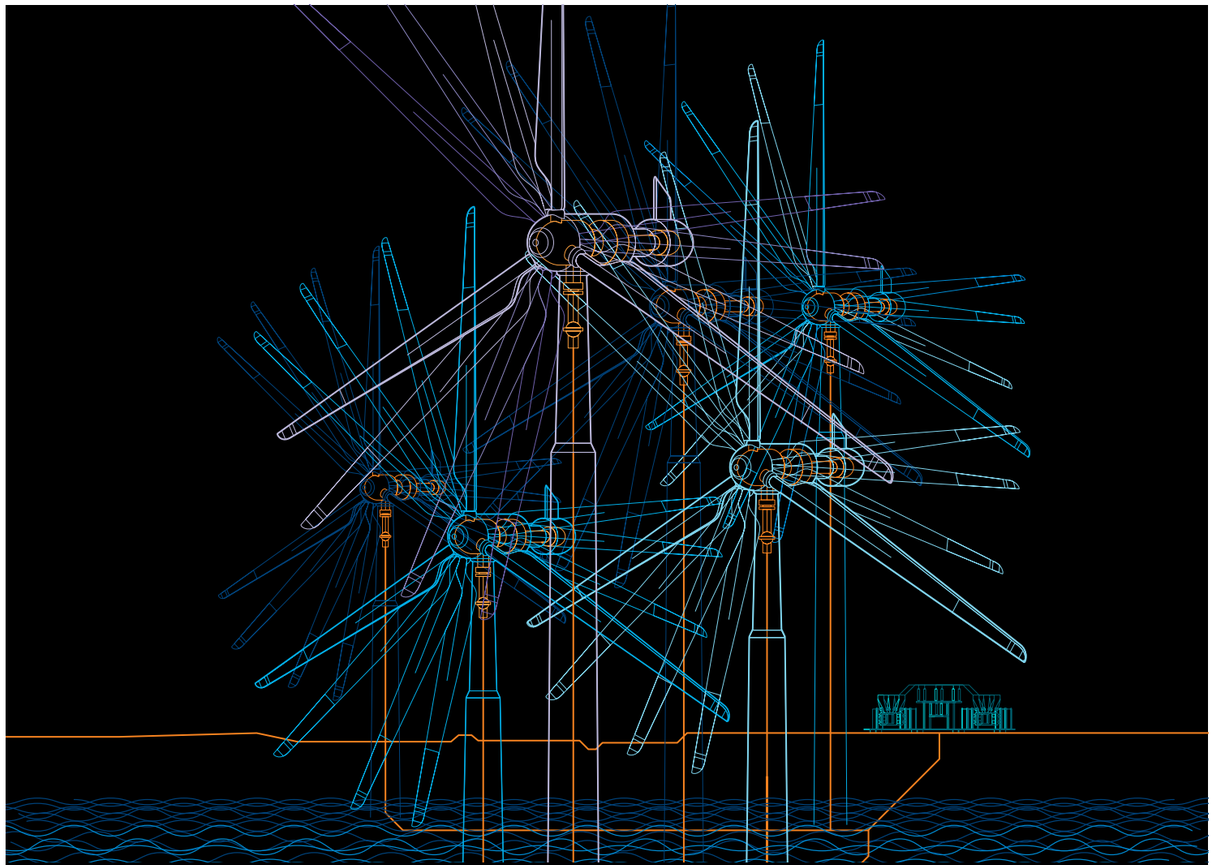
Contact us

ABB AB
High Voltage Cables
Phone: +46 455 556 00
Fax: +46 455 556 55
E-Mail: sehvc@se.abb.com

www.abb.com/cables

ABB HVC 2GM5010-gb WIND, rev. 2012-02, Elanders Sverige AB



Submarine Power Cables
Cables for offshore wind farms

Power and productivity
for a better world™

Power and productivity
for a better world™

HVDC Light cables for DC or...

...XLPE cables for AC

Reliable power cables and installation services from ABB

ABB is one of the world's most experienced manufacturers of large submarine power cables. The know-how that we have acquired from installing submarine transmission cable interconnections around the world is now a valuable asset for the offshore wind, gas and oil industry. ABB has proven its capability to design and install an optimal cable system for a diverse set of applications, taking into account production costs, installation costs, power losses and operational costs.

ABB has the know-how and resources to provide a complete set of services from design to commissioning.

- Cross-linked polyethylene (XLPE) cable systems for AC
- HVDC Light® cable systems for DC
- Mass-impregnated paper-insulated (MI) cable systems for DC
- Cable accessories
- Offshore cable laying, installation, burial and protection
- Project management and commissioning

Submarine power cables

Power cables from ABB are proven to be highly reliable. XLPE cables possess high chemical resistance to oil and solvents, excellent tensile strength and high abrasion resistance. The cables can withstand high short-circuit temperatures and the dimensional stability above 90ºC is very good. XLPE cables also have a high AC voltage breakdown strength. ABB can also offer dynamic power cables which can accommodate the movement of floating platforms.

The HVDC Light cable system is advantageous for long distance transmission and for connections between asynchronous networks, offshore platforms, wind farms etc.

