



Henrik Dam

Policy Officer – DG ENER

EU Funding Possibilities for Smart Grids: Horizon 2020 Trends for WP 2016-17

**GEODE Workshop
Brussels, 6th May 2015**



FP7 R&D support to grids: 2007-2013...

Distribution

- ✓ Integration of smart customers
- ✓ Integration of distributed energy resources and new uses
- ✓ Network operations, planning, market design

Transmission:

- ✓ Planning & architecture
- ✓ Power Technology
- ✓ Network operations and coordination
- ✓ Market architectures

DSO/TSO

Storage

ICT infrastructure for smart grids

Security

Coordination EC/National projects

Total investment 2007 – 2013: 400 M€; Some projects run until 2017



Grids & Storage - Overview

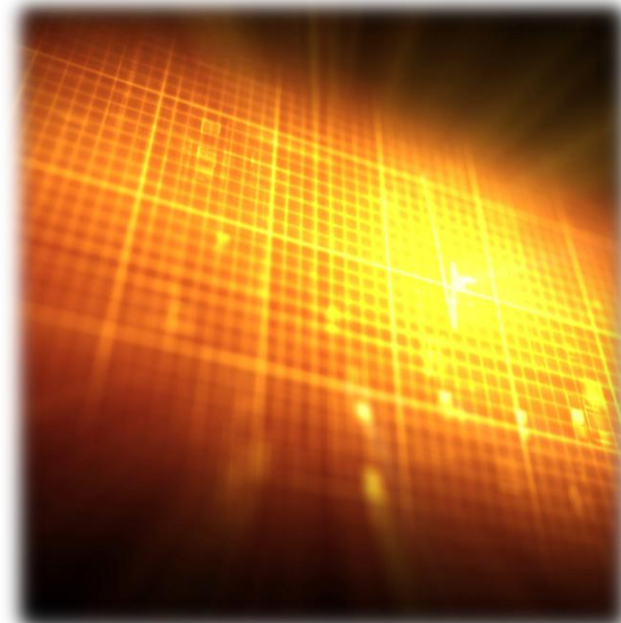
- **Distribution Grid = 2014**
- **Transmission grid = 2015**
- **Small scale storage & storage technology - 2014**
- **Large scale storage = 2015**
- **Total budget: about 100M€/year**

*Smart Cities & Communities: 2014 & 2015,
about 100M€/year*

Grid 2014:

- **LCE-7: Distribution Grid**

- 1. Development of ICT tools and services for smart grids**
(3 to 4 projects of about 2.5 to 3 M€)
- 2. Demonstrate innovative demand response in the real grid**
(3 to 4 projects of about 9 to 12 M€)
- 3. Cheap smart meters (< 100 €)**
(3 to 5 projects of about 2.5 to 3 M€)
- 4. Study best future ICT infrastructure**
(1 project: about 1 M€)



Projects funded

LCE 7 Distribution grid & retail market

- ✓ 10 projects funded
- ✓ 3 large IA (Innovative integration of existing technologies) EC cont: 37,6 M€
- ✓ 6 small IA (ICT tools & flexible smart metering architecture) EC cont: 19,4 M€
- ✓ 1 CSA (CBA for smartgrid ICT infrastructures) EC cont: 1 M€
- ✓ Total EC contribution: 58 M€

Example:

- ✓ UPGRID: Real proven solutions to enable active demand and distributed generation flexible integration, through a fully controllable LOW Voltage and medium voltage distribution grid
- ✓ 19 partners
- ✓ Total EC funding: 11,9 M€
- ✓ Co-ordinator: IBERDROLA DISTRIBUCION ELECTRICA, S.A.

Storage 2014:



- **LCE-8: Local/Small Scale Energy Storage**
TRL: from 5-6 to higher (demonstration)
(2 to 4 projects of about 8 to 12 M€)
- **LCE-10: Next Generation Energy Storage**
TRL: from 2 to 5 (research)
(1 to 2 projects of about 6 to 9 M€)

Projects funded

LCE 8 Local/small scale storage

- ✓ 5 IA funded (or in last phase of grant preparation)
- ✓ Total EC contribution: 54,2 M€

Example:

- ✓ NETFFICIENT : Energy and economic efficiency for today's smart communities through integrated multi storage technologies (hybrid battery and flywheel energy storage system developed for F1)
- ✓ 13 partners
- ✓ Total EC funding: 9 M€
- ✓ Co-ordinator: AYESA ADVANCED TECHNOLOGIES SA

Projects funded

LCE 10 Next generation technologies for energy storage

- ✓ 1 RIA funded
- ✓ Total EC contribution: 6,5 M€

Example:

