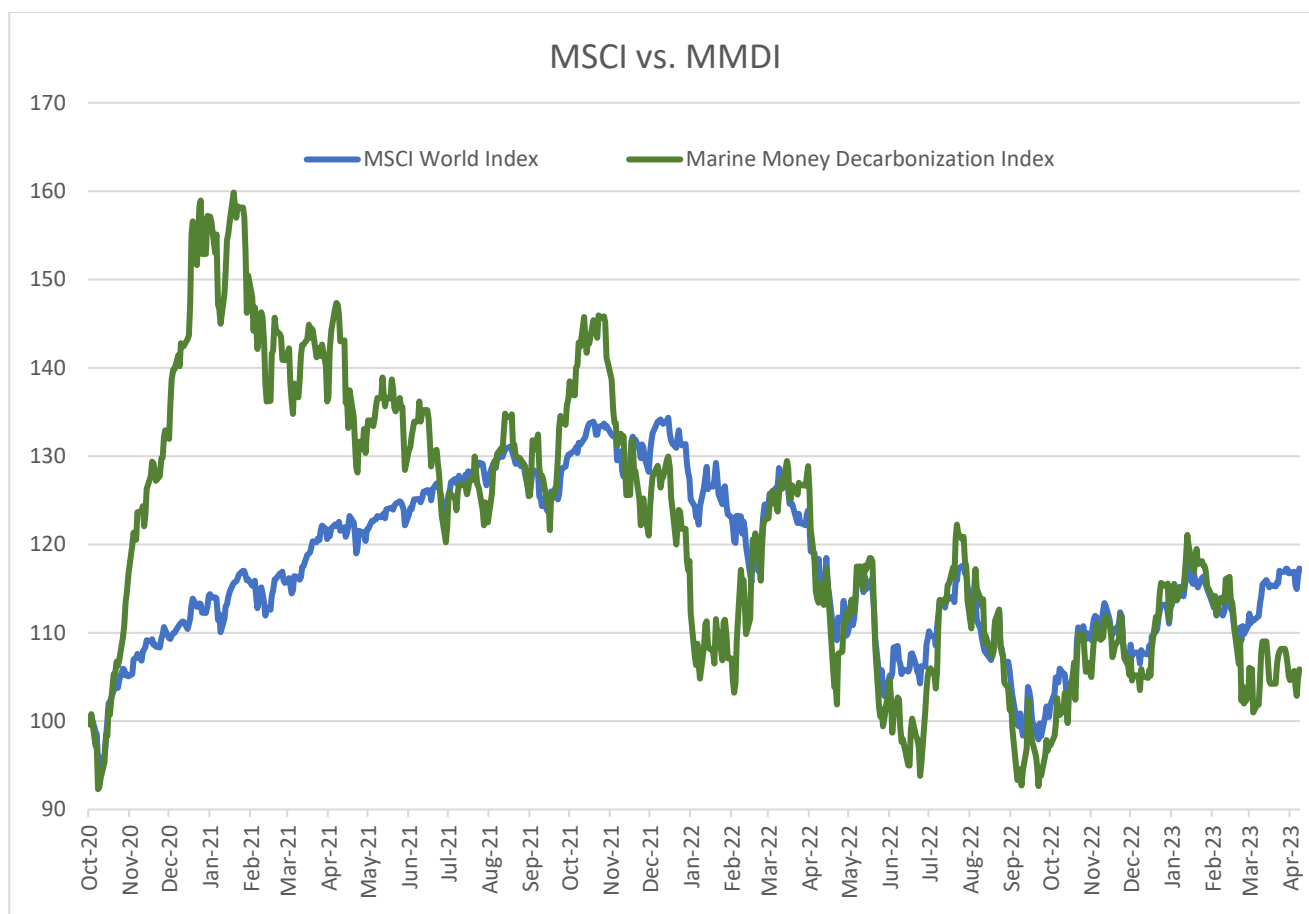
Technology

Lomar's new subsidiary **Lomarlabs** is working with London-based climate tech start-up **Seabound** to develop cost-effective methods to **capture CO2 onboard vessels**. Lomarlabs works with entrepreneurs who bring technology solutions to the maritime industry and helps them optimize their business models.

Greenheart, a subsidiary of Hayfin Capital Management, has partnered with green tech business **Njord** and maritime consulting firm **Marsoft** to work on fuel-saving technologies for **retrofits underpinned by carbon credits**. As part of the partnership, Njord will design a bespoke package of fuel-saving technologies on, initially, four Greenheart-owned vessels, to achieve fuel and emission cuts of between seven and 16% per vessel.

Green Ships

Container shipping heavyweight **Maersk** has achieved a major milestone in its efforts to reduce carbon emissions with the successful launching of its first methanol-powered feeder vessel at the **Hyundai Mipo Dockyard**. South Korea's Hyundai Mipo Dockyard launched the feeder on April 4. The ship is the **company's first carbon-neutral vessel** and will join its fleet in the summer of this year.



Relevant Prices

Fuel Prices

	Price	YOY
Crude Oil, Brent	79.03 \$/bbl	-24.7%
Natural Gas, Henry Hub	2.37 \$/MMbtu	-67.3%
LNG, Korea/Japan	11.55 \$/MMbtu	-53.5%
Coal, Rotterdam	141 \$/mt	-48.9%
VLSFO, Rotterdam	545 \$/mt	-33.6%
Methanol, China	34.11 \$/mt	-10.9%
Palm Oil, Malaysia	35.29 \$/mt	-47.5%

Stock Indices

Marine Money Decarbonization Index	324	-8.6%
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Carbon Emission Allowances

EU Emission Allowances	94.40 \$/kt	4.0%
UK Emission Allowances	76.86 \$/kt	-26.1%

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

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