Benchmarking smart metering deployment in EU

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Energy

6 *ways smart metering benefits consumers*

Energy Savings

- Accurate & frequent consumption data ⟩ consumption reduction &

Energy Efficiency

- Detailed consumption measurements ⟩ identify energy efficiency improvements

Innovative Services

- Smart home solutions/home automation ⟩ energy costs reduction

Consumer Empowerment

- Switching suppliers and modifying contractual terms ⟩ easier, faster, cheaper

Sustainability

- renewable sources, storage potential (micro-grids), electromobility

Distribution System Efficiency

- Cheaper and more effective management ⟩ lower distribution costs

Commission Benchmarking Report Adopted on 17 June

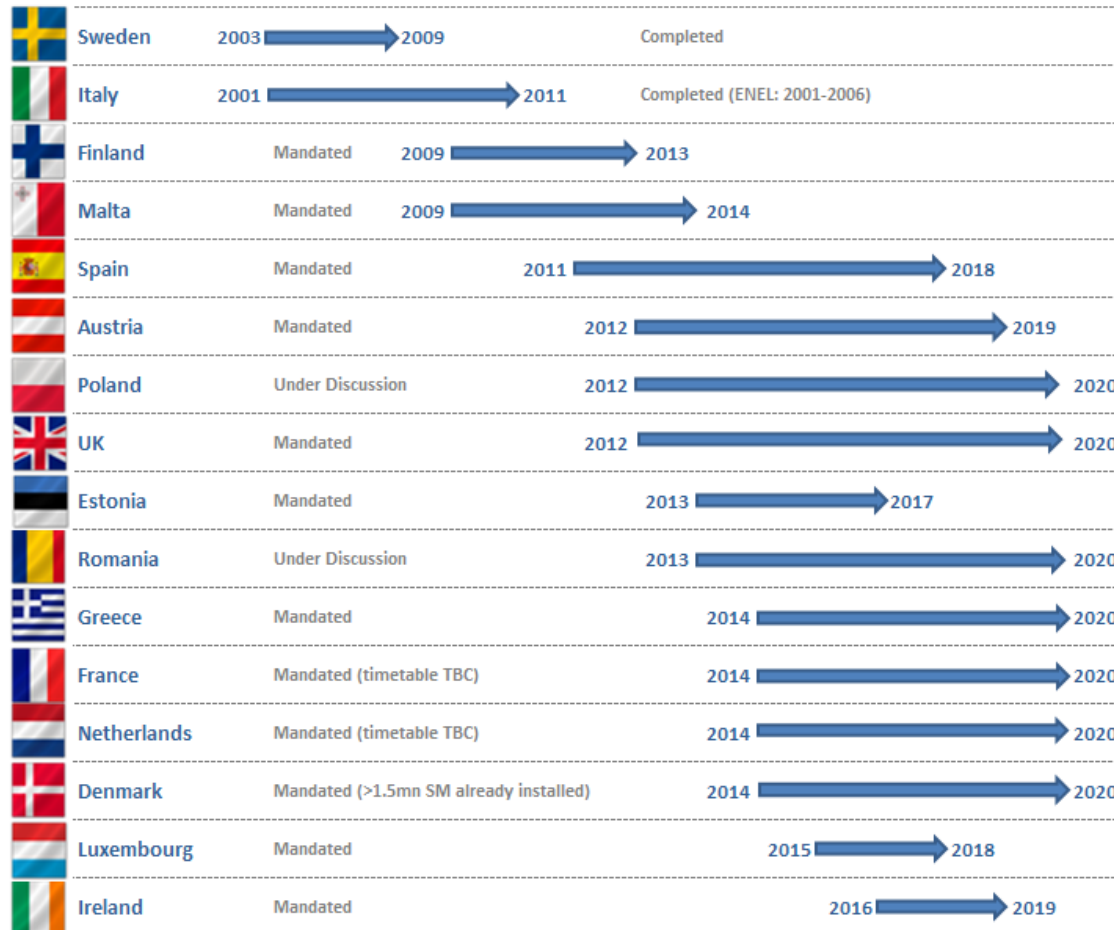"Benchmarking Smart Metering Deployment in the EU-27 with a focus on electricity"

