

# Methanol Fuelled Vessels on the Water and on the Way

To learn more about each project, click on the project title.

## **Sweden (2015):**

One of the world's largest ropax ferries – Stena Germanica – has been operating on methanol fuel since 2015.



## **Canada (2016-2019):**

Methanex Waterfront Shipping and their partner vessel operators – Mitsui OSK Lines, Westfal-Larsen, Marininvest, IINO, and NYK Group – began operating a fleet of 11 50,000 dwt chemical tankers with dual-fuel methanol engines.



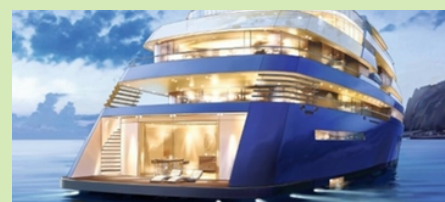
## **Germany (Jul 2018):**

Shipowner SAL Heavy Lift to install FUELSAVE hydrogen/methanol injection system in 6 vessels



## **Germany (Mar 2019):**

Abeking & Rasmussen shipyard designing “green cruise” concept vessel using methanol fuel cells for hotel load and methanol propulsion engines



## **Netherlands (Jan 2020):**

Damen Shipyards has developed a new concept Offshore Support Vessel (OSV) to operate on methanol



## **Germany (Jan 2020):**

Shipowner Liberty One has ordered a new multipurpose (MPP) ship powered by methanol





## **Singapore (Dec 2020):**

Hyundai Mipo Dockyard, MAN Energy Solutions, DNV GL, and the Methanol Institute unveil standard design for methanol-fuelled product tanker with building costs 10% higher than a standard vessel, but less than the 22% higher costs for an LNG-dual fuel vessel

## **Germany (Jan 2021):**

AIDAnova will employ methanol fuel cells for propulsion under the Pa-X-ell2 project

## **Denmark (Feb/Aug 2021):**

Maersk orders one 2,100 teu methanol dual-fuel container ship (2023), and eight 16,000 teu vessels exercising option for four additional methanol-fueled ships (2024-2025)

## **Japan (Mar 2021):**

Sumitomo Heavy wins Approval in Principle from Class NKK for methanol dual-fuel tanker

## **Netherlands (Mar 2021):**

OCI NV, MAN, Eastern Pacific Shipping first methanol retrofit by 2023, newbuilds and retrofits

## **Netherlands (Mar 2021):**

Van Oord deploys FUELSAVE hydrogen/methanol system on subsea rock installation vessel Bravenes



### **Ukraine (Apr 2021):**

Danube Shipping Company orders up to 33 river pushers using Anglo Belgian Corporation 'hybrid' engines with methanol/hydrogen capability

### **Germany (Jul 2021):**

Port of Emden to receive new, methanol-powered harbor boat

### **United Kingdom (Jul 2021):**

UK-based shipping consultancy Drewry expects half of the vessels ordered after 2025 to have dual-fuel engines, with a large percentage using methanol as a marine fuel

### **Germany (Sept 2021):**

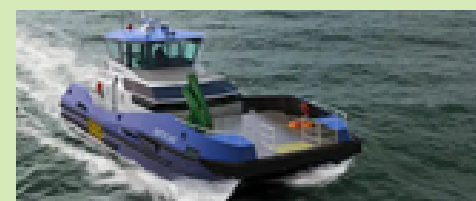
Shipyard Fassmer has ordered from Alfred Wegener Institute to build methanol-powered research vessel UTHORN

### **Japan (Sept 2021):**

Japanese shipowner Mitsui OSK Lines (MOL), Marubeni Corporation, and the Ministry of the Russian Federation for Development of the Far East and the Arctic Regions are conducting a joint study to build, operate, and utilize a dual-fuel methanol chemical tanker

### **Canada (Oct 2021):**

Naval architecture firm Robert Allan Ltd unveils methanol-fueled Raptor 2400 crew transfer vessel





### **Sweden/Switzerland/China (Oct 2021):**

Proman Stena Bulk - a joint venture of shipowner Stena Bulk and Proman Shipping a subsidiary of methanol producer Proman - building six 50,000 dwt tankers at Guangzhou Shipyard International with methanol dual-fuel engines first deliveries 2022

### **Germany (Nov 2021):**

MAN Energy Solutions upgrading four-stroke engines to run on methanol and other future fuels

