Green Methanol Ships for Tourism

Market Scenario and Competitive Landscape

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Francesca Furlan

Research Valorization Unit

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Disclaimer

Introduction and Methodology

“Market Scenario” is a customized and organized analysis to gather information about target markets and competitive landscape in a particular sector.

“Market Scenario” provides relevant information to identify and analyze market needs, market size and competition in the fields of interest of the customer. A technology or a product developed by the customer can be characterized according to the sectors and potentiality of application, target market, competitive advantages and potential partners of the technology. The analysis is performed with the application of technology and business intelligence tools. The research in the information providers is usually based on the use of keywords or by thematic area, according to the specific topic of interest.

The results of the assessment are data about the target or global market potential, market value and applicability of the technologies or products developed by the customer, the trends of the market of interest, the segmentation of the market (e.g., by application, geography or indication), the supply chain and the competitive advantages of products or technologies, the key players active in the market of interest and the possible direct or indirect competitors of the customer.

Context

This report provides an overview of the **green methanol ships market**, with reference to the trend and dynamics in the period 2024 - 2035, to the market segmentations by ship type, by type and by region, and to the competitive landscape in the field, especially at the European level.

1 Green Methanol Ships

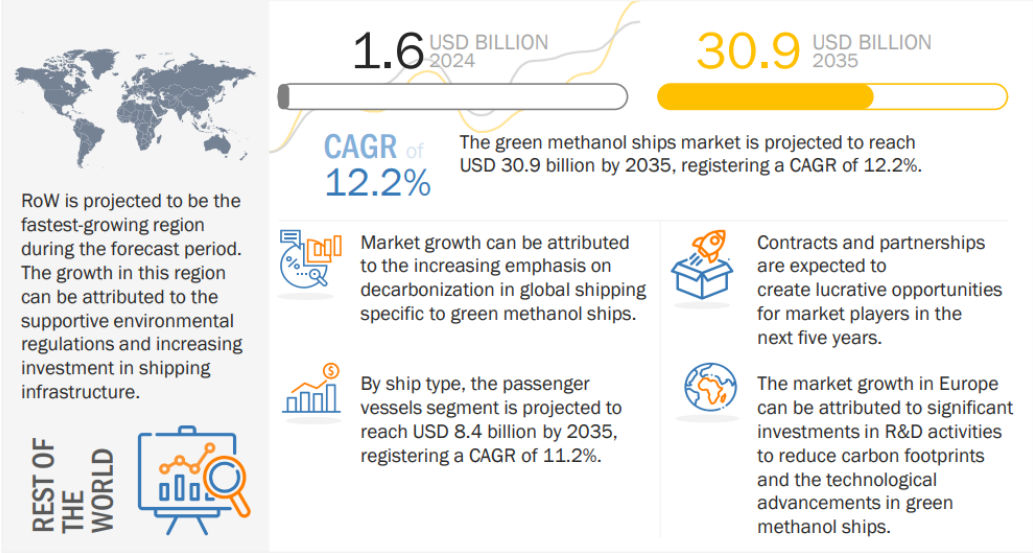
Green methanol ships refer to commercial vessels fueled by green methanol, a renewable, low-carbon alternative to conventional marine fuels, such as heavy fuel oil (HFO) or liquefied natural gas (LNG). Green methanol is produced using sustainable feedstocks like biomass, renewable electricity, and captured carbon dioxide (CO_2). Green methanol ships are emerging as a critical component in the maritime industry’s shift toward sustainable fuels.

The green methanol ships market encompasses a variety of ship types, including cargo vessels, **passenger vessels**, and other commercial vessels that utilize methanol as a fuel source due to its clean combustion profile, easy storage, and scalability. Green methanol is particularly attractive for long-haul routes due to its high energy density compared to batteries or hydrogen-based fuels.

