



SPECIAL SESSION

RENEWABLE ENERGY INTEGRATION TO GRIDS: IMPACTS AND SOLUTIONS

ORGANIZED AND CHAIRED BY:
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OBJECTIVE AND TOPICS

Increasing integration of renewables along with the electrification and decarbonisation challenges the existing grid infrastructures due to their intermittent characteristics with high levels of uncertainty and complexity. Several impacts on the grid operation include voltage variations, frequency variation, voltage unbalance, stability, protection and challenges for managing... These impacts are even more complicated for islanded or weak grid areas. A better knowledge, analysis and evaluation methods of the induced constraints become necessary in order to determine the hosting capacity, to assess impacts of renewable generation on distribution network and to assess technical and economic opportunities provided by renewable generation. This special session presents analyses of impacts provided by RES integration into grid. Solutions by intelligent control and energy management in order to reduce these impacts, to maximize the ancillary services contributed by RES and to maintain the grid stability are discussed. Solutions associated with energy storage and development of micro-grid technologies will be presented to address mentioned grid challenges.

Technical Topics

- ❖ Tools for assessing impacts of RES generation on grids
- ❖ Modelling and co-simulation
- ❖ Microgrids
- ❖ Centralized and decentralized (distributed) controls
- ❖ Energy management strategies
- ❖ Stability in grids with high RES penetration
- ❖ Protection
- ❖ ICT for grids
- ❖ Interoperability

All the instructions for paper submission are included in the conference website: <https://www.eeeic.net/eeeic>