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2nd Annual Conference "Smart metering
– what next in the implementation of
intelligent metering systems in Slovakia"
Bratislava, 22 November 2012

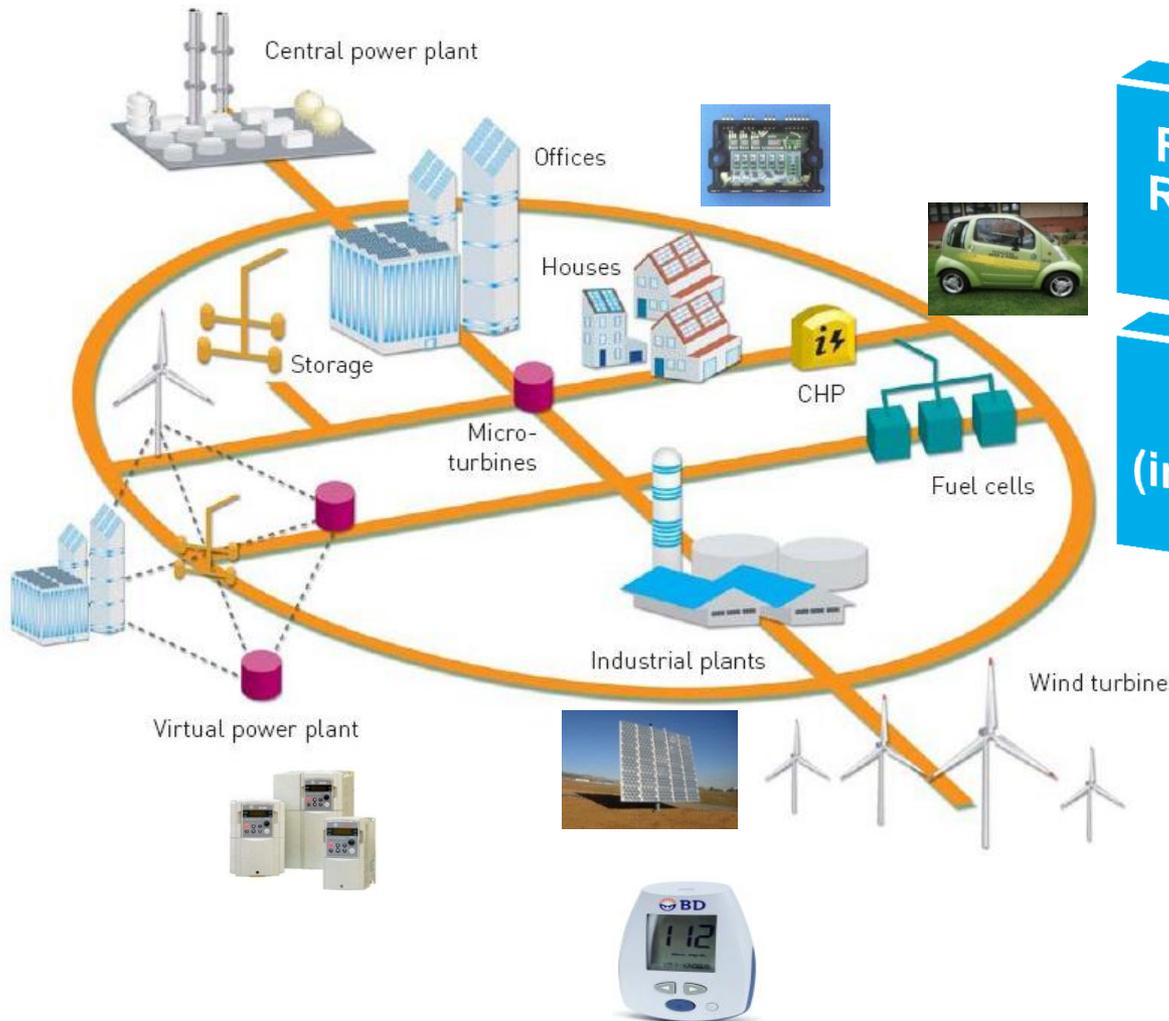
EU policy & the way forward for smart meters and smart grids

