Special Issue

HVDC Grid Technologies: Present and Future

Message from the Guest Editor

Currently, the most important challenges for transmission grids is the integration of a large amount of renewable energy sources (RESs) and power grid interconnections via HVDC transmission technologies. To optimize the use of these sustainable resources and provide reliable power corridors between countries, which is referred to as an HVDC supergrid, new power grids based on HVDC grids must be constructed and existing HVAC grids must be incorporated into HVDC transmission lines. HVDC technologies are available today, using either voltage sourced converters (VSCs) or line commutated converters (LCCs). HVDC electric equipment has been developed for optimal direct current (DC) use. However, the establishment of HVDC grids is a challenging task that requires interconnection of the existing HVAC grid, development of HVDC circuit breaker and protection technologies, DC insulation, and coordination. The fast development of HVDC technology has led to a new concept of electrical power grids. This Special Issue aims to encourage researchers to find solutions to the challenging issues of present HVDC grids and to imagine future HVDC grids.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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