1.1 Global Market and Market Dynamics

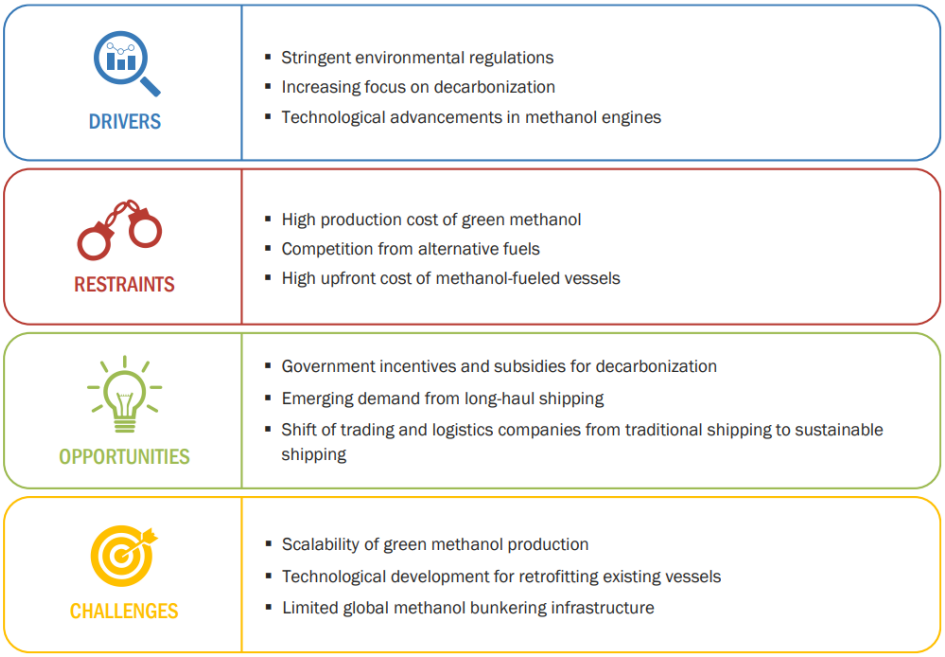
The **global green methanol ships market** is forecasted to reach the value of USD 30.9 billion by 2035, growing at a Compound Annual Growth Rate (CAGR) of 12.2% in the period 2024 – 2035 (Figure 1).

Figure 1. Global Green Methanol Ships Market, in the Period 2024 - 2035



The market for green methanol ships is driven by stringent environmental regulations, such as the IMO 2020 mandate, which limits the sulfur content in marine fuels (Figure 2). Another factor driving **growth** is global shipping companies' increasing focus on decarbonization. Furthermore, technological advancements in dual-fuel engines that allow vessels to run on methanol and traditional fuels also foster market growth, providing operational flexibility during the transition to sustainable fuels. However, **challenges** such as high production costs and limited infrastructure must be addressed to unlock the full potential of this sustainable fuel solution for the maritime industry.

Figure 2. Green Methanol Ships Market: Drivers, Restraints, Opportunities and Challenges

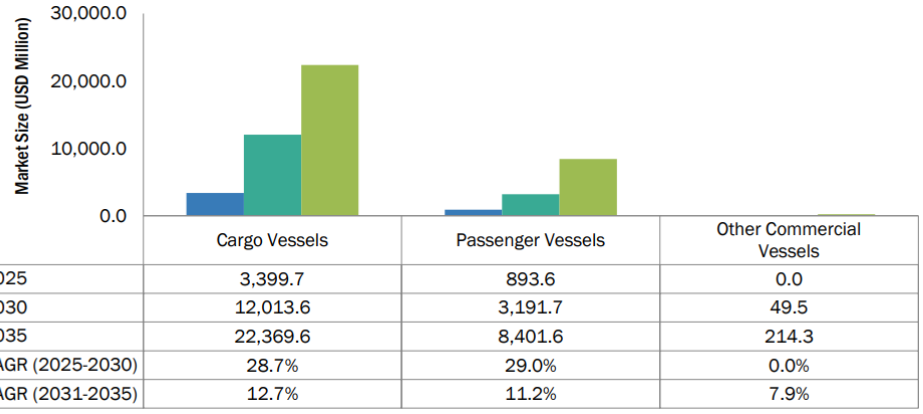


1.2 Market Segmentation by Ship Type

Based on ship type, the green methanol ships market has been segmented into: **passenger vessels, cargo vessels, and other commercial vessels** (Figure 3). The growing popularity of these vessels is influenced by the increasing environmental regulations aimed at reducing carbon emissions, along with the growing demand for decarbonization in global shipping operations. These factors contribute to shipping companies' changing preferences for methanol-powered ships.

