

Powering islands by HVDC Light®

HVDC Light® is a state-of-the-art power system designed to transmit power underground and underwater. It offers numerous environmental benefits, such as “invisible” power lines, neutral electromagnetic fields, oil-free cables and compact converter stations. HVDC Light® can link mainland power generation capacity with island communities.

Your needs – Our response

A constraint in building transmission capacity to island communities is the demands on compatibility to the environment along the transmission corridor.

Environmental restrictions on overhead power lines in coastal areas are common, thus making the option of undersea and underground cables attractive.

Underground HVDC Light® transmission is not only economically feasible, but meet these special needs.

Customer Value

Many islands, distanced from the mainland, use expensive generation in small uneconomic plants. HVDC Light® can replace polluting, inefficient and expensive local generation and replace it with power from the main grid for many islands where traditional cable transmissions have been found uneconomical. Beyond this the system offers:

- Reliable power supply
- AC grid enhancements
- Black start capability
- Easier permit procedure
 - Underground invisible cable system
 - Environmental friendly oil-free cables
 - Short installation and implementation time
- Low project risk by
 - Easy permitting
 - Short construction and commissioning time
 - Minimizing time from decision to commercial operation
- Flexible, modular systems
 - Can easily be built or expanded to multiterminal system
 - Modular systems can be staged and installed to meet capacity demand
 - Comprehensive factory testing and fast installation
 - Short installation and implementation time
- Underground invisible cable system
 - Enables installations in existing right of ways e.g. existing cable ducts, roads, subways, railways, channels
- Compact, environmentally adapted converter station design
 - Reduction of station foot-print
 - Lower costs for land and civil works
 - Building design is adapted to the surrounding environment
- Health Safety and Environment (HSE) impact
 - Twin cable installation neutralizes magnetic fields
 - Enclosed equipment gives efficient noise suppression
- Low operation and maintenance costs



Undersea links move power to island communities

Scope of supply

- Feasibility studies to facilitate customer's business development process, including optimization of the entire project/system
- System analysis and network studies
- Engineering and project management
- State of the art HVDC Light® technology including turnkey supply of
 - Converter stations with compact, adapted to the environment
 - Light-weight, oil-free cables
- Quality assurance ensures the customer systems, operations, and maintenance staff receives proper training and documentation for a smooth transfer at Take Over
- Maintenance Support with short response thanks to remote diagnostics from supplier home base

ABB – pioneers of HVDC

ABB pioneered HVDC technology 50 years ago when the company built the world's first commercial high-voltage direct current transmission link in Sweden. Building on this world first, ABB has maintained its undisputed world leadership in HVDC transmission technology. We have supported our customers with more than 55 HVDC projects around the world providing more than 45, 000 MW of transmission capacity.

And since 1999, with its new HVDC Light® technology, ABB is once again building a technological lead with solutions to customers' transmission challenges around the world.

Continuing to meet these needs will maintain ABB's leadership position.

More information can be found on www.abb.com/hvdc