ABB experience

ABB has manufactured XLPE cables since the late 1960s and has delivered more than 3,000 km of polymeric insulated submarine cables. We performed our first submarine installation in 1953, and in 1973 we connected the Finnish island of Åland to the Swedish mainland with three 55 km long XLPE cables rated at 84 kV.

Quality & environment

There is a worldwide focus on environmental issues. Governments and power suppliers are supporting renewable energy sources such as wind power and oil/gas companies are substituting less efficient and CO_2 emitting gas-turbine generation on platforms with power supplies from the mainland. This has led to an increasing world-wide demand for submarine cable solutions with less environmental impact.

Health, safety and environmental issues are of great importance to ABB. Our cable projects are delivered and installed in a safe and orderly manner without endangering people, materials or nature. ABB is certified according to OHSAS 18001:2007 (Occupational Health and Safety Assessment Series). Our standards are fully adapted to offshore requirements and meet the requirements from the most demanding offshore oil companies such as Statoil and Saudi Aramco.

ABB has well-developed quality and environmental systems which are certified according to ISO 9001 and 14001. Our quality and environmental management systems are tools designed to successfully fulfill the requirements of customers, regulatory agencies and other government authorities, as well as the high internal requirements of the ABB Group.

Some of our references

AC cable offshore applications:

- Humber Gateway offshore wind farm, UK
  2x14 km, 220 MW, 132 kV shore connection power cables with Cu conductors and integrated fiber optics.
  Customer: E.ON Climate & Renewables UK Humber Wind Ltd

- Thornton Bank Offshore Wind Farm Phase 2 & 3, Belgium
  38 km, 150 MW, 150 kV shore connection power cable with Al conductors and integrated optical fiber cable and 26 + 34 km 33 kV inter-turbine cables with Al and Cu conductors and integrated optical fiber cable.
  Customer: C-Power NV

- Nordsee Ost Offshore Wind Farm, Germany
  63 km, 33 kV inter-turbine cables with Al conductor and integrated optical fiber cable.
  Customer: RWE Innogy GmbH

- Thornton Bank Offshore Wind Farm, Belgium
  38 km, 150 MW, 150 kV shore connection power cable with Al conductors and integrated optical fiber cable and 4 km 33 kV inter-turbine cables with Al conductors and integrated optical fiber cable.
  Customer: C-Power NV

- Prinses Amaliawindpark (Q7), the Netherlands
  28 km, 120 MW, 170 kV shore connection power cable with Cu conductors and integrated optical fiber cables and 40 km, 24 kV inter-turbine cables with Al and Cu conductors and integrated optical fiber cable.
  Customer: Q7 Holding/ENECO

- Lillgrund Offshore Wind Farm, Sweden
  33 km, 110 MW, 145 kV shore connection power cable and 36 kV interturbine cables with Cu conductors and integrated optical fibers.
  Customer: Siemens Wind Power

- Burbo Banks Offshore Wind Farm, UK
  40 km, 90 MW, 36 kV inter-turbine and shore connection power cables with Cu conductors.
  Customer: Seascape Energy Ltd.

- Yttre Stengrund Offshore Wind Farm, Sweden
  22 km, 10 MW, 24 kV inter-turbine and shore connection power cables with Al conductors and integrated optical fibers.
  Customer: Enron Wind GmbH

- Utgrunden Offshore Wind Farm, Sweden
  11 km, 10 MW, 24 kV inter-turbine and shore connection power cables with Al conductors and integrated optical fiber cable.
  Customer: NEG-Micon

- Samsö Offshore Wind Farm, Denmark
  7.5 km, 20 MW, 36 kV inter-turbine and shore connection power cable with Cu conductors integrated optical fiber cable.
  Customer: Samsö Havvind A/S

- Nysted Offshore Wind Farm, Denmark
  55 km, 165 MW, 36 kV inter-turbine power cables with Al- and Cu conductors and integrated optical fiber cable.
  Customer: ENERGI E2, Sydkraft, DONG

DC cable offshore applications:

- DolWin2 Offshore Wind Project, Germany
  2x45km, 900 MW, +/- 320 kV HVDC Light® submarine power cables with Cu conductor and 2x90 km, 900 MW, +/- 320 kV HVDC Light® underground cables with Al conductor. 2x12 km, 200 MW, 155 kV AC submarine cable with Cu conductors and integrated optical fiber cable.
  Customer: TenneT Offshore GmbH

- DolWin1 Offshore Wind Project, Germany
  2x74 km, 800 MW, +/- 320 kV HVDC Light® submarine power cables with Cu conductor and 2x90 km, 800 MW, +/- 320 kV HVDC Light® underground cables with Al conductor. 7,5 km, 200 MW, 155 kV AC submarine cable with Cu conductors and integrated optical fiber cable.
  Customer: transpower GmbH

- BorWin1 Offshore Wind Project, Germany
  2x125 km, 400 MW, +/-150 kV HVDC Light® submarine power cables with Cu conductor and 2x75 km, 400 MW +/-150 kV HVDC Light® underground cables with Al conductor.
  Customer: transpower GmbH