Cables for Offshore Wind Farms
ABB focuses on wind energy to serve you. Wind energy is a very important and growing source of renewable energy. Transmission, AC/DC conversion and distribution are the corner stones in our building of technology for electric power supply. ABB is one of the world’s most experienced submarine cable manufacturers. The knowledge we have acquired from submarine cable installations is extremely useful for offshore wind farm installations. ABB has the capability to design the optimal cable fit for purpose in relation to production cost, installation cost and operational costs like losses.

**ABB can provide the cabling services**

ABB has the capability to provide the complete chain of services from design to commissioning.

- Complete project management
- AC cables between the windmills
- AC or DC cables from the wind farm to the shore station
- Cable accessories including installation and system site test
- Cable laying, burial and protection

<table>
<thead>
<tr>
<th>Cable type</th>
<th>10 kV</th>
<th>20 kV</th>
<th>30 kV</th>
<th>66 kV</th>
<th>132 kV</th>
<th>220 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x 3-core</td>
<td>15 MW</td>
<td>30 MW</td>
<td>50 MW</td>
<td>100 MW</td>
<td>200 MW</td>
<td>285 MW</td>
</tr>
<tr>
<td>3x 1-core</td>
<td>25 MW</td>
<td>50 MW</td>
<td>80 MW</td>
<td>150 MW</td>
<td>300 MW</td>
<td>460 MW</td>
</tr>
</tbody>
</table>

Submarine and land XLPE cables for 3-phase AC

Maximum transmission capacity. Separate or integrated optic fibers are optional.

**Highlights**

XLPE 3-core, armoured submarine cables with optic fibers

- **Yttre Stengrund, Sweden**
  22 km, 20 kV cable with aluminium conductors, 10 MW. Customer Enron Wind GmbH

- **Utgrunden, Sweden**
  11 km, 20 kV cable with aluminium conductor, 10 MW. Customer NEG-Micon

- **Samsø, Denmark**
  7.5 km, 30 kV cable with copper conductor, 20 MW. Customer Samsø Havvind A/S

- **Nysted, Denmark**
  55 km, 30 kV cable with aluminium and copper conductor, 160 MW, to an offshore transformer station. Customer Energi2

ABB has delivered more than 1,200 km XLPE submarine cables since 1970.
HVDC Light™ cable and converter system, up to 350 MW per system

These polymeric insulated cables are very strong, flexible and robust.

System advantages:
• Eliminates network disturbances from the windmills
• Accepts variable input frequencies to optimize the output power from the windmills
• Allows for the connection to weak AC grids with improved stability
• Expandable to higher power levels in clusters of 10 – 350 MW bipoles
• Asynchronous connection to the grid
• Remotely controlled
• High reliability

Highlights
• Connecticut – Long Island, USA
  80 km, 150 kV DC 350 MW cables. Reactive power control in both networks.
  Customer TransEnergieUS.

• Troll Platform from mainland Norway
  280 km, 60 kV DC cables for variable frequency feeding of 40 MW pump.
  Customer Statoil.

HVDC Classic cables up to 2000 MW bipoles

Paper-oil insulated HVDC Classic cables are the best choice for extra-high power transmission over very long distances.

Highlights
• SwePol, Sweden-Poland
  260 km, 450 kV DC 600 MW cable with 2100 mm² copper conductor
  Customer SwePol Link

• Cook Strait, New Zealand
  80 km, 350 kV DC 500 MW cable with 1400 mm² copper conductor
  Customer Trans Power

ABB has delivered more than 1,200 km HVDC Classic cables since 1953. The deliveries include cables for the highest transmission capacities and longest distances.
For additional information please contact your local ABB Sales Office

Brochure issued by:

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