- **Commission Report** (COM(2014) 356)

- **Country fiches** (SWD(2014) 188)

- **Cost-benefit data analysis** (SWD(2014) 189)

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

Electricity: 16 Member States with Wide-Scale Roll-out by 2020

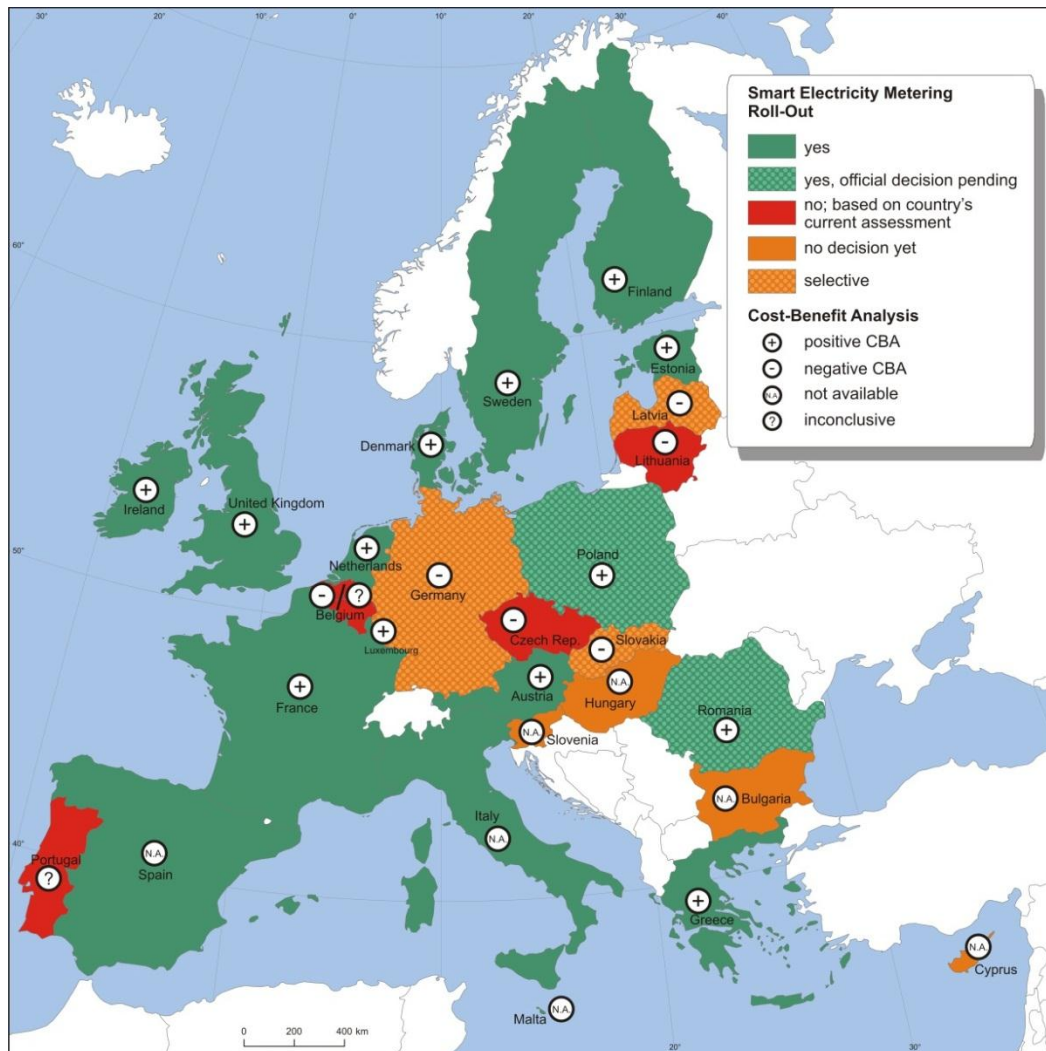|	Country	Status	Timeline
	Sweden	2003 → 2009	Completed
	Italy	2001 → 2011	Completed (ENEL: 2001-2006)
	Finland	Mandated 2009 → 2013	
	Malta	Mandated 2009 → 2014	
	Spain	Mandated 2011 → 2018	
	Austria	Mandated 2012 → 2019	
	Poland	Under Discussion 2012 → 2020	
	UK	Mandated 2012 → 2020	
	Estonia	Mandated 2013 → 2017	
	Romania	Under Discussion 2013 → 2020	
	Greece	Mandated 2014 → 2020	
	France	Mandated (timetable TBC) 2014 → 2020	
	Netherlands	Mandated (timetable TBC) 2014 → 2020	
	Denmark	Mandated (>1.5mn SM already installed) 2014 → 2020	
	Luxembourg	Mandated 2015 → 2018	
	Ireland	Mandated 2016 → 2019	