### **Switzerland (Nov 2021):**

Swiss engine designed WinGD (Winterthur Gas & Diesel) projecting that methanol-fueled four-stroke engines will be available by 2024

### **Denmark (Nov 2021):**

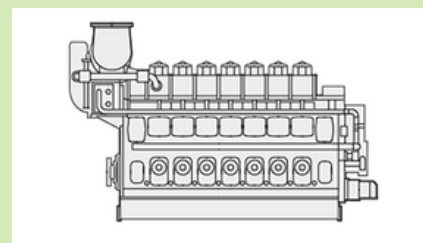
Svitzer, AP Moller, Maersk's world-leading towage operator unveils plans to introduce world's first methanol fuel cell tug boat to enter operation by Q1 2024

### **Korea (Dec 2021):**

Class society ABS provides approval in principle to K Shipbuilding for a methanol fuel-ready medium range tanker design

### **Singapore (Dec 2021):**

X-Press Feeders Group commissioned 16 1,170 TEU container ships with options for more featuring dual-fuel methanol engines for delivery in 2023/2024 to operate in European and American trade routes





## **Sweden (Dec 2021):**

Swedish Maritime Administration launch pilot boat using Scania engine modified for methanol in 2021 as part of FASTWATER project

## **Germany (Dec 2021):**

Lürssen Yachts displays "ALICE" a climate-neutral yacht model using methanol fuels cells to replace conventional diesel generators

## **Netherlands (Dec 2021):**

The Fugro-led consortium MENENS (Methanol as Energy Step Towards Emission-Free Dutch Shipping) awarded a grant from the Dutch government to convert the Fugro Pioneer survey vessel to run on methanol by the beginning of 2023

## **Sweden (Dec 2021):**

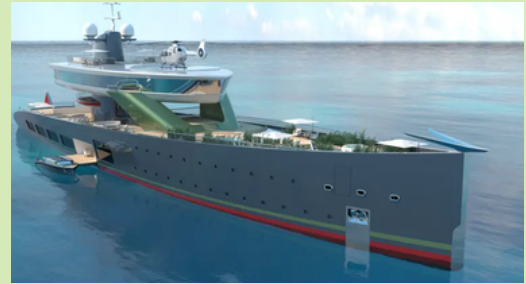
Class society ABS grants Alfa Laval the first marine approval for operating boilers on methanol

## **Netherlands (Jan 2022):**

System integrators Bakker Slidrecht and RH Marine with the Fugro-led consortium MENENS (Methanol as Energy Step Towards Emission-Free Dutch Shipping) are developing a new electrical system to enable vessels to sail on methanol

## **United States (Jan 2022):**

e1 Marine and Maritime Partners to launch world's first methanol-fueled towboat in 2023





### **Netherlands/China (Jan 2022):**

Van Oord has ordered a self-elevating offshore installation vessel being built at Yantai CIMC Raffles shipyard and running on five Wärtsilä 32 methanol engines for delivery in 2024



### **Spain (Jan 2022):**

Ferry operator Baleària building its first electric passenger and cargo ferry that will serve as testbed for the use of methanol fuel



### **Singapore (Jan 2022):**

Class society ABS, SDTR Marine, and Shanghai Merchant Ship Design & Research Institute (SDARI) have designed an innovative methanol-fueled dry bulk carrier based on neo-Panamas 85,000 DWT vessel



### **Germany (Jan 2022):**

Rolls-Royce business unit Power Systems is working on mtu 4-stroke engines for use with methanol planned to be available as soon as possible for use in commercial ships and yachts



### **Netherlands (Q2 2022):**

Damen Shipyards delivering first "methatug" to Port of Antwerp in 2022 also part of FASTWATER project



### **China (Feb 2022):**

COSCO SHIPPING and CSSC Dalian Shipbuilding Industry have onw AIP certification by class societies DNV and CCS for the design of methanol fuel-powered 310,000 DWT very large crude carrier (VLCC) ship design



## Singapore (Feb 2022).

AAL Shipping increases its order for dual-fuel, methanol-ready multipurpose vessels from four to six 32,000 DWT Ships.

## Denmark (March 2022).

Danish municipality replacing diesel engines with methanol fuel cells from Advent Technologies in Margrete Laesø ferry launching 2024-2025

## Netherlands (2022).

Citing market demand, MAN Energy Solutions has designed three new engines for methanol operation, giving ship owners the choice between seven engines and five bore sizes designed to run on methanol fuel.

