Fuel Cells For Marine Vessels Market Research Report – Forecast to 2023

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Description:

Global Fuel Cells for Marine Vessels Market Research Information by Type (PEMFC, SOFC, PAFC, DMFC, and Others), Application (Commercial, Defense), Power Output (<200 KW, >200KW), & Region – Global Forecast till 2023

Market Scenario

Fuel cells are flexible in nature and can be used as a single cell or in stacks. As a result, the power produced can be channelized through a ship, without an increase in the consumption of conventional fuel. Fuel cells are used in marine vessels to power the propulsion system and cater to the onboard energy consumption requirements. Of late, companies are investing in technology development to produce alternate propulsion systems with low carbon emissions in response to stringent regulatory policies. As a result, higher investments are being made on the development of alternate propulsion systems, such as fuel cells, for marine vessels. This would positively impact the market growth during the forecast period.

However, one of the major restraints of the market is the issue associated with designing propulsion systems. The propulsion systems faced several constraints related to design and technical problems in combustion systems, generator, battery, and electric motor in terms of factors such as weight, charge rate, battery life, and size. The development of the alternate propulsion system of marine vessels is dependent on multiple parameters such as power, emissions, cost, and energy efficiency. It is extremely difficult to drive a vessel on renewable propulsion systems alone, as the energy required by marine vessels is immense. Furthermore, high capital costs and low lifetime of fuel cell stacks has hindered the growth of the market.

Moreover, the evolution of hydrogen as a marine fuel and increase in bunker fuel oil prices are the recent trends in the fuel cells for marine vessels market. The benefit of hydrogen fuel is that it helps in the reduction of noise, vibrations, and NOx formation. Moreover, in the recent years, the marine industry is making significant investments in transportation application to lower greenhouse gases emission.

The factors responsible for the growing use of fuel cells for marine vessel propulsion are the increasing demand for alternative propulsion systems, low operating costs, and focus on curbing environmental pollution. There were a number of contracts that fueled the market growth. For instance, in 2016, Meyer Werft GmbH & Co. KG signed a contract with thyssenKrupp Marine Systems GmbH to developed fuel cell system for seagoing vessels under e4ships program. Similarly, in 2013, Nuvera Fuel Cells, Llc signed a contract with Italian Shipbuilder, Fincantieri S.p.A., to produce and deliver fuel cell stacks for use on marine vessels.

The market has been segmented into type, application, power output, and region. Based on type, the Polymer Electrolyte Membrane Fuel Cell (PEMFC) is widely used and comprises the largest share in the market due to its greater operational flexibility, durability, and affordability. Based on application, it is expected that the commercial vessels are expected to witness the largest demand in the global market, during the forecast period, due to their increased maritime trade and worldwide demand for cargo vessels. Based on power output, more than 200 kW fuel cells are widely used and comprise the largest share in the market due to demand for optimized power generation to propel heavy marine vessels.

Global Fuel Cells for Marine Vessels Market, By Segmentation
On the basis of region, the market is segmented into North America, Asia Pacific, Europe, the Middle East & Africa, and Latin America. North America is expected to dominate the market in the coming years, due to the rising investments in the fuel cell technology in both military and commercial marine sectors. Europe follows the North American region in the global market due to the increase in number of industry consortia developing fuel cell powered vessels. For example, Germany is an active country that engages in the development of fuel cell systems for marine vessels. Thus, the global fuel cells for marine vessels market is estimated to witness growth at a CAGR of over 4%, during 2018 to 2023.

Key Players

The key players in the global fuel cells for the marine vessels market are Fiskerstrand Verft AS (Norway), MEYER WERFT GmbH & Co. KG (Germany), Nuvera Fuel Cells LLC (U.S.), Dynad International BV (Netherland), PowerCell (Sweden), SerEnergy A/S (Denmark), Toshiba Corporation (Japan), Siemens (Germany), Proton Motor GmbH (Germany), and Watt Fuel Cell Corporation (U.S.).

The report for Global Fuel Cells for Marine Vessels Market of Market Research Future comprises extensive primary research along with the detailed analysis of qualitative as well as quantitative aspects by various industry experts, key opinion leaders to gain the deeper insight of the market and industry performance. The report gives the clear picture of current market scenario which includes historical and projected market size in terms of value and volume, technological advancement, macroeconomic and governing factors in the market. The report provides details information and strategies of the top key players in the industry. The report also gives a broad study of the different market segments and regions.
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