Altogether: roll-outs in 19 MS => 72% EU electricity consumers with a smart meter by 2020

Smart metering CBAs & roll-out plans: On target in electricity?

Smart Electricity Metering Roll-Out

- yes
- yes, official decision pending
- no; based on country's current assessment
- no decision yet
- selective

Cost-Benefit Analysis

- ⊕ positive CBA
- ⊖ negative CBA
- Ⓝ not available
- ? inconclusive

Roll out of ELECTRICITY smart metering by 2020

- ❖ **20 (21) CBAs, 16 MS: large-scale roll-out**

- ❖ **~ 72% EU consumers**

- ❖ **195 million meters**

- ❖ **€ 35 billion**

Smart metering CBAs: encouraging gas results?

Smart Gas Metering Roll-Out
- yes
- yes - official decision pending
- no; based on country's current assessment
- no decision yet
- selective
- not applicable

Cost-Benefit Analysis
- ⊕ positive CBA
- ⊖ negative CBA
- not available
- not applicable
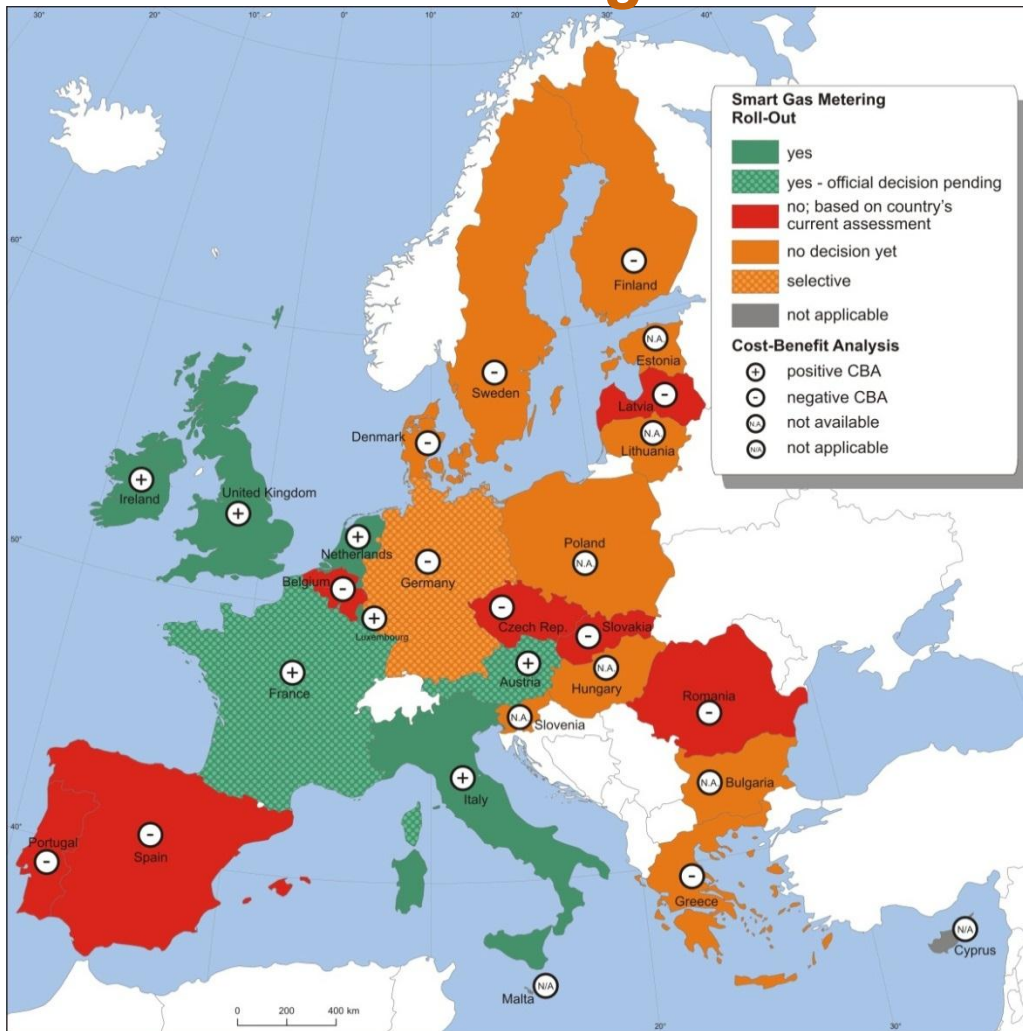
Roll-out of GAS smart metering by 2020