The **passenger vessels** segment is projected to grow from USD 893.55 million in 2024 to USD 3,191.72 million by 2030. It is projected to register a CAGR of 29.0% from 2025 to 2030 and a CAGR of 11.2% from 2031 to 2035. The growth of the yachts segment is attributed to the increasing demand for sustainable luxury solutions. The growth can also be attributed to the rising need to reduce carbon footprints and the pressure from environmental regulations driving emission reduction in marine vessels.

Figure 3. Green Methanol Ships Market, by Ship Type, 2025 VS. 2030 VS. 2035 (USD Million)



	Cargo Vessels	Passenger Vessels	Other Commercial Vessels
2025	3,399.7	893.6	0.0
2030	12,013.6	3,191.7	49.5
2035	22,369.6	8,401.6	214.3
CAGR (2025-2030)	28.7%	29.0%	0.0%
CAGR (2031-2035)	12.7%	11.2%	7.9%

Passenger vessels are ships designed to transport people. The growth of passenger vessel segments is driven by stringent environmental regulations like the IMO's 2050 targets for reducing carbon emissions, pushing operators to adopt low-carbon fuel types, such as green methanol. The market is also driven by the rising consumer demand for sustainable tourism, as eco-conscious travelers prioritize low-emission travel options and corporate sustainability commitments from major operators like Royal Caribbean and Norwegian Cruise Line, which are adopting methanol to meet their net-zero emission goals by 2050. In 2023, Scandlines (Denmark) invested in methanol technology for its ferry fleet to address the rise in demand for green methanol fuel. The development of bunkering infrastructure and advances in methanol engine technology, such as Wärtsilä's (Finland) methanol engines launched in 2022, are crucial in supporting the adoption of green methanol in passenger vessels.

The **green methanol ships market, by passenger vessel**, in the period 2024 – 2035 is reported in the following Tables.

Table 1. Green Methanol Ships Market, by Passenger Vessel, 2024–2030 (USD Million)

Passenger Vessel	2024	2025	2026	2027	2028	2029	2030	CAGR (2025–2030)
Yachts	0.00	0.00	0.00	87.95	175.89	175.89	269.90	0.0%
Ferries	0.00	55.58	55.58	111.17	222.33	226.45	345.85	44.1%
Cruise Ships	0.00	837.97	0.00	837.97	900.04	900.04	2,575.97	25.2%
Total	**0.00**	**893.55**	**55.58**	**1,037.08**	**1,298.26**	**1,302.38**	**3,191.72**	**29.0%**

Table 2. Green Methanol Ships Market, by Passenger Vessel, 2031–2035 (USD Million)

Passenger Vessel	2031	2032	2033	2034	2035	CAGR (2031–2035)
Yachts	1,340.41	382.11	621.68	1,300.98	2,056.10	11.3%
Ferries	683.47	298.50	422.02	489.96	883.16	6.6%
Cruise Ships	3,476.01	124.14	1,862.15	3,724.30	5,462.30	12.0%
Total	**5,499.88**	**804.75**	**2,905.85**	**5,515.24**	**8,401.56**	**11.2%**

Yachts are luxury vessels used for private or recreational purposes, often equipped with high-end amenities for leisure travel. The growth of the yachts segment can be attributed to the increasing demand for environment-friendly, luxury solutions, as eco-conscious yacht owners seek to reduce their carbon footprints, and the pressure from environmental regulations targeting the reduction of emissions in marine vessels. Luxury yacht manufacturers are exploring alternative fuels like green methanol, which are significantly reducing emissions. Corporate ESG commitments are also influencing the growth of this segment, as leading yacht builders aim to align their operations with global sustainability goals. In 2023, Sanlorenzo (Italy) announced plans to introduce methanol-powered yachts, focusing on reducing emissions without compromising luxury. Moreover, advancements in methanol-compatible engine technologies, such as those developed by MAN Energy Solutions (Germany), and the increasing development of green fuel infrastructure in key ports are driving the adoption of green methanol in yachts.

