

GridTech project session at IEEE PowerTech 2015

The development of adequate transmission infrastructures and grid-impacting technologies plays more and more a crucial role to foster the integration of renewable energy sources (RES). Towards the achievement of the European Union's ambitious renewable energy targets for 2020, 2030 and beyond, the main objective of the European IEE project named **GridTech** (*Innovative grid-impacting technologies enabling a clean, efficient and secure electricity system in Europe*, <http://www.gridtech.eu>) is to conduct a fully integrated assessment of **new grid-impacting technologies and their implementation into the European electricity system**. This will allow comparing different technological options **towards the exploitation of the full potential of future electricity production from RES, with the lowest possible total electricity system cost**. Within the **2020, 2030 and 2050** time horizons and in various scenarios, the goal is to assess, among different innovative technologies, which ones and where, when, and to which extent could effectively contribute to the further development of the European transmission grid, fostering the integration of an ever-increasing penetration of RES generation and boosting the creation of a pan-European electricity market, while maintaining secure, competitive and sustainable electricity supply. The technology categories taken into account within the project to foster RES integration include **transmission, storage and demand technologies**.

In order to assess the impact of the innovative technologies and carry out techno-economic analyses, the project methodology is based on the integration of **two types of analyses**, that are strictly correlated: a **pan-European one (top-down approach)** and a **regional one (bottom-up approach)**. The pan-European study is carried out by modeling the whole European power system (EU30+ region) for the 2020, 2030 and 2050 time horizons, by a zonal approach. For the bottom-up level, for 2020, 2030 and 2050 scenario timeframes, GridTech focuses on 7 target countries: Austria, Bulgaria, Germany, Ireland, Italy, Netherlands, Spain. The analyses on these countries are based on market and/or grid detailed approaches.

At the GridTech session at IEEE PowerTech 2015, in addition to project overview, several results of both the pan-European analysis and some regional (Irish, Italian) case studies will be presented and discussed.

Agenda – 30th June 2015 (15.30-17.30)

15.30 **The GridTech methodology, objectives and technology focus** - *H. Auer (EEG TU Wien), A. L'Abbate (RSE SpA)*

16.00 **Application of new grid-impacting technologies towards RES exploitation: the GridTech pan-European analysis** - *A. L'Abbate, R. Calisti, F. Careri, S. Rossi (RSE SpA) (paper id 464501)*

16.30 **The Irish case study within the GridTech Project** - *A. Mansoldo (EirGrid plc)*

17.00 **The Italian case study within the GridTech Project** - *C. Vergine, O. D'Addese, A. Sallati, P. Tisti (Terna Rete Italia SpA)*

