

# Maritime Decarbonization Monthly

February 2023

*Thought of the Month:*

*“The production of green hydrogen could create green jobs”*

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## The Big Picture

South Korea's Ministry of Oceans and Fisheries (Mof) expects the IMO to **raise its carbon reduction target to 100%** by 2050, and has responded with a strategy for South Korea's role in decarbonization. Part of the plan will include converting ships owned by the national shipping companies into ships that burn eco-friendly fuels, such as ammonia, methanol and LNG. Another component of Mof's strategy will be to eventually replace South Korean ships that operate in international trade routes with vessels that also burn low- and zero-carbon fuels. Mof has described its new zero carbon strategy as the first of its kind in Asia. In January, South Korea and the US partnered to explore the potential for a **green corridor** linking the two economies. Given South Korea's prominence in the industry many will be taking notice of the country's signaling towards a completely green future.

## What's New

**Data** will play a meaningful role in **decarbonization**, that part is certain, but the question is how? **Icebreaker One**, a not-for-profit data organization, has partnered with **Lloyd's Register** on a new research project that seeks to understand how data can add value in assessing maritime decarbonization investments. The two organizations will be exploring the **potential value** that data sharing and data transparency can unlock for first movers investing in new technologies and strategies. The project will evaluate existing frameworks for analyzing decarbonization investment decisions and how data can play a role in overcoming the obstacles that currently exist.

## Our View

A skilled workforce will be necessary for the development, implementation and operation of a decarbonized maritime industry. It's not just new assets that will require investment – employers will need to rethink the expertise and processes that are at the core of their businesses as new technologies enter operation. DNV projects that as many as **500,000 seafarers will require retraining** by the early 2030s if the industry sets its sights on eliminating carbon emissions by 2050. Shoreside, the production and distribution of green fuels will necessitate a significant expansion in the workforce. As an example, the Africa Green Hydrogen Alliance has estimated that **green hydrogen production will create 2 to 4 million jobs** in Africa. Developing new technologies is critical to decarbonization, but the industry will not achieve its goals without investing in the people who are the foundation of how ships move safely and efficiently around the world.

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## Industry Trends

### Fuels

According to the **Methanol Institute** and the **International Renewable Energy Agency** the cost of biomethanol will be \$700 to \$900 per ton, while the cost of e-methanol is expected to be \$1,200 to \$1,600 per ton. By 2050, methanol production may reach 500 million mt/year, of which biomethanol or e-methanol will account for nearly 400 million mt/year. With 80 renewable energy projects already announced, there are clear signs of a new wave of biomethanol and e-methanol production.

### Biofuels Trials

**TotalEnergies Marine Fuels** has successfully completed its first refueling of a Hapag-Lloyd container vessel in Singapore with UCOME (Used Cooking Oil Methyl Ester)-based marine biofuel.

French container shipping major **CMA CGM** is bunkering biofuels on 32 vessels across its vast fleet as part of its decarbonization efforts. The company started testing biofuels in 2019 to see whether they were compatible with the engines on the company's ships.

Singapore-based **Global Centre for Maritime Decarbonization**, together with its consortium partners, has completed trialing two supply chains of biofuel blends from different origins as part of a drop-in biofuels pilot project announced in July 2022. The full pilot involves 19 industry partners, with 13 vessels spanning the container, tanker, and bulker segments.

### Maritime Insurance

**Skuld**, a major provider of hull and machinery insurance to the world fleet, has reaffirmed its commitment to sustainable shipping by signing the Poseidon Principles for Marine Insurance. The Poseidon Principles for Marine Insurance enable the insurance sector to create transparency and establish a common, global basis for quantitatively assessing and disclosing the alignment of insurers' marine portfolios with climate goals.

