

GRID+ Interaction workshop

Market Design for a future European energy system

Tuesday, 10th June 2014
GSE- Gestore Servizi Energetici S.p.A
Viale Maresciallo Pilsudski, 92
Room S01
00197 Rome, Italy

Agenda

- 9:00 – 9:15** **Registration**
- 9:15 – 9:30** **Welcome and introduction**
Gestore Servizi Energetici / GRID+
- 9:30 - 10:00** **The role of GRID+ and EEGI – Mapping and Gap Analysis¹**
Ilaria Losa, RSE, GRID+ Coordinating Entity
- 10:00 -12:30** **Interaction session on “Decentralisation of energy sources, problems or opportunities for the future markets?”**

Project presentations by project representatives

Moderators: Peter Verboven (VITO) – GRID+ Member
Participants: Project representatives

(Coffee break around 10:45-11:00)
- 12:30 – 13:45** *Networking lunch*
- 13:45 – 16:00** **Interaction session on “The role of the governance on the future market design and the impact of quality regulation on network investments”**

Project presentations by project representatives

Moderators: Dr. Rainer Bacher (BACHER ENERGIE) – GRID+ Member
Participants: Project representatives
- 16:00 – 16:15** **Closing comments**

¹ Further Discussions on Mapping & Gap analysis can be carried out during discussions

Brief description of the workshop

This interaction event targets projects framed within the Cluster 5 of the EEGI Roadmap: “Market Design”.

The objectives of the workshop are:

- Raise awareness of the activities within the EEGI and promote experience exchange,
- Determine commonalities and identify potential synergies and relevant topics for further cooperation, focusing in already achieved results
- Find out which result could be transferred to other regions
- Improve the performance of individual projects by fostering the networking between project managers

The agenda foresees **two thematic sessions on Market Design** consisting of a preliminary consisting of an interaction session for discussion of the relevant topics.

The interactions sessions will consist of a presentation of the projects participating, followed by a common discussion moderated by a member of the GRID+ Consortium. The session will focus on the different functionalities of the cluster. More information on this cluster is provided below in this document. In addition to the discussions, some basic **framing questions** will be provided to be used as a starting point in the panel and breakout discussions. These framing questions will be further defined taking into account the input provided by the questionnaires fulfilled by the participants before the workshop and during the registration process.

These sessions are intended to give all participants a chance to share experiences and learn from their peers. The aim is to have a wide-ranging discussion of the lessons learned in projects, with a focus on best practices, major challenges, and notable stories. During the workshop, a GRID+ person will give support to the moderators and will take notes for completing the final report of the workshop.

Description of Cluster 5

Market Design

The development of novel approaches for market designs is needed to support the continuous evolution of the electric system, without being an obstacle to the Smart Grids initiatives.

There is a major challenge at integrating massive amounts of intermittent generation and at having new market players (commercial and industrial users, aggregators, demand managers, storage operators...) participating in organised electricity markets.

In particular, the participation of customers in active demand is of major importance for any electric energy system. The implementation of demand response programs must be based on the knowledge of real time variations of electricity market prices (through new metering devices and demand control centres), in order to aggregate individual demand responses into demand response volumes that are large enough to be traded on market places. This requires costly upfront investments, with large uncertainties on the resulting financial returns and raises business model issues of aggregation entities.

The decision-making framework of the modern electricity industry consists of a governance regime, security regime, technical regime and commercial regime. Smart grids must help industry efficiently integrate greater distributed energy resources or utilise its demand control resources (demand response): a more coordinated and decentralised arrangement for the operation and investment of distributed resources is to be achieved in order to deliver net social benefits.

There are several market design issues which ought to be addressed at EU level for future distribution networks:

- Charging electricity costs with tariffs reflecting the marginal cost of electricity.
- Reliability- and quality of supply- based regulations: impact on DER deployment with harmonization over EU-27 for DSOs and TSOs
- Quality and safety market impacts induced by the large scale deployment of DER
- Regulation options to encourage the development of electricity storage and distributed energy resources
- Management of the costs of ownership for DER units when contributing to system services
- Coupling of electricity and transport regulations (plug-in hybrid cars)
- Development of standards for DER (distributed generation and storage systems) interconnection to the network and telecommunication systems for DER control

Simulation tools suited to the understanding of markets at distribution level ought to be jointly developed before detailed studies at regional levels could answer the above questions.

✓ **Expected outcomes:**

- Simulation platforms to address complex market design optimization
- Validation test of the platform which allows making it a shared

✓ **Expected impacts:**

- Market efficiency at distribution level
- Fair rewards of flexibility measures for all the players involved