

Bringing Together Consumers, Markets and Climate Objectives

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Head of Unit

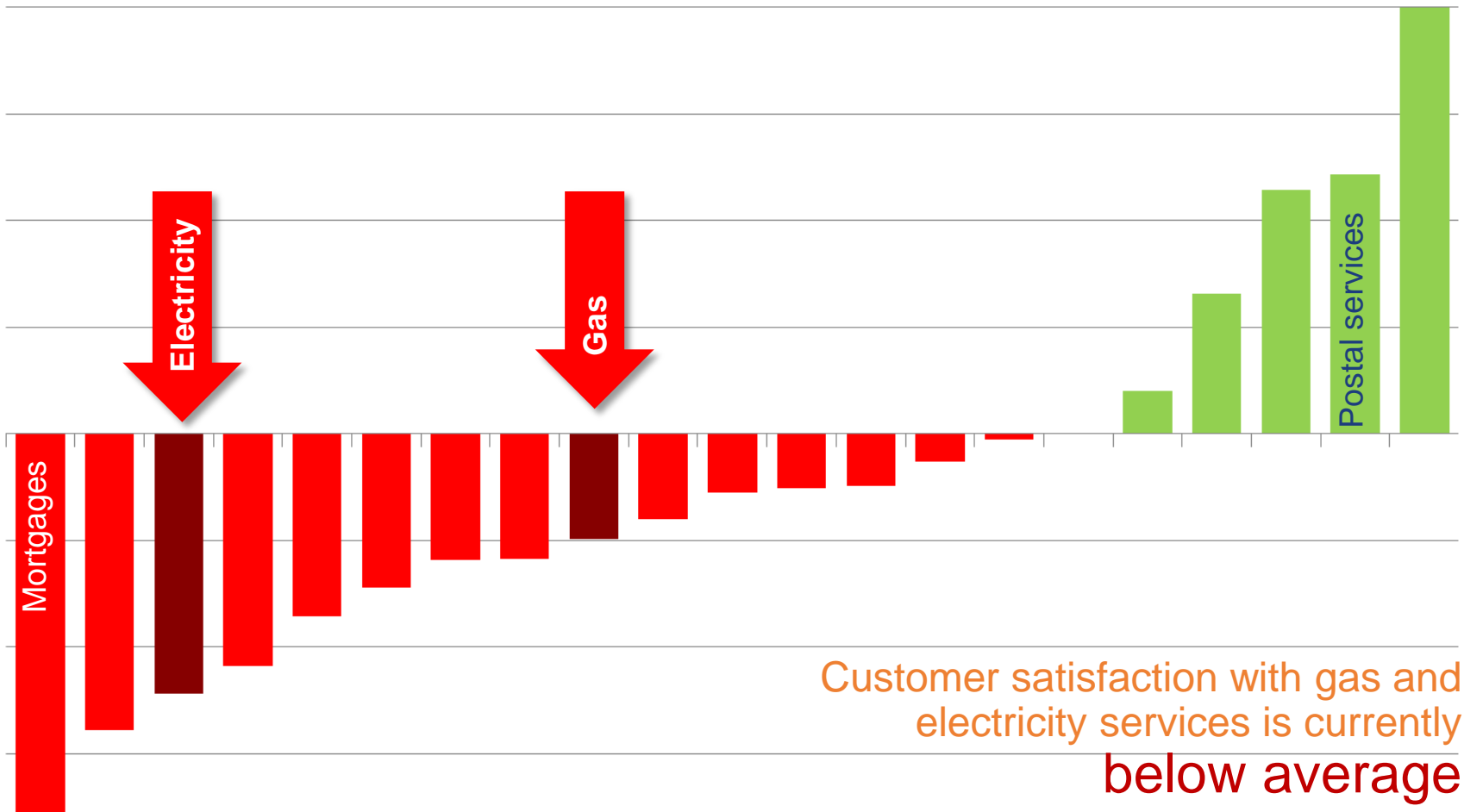
ENER B3 - Retail Markets

Brussels, November 2014



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Consumers Not Yet Convinced...