❖ **19 (20) CBA, 7 MS: wide roll-out**

❖ **~ 40 % EU consumers**

❖ **45 million meters**

❖ **€10 billion**

Smart metering for electricity – costs & benefits

Costs & Benefits (normalised by number of metering points)
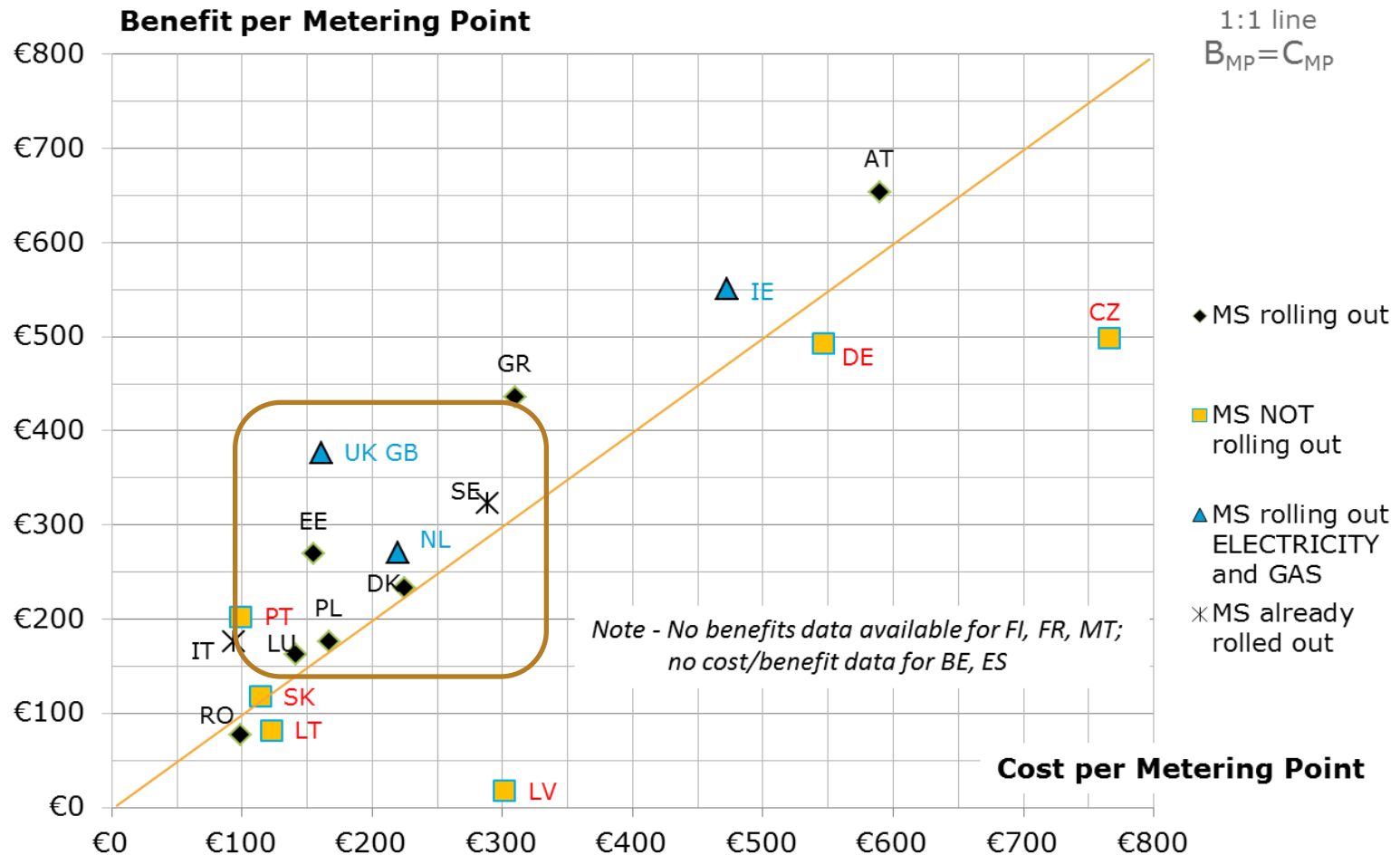
50% of roll-out plans follow recommended functionalities