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European
Commission

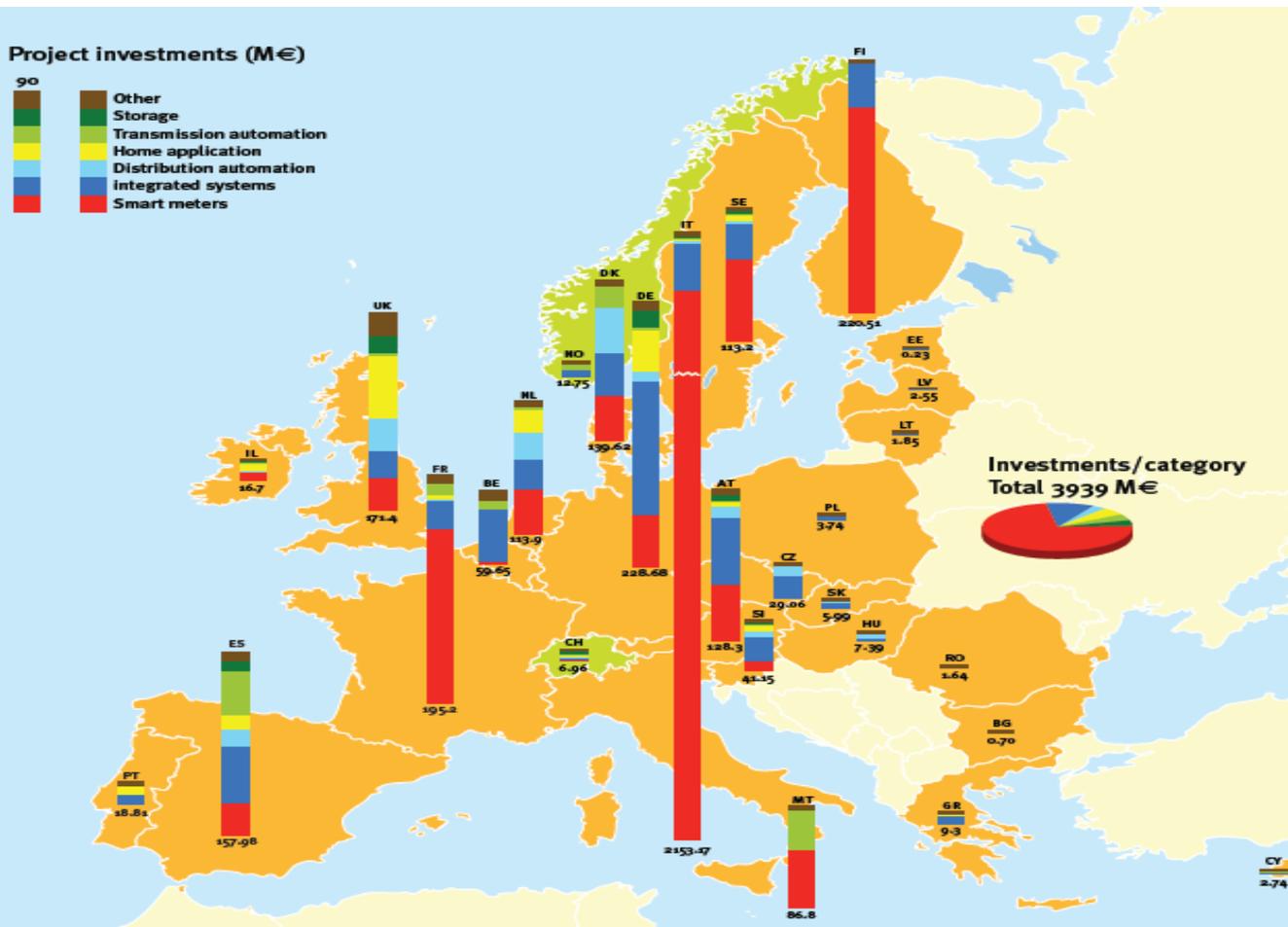
Smart Grids: a complex but effective solution !



- Flexibility & Responsiveness**
- RES, Storage Integration**
- Cost-Efficiency (investment & operation)**
- Security of Supply**
- Consumer Empowerment (Demand Response)**

Smart Grid projects spread all over Europe

Investment per country and category



✓ Over €5.5 billion investments

? But still at the beginning of the transition

X Most investments in EU-15 Countries



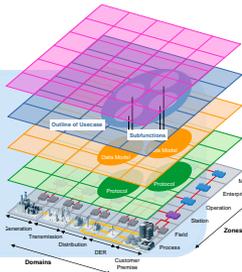
<http://ses.jrc.ec.europa.eu>

Smart Grids Task Force – 2012 Workplan

http://ec.europa.eu/energy/gas_electricity/smartgrids/taskforce_en.htm

Standards and interoperability

- Validation the M/490 Work Plan
- Monitoring work and deliverables
- Ensure coordination within and other Mandates



Privacy, Data Protection and Cyber-security

- Develop a proposal for Privacy and Data Protection Impact Assessment Template
- Develop a cyber-security assessment framework

Regulation

- Define a few reference market models
- Examine the potential implications for the regulatory frameworks

Infrastructure

- Establish a process for identifying projects of common interest
- Organise structures and procedures