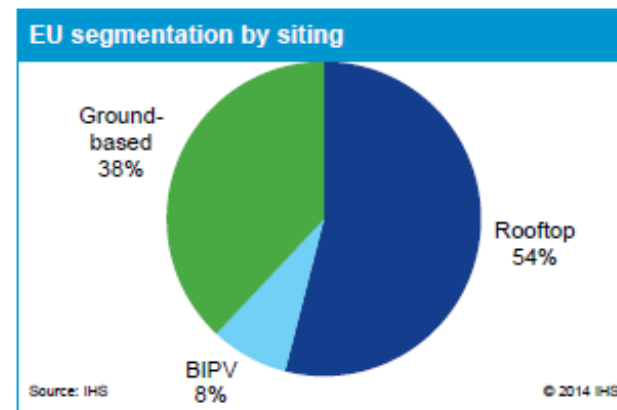
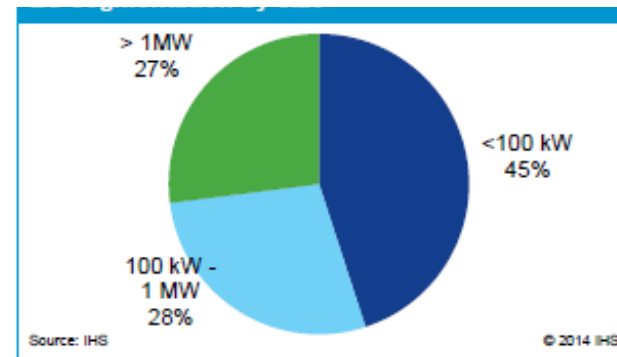
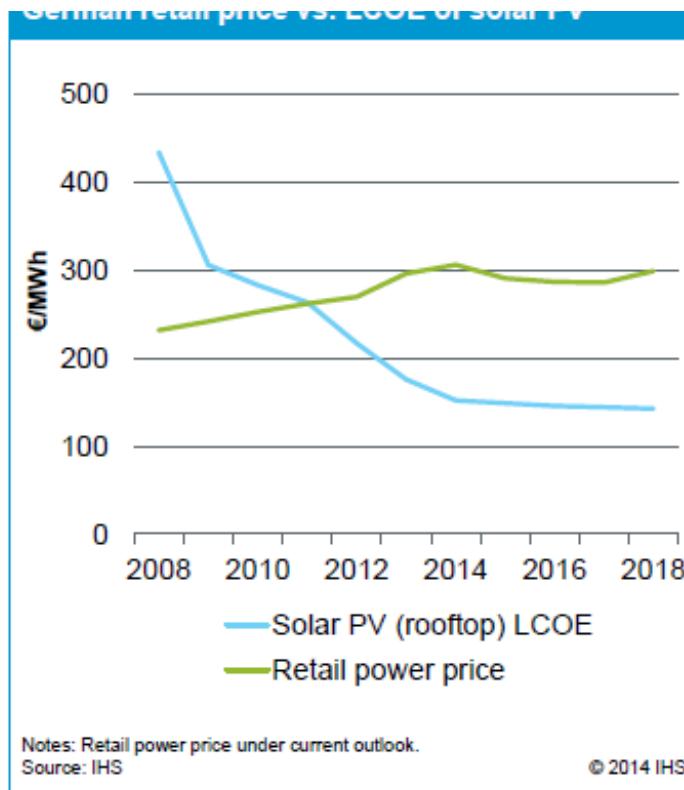


Customer satisfaction with gas and electricity services is currently **below average**



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...While Also Showing Appetite Solar PV – German Case for Illustration

