

# Global HVDC Transmission Market 2023

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## Abstracts

HVDC (High Voltage Direct Current) transmission is a technology that facilitates the efficient transmission of electricity over long distances using direct current (DC) instead of alternating current (AC). This technology has gained significant attention and is expected to witness substantial growth in the global market. According to the latest data, the market size of the global HVDC transmission sector is projected to increase by USD 6.0 billion, with a Compound Annual Growth Rate (CAGR) of 8.81% by the end of 2029.

One of the key advantages of HVDC transmission is its ability to minimize transmission losses, making it highly efficient for transmitting power over extended distances. When compared to AC transmission, HVDC systems experience lower losses, enabling the efficient transmission of electricity over hundreds or even thousands of kilometers. This characteristic of HVDC transmission makes it particularly advantageous for connecting remote renewable energy sources, such as offshore wind farms, to the main power grid.

The growing penetration of renewable energy sources, such as wind and solar, into the power grid has created a demand for efficient transmission solutions. HVDC transmission plays a crucial role in integrating renewable energy sources situated far from population centers, where the demand for electricity is typically high. By utilizing HVDC transmission, large amounts of renewable energy can be transmitted over long distances, reducing curtailment and maximizing the utilization of clean energy resources.

The report covers market size and growth, segmentation, regional breakdowns, competitive landscape, trends and strategies for global HVDC transmission market. It presents a quantitative analysis of the market to enable stakeholders to capitalize on the prevailing market opportunities. The report also identifies top segments for opportunities and strategies based on market trends and leading competitors'

approaches.

### Market Segmentation

Voltage rating: 640 kV, 500 kV, 200 kV

Technology: LCC (line commutated converter), VSC (voltage source converter)

Configuration type: monopolar, bipolar, multi terminal, back to back

Application: underground, asynchronous, offshore

Region: Asia-Pacific, Europe, North America, RoW (Rest of World)

This industry report provides market estimates and forecasts for the global HVDC transmission market, along with a comprehensive analysis of various factors such as voltage rating, technology, configuration type, application, and region. The market for HVDC transmission is segmented based on voltage rating into three categories: 640 kV, 500 kV, and 200 kV. Among these, the 640 kV segment held the largest market share in 2022 and is expected to maintain its dominance throughout the forecast period.

When considering the technology used in HVDC transmission, the market is divided into two segments: LCC (line commutated converter) and VSC (voltage source converter). Globally, the LCC segment accounted for the largest share of the HVDC transmission market. This technology is widely adopted due to its proven reliability and cost-effectiveness.

The configuration type of HVDC transmission systems is another important aspect analyzed in this report. The market is segmented into four categories: monopolar, bipolar, multi-terminal, and back-to-back. Among these, the bipolar segment emerged as the largest contributor to the global HVDC transmission market in 2022. Bipolar configurations are commonly used for long-distance power transmission, as they offer enhanced stability and efficiency.

In terms of application, the HVDC transmission market can be divided into three segments: underground, asynchronous, and offshore. The underground segment is estimated to hold the largest share of the global HVDC transmission market. This can be attributed to the increasing demand for underground power transmission systems, which offer advantages such as reduced land requirements and minimal environmental impact.

Geographically, the HVDC transmission market is categorized into four regions: Asia-Pacific, Europe, North America, and Rest of World (RoW). Among these regions, Asia-Pacific dominated the global HVDC transmission market in 2022 and is projected to

maintain its market share throughout the forecast period. This can be attributed to the rapid industrialization, urbanization, and increasing demand for electricity in countries like China and India.

### Major Companies and Competitive Landscape

The global HVDC transmission market report offers detailed information on several market vendors, including Siemens AG, Toshiba Corporation, ABB, Ltd., Schneider Electric SE, Adani Group, Hitachi, Ltd., General Electric Co., Mitsubishi Electric Corporation, Alstom SA, NKT A/S, Nexans SA, among others. In this report, key players and their strategies are thoroughly analyzed to understand the competitive outlook of the market.

### Scope of the Report

To analyze and forecast the market size of the global HVDC transmission market.

To classify and forecast the global HVDC transmission market based on voltage rating, technology, configuration type, application, region.

To identify drivers and challenges for the global HVDC transmission market.

To examine competitive developments such as mergers & acquisitions, agreements, collaborations and partnerships, etc., in the global HVDC transmission market.

To identify and analyze the profile of leading players operating in the global HVDC transmission market.

### Why Choose This Report

Gain a reliable outlook of the global HVDC transmission market forecasts from 2023 to 2029 across scenarios.

Identify growth segments for investment.

Stay ahead of competitors through company profiles and market data.

The market estimate for ease of analysis across scenarios in Excel format.

Strategy consulting and research support for three months.

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