Legal basis for the roll-out

- MSs ensure the implementation of intelligent metering systems that shall assist the active participation of consumers in the energy supply market.
- May be subject to an economic assessment of long-term costs and benefits – by 03.09.2012.
- MSs shall prepare a timetable with a target of up to ten years for the implementation of intelligent metering systems.
- When is assessed positively, the provision for electricity states that at least 80% of consumers shall be equipped with intelligent metering systems by 2020

**Directives
2009/72/CE
2009/73/CE**

**13 July 2009
Annex I.2**





European Commission

EC Recommendation for the roll-out

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32012H0148:EN:NOT>

13.3.2012 **EN** Official Journal of the European Union L 73/9

RECOMMENDATIONS

COMMISSION RECOMMENDATION

of 9 March 2012
on preparations for the roll-out of smart metering systems
(2012/148/EU)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 292 thereof,

Whereas:

- Smart grids mark a new development on the path towards greater consumer empowerment, greater integration of renewable energy sources into the grid and higher energy efficiency and make a considerable contribution to reducing greenhouse gas emissions and to job creation and technological development in the Union.
- In accordance with Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (*) and Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC (*), Member States are required to ensure the implementation of smart metering systems that assist the active participation of consumers in the electricity supply and gas supply markets and implementation of those metering systems may be subject to an economic assessment of all the long-term costs and benefits to the market and the individual consumer or which form of smart metering is economically reasonable and cost-effective and which timeframe is feasible for their deployment.
- The Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 12 April 2011 on 'Smart grids: from innovation to deployment' (†) announces a number of measures, including monitoring Member States' progress, establishing guidelines on key performance indicators and guidelines to define a methodology for

the Member States' plans for implementation of smart metering systems, along with cost-benefit analyses.

- The Digital Agenda for Europe lists a set of appropriate measures, in particular on data protection in the Union, on network and information security, on cyber attacks and on functionalities for smart grids and metering. Member States, in collaboration with industry, the Commission and other stakeholders, should take appropriate measures to ensure a coherent approach.
- One of the key tasks and preconditions for using smart metering systems is to find appropriate technical and legal solutions which safeguard protection of personal data as a fundamental right under Article 8 of the Charter of Fundamental Rights of the European Union and Article 16 of the Treaty on the Functioning of the European Union. Member States and stakeholders should ensure, especially in the initial phase of the roll-out of smart meters, that smart metering system applications are monitored and that fundamental rights and freedoms of individuals are respected.
- Smart metering systems allow processing of data, including predominantly personal data. Moreover, the deployment of smart grids and smart metering systems should allow suppliers and network operators to evolve from a broad view of energy behaviour to detailed information on the energy behaviour of individual end-consumers.
- The rights and obligations provided for by Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individual's with regard to the processing of personal data and on the free movement of such data (**) and by Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications) (††) are fully applicable to smart metering which processes personal data, in particular in the use of publicly available electronic communications services for commercial and commercial relations with customers.

(*) OJ L 211, 14.8.2009, p. 55.
(**) OJ L 211, 14.8.2009, p. 64.
(†) COM(2011) 202 final.
(††) OJ L 201, 21.11.1995, p. 31.
(†††) OJ L 201, 21.7.2002, p. 37.

JRC SCIENTIFIC AND TECHNICAL RESEARCH

Guidelines for Cost Benefit Analysis of Smart Metering Deployment

Vincenzo Giordano, Ijeoma Onyeji, Glanluca Fulli (JRC IET), Manuel Sánchez Jiménez, Constantina Filou (DG ENER)

2012

Joint Research Centre

JRC REFERENCE REPORTS

Guidelines for conducting a cost-benefit analysis of Smart Grid projects

Vincenzo Giordano, Ijeoma Onyeji, Glanluca Fulli (JRC IET), Manuel Sánchez Jiménez, Constantina Filou (DG ENER)

2012

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<http://ses.jrc.ec.europa.eu/>



Privacy and security

- 1. Data Protection Impact Assessment: DPIA Template**
- 2. DP by Design / by Default : MS should encourage:**
 - Network operators to incorporate PbyD in smart grid and smart metering deployment
 - ESOs to give preference to PbyD reference architectures
 - Use of privacy certification mechanisms and data protection seals and marks, provided by independent parties
- 3. Data Protection: anonymous, data minimisation, responsibilities of data controllers and processors**
- 4. Security: Data Protection by Design, « Security relevant » standards of European Standardisation Organisations in M/490 and International security standards; data breach notification.**
- 5. Information and Transparency: Network operators publish information policy for each of their applications**

EC Recommendation - Common Minimum Functionalities

CONSUMER

- Provide readings directly to the consumer and/or any 3rd party
- Update the readings frequently enough to use energy saving schemes

METERING OPERATOR

- Allow remote reading by the operator
- Provide 2-way communication for maintenance and control
- Allow frequent enough readings to be used for networking planning