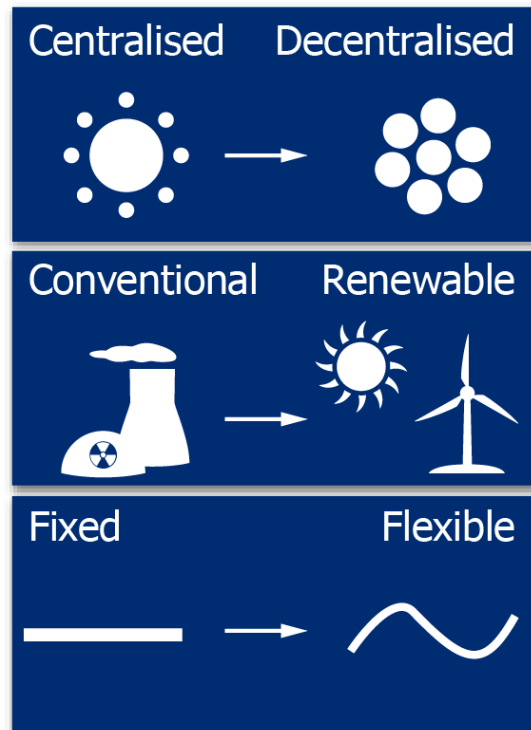




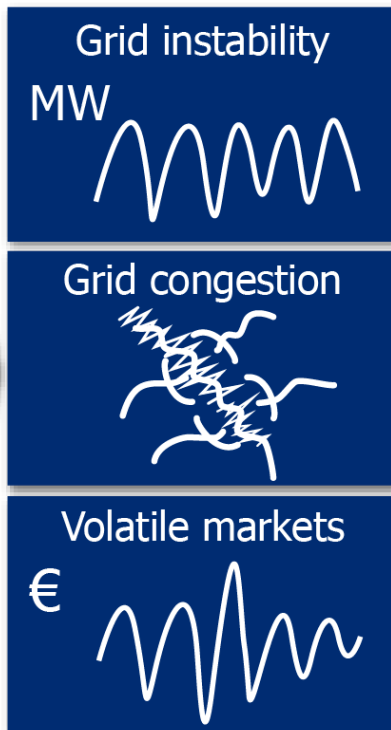
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Significant systemic change: flexibility through market-based solutions is needed

TRENDS



OBSTACLES



SOLUTIONS



KEY



Thank You for Your Attention!

