

Europe High-Voltage Direct Current (Hvdc) Transmission Systems Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 110 pages | Mordor Intelligence

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Report description:

The Europe high-voltage direct current (HVDC) transmission systems market is likely to register a CAGR of more than 8% during the forecast period, 2022-2027. The COVID-19 pandemic disrupted the market temporarily by causing a shortage of equipment due to the closure of manufacturing facilities. The market saw a decline in investments due to lesser discretionary spending. Factors such as the growth of utility-scale renewable energy plants and the shift away from fossil fuels are likely to drive the market as the HVDC transmission system helps to transmit electricity from remote renewable power plants over a long distance without much energy loss than the HVAC system. However, with the increasing share of distributed and off-grid power generation, the need and, in turn, the demand for HVDC transmission systems is expected to be reduced, thus restraining the market growth during the forecast period.

Key Highlights

The submarine HVDC transmission system type is expected to hold the largest share in the market, owing to the increasing development of submarine power transmission systems across the region.

The offshore region of Europe has significant wind potential, which is evident from the already installed capacity. More offshore wind farms are expected to come up in the future to lower emissions, which is expected to provide immense opportunities to the market players involved in the HVDC transmission systems market.

The United Kingdom is expected to grow significantly in the European HVDC transmission systems market during the forecast period.

Europe HVDC Transmission Systems Market Trends

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Submarine HVDC Transmission System Type to Dominate the Market

The submarine transmission of electricity is gaining importance on account of the increasing focus on renewable energy such as wind and power trading between the countries in the European region.

The submarine direct current transmission requires a converter station at each end to make the DC interact with the AC grid network. In an HVDC transmission system, the submarine power cables have a much more complicated structure compared to the overhead transmission lines, which are only composed of conductors.?

These submarine HVDC cables can be used to connect offshore installations, such as production platforms in the oil and gas sector or substation platforms in the offshore wind sector, to the region's mainland grids.

Moreover, in November 2021, Nexans and Terna announced a major contract of more than EUR 650 million for the first submarine HVDC transmission system between Sardinia and Sicily. Nexans will provide 500 km of 500kV HVDC mass impregnated subsea cable link for the project manufactured at its Halden plant in Norway.

Also, as of September 2021, Greece and Egypt were in talks about the possibility of laying a 2 GW submarine HVDC transmission system on the bottom of the Mediterranean Sea and linking their respective electricity grids. Greece is also working with Italy on a 1 GW submarine cable link below the Ionian Sea.

Thus, taking account of the above-mentioned points, the submarine HVDC transmission system type is expected to dominate the HVDC transmission systems market in Europe during the forecast period.

United Kingdom to Witness Significant Growth

The United Kingdom's power generation mix is expected to change considerably in favor of renewables over the next few years, with the country increasingly moving toward a low-carbon economy. The country also has several policies in place, such as the national renewable energy action plans that support the transition to a low-carbon energy system.

With the increasing integration of renewable energy sources and the growing need to enhance the security of supply, HVDC grid technology is expected to be evolved in the country. Moreover, investments in the offshore wind industry, solar photovoltaic (PV), grid expansion, and energy storage projects require smart energy infrastructure to balance the fluctuating supply of renewable sources.

In March 2022, Prysmian was awarded a contract worth GBP 990 million for the turnkey design, manufacturing, installation, testing, and commissioning of the 725km, 1400MW submarine HVDC transmission system, which will directly link the German and UK electricity grids.

Also, in May 2021, Hecate Independent Power announced to build a GBP 200 million submarine HVDC cable factory in the United Kingdom to support its GBP 21 billion offshore wind power project. The HIP project comes in offshore Iceland but will be connected to the United Kingdom by long, high-capacity, HVDC submarine cable systems.

Thus, owing to the above-mentioned points, the United Kingdom is likely to experience significant growth during the forecast period.

Europe HVDC Transmission Systems Market Competitor Analysis

The European high-voltage direct current (HVDC) transmission systems market is partially fragmented. Some of the major players involved in the market include General Electric Company, Hitachi Energy Ltd, Eaton Corporation PLC, Siemens Energy AG, and Toshiba Corporation.

Additional Benefits:

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The market estimate (ME) sheet in Excel format
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