COMMERCIAL ASPECTS OF SUPPLY

- Support advanced tariff system
- Allow remote ON/OFF control supply and/or flow or power limitation

SECURITY AND DATA PROTECTION

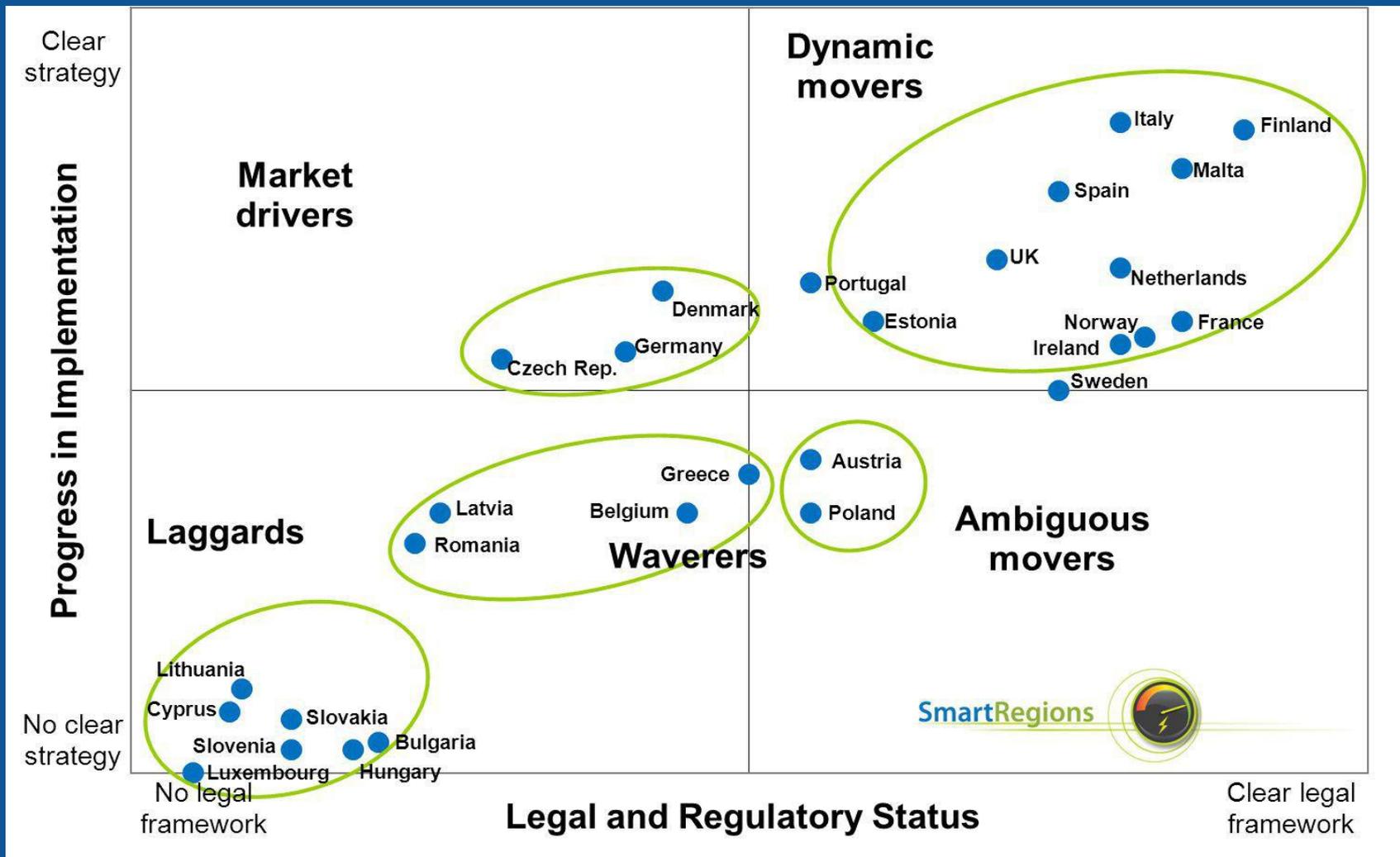
- Provide secure data communications
- Fraud prevention and detection

DISTRIBUTED GENERATION

- Provide import/export and reactive metering

MS are encouraged to go beyond these common minimum functionalities in their CBA scenarios.

