

HVDC Cables Market to Reach USD 4.6 Billion by 2035, Driven by Offshore Wind and Grid Interconnections


WILMINGTON, DE, UNITED STATES, August 21, 2025 /EINPresswire.com/ -- The global High Voltage Direct Current (HVDC) Cables Market is experiencing significant growth, supported by rising investments in renewable energy projects, interconnection of power grids, and growing demand for efficient long-distance electricity transmission. According to industry insights, the [HVDC cables market](#) is poised to register a healthy compound annual growth rate (CAGR) during 2024–2035, driven by large-scale offshore wind farms, cross-border electricity trade, and the integration of green energy into national grids.

HVDC Cables Market

The global industry valued at **US\$ 2.4 Bn** in 2024

It is estimated to grow at a CAGR of **6.3%** from 2025 to 2035

and reach **US\$ 4.6 Bn** by the end of 2035



HVDC Cables Market

HVDC Cables Market was valued at USD 2.4 billion in 2024 and is projected to reach USD 4.6 billion by 2035, expanding at a CAGR of 6.3% during the forecast period. This growth is fueled by large-scale offshore wind farm deployments, increasing cross-border electricity trade, and rising investments in renewable energy infrastructure.



The HVDC cables industry is expected to grow at a CAGR of 6.3% from 2025 to 2035”
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Key Players:

- Prysmian Group
- Nexans S.A.
- Sumitomo Electric Industries, Ltd.

- NKT A/S
- ZTT Group
- LS Cable & System
- Shanghai QiFan Cable Co., Ltd.
- General Electric Company
- Furukawa Electric Co., Ltd.
- FAR EAST Cable Co., Ltd.

HVDC cables are specialized transmission systems designed to transmit bulk power over long distances with minimal losses compared to traditional AC systems. The technology has gained prominence due to its ability to connect remote renewable energy sources, such as offshore wind farms and hydropower plants, to main grids located hundreds of kilometers away. Additionally, HVDC cables play a crucial role in stabilizing electricity networks by linking asynchronous grids across regions and nations.

Key Market Drivers

Renewable Energy Expansion

Offshore wind farms and large-scale solar projects are creating new opportunities for HVDC cable manufacturers. With global targets for carbon neutrality, governments are actively supporting renewable projects, necessitating reliable HVDC transmission solutions.

Grid Interconnection and Stability

Cross-border energy trade and grid interconnections are fueling HVDC cable demand. The technology helps integrate diverse energy systems, reduce transmission losses, and stabilize voltage fluctuations, ensuring energy security.

Urbanization and Rising Power Demand

Increasing energy consumption in urban regions is pressuring power utilities to adopt efficient transmission technologies. HVDC cables provide an effective solution for transporting electricity from generation hubs to high-demand urban centers.

Technological Advancements

Innovations in cable insulation, conductor materials, and manufacturing processes are enhancing the reliability and cost-effectiveness of HVDC systems. The development of extruded HVDC cables with higher voltage capacity has further strengthened market adoption.

Market Challenges

- While the market outlook remains positive, certain factors pose challenges:
- High Capital Investment: HVDC projects require significant upfront capital, including infrastructure development and installation.
- Complex Regulatory Frameworks: Cross-border projects often face regulatory hurdles and approval delays.
- Technical Expertise: Deployment of HVDC systems demands specialized engineering and skilled labor, which can limit project scalability.

Regional Insights

Europe: Leads the global market, driven by massive offshore wind projects in the North Sea and extensive cross-border interconnectors. The European Union's decarbonization goals are further supporting adoption.

Asia Pacific: Expected to witness the fastest growth, with China and India investing heavily in renewable energy and inter-regional power transmission. Large-scale infrastructure developments and rising electricity demand fuel growth.

North America: Increasing focus on grid modernization and integration of renewable energy sources, particularly in the U.S. and Canada, supports market expansion.

Middle East & Africa: Investments in solar power projects and long-distance transmission lines are opening new opportunities for HVDC cable installations.

Market Trends

- Shift Toward Extruded HVDC Cables – Offering improved flexibility, lighter weight, and higher voltage capacity, extruded cables are becoming a preferred choice for offshore wind and submarine projects.
- Public-Private Partnerships (PPP) – Governments are collaborating with private players to fund and deploy HVDC projects.
- Digitalization and Monitoring – Adoption of smart grid technologies and real-time monitoring solutions enhances operational efficiency and reduces downtime.
- Sustainability in Manufacturing – Cable manufacturers are increasingly focusing on eco-friendly insulation materials and sustainable production processes.

Future Outlook

The global HVDC cables market is expected to grow steadily through 2035, supported by the ongoing transition toward renewable energy and sustainable electricity infrastructure. Offshore wind projects, interconnectors, and smart grid technologies will remain key growth drivers. Moreover, emerging markets in Asia Pacific and the Middle East are projected to create significant opportunities for industry participants.

The market's growth trajectory is also influenced by supportive government policies, climate change mitigation strategies, and continuous technological innovation. As countries work toward decarbonization and energy efficiency, HVDC cables will play a vital role in enabling a cleaner, more resilient power grid.

Key Study Points

The HVDC cables market is witnessing strong demand due to renewable energy integration and cross-border grid connections.

Europe dominates the global market, while Asia Pacific is projected to register the fastest growth during the forecast period.

Offshore wind power remains the largest application segment, followed by interconnectors. Key players are investing in R&D and manufacturing expansions to meet growing demand.

The HVDC cables market is positioned as a critical enabler of the global energy transition. By offering efficient, reliable, and sustainable solutions for long-distance power transmission, HVDC technology ensures energy security, stability, and support for renewable integration. With continued investments in renewable projects and infrastructure development, the HVDC cables market is set to achieve remarkable growth over the next decade.

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