in the 16 Member States proceeding with large-scale smart metering roll-out by 2020

8 Member States (50% of those rolling-out) consider all recommended functionalities

CONSUMER	• a) Provide readings directly to the consumer and/or any 3rd party • b) Update readings frequently enough to use energy saving schemes
METERING OPERATOR	• c) Allow remote reading by the operator • d) Provide 2-way communication for maintenance and control • e) Allow frequent enough readings for networking planning
COMMERCIAL ASPECTS OF SUPPLY	• f) Support advanced tariff system • g) Remote ON/OFF control supply and/or flow or power limitation
SECURITY - DATA PROTECTION	• h) Provide secure data communications • i) Fraud prevention and detection
DISTRIBUTED GENERATION	• j) Provide import/export and reactive metering

rolling-out

EU-28
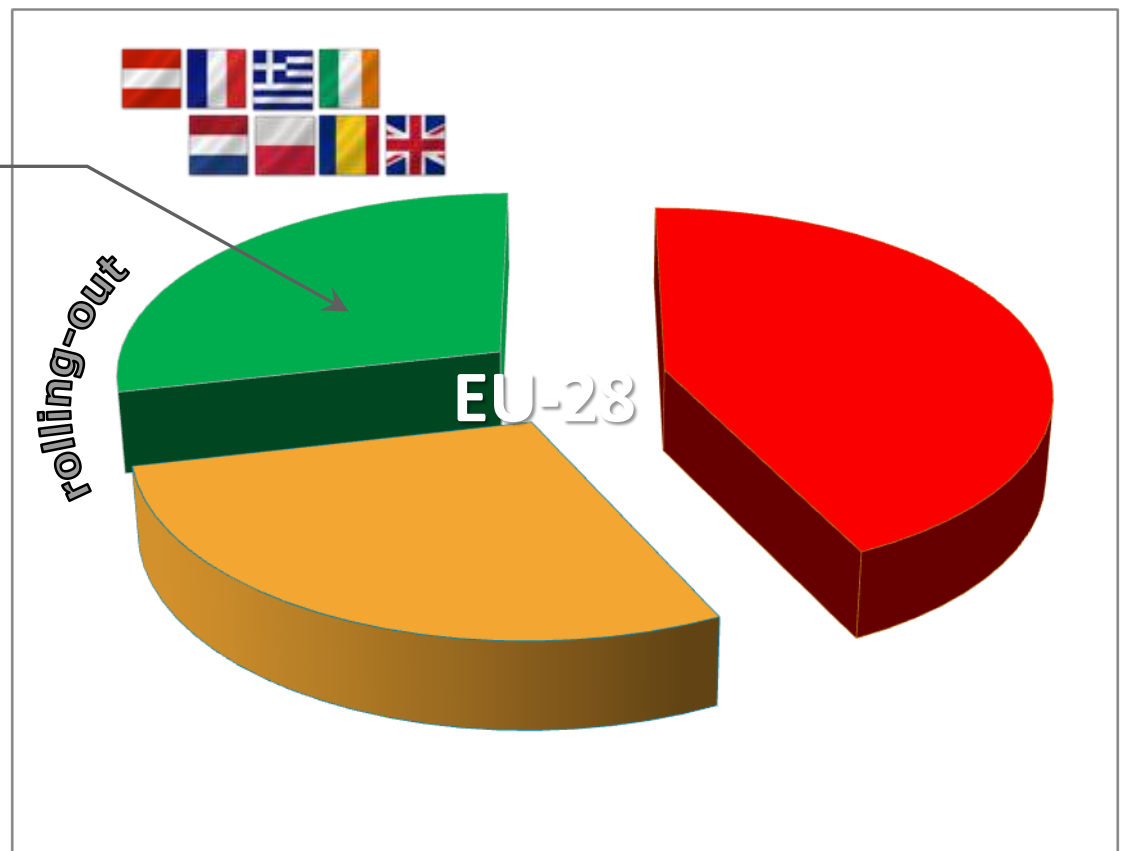
Set-up of smart metering deployment - electricity

**Member States proceeding with large-scale smart metering roll-out by 2020**

Member States	Metering Market	Responsible party - Implementation & ownership	Responsible party - Access to metering data
(flags: Austria, Finland, France, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Romania, Spain, Sweden)	Regulated	DSO	DSO
(flags: Denmark, Estonia, Poland)			Central Hub