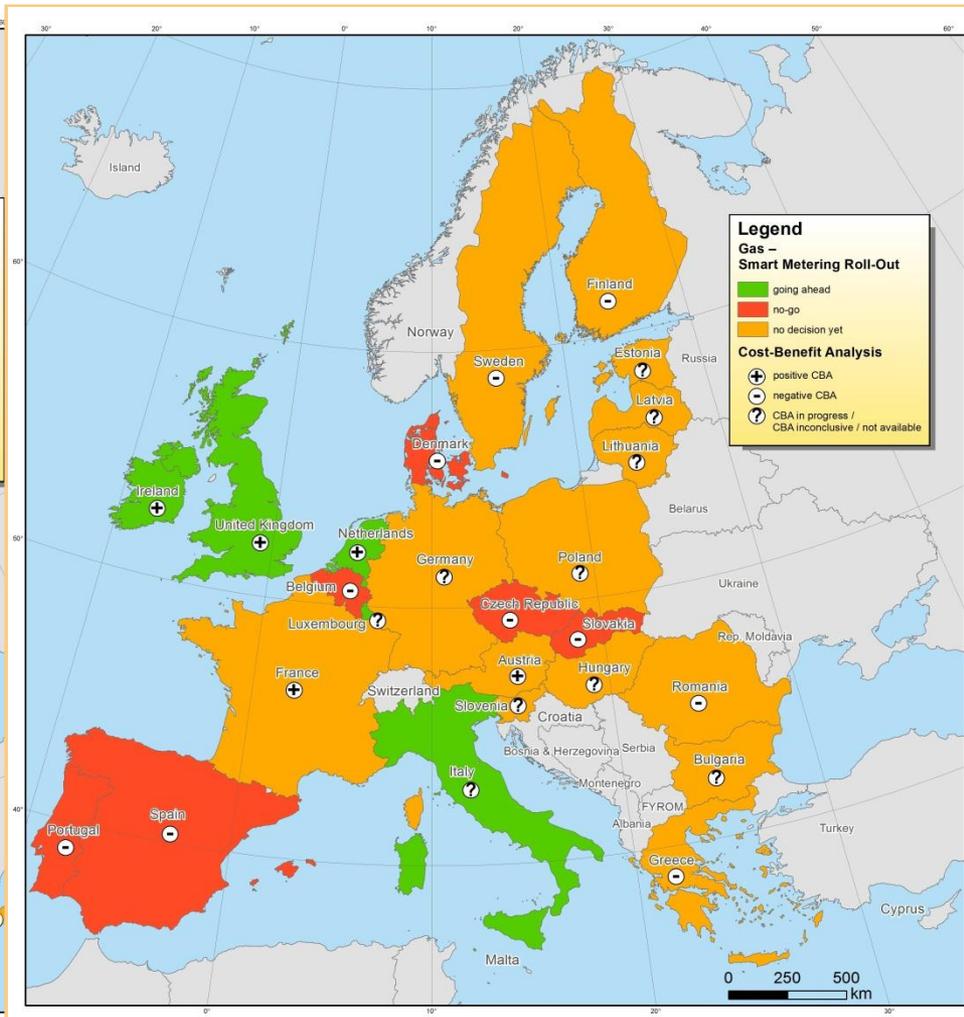
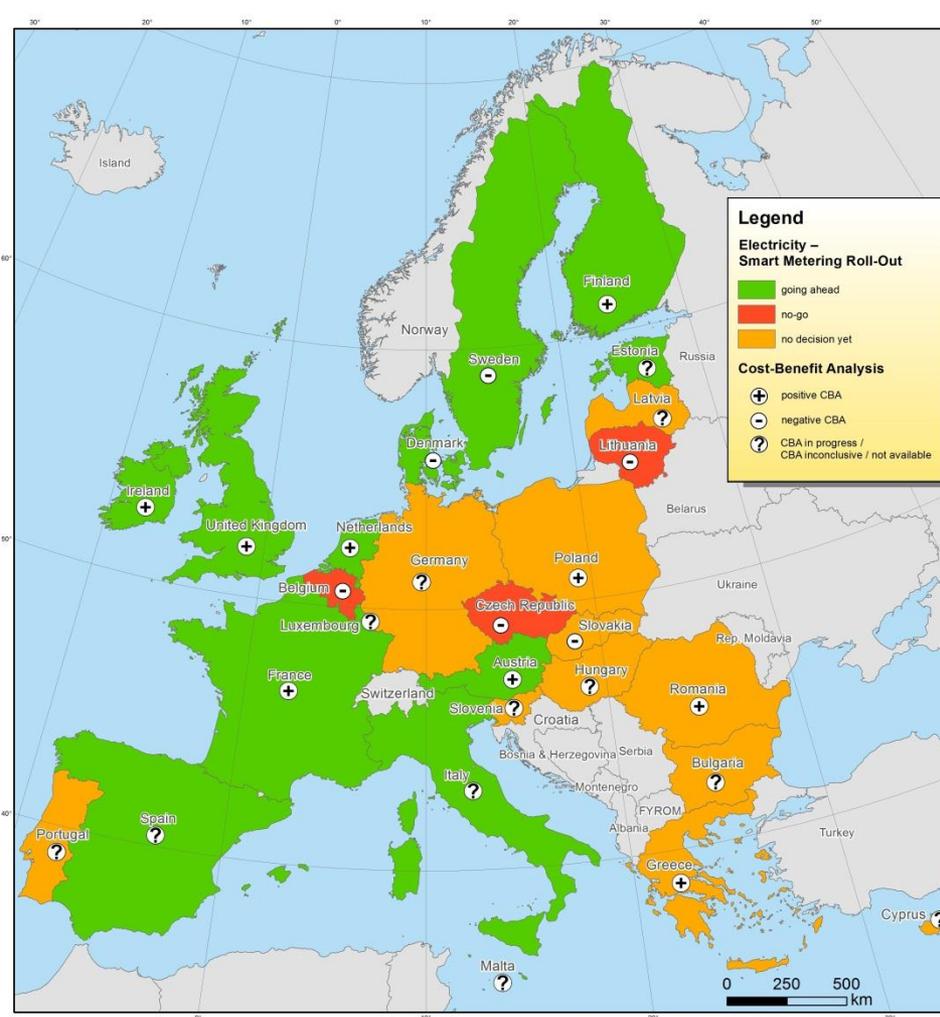
Smart metering in Europe



