



Study Committee No C5

WORKING GROUP C5-11

WG No : C5.11 **Name of Convener :** Olivier LAVOINE, France

TITLE of the Group : Market design for large scale integration of renewable energy sources and demand side management

Background : Renewable energies (wind, solar...) are growing at the same time market environments are expanding. The success of renewable energy plans in all countries is directly linked to the development of the grid infrastructures. Those power sources are also generally intermittent, so it is important that the market design delivers the correct incentives to these sources and that market charges reflect the cost to the market of these sources. Another “environment friendly” way to achieve an efficient management of the grid is Demand Side Management. In this aspect some market tools are already being implemented.

Scope : Market design for efficient management of renewable energies and DSM within large scale market environments : market tools / tariffs, regulation, economic incentives, impact on existing markets (day ahead, intraday, system and balancing services etc.), role of TSOs and other market players.

Deliverables :

- Renewable energy sources
 - Overview of current status of power systems : types of renewables, penetration of renewables, pre-design of the market, requisites of renewable plants, forecast capabilities
 - Overview of tools currently implemented :
 - Tariffs / Capacity payments...
 - Regulation
 - Management of large scale intermittent and hard-to-forecast energy market tools for better prediction, sharing of responsibilities, possibly shorter time horizons, coupling between markets (day ahead, intraday)
 - Settlement of deviations
 - Impact on the market’s functioning and deviation settlement
 - Interaction with existing Ancillary Services markets
 - Innovative ways to improve management of renewable energies

- Demand Side Management
 - Overview of tools currently implemented
 - Tariffs / Capacity payments...
 - Regulation
 - Management of large scale and diffuse contracted load
 - Interaction with existing Ancillary Services markets
 - Innovative ways to improve management of DSM

Tools to support DSM and RES and economics impacts on market and utilities of such tools. The economic link between DSM and RES (deviation settlement and sharing of the revenue among the stakeholder) could be explored to facilitate their implementation.

Time schedule :

Phase 1 : Elaboration of questionnaires (March 2010)

Phase 2 : Collection of information (May 2010)

Phase 3 : Analysis of information (August 2010)

Phase 4 : Preparation of final report and Technical Brochure to be presented in Sydney (September 2011)

Papers issued : The topics dealt by the WG shall be summarized in a technical brochure

Approval by TC Chairman : Klaus Fröhlich

Date : 03/02/2010