

## Siemens supplies transformers for first HVDC line between Germany and Belgium

Power across borders: The first high-voltage direct current transmission system (HVDC) line between Germany and Belgium will be established as part of the ALEGrO (Aachen Liège Electricity Grid Overlay) project. An underground cable will span the 90-kilometer distance between Oberzier, near Aachen (Germany), and Lixhe, near Liège (Belgium), which will supply about half a million households with green electricity in the future.

As one of the most innovative providers of power transformers, Siemens plays an important part in the implementation of this project. The company will supply a total of eight

transformers for ALEGrO: Siemens is building turnkey converter stations in both Oberzier and Lixhe, which will serve as grid feed-in nodes and are designed for a transport capacity in the order of 1,000 MW. They will convert the AC voltage from the conventional power network into DC voltage, and vice versa. The power can flow in both directions.

Three single-phase HVDC transformers lie at the heart of the two converter stations, with 400 kV on the grid side, 380 kV on the converter side, and 20 kV on the tertiary side. Each transformer supplies apparent power of 360 MVA. Upstream and downstream

converters turn AC voltage to DC and vice versa.

The two power supply companies involved, Amprion (Germany) and Elia (Belgium), benefit from the HVDC connection: different frequencies and load scenarios in the individual grids can easily be decoupled and compensated. This means major cost savings for the customers: the rack-type converter modules are switched at a low frequency, which means lower converter losses and helps curb the operating costs.

Delivery of the extremely efficient Siemens transformers is planned for between the summer and fall of 2018. The new HVDC line will complete a further part of the European electricity highway, which will make it possible to share green power across national borders.



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