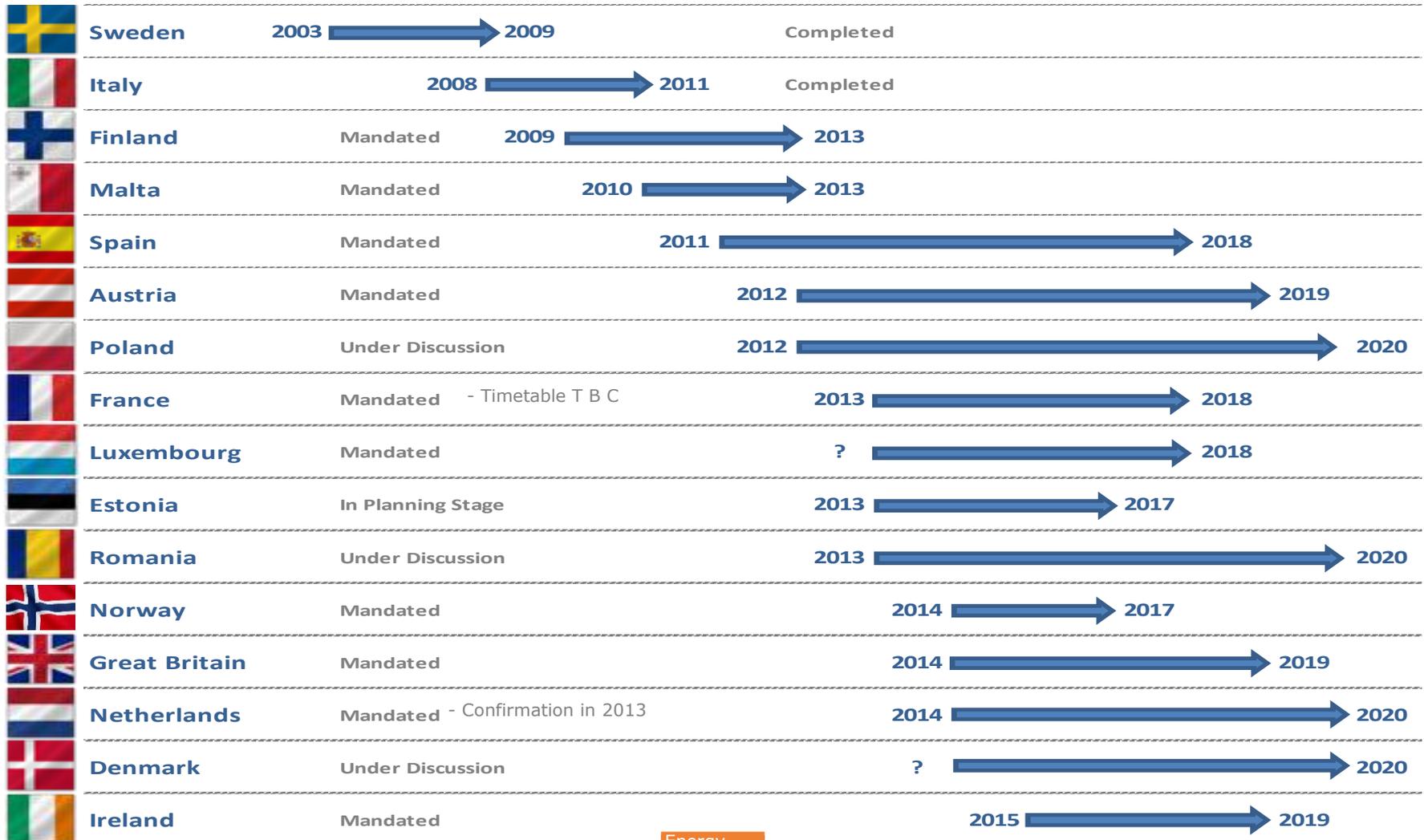


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