PLANNING AND OPERATION OF RESILIENT AC/DC GRIDS USING DECISION SUPPORT TOOLS

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Wednesday, February 18 • 10 A ~ 11 A • EME 26

OVERVIEW

This talk will introduce a number of different optimization-based decision support models and tools for the efficient planning and operation of hybrid AC/DC grids. The focus of the talk will be on how to improve the quality of cost benefits assessment methodologies for robust investment decision support on the one hand, and how to model uncertainty, and the behavior of AC and DC grid components in the context of power system reliability and security for operational decision support. The talk will also provide practical use cases and introduce a number of t open-source tools developed by KU Leuven / Etch – EnergyVille.

BIO

Professor Hakan Ergun obtained his MSc in electrical engineering at the Graz University of Technology (TU Graz) and his PhD in electrical engineering at KU Leuven. Prior to his current position, he served as a post – doctoral researcher and research expert at KU Leuven / EnergyVille. As of 2024, Dr. Ergun has been an Associate Professor with KU Leuven and the Energy Transmission Competence Hub (ETCH) within EnergyVille.

His main research interest is to optimally develop and operate future energy networks for the renewable energy transition. He is the main developer of a number of open-source network modelling tools for optimal planning and operation of AC and DC grids, and stability and security constrained network operation. He is a senior member of IEEE and is an active member of CIGRE.