

IEA DSM Agreement, Task XVII

Integration of DSM, DG, RES and storages

Workshop in Sophia Antipolis, France, at ADEME

18th of May 2011

Background

The Workshop is organized by the Task XVII of the IEA Demand Side Management Programme (<http://www.ieadsm.org/>). The title of the Task XVII is “**Integration of Demand Side Management, Distributed Generation, Renewable Energy Sources and Energy Storages**”.

The main objective of this Task is to study how to achieve a better integration of flexible demand (Demand Response, Demand Side Management) with Distributed Generation, energy storages and Smart Grids. This would lead to an increase of the value of Demand Response, Demand Side Management and Distributed Generation and a decrease of problems caused by intermittent distributed generation (mainly based on renewable energy sources) in the physical electricity systems and at the electricity market.

Thus the integration means in this connection

- how to optimally integrate and combine Demand Response and Energy Efficiency technologies with Distributed Generation, Storage and Smart Grids technologies, at different network levels (low, medium and high voltage)
- and how to combine the above mentioned technologies to ideally support the electricity networks and electricity market

Phase 1

The first phase in the Task was to carry out a scope study. It has been completed with 4 Subtasks and the following public reports were produced (<http://www.ieadsm.org/Publications.aspx?ID=18>):

- Task XVII - Integration of Demand Side Management, Distributed Generation, Renewable Energy Sources and Energy Storages - Final Synthesis Report vol 1. December 2008 (
- Task XVII - Integration of Demand Side Management, Distributed Generation, Renewable Energy Sources and Energy Storages - Final Synthesis Report vol 2.

Vol 1. includes the main report and Vol 2. is the annex report with detailed country descriptions, analysis tools etc. These reports are available at the IEADSM-website.

Two public workshops were also arranged in Petten and in Seoul. The presentations can be found from web-site: (<http://www.ieadsm.org/ViewTask.aspx?ID=16&Task=17&Sort=0>).

Phase 2

Phase 2 of the Task is going on and the main topic of it is to assess the effects of the penetration of emerging DER technologies to different stakeholders and to the whole electricity system. The emerging DER technologies to be discussed include

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- plug-in electric and hybrid electric vehicles (PEV/PHEV)
- different types of heat pumps for heating and cooling
- photovoltaic at customer premises
- micro-CHP at customer premises
- energy storages (thermal/electricity) in the connection of previous technologies
- smart metering
- emerging ICT
- other technologies seen feasible in 10 – 20 years period, especially by 2020.

The main Subtasks are (in addition to Subtasks 1 – 4 of the phase one):

Subtask 5: Assessment of technologies and their penetration in participating countries