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





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Back-ups

Emerging Trends in Energy Distribution

Generation:
Decentralized

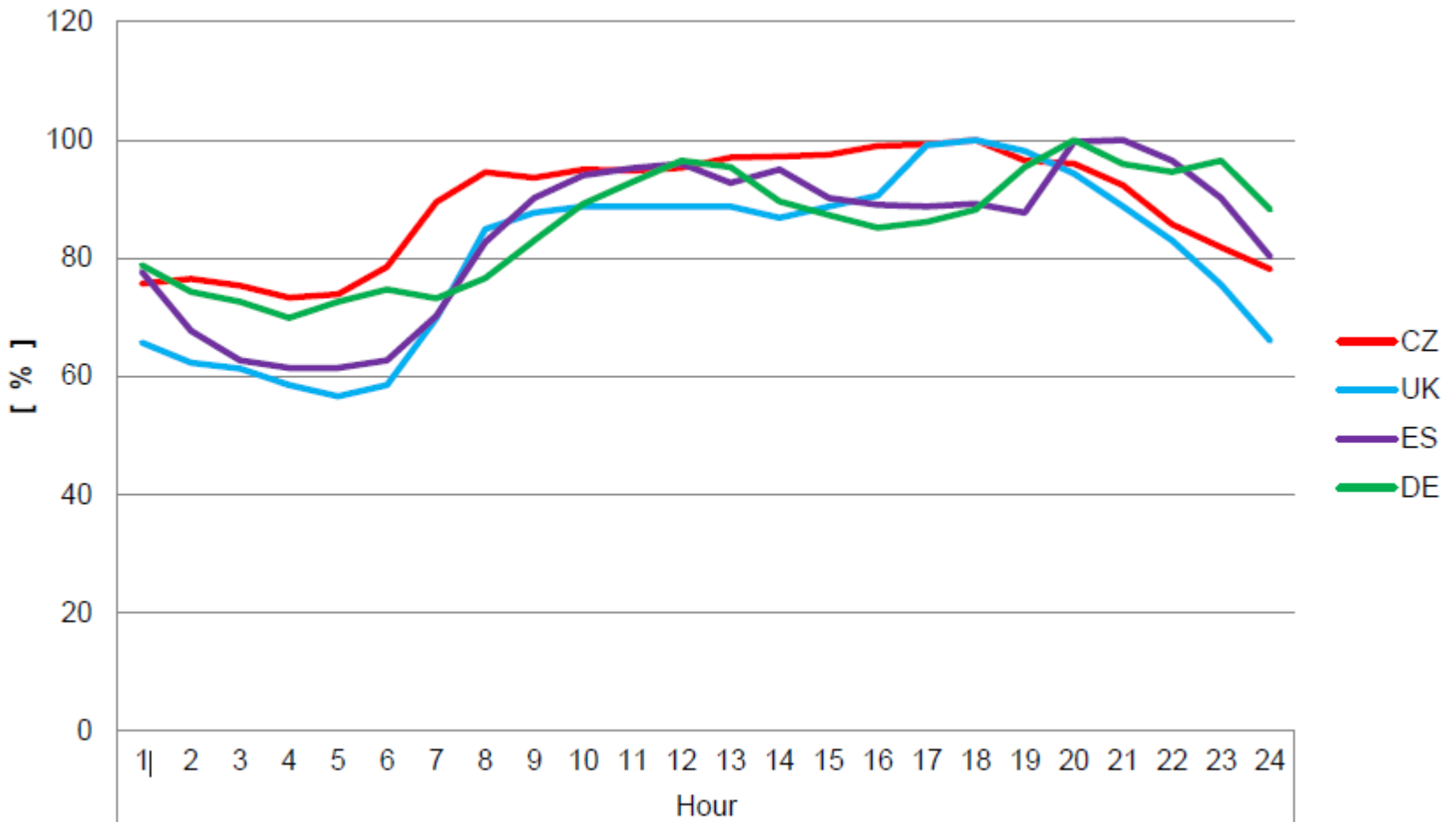


New Loads

Energy Distribution:
New Flows



Effects of Demand Flexibility Not Negligible

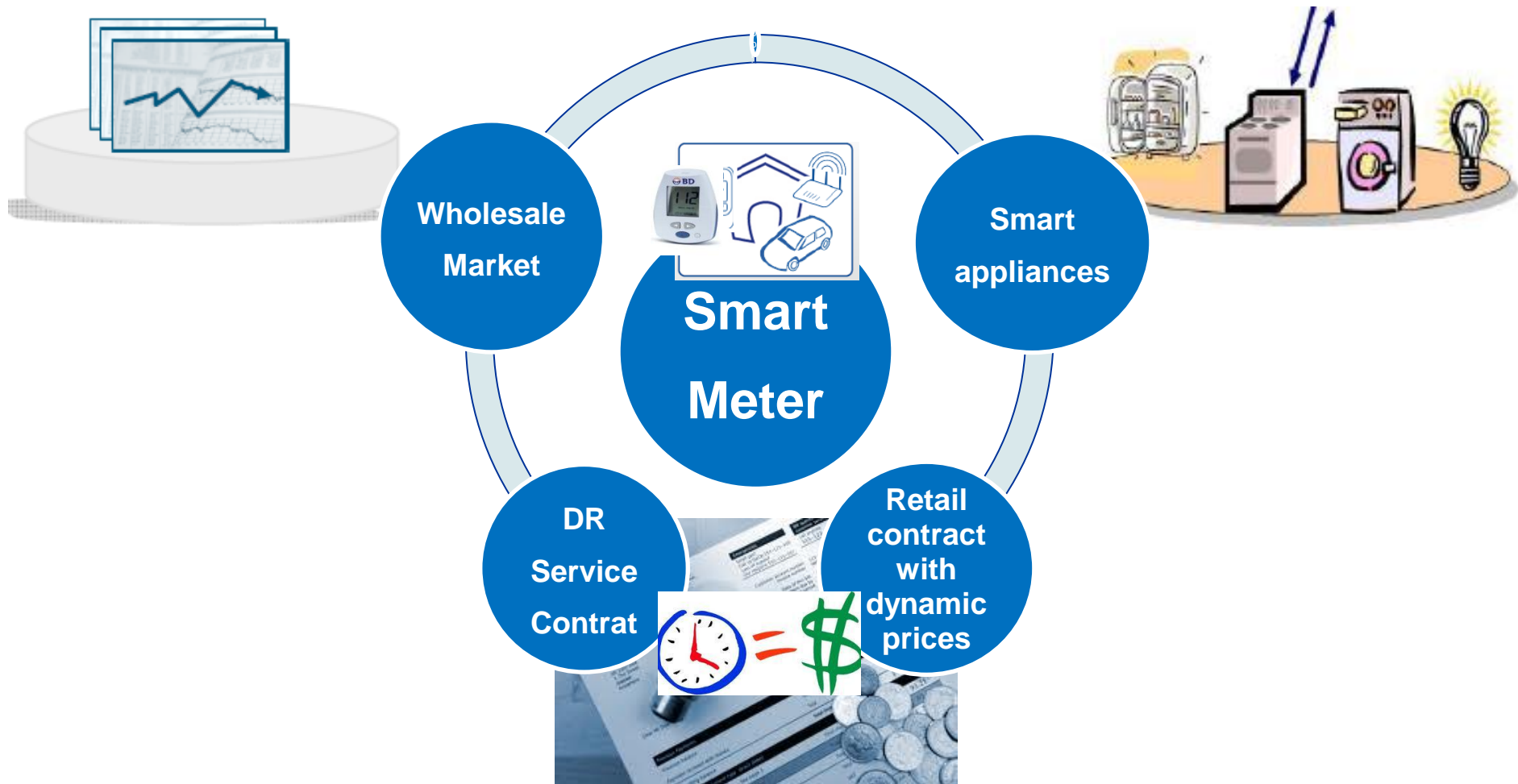


Courtesy of CEZ Distribution



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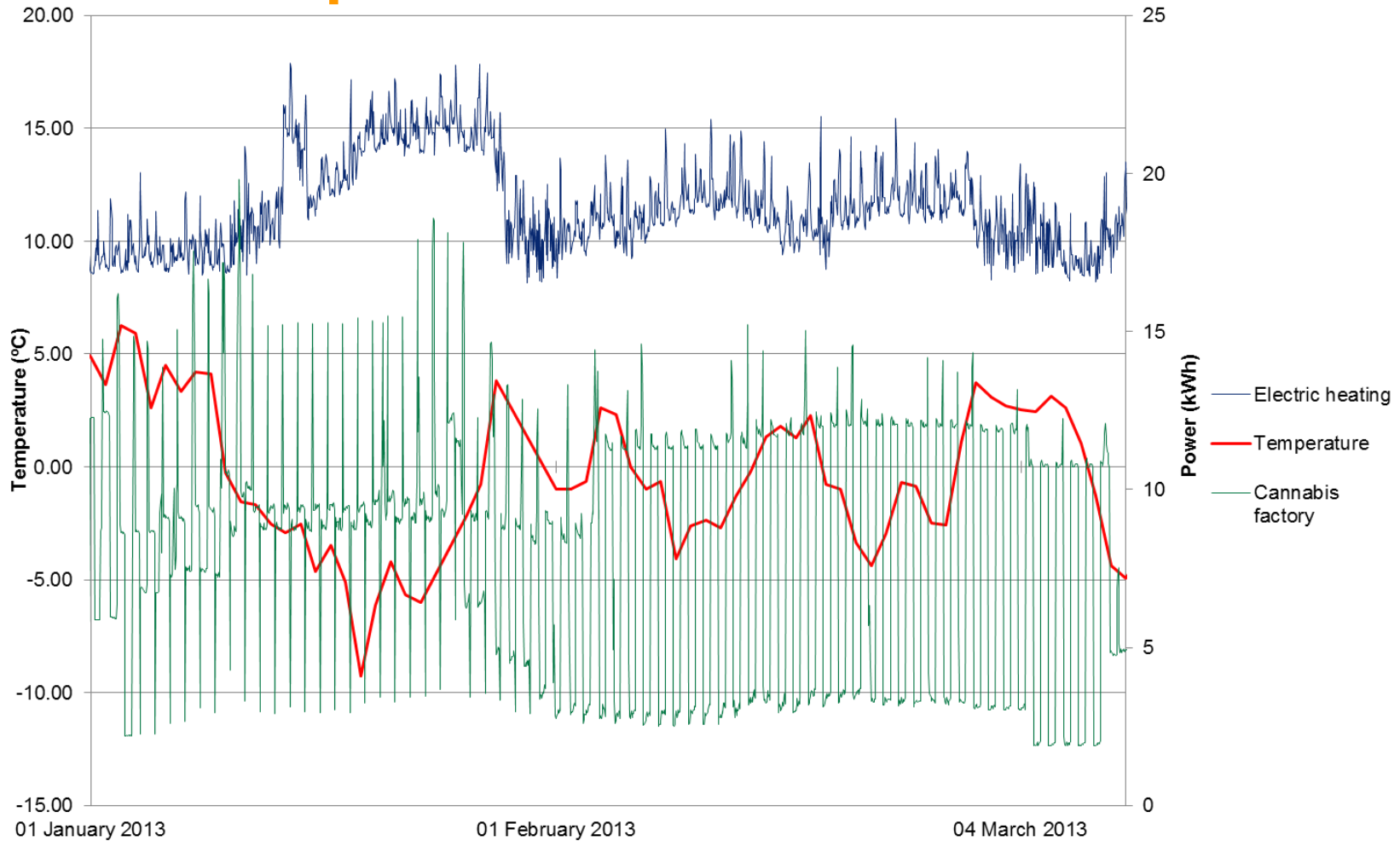
Demand Response as Part of Smart Grids