Ferries transport passengers and vehicles over short distances, typically between islands, rivers, and coastal regions. The segment is driven by strict environmental regulations, such as the IMO's 2020 sulfur cap and its broader emission reduction targets for 2050. Ferry operators are adopting green methanol as a clean fuel to meet these stringent standards. The growing demand for sustainable public transportation solutions, particularly in regions with heavy ferry traffic, accelerates this shift. As a result of these stringent environmental regulations, global companies are transitioning to low-emission alternatives. In 2022, Stena Line (Sweden) announced plans to integrate methanol-powered ferries into its fleet to meet net-zero goals. The development of methanol-compatible engines and supporting bunkering infrastructure at major ports, like those in Northern Europe, further facilitates the adoption of green methanol in the ferries market, making it a key area for sustainable maritime transport.

Cruise ships are large passenger vessels designed for leisure travel. They offer amenities like restaurants, entertainment, and accommodation for extended journeys across seas or oceans. The increasing environmental regulations like the IMO's 2050 emission targets, which push cruise operators to adopt low-carbon fuels, such as green methanol, and rising consumer demand for sustainable tourism act as drivers for the market. The cruise industry is under pressure to reduce its environmental footprint, prompting companies to explore alternative fuels that significantly reduce carbon emissions. In 2022, Royal Caribbean (US) announced plans to explore methanol-powered cruise ships as part of its sustainability efforts. Additionally, advancements in methanol engine technology, like Wärtsilä's (Finland) methanol engines, make it easier for cruise operators to transition from conventional fuels. Moreover, the development of bunkering infrastructure in key ports and corporate commitments to ESG goals further accelerate the shift toward methanol-powered cruise ships, ensuring the industry's compliance with global decarbonization efforts.

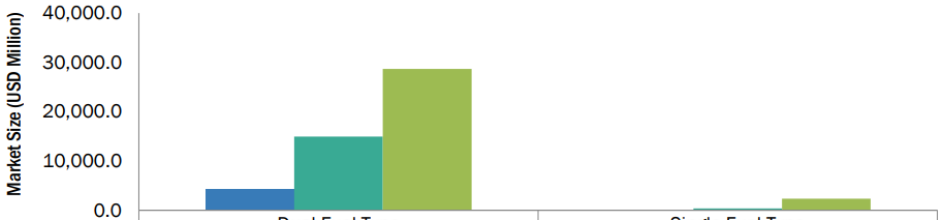
1.3 Market Segmentation by Type

Based on type, the green methanol ships market has been segmented into: **single fuel type** and **dual fuel type** (Figure 4). The increasing demand for fuel flexibility and compliance with global emission regulations is attributable to the growth of this segment. Companies opt for single and dual fuel systems to balance environmental goals with operational efficiency. Single fuel systems focus on maximizing sustainability, while dual fuel systems offer the flexibility to switch

between methanol and traditional fuel, ensuring compliance with emission targets while maintaining cost efficiency during the transition to full methanol adoption. The development of methanol infrastructure and advances in engine technology are further supporting the adoption of single and dual fuel ships.

The **single fuel** type segment is projected to grow at a CAGR of 10.9% from 2031 to 2035. The **dual fuel** type segment is projected to grow from USD 4,293.25 million in 2025 to USD 14,917.65 million in 2030 at a CAGR of 28.3%. The adaptability of the dual fuel type vessel is vital to the transition toward sustainable shipping, as methanol infrastructure is still developing.