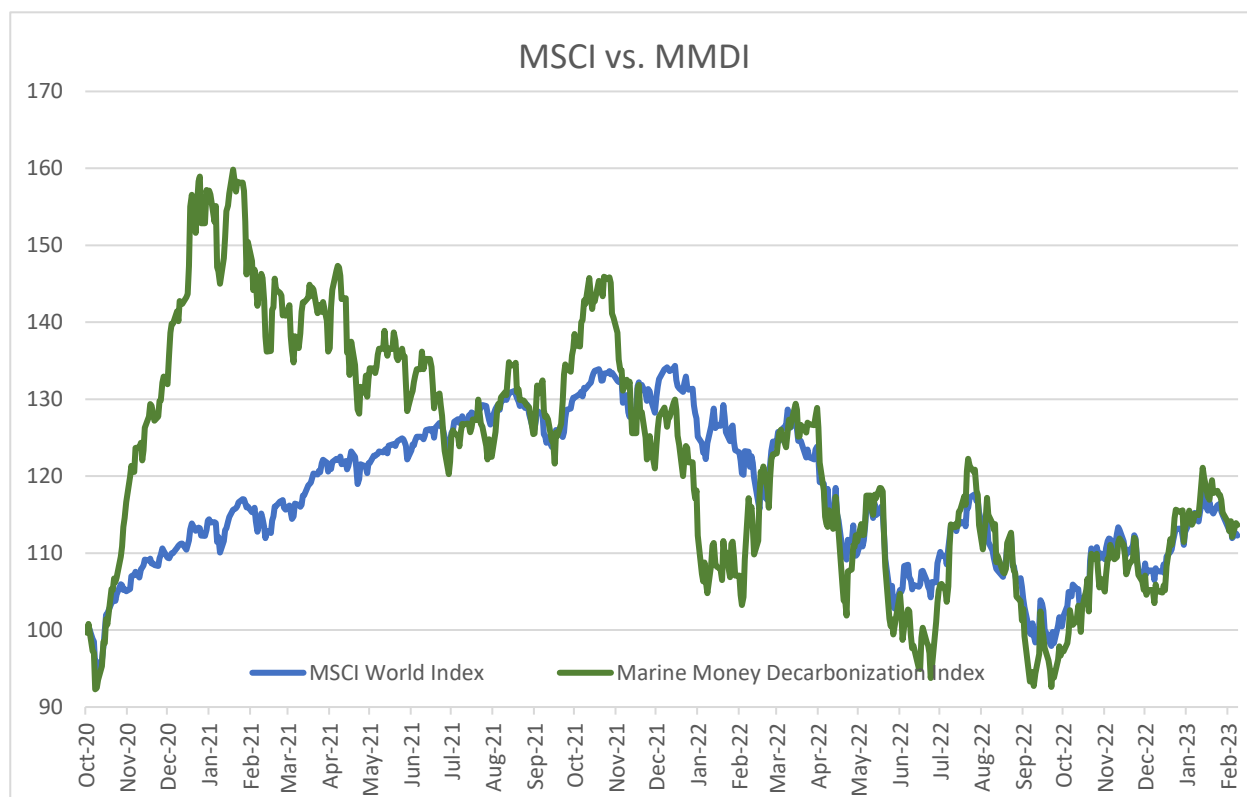
### New Vessel Designs

Swiss marine power company **WinGD** and Belgian shipping and cleantech group **CMB.TECH** have signed an agreement on the development of ammonia-fueled two-stroke engines. **Bocimar**, CMB's sister firm, is set to operate the world's first ammonia-powered newcastlemaxes.

**China Classification Society (CSS)**, Singapore's **SDTR Marine and Shanghai's Merchant Ship Design & Research Institute (SDARI)** have jointly developed an 85,000 dwt ammonia-fueled bulk carrier. Said to be the world's first, the vessel has obtained approval in principle (AiP) from the Chinese classification society. The three partners set up a joint development team in which SDTR will share crucial data, SDARI conducts the design work and CCS will provide support and review.

### Green Ships

**MAN Energy Solutions (MAN ES)**, through its licensee Mitsui E&S Machinery, has signed a contract with Chinese shipbuilder Tsuneishi Shipbuilding to supply a methanol-fueled engine for a 65,700-tonne deadweight bulk carrier. The vessel is the latest methanol engine ordered in the bulk carrier segment in recent weeks.



## Relevant Prices

### Fuel Prices

	<u>Price</u>	<u>YOY</u>
Crude Oil, Brent	82.98 \$/bbl	-20.9%
Natural Gas, Henry Hub	2.76 \$/MMBtu	-39.6%
LNG, Korea/Japan	14.36 \$/MMBtu	-48.6%
Coal, Rotterdam	127 \$/mt	-26.8%
VLSFO, Rotterdam	566 \$/mt	-21.8%
Methanol, China	39.09 \$/mt	-7.4%
Palm Oil, Malaysia	37.08 \$/mt	-49.2%

### Stock Indices

Marine Money Decarbonization Index	349	-1.3%
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### Carbon Emission Allowances

EU Emission Allowances	101.01 \$/kt	38.1%
UK Emission Allowances	97.71 \$/kt	17.6%

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

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