6 Ways Smart Metering benefits consumers

Energy Savings	more accurate and frequent consumption data demonstrably help consumers reduce their consumption and save money
Energy Efficiency	more detailed consumption measurements help consumers identify opportunities for energy efficiency improvements
Innovative Services	smart meters are indispensable for smart home solutions/home automation, reducing energy costs
Consumer Empowerment	switching suppliers, modifying contractual terms, etc. becomes easier, faster and cheaper
Sustainability	use of local renewable sources and storage potential (micro-grids), electromobility become easier
Distribution System Efficiency	management of the distribution systems becomes cheaper and more effective, leading to lower distribution costs

Unexpected Benefits of Smart Meters



Courtesy of Göteborg Energi

Commission Benchmarking Report Issued 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)**

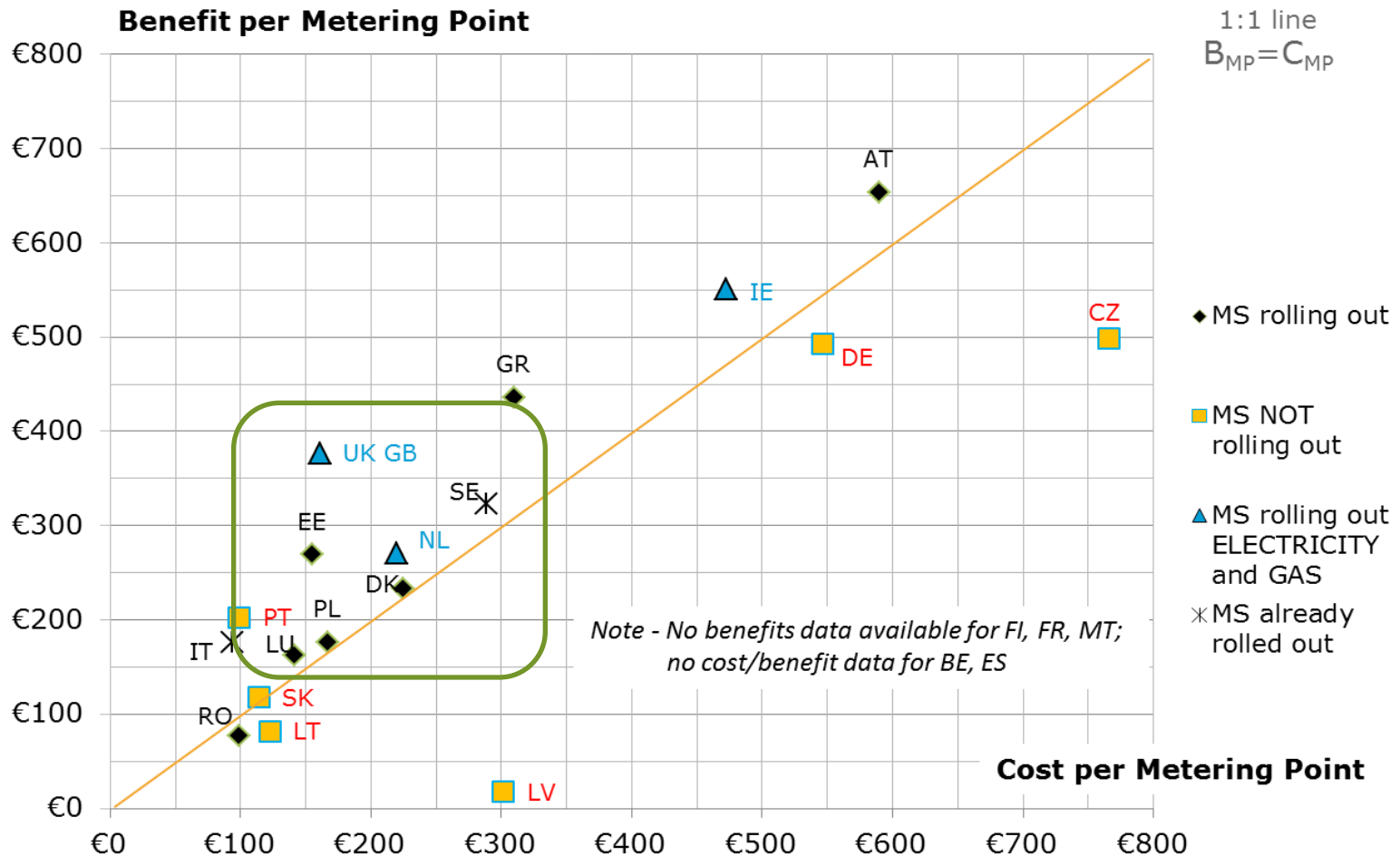
http://ec.europa.eu/energy/gas_electricity/smartgrids/smartgrids_en.htm