Figure 4. Green Methanol Ships Market, by Type, 2025 VS. 2030 VS. 2035 (USD Million)



	Dual Fuel Type	Single Fuel Type
2025	4,293.3	0.0
2030	14,917.6	337.2
2035	28,685.4	2,300.1
CAGR (2025-2030)	28.3%	0.0%
CAGR (2031-2035)	12.3%	10.9%

1.4 Market Segmentation by Region

The global green methanol ships market covers: **North America, Europe, Asia Pacific, the Middle East and the Rest of the World** (RoW) (Figure 5). In **North America**, stringent environmental regulations and decarbonization targets, particularly in the US and Canada, drive the shift to low-emission fuels like green methanol. Key players, such as Maersk, are investing heavily in methanol-fueled vessels, supported by government incentives and investment in clean energy infrastructure. **North America** is projected to grow from USD 1,083.12 million in 2025 to USD 2,016.3 million in 2030, at a CAGR of 13.2% (2025–2030), and from USD 2,331 million in 2031 to USD 2,867.86 million in 2035 at a CAGR of 5.3% (2031–2035).

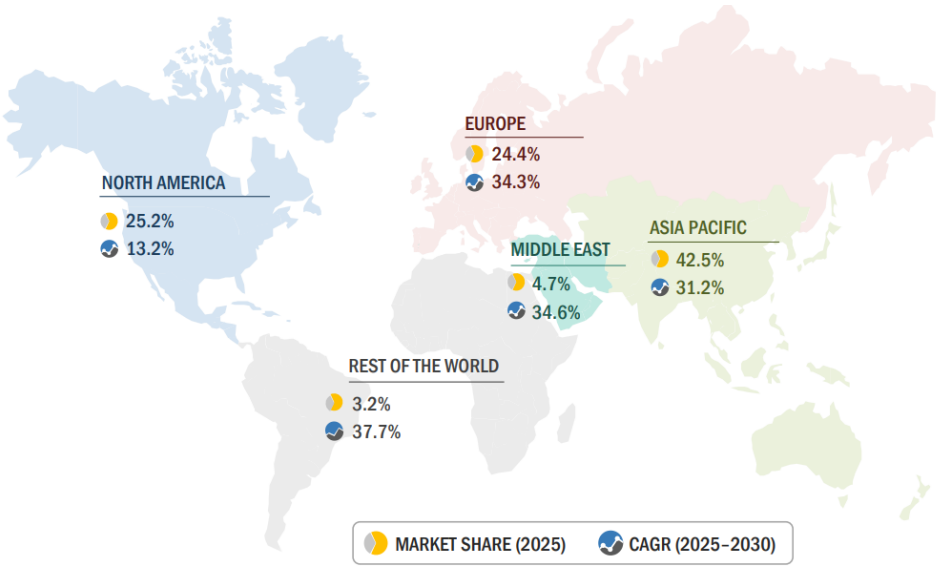
In **Europe**, the focus on sustainability through the European Green Deal and the IMO's 2050 emission reduction targets are pushing shipping companies to adopt green fuel technologies. Ports like Rotterdam are expanding their methanol bunkering infrastructure, enabling greater adoption of methanol-powered ships. Europe is projected to grow at a CAGR of 34.3% from 2025 to 2030 at a CAGR of 13.5%.

In **Asia Pacific**, countries like China, Japan, and South Korea are seeing increased adoption of green methanol due to the growing investments in green fuel technologies and government-backed initiatives for clean shipping corridors. In the Middle East, investments in green hydrogen and renewable energy projects propel the shift toward green methanol as a sustainable fuel option for long-haul shipping.

In the **Rest of the World**, the availability of renewable energy sources like solar and wind energy, along with international investments, is driving growth. These regional factors are shaping the future of green methanol as a preferred marine fuel globally.

The **Middle East's** solar energy resources are being harnessed to produce green hydrogen, a critical input for the production of green methanol.