(flag: United Kingdom)	Competitive	Supplier	

FR – meters ownership is retained by local municipalities while DSO will operate them under a multi-annual concession

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Securing consumer acceptance: Ensuring data protection, privacy, security

Data Protection

- **Data Protection Impact Assessment (DPIA) template**

- **Data Protection Reform of Directive 95/46**
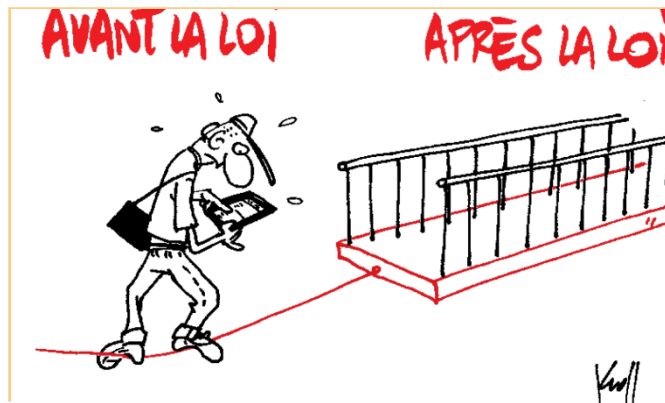
Cyber-Security

- **Identification of BATS for smart metering systems**

- **Minimum Security Measures**

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Recommendations & Way Forward

Data handling options & **review of DSOs tasks**

Data Privacy & Security Framework; DPIA template & BATs

Incentives for innovation & services

Functionalities as in **standards** & Recommendation **2012/148/EU**

Information campaign to enhance **consumers' trust & confidence**

Complete CBAs ← pilot data/refine choices, assumptions

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THANK YOU

COM(2014) 356 final **"Benchmarking smart metering deployment in the EU-27 with a focus on electricity"**

{SWD(2014) 188 final}; {SWD(2014) 189 final}

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