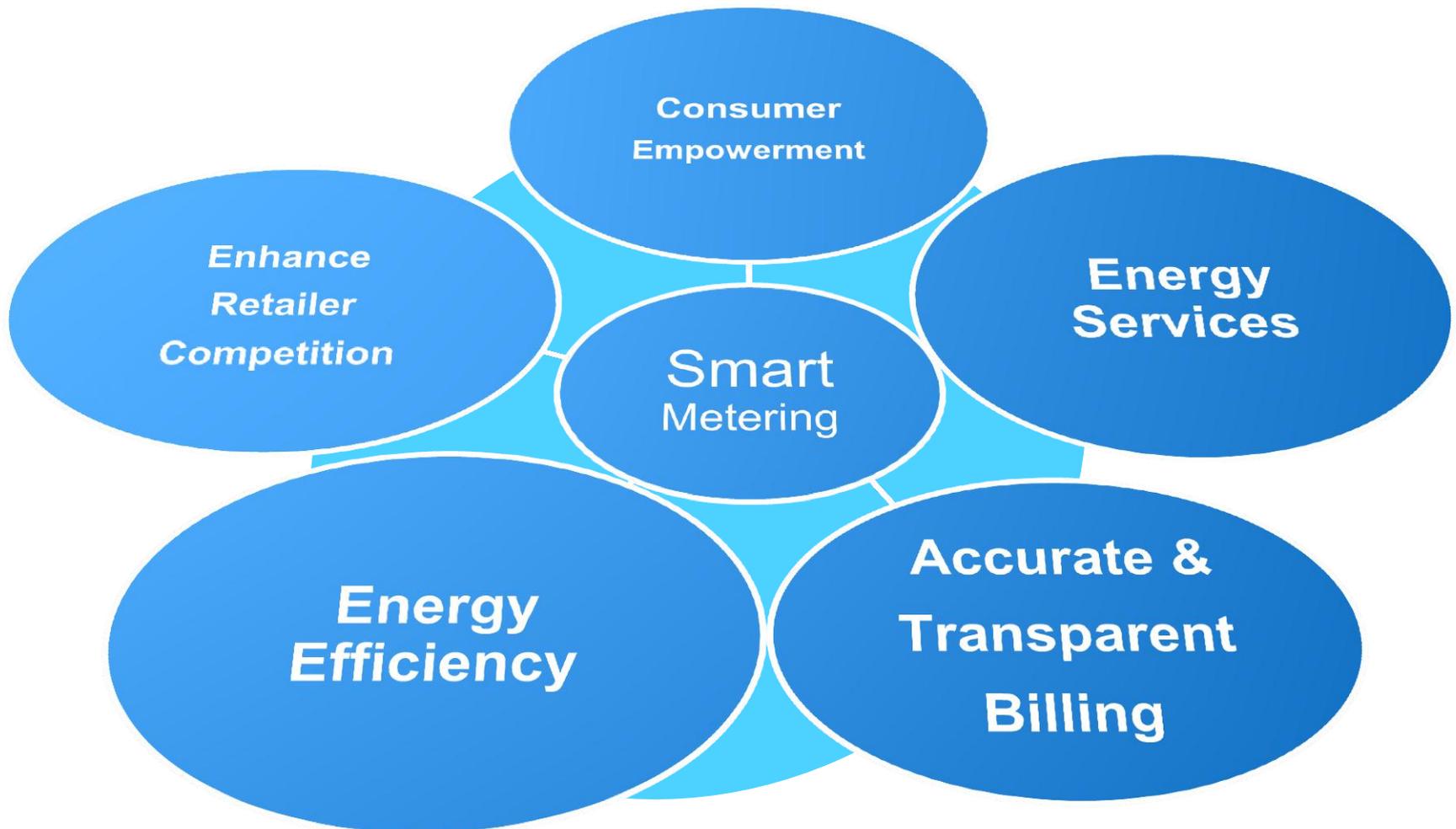
Cost Benefit Analysis and planning of roll-out