Figure 5. Green Methanol Ships Market, by Region, in the Period 2025 – 2030 (Market Share and CAGR)

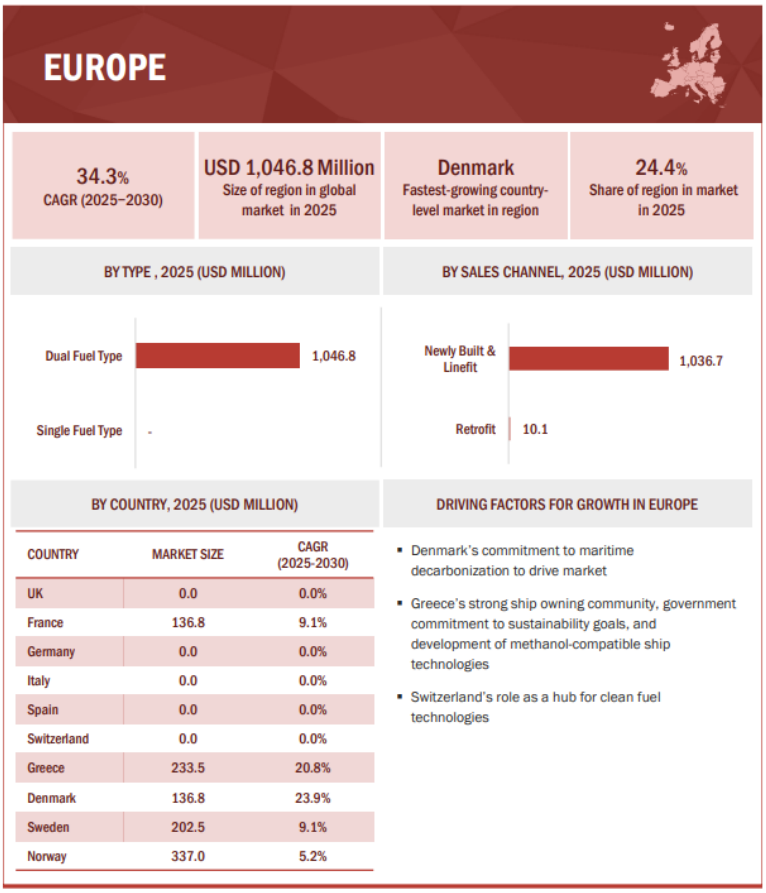


1.4.1 Focus on: Europe

The **European** green methanol ships market has been segmented into: UK, France, Germany, Italy, Switzerland, Spain, Greece, Denmark, Sweden, and Norway. Stringent environmental regulations and a strong commitment to decarbonization have driven growth in the region. The European Green Deal and Fit for 55 initiatives aim to significantly reduce carbon emissions across industries, including maritime shipping, pushing companies toward sustainable fuel alternatives like green methanol. EU subsidies and government-backed programs are also accelerating the transition to low-carbon maritime fuels, with shipbuilders and shipping companies receiving financial incentives to adopt methanol-compatible engines.

The region's advanced shipbuilding sector, particularly in countries like Germany and Denmark, also drives innovation in dual-fuel technologies, providing European shipping companies with flexible solutions during the transition. Additionally, public-private partnerships and collaborations between shipbuilders and fuel producers are fostering a dynamic ecosystem that supports the adoption of green methanol as a marine fuel, positioning Europe as a leader in sustainable maritime technologies.

Figure 6. Europe: Green Methanol Ships Market Snapshot



1.5 Competitive Landscape

Companies that design and manufacture green methanol ship components, including private firms and public firms, are key stakeholders in the green methanol ships market ecosystem. Investors, funders, integrators, service providers, and licensing authorities are the major influencers in this market.

Prominent companies in this market include well-established, financially stable green methanol ship components manufacturers with a global presence. They have been operating in the market for several years and have a diversified product portfolio, state-of-the-art technologies, and robust global sales and marketing networks (Figure 7).

Private and small enterprises have a comparatively limited product portfolio, financial strength, and specialization in specific systems and subsystems. Some companies could enter strategic partnerships and joint ventures with prominent companies to gain a strong foothold in the urban air mobility market. Private and small enterprises are looking at funding and investments to develop advanced green methanol ships and infrastructure.

Shipping companies, trading and logistics operators, and other stakeholders that **use** methanol-powered ships, play a vital role in the urban air mobility market. These customers are likely to invest in green methanol ships, such as cargo vessels, passenger vessels, and other commercial vessels, owing to their improved efficiency, effective utilization, and alternate modes of service.

