SMARTGRIDS France ASSOCIATION

New GSGF Flexibility Working Group

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Context of Smart Grid developments in France

- Over 100 projects on the French territory
  - Source: CRE - French Regulator, 2013

- French environment objectives and security of supply concerns
  - RES, PHEV,
  - Energy efficiency, peak situations

- Energy transition perspective
  - Law project on Energy transition

- Heavy industrial initiatives
  - Linky Smartmeter

- Roadmap ADEME on Smartgrids

- Call ADEME for proposals EoI

- Funding of large number of large demo pilot projects

- Specificities
  - Whole energy chain coverage
  - Validate technology options, opening up future R&D directions
What are the main Smart Grids topics addressed?

Does the project contribute to:
1. Increase the RES hosting capacity in the grid?
2. Facilitate EV integration in the grid?
3. Improve the quality of supply?
4. Improve the asset management process?
5. Make the smart technologies more attractive for customers? Generate new value for customers?
6. Generate energy savings?
7. Improve the management of electrical system of insular areas?
8. Propose evolutions of market mechanisms and design?

The contributions of the projects in 15 topics are analyzed:

1. Integration of RES
2. Smart network management
3. Integration of EV
4. Demand side management
5. Energy efficiency
6. Energy storage
7. Smart metering
8. Other topics
9. Smart home
10. Smart Building
11. Smart City
12. Big data
13. Standardization and interoperability
14. New business models
15. Evolution of regulatory framework
10 Strategic initiatives

New Coordinated Vitrine
- 2014

New Large Scale Deployment
- 2017

New Long Term Vision
- 2020

Equipe de France SmartGrids
From Demonstration to Rollout
Staying ahead competition
New System flexibility challenge

fenix
‘... a step towards the future of electricity networks’

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Renewable Subsidy

Renewable Connection

Renewable Integration

Capacity

2009

2012

2020

Intermittent Renewable

Distribution networks

Passive

20-25%

Central Generation

Flexible Supply

Dispatched Resources

15-20%

Transmission networks

Flexiable Supply

10-15%

Central Generation

Flexible Demand & Storage

Integrated T&D Control Zones

Dispatched Resources

15-25%

Central Generation

Flexible Supply
New Distributed Energy Resources

Renewables
- Wind, Solar, Wave
  - Instant data reporting
  - Two-way communication
  - Remote access and control

Demand Response
- Electric Vehicles, Smart Appliances & Buildings
  - Can react to price fluctuation
  - Can shave peak load
  - Energy conservation

Energy Storage
- Can react to price fluctuation
  - Can shave peak load
  - Augment renewables

Intermittency
Evolving TSO & DSO Role

1) Aggregator is linked to own BRP or
2) Aggregator offering services to the TSO (balancing market)

Contractual relationship
Optional contractual relationship depending on the market model in the MS

Regulated contractual relationship dependent on the regulation in the MS

Source: EU Smart Grid Task Force
New Market organisation required
Annexe 1: List of significant demonstration and research projects related to flexibility management in France

GreenLys
Smart electric Lyon
Nice Grid
Smart Grid Vendée
Projets européens
EvolvDSO
DREAM
ADVANCED

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Annexe 1: List of significant demonstration and research projects related to flexibility management in France
Conclusions

1. France: a key territory for SmartGrid innovation

2. SmartGrid ecosystem is coordinated through SGF

3. SGF just published a new whitepaper on flexibility within GSGF

4. Objective to gather international comments to produce an international summary (within next March 2016)