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Smart metering for electricity – costs & benefits

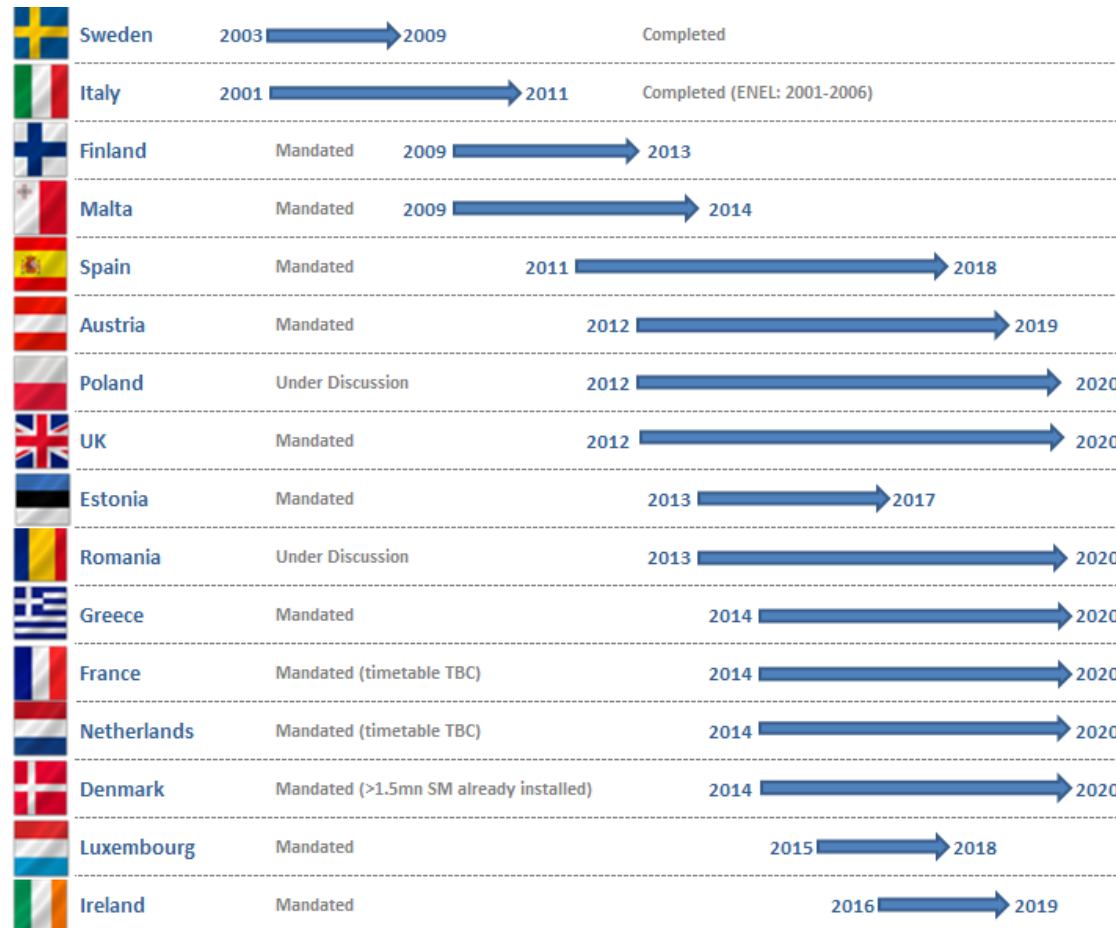
Costs & Benefits (normalised by number of metering points)



Striking Diversity in CBAs (Here Electricity)

	Range of values	Average (based on data from positively assessed cases)
Discount rate	3.1 to 10 %	5.7% \pm 1.8% (70%)
Lifetime	8 to 20 years	15 \pm 4 years (56%)
Energy saving	0 to 5 %	3% \pm 1.3% (67%)
Peak load shifting	0.8 to 9.9%	n.a.
Cost per metering point	€77 to €766	€223 \pm €143 (80%)
Benefit per metering point	€18 to €654	€309 \pm €170 (75%)
Consumer benefits (as % of total benefits)	0.6 to 81%	n.a.