## Japan (March 2022):

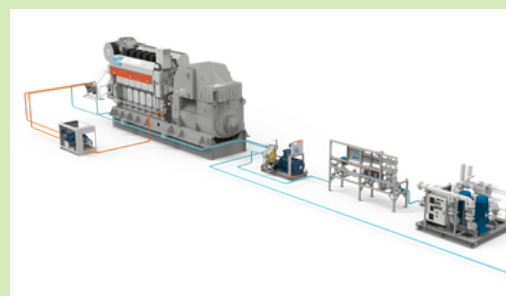
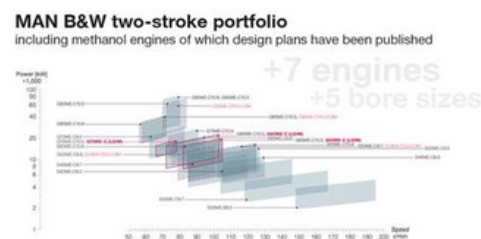
MI member Mitsui O.S.K. Lines (MOL) and five partners form an alliance to develop Japan's first domestic methanol-fueled tanker in 2024.

## Greece/China (March 2022):

MI member Danaos has placed orders for two 7,100 TEU containerships that will be methanol fuels ready to be built at Dalian Shipbuilding for delivery in 2024.

## Finland (March 2022).

Wärtsilä develops MethanolPac, combined with the Wärtsilä 32 Methanol engines to deliver methanol-capable fuel and power systems across a wide range of vessel segments.



**USA (April 2022)**

Caterpillar Marine joins the Green Maritime Methanol consortium to achieve carbon reduction through methanol in the maritime industry.

**USA (April 2022)**

Caterpillar Marine announces additional development of alternative fuels with an investment in methanol engine technologies.

**Denmark (April 2022)**

Ørsted teams with Esvagt to build the world's first service operation vessel (SOV) methanol-powered. The SOV will be powered by batteries and dual-fuel engines.

**USA (May 2022)**

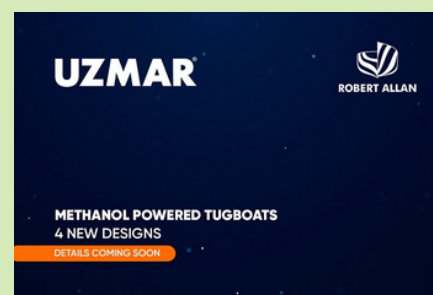
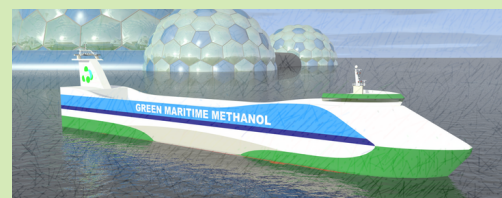
e1 Marine M-series methanol to hydrogen generator has received Approval in Principle (AiP) for marine applications from class society Lloyd's Register.

**Canada (May 2022)**

Uzmar and Robert Allan sign an agreement to Design And Build A New Series Of Methanol-Fuelled Tugboats

**Sweden (May 2022)**

Alfa Laval's FCM Methanol low-flashpoint supply system proven over 100,000 hours of operation.





**France (June 2022)**

CMA CGM has ordered a total of six 15,000 TEU dual-fuel methanol-powered containerships from an unnamed shipbuilder. The newbuilds are planned to join the CMA CGM fleet by the end of 2025.

**USA (June 2022)**

Advent Technologies Holdings, Inc. has signed a Memorandum of Understanding (MoU) with Laskaridis Shipping Company Ltd. to jointly conduct a pilot program.

**Denmark (June 2022)**

Blue World Technologies and Tuco Marine have entered a partnership to develop methanol fuel cell-powered workboats.

**Japan (June 2022)**

Ocean Network Express (ONE) has signed shipbuilding contracts with both Hyundai Heavy Industries and Nihon Shipyard to construct five 13,700 teu vessels each, all for delivery in 2025.

**Brazil (June 2022)**

Brazilian mining giant Vale has approached shipyards in China for quotes on 14 newbuildings 300,000-dwt VLOCs, no fuel choice yet by enquires for LNG and methanol dual-fuel vessels.





## **China (July 2022)**

Proman Stena Bulk, a joint venture between methanol producer Proman and tanker shipping company Stena Bulk, announces its second methanol-powered newbuild tanker, Stena Pro Marine, has been delivered.

