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CONCERTED ACTION
ENERGY EFFICIENCY
DIRECTIVE

Current State of Smart Metering Implementation

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About this presentation

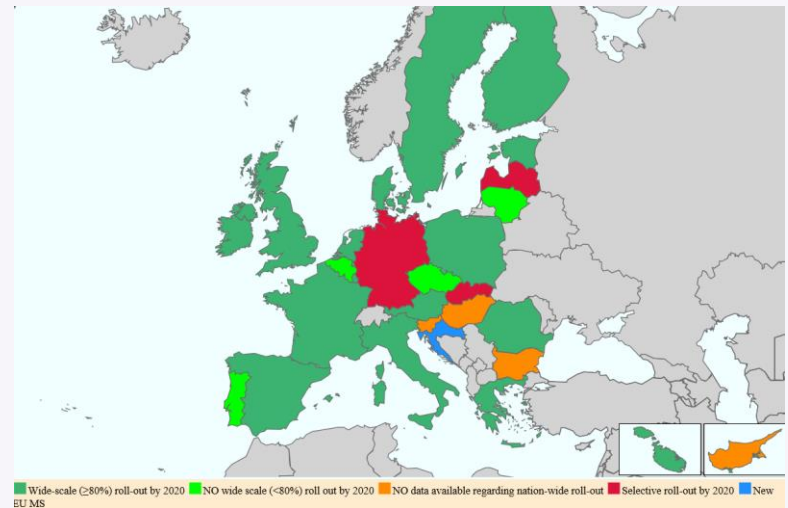
- Article 9.1 Introduction of individual meters on actual energy consumption
- Article 9.2. IF member states introduce smart metering: ensuring of:
 - a. energy efficiency and consumer benefits
 - b. privacy and security
 - c. electricity into the grid
 - d. product and market developments
 - e. advice and meter reading management
- Article 9.3 Multi-apartment, multi-purpose buildings
- Examples from NL

Article 9.1: Introduction of individual meters on actual energy consumption



Outline:

- Individual meters for accurate energy consumption and actual time of use
 - Conditions: technical, cost effective, competitively priced
 - Electricity, gas, district heating/ cooling, hot water
 - EED: also multi-apartment, multi-purpose buildings
 - Smart meter not required, generally seen as call for smart meters
-
- Deployment in EU (JRC, 2016):
 - Electricity
 - 17 Member States
 - up to 72% EU consumers by 2020
 - Gas:
 - 7 Member States
 - up to 40% EU consumers



Article 9.2.a: Energy efficiency and consumer benefits



Outline: IF Member States introduce smart metering, ensure:

- Information on actual time of use
- Minimum functionalities for energy efficiency and consumer benefits
 - Recommended functionalities (10)

Implementation Status:

- Evidence for savings:
 - Int. literature: approx. 3%
 - UK, Ireland, NL: 3% with IHD
- Key recommendations (2012/148/EU)
 - a: readings directly to consumer/ 3rd party
 - 17 MS
 - b: frequent update readings to allow savings
 