Submarine Electricity Transmission Systems - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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Report description:

The Submarine Electricity Transmission Systems Market is expected to register a CAGR of greater than 14% during the forecast period.

The market was negatively impacted by the Covid-19 pandemic, as plummeting global energy demand delayed several projects. However, the market has since rebounded and is expected to grow steadily during the forecast period.

Key Highlights
- Over the long term, the growth in the Wind Power Generation sector, which is witnessing an increasing share of the offshore wind generation capacity, along with the decrease in the cost of offshore wind power generation, is expected to drive the submarine electricity transmission systems market.
- On the flip side, the high frequency and costs of maintenance and repair work needed for submarine cables are expected to restrain the market being studied.
- Nevertheless, reducing the environmental impact and footprint of large submarine electricity transmission systems to improve project sustainability and protect marine biodiversity and ecosystems is a significant opportunity for the market beyond the forecast period.
- Asia-Pacific region is expected to dominate the market, with growing electricity consumption across the region.

Submarine Electricity Transmission Systems Market Trends

HVDC System to Witness Significant Growth

- Submarine electricity transmission is gaining importance because of the increasing focus on power trading between countries. The HVDC submarine power transmission system is considered critical for developing future power transmission networks. It is the only solution for transferring high power across long subsea distances. For these reasons, HVDC lines are preferred for interconnecting offshore wind plants worldwide.
- In the HVDC transmission system, the submarine power cables can be less costly, especially on a long link where the capacitance of the cable requires too much additional charging current, promulgating the transmission systems market during the forecast period.
- According to GE Grid Solutions, with an □800 kV UHVDC, transmission losses are under 5%, and the width of the right-of-way is significantly reduced at only 50 meters. The physical footprint, infrastructure costs, and visual impact are decreased considerably compared to traditional 500 kV AC transmission systems.
- As shares of renewable energy in the matrix have risen, the utilization of HVDC links has grown. For instance, according to ENTSOE- e (European Network of Transmission System Operators for Electricity), the annual utilization of all HVDC links since 2012 has grown from 57% to 62% in Europe. This highlights the growing utilization and demand for HVDC infrastructure, which is expected to drive the market during the forecast period.
- In December 2022, The Xlinks Morocco-UK Power Project received a multi-million-pound investment from Conergy. The project will export renewable energy generated in Morocco's Guelmim Oued Noun region through four 3,800km HVDC subsea cables, which will be the longest in the world.
- Similarly, in July 2022, Hitachi announced it had won a major order from Orsted to provide two High-Voltage Direct Current (HVDC) systems to transmit green electricity from the Hornsea 3 Offshore wind farm.
- Factors, such as the increasing number of offshore wind farms along with interconnections between countries through HVDC cables, are expected to increase the demand for submarine transmission systems over the forecast period.

Asia-Pacific to Dominate the Market

- The Asia-Pacific region is expected to dominate the submarine electricity transmission systems market, with China leading the market, followed by the ASEAN countries.
- The Chinese government is actively promoting the development of renewable infrastructure, to curb pollution, as well as to reduce the share of thermal power in the country's power generation profile. This is likely to drive the development of wind power projects in the country during the forecast period. In the offshore wind market, China is a global leader, as of 2021, China has nearly 26.390 GW of offshore wind energy installed capacity.
- The Indian offshore wind power market is still in its early stages and has a potential of around 60 GW. The potential areas of the country's offshore wind power are located on the coasts of Gujarat and Tamil Nadu. Besides, with an offshore wind potential of 60 GW, India aims to install 30 GW by 2030. In November 2022, India's Ministry of New and Renewable Energy (MNRE) issued a draft tender to lease seabed areas off Tamil Nadu for 4 GW equivalent offshore wind project capacity during 2022-23.
- Moreover, Japan and ASEAN countries being a group of island nations, has massive installations between the islands for power transmission. Japan, being an island nation, has many suitable locations for offshore wind power generation. The country analyzed that offshore wind turbines can generate five times more electricity than onshore wind turbines.
- Furthermore, the Philippines comprises of over 7,500 islands of which 2,000 islands are inhabited. The majority of the ASEAN countries consists of a cluster of small islands, where the power generation is not possible on each island. This creates a need for power transmission between the islands, hence driving the market.
- Owing to above points, Asia-Pacific is expected to dominate the Submarine Electricity Transmission Systems Market during the forecast period.

Submarine Electricity Transmission Systems Industry Overview

The Submarine Electricity Transmission Systems Market is moderately consolidated. Some of the key players in the market (not in particular order) include ABB Ltd, Siemens AG, Prysmian SpA, NKT AS, and Nexans SA, among others.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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