



Energy Storage for Microgrids deployment: Case Studies

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ABSTRACT

Energy Storage Systems (ESS) provide various grid services to support Renewable Energy Sources (RES) integration. The integration is at different levels including generation, transmission and distribution networks, as well as end-user. At the distribution level, locally integrated RES may increase the overall RES share through microgrids deployment. The RES variable and fluctuating nature provide challenges to maximise their use. This lecture will present several microgrids case studies using ESS as an energy buffer and primary support by developing diverse energy management strategies and optimisation methodologies to maximise the achievement of the microgrid goals such as economic, GHG emissions reduction and RES optimal use. The case studies highlight the results obtained from the operation of diverse ESS technologies and microgrids configurations. These results present the main challenges and barriers for microgrids deployment and potential solutions applied to face technical and economic concerns.

Raquel Garde Aranguren PhD. Chemistry with more than 20 years of experience in research. Since 2002 is working in the Renewable Energy Grid Integration Department of CENER. She is responsible for the Energy Storage Group and manages activities related to Renewable Energies Grid Integration by using Energy Storage Systems (chemical, electrochemical, mechanical, etc.). Regarding scientific activities, she is the author of almost one hundred scientific publications (books, chapters and scientific journals) and international conferences. She has participated and participates in many national and international projects and is the leader of several expert groups and Committees. Also, she is the author of two patents and participates as an expert in evaluation processes in both national and international (6th and 7th Framework Programme, Horizon 2020) and as an international expert for the European Union. She has extensive teaching experience in the University field (national and international) where she has overseen PhD and Master projects and has given classes for four years. In the Renewable Energy Sector to date, she has taken part in many energy storage system courses.

Complimentary refreshments will be served. The event is open to the public, free of charge and will be live streamed on JUMP2Excel Facebook page and/or Youtube Channel. An electronic Certificate of Attendance may be given on request after the event. Register for the 3rd MCAST Energy Day Conference.



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