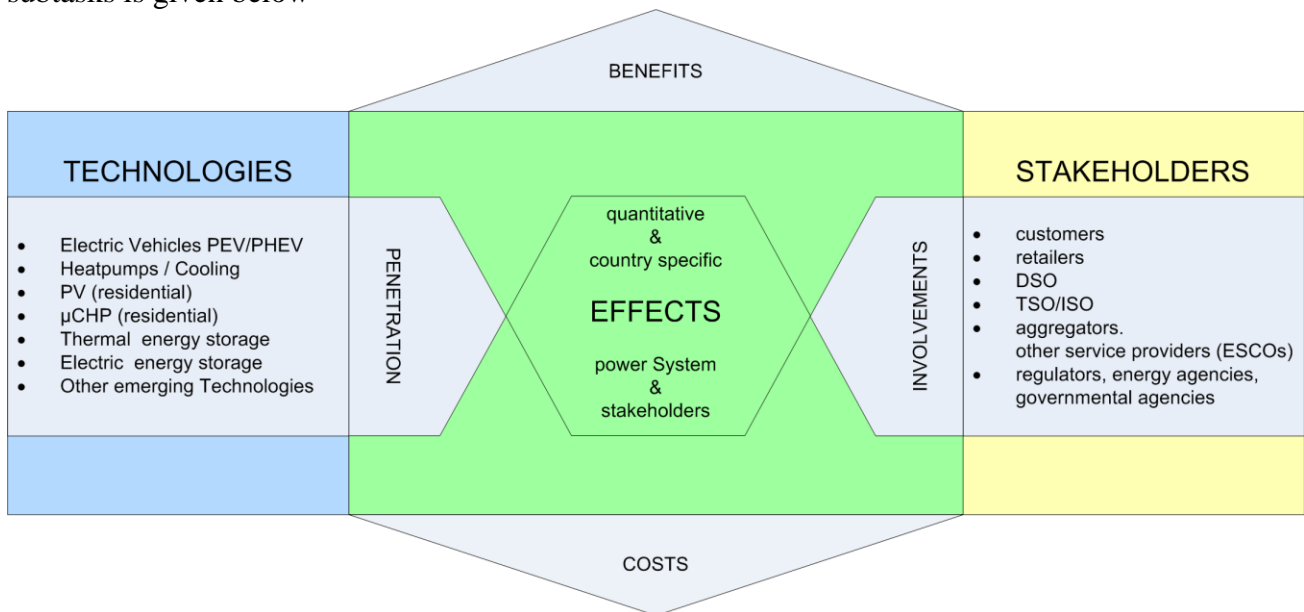
Subtask 6: Pilots and case studies

Subtask 7: Stakeholders involved in the penetration and effects on the stakeholders

Subtask 8: Assessment of the quantitative effects on the power systems and stakeholders

Subtask 9: Conclusions and recommendations

The figure below describes the concept of this extension. The more detailed descriptions of the subtasks is given below



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Objectives of the Workshop

To present the preliminary results of the subtask 5 (Assessment of technologies and their penetration in participating countries) and to discuss on the stakeholders' involvement in the penetration of new technologies and on the related business models and the emerging ICT

Preliminary program

Block 1: Presentation of the Task XVII and the preliminary results of the subtask 5

9:00 -11:00

Seppo Kärkkäinen: general overview and summary of results

Country experts (one per country): country situations especially for specific technologies.

- Austria: electric vehicles, Rezanah Rusbeh and Matthias Stifter
- Finland: heat pumps, Goran Koreneff
- France: smart metering, Jean-Cristophe Delvallet
- Netherlands: μ CHP, Rene Kamphuis
- Spain: photovoltaic, Miguel Ordiales

Block 2: New results of ongoing or just finished case studies related to the integration

11:00 – 13:00

- E-energy: Sabine Kreutz E-dema-project, Technische Universität Dortmund, Germany
- E-energy: Dierk Bauknecht eTelligence-project, Oeko-Institut, Germany
- Address Energybox: Maarten Hommelberg, VITO, Belgium
- Powermatcher: Rene Kamphuis, TNO/ECN, Netherland
- Smart grid experiences: Jean-Christophe Delvallet, ERDF, France

Block 3: Stakeholder involvement, business models and ICT

14:00 – 16:00

- EU-DEEP, ADDRESS, SEESGEN, INCA, ICT and aggregators: Jussi Ikäheimo, VTT, Finland
- Smart charging in progress: Andre Postma, Enexis, Netherlands
- Overview of the emerging ICT: Hans Akkermans, The Network Institute@VU Amsterdam, Netherlands

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- ICT opportunities in future Smart Grids, Pekka Wirtanen Nokia-Siemens, Finland

Block 4: Round table either separately or as a part of Block 3

16:00 – 17:00

Topics:

- stakeholder involvement in the penetration of new technologies
- related business opportunities and models

Participants:

- Patric Pipet, Schneider Electric
- Jean-Cristophe Delvallet, ERDF
- Pekka Wirtanen, Nokia Siemens Networks
- Andre Postma, Enexis BV
- Miguel Ordiales, REE (Red Eléctrica de España)
- Normand Olivier, EDF – EDF R&D