Roll-out plans for smart electricity metering systems



Smart Metering to support retail markets

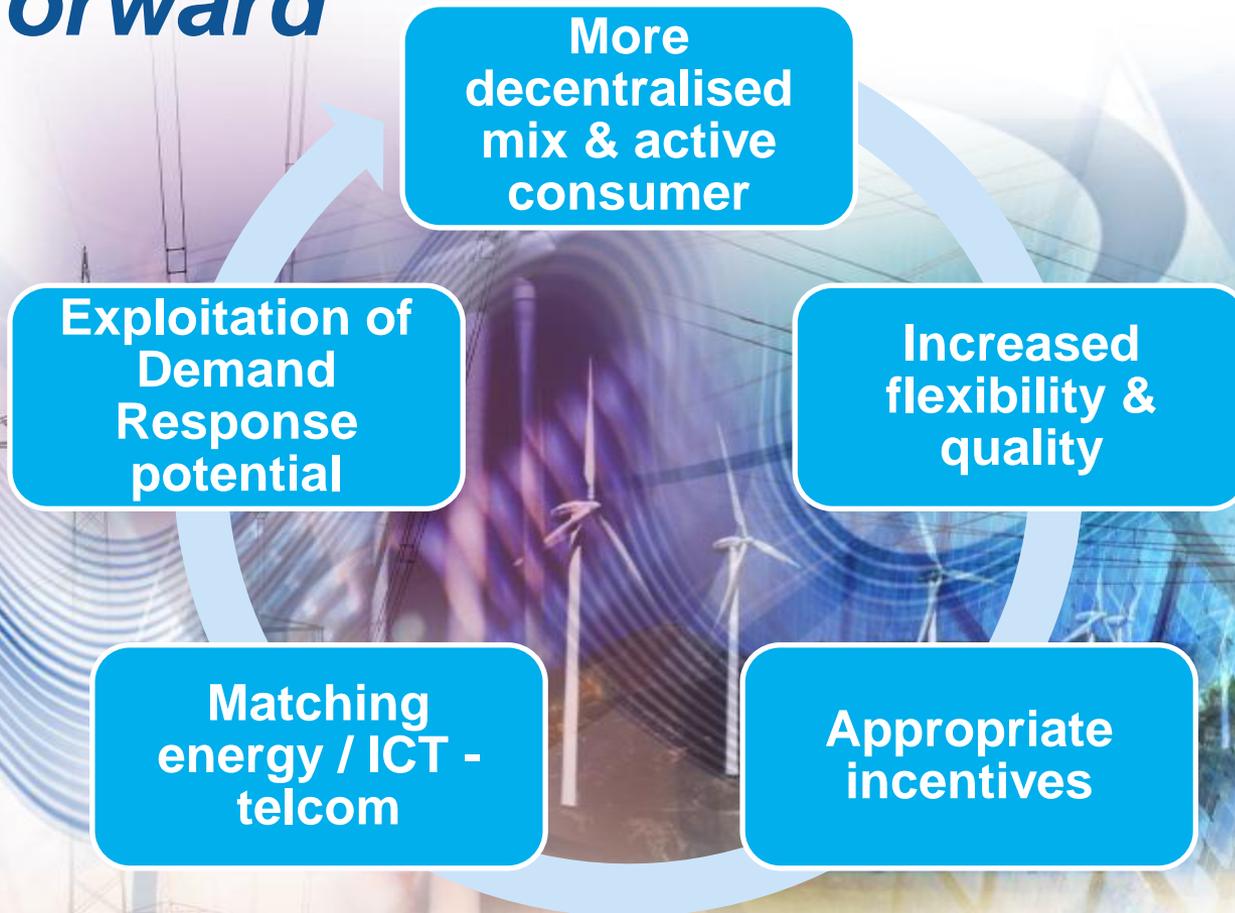


Successful roll-out of smart metering is key

- **The roll-out of smart metering systems calls for a collaborative approach of policy-makers, industry and regulators for consumers' benefit**
- **Successful roll-out of smart meters opens doors to win-win situation:**
 - Security of supply through better local balancing
 - Involvement of consumers in the market (micro-generation, etc.)
 - Empowerment of consumers through demand response => savings
 - New business opportunities, including for third parties (ESCOs)
 - Cost-efficiencies for DSOs and suppliers
- **Success depends on criteria decided largely by Member States:**
 - Smart Meters functionalities (to include those benefiting also consumers, not just DSOs as owners/installers of smart meters)
 - Retail market competition to breed innovative solutions and lower costs
- **Commission presently receiving CBAs prepared by Member States**
 - Assessment and benchmarking under way
 - A benchmarking report planned for 2013



Way forward



Advent of "smartness" calls for a reflection on viable business models, options & consumer services in the energy sector; market model revision



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http://ec.europa.eu/energy/gas_electricity/smartgrids/smartgrids_en.htm

http://ec.europa.eu/energy/gas_electricity/smartgrids/taskforce_en.htm