

# Åland

## Interconnecting grids



ABB Id No: POW0102

## HVDC Light technology secures power supply and grid reliability to Finnish archipelago.

Kraftnät Åland AB is responsible for electricity transmission in the Åland Islands, an autonomous Finnish province situated at the entrance of the Gulf of Bothnia in the Baltic Sea. Kraftnät awarded ABB a contract to supply a turnkey, 100 MW  $\pm 80$  kV HVDC Light transmission link to ensure security of the energy supply on the main island of Åland, where most of the population lives, and allow more renewables into the energy mix.

Åland presently receives 70 percent of its power via subsea AC cables from Sweden, in addition to some locally produced renewable generation. The existing fossil fuel powered back-up system will be closed once the new HVDC Light link is in operation.

The HVDC Light system incorporates special features such as active AC voltage support providing greater network stability and the unique 'black-start' capability, which provides faster grid restoration in the event of a blackout. The system is grid enabled, i.e. prepared for a multi-terminal configuration, which allows for additional in-feed from stations, such as future wind power plants.

ABB will deliver two converter stations, one situated in Ytterby, Åland and the other in Nådendal, Finland, and two 80 kV submarine cables, each 158 km long. The link is scheduled to become operational in 2015.

### Main data:

Commissioning year:	2015
Power rating:	100 MW
No of poles:	2
AC voltage:	110 kV at both ends
DC voltage:	$\pm 80$ kV
Length of DC submarine cable route:	158 km
Length of DC land cables:	2 x 54 km, all ABB scope
Main reason for choosing HVDC:	Length of sea crossing Asynchronous networks
Application:	Interconnecting grids