Electricity: Wide-Scale Roll-out by 2020 in 16 MS



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



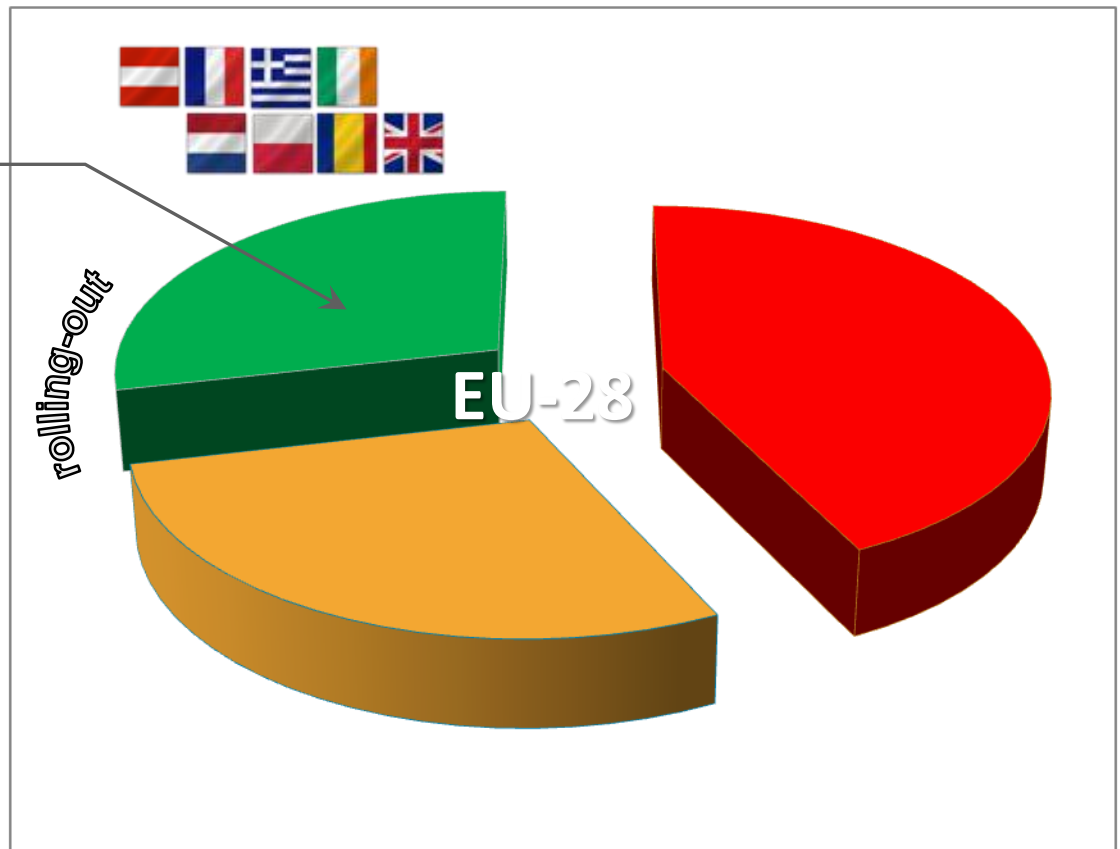
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50% follow recommended functionalities

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	<ul style="list-style-type: none">• a) Provide readings directly to the consumer and/or any 3rd party• b) Update readings frequently enough to use energy saving schemes
METERING OPERATOR	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• f) Support advanced tariff system• g) Remote ON/OFF control supply and/or flow or power limitation
SECURITY - DATA PROTECTION	<ul style="list-style-type: none">• h) Provide secure data communications• i) Fraud prevention and detection
DISTRIBUTED GENERATION	<ul style="list-style-type: none">• j) Provide import/export and reactive metering



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
	Regulated	DSO	DSO
			Central Hub
	Competitive	Supplier	

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