- ✓ Na-Ion bAttery Demonstration for Electric Storage (feasibility of ambient temperature Na-ion battery)
- ✓ 16 partners
- ✓ Total EC funding: 6,5 M€
- ✓ Co-ordinator: COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

Grid 2015: 71.48 M€ deadline 5/5-2015

- **LCE-5: Meshed HVDC
off-shore Grid**
1 or 2 projects about 30 - 40 M€
Innovation action only
- **LCE-6: Transmission grid
and wholesale market**
2 to 3 projects: about 12 - 15 M€
- **Both innovation actions and
research & innovation actions**



Storage 2015: 36 M€ deadline 5/5-2015

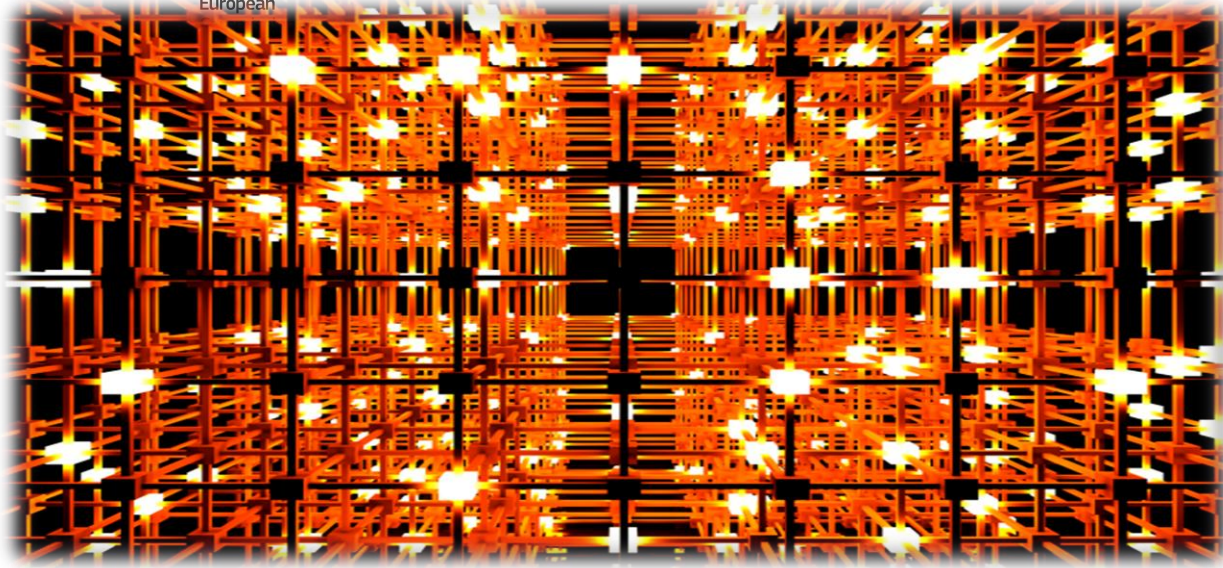
- **LCE-9: Large Scale Energy Storage**

project size:
about 16 - 20M€
~ two projects





Integrated approach



- **All innovation actions shall integrate**
 - **Innovative Technology development**
 - **Innovative Business models**
 - **Develop plans for market uptake**
 - **Check existing market barriers and work out proposals for solutions (policy, legislation, regulation, etc.)**

Trends for WP 2016-17

Overall approach:

- ✓ the new integrated approach of the Set-Plan reflected through Topics integrating demand response, smart grid, storage and links with other networks
- ✓ Centre of gravity in electricity system - openings to connections between energy networks
- ✓ Proposals to demonstrate relevance and compatibility with the broad EU energy policy context: Climate-Energy packages, Energy Union and associated objectives

Trends for WP 2016-17

Main Topics:

- ✓ Next generation innovative technologies enabling smart grids, storage and energy system integration with increasing share of renewables: distribution network (RIA) (TRL 3-5)
- ✓ Demonstration of smart grid, storage and system integration technologies with increasing share of renewables: distribution system (IA) (TRL 5-7)
- ✓ Support to R&I strategy for smart grid and storage (CSA)
- ✓ Demonstration of smart transmission grid, storage and system integration technologies with increasing share of renewables (IA) (TRL 5-7)
- ✓ Tools for integration and coordination of the energy system (e.g. DSO/TSO co-ordination) (RIA)



Thank you

Henrik.dam@ec.europa.eu

<http://www.smartgrids.eu/>

http://ec.europa.eu/research/energy/index_en.cfm

<http://ses.jrc.ec.europa.eu/project-maps>

http://ec.europa.eu/energy/index_en.htm