

DC SYSTEMS AND STORAGE: TWO KEY TECHNOLOGIES FOR ENERGY TRANSITION

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Abstract

DC grids and storage are considered to be two key technologies for the connection, collection and integration of renewable energy resources, for the realization of integrated power systems, for mobile applications (electric ships, aircrafts), for new types of urban and industrial distribution power networks and to bridge and support existing AC systems. Advanced power electronic components, power converters and system protection are enabling DC grids on multiple voltages levels. Especially medium voltage DC grids are expected to play a key role in managing the higher power flows in our future distribution grids. Roadmap for DC and storage, different steps and research at the TUD is presented with focus on DC grids and DC microgrids and storage integration.

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