Figure 7. Green Methanol Ships Market Ecosystem

Hyundai Heavy Industries (South Korea), Samsung Heavy Industries (South Korea), COSCO Shipping Industries Co., Ltd. (China), Huangpu Wenchong Shipbuilding Company Limited (China), and Shanghai Waigaoqiao Shipbuilding Co., Ltd. (China) are the **key players** in the green methanol ships market. The main **European players** active in the market, comprising methanol shipbuilders, solution providers, methanol fuel suppliers and other players, are reported in the following Table.

Table 3. European Players in the Green Methanol Ships Market

Company	Location	Description	Website
Archipelago Expedition Yachts	UK	The company has positioned itself at the forefront of the green maritime sector by developing bio-methanol-powered yachts. Its flagship model, the Archipelago 63, is a pioneering vessel powered by twin direct-injection methanol engines combined with methanol-to-hydrogen fuel cell technology	Archipelago Expedition Yachts | Southampton | Motor-catamarans built in the UK
Carbon Recycling International	Iceland	Global leader in converting carbon dioxide into methanol. Its production capacity surpasses 200,000 tonnes of sustainable methanol per year	Global Leader in Carbon Capture and Utilization & Emethanol
Damen Shipyards Group	The Netherlands	Global leader in shipbuilding, renowned for its extensive portfolio of specialized vessels across various maritime sectors. Damen has been advancing its capabilities in the green methanol ships (GMS) market, aligning with the industry's growing demand for sustainable shipping solutions	Damen Shipyards Group - Oceans of Possibilities - shipbuilding - Damen
Equinor	Norway	The company leverages its renewable energy and carbon capture expertise to produce sustainable methanol from biomass and renewable electricity	Equinor: energising the world, empowering people. - Equinor
European Energy	Denmark	Offers green methanol to the transportation sector	European Energy

Company	Location	Description	Website
Liquid Wind	Sweden	Offers green methanol and is at the forefront of developing facilities that produce clean electrofuels	Liquid Wind
MAN Energy Solutions	Germany	MAN develops four-stroke methanol-ready engines to support the maritime industry's shift toward green methanol as a clean, low-emission fuel alternative	Home MAN Energy Solutions
OCI	The Netherlands	Leading producers and distributors of nitrogen products, providing sustainable solutions for agricultural and industrial customers worldwide	OCI Global - Powering a cleaner future sooner
Proman	Switzerland	The company is actively involved in the production and transportation of methanol	Proman - A global leader in natural gas derived products
Sanlorenzo Yachts Limited	UK	The company is advancing its commitment to sustainability by exploring the development of green methanol-powered yachts, positioning itself as a key player in the evolving eco-friendly yachting sector	Sanlorenzo Yachts - Made to Measure Yachts, since 1958
Scatec	Norway	Leading renewable energy company focused on solar power and clean energy solutions. Recently, Scatec ventured into the green methanol fuel market, planning to build a green methanol production plant in Egypt in collaboration with local partners	Strategy - Scatec
VARD AS	Norway	Subsidiary of Fincantieri S.p.A. (Italy), is a recognized leader in specialized vessel design and construction. A flagship example of this innovation is VARD's development of methanol-powered Commissioning Service Operation Vessels for the offshore wind sector	Home - VARD
Wärtsilä	Finland	With its innovative Wärtsilä 32 Methanol Engine, the company supports the maritime industry's transition to low-emission fuels, reducing CO_2 emissions and enhancing fuel efficiency for methanol-powered vessels	The global leader in innovative technologies and lifecycle solutions for the marine and energy markets | Wärtsilä

2 Sources

MarketsandMarkets Knowledge Store - Multisectoral database that collects market research reports in various technological fields and designed to process some information interactively. More than 1,200 market reports are published each year (https://www.mnmks.com/). The information presented are contained in the report "*Green Methanol Ships Market – Forecast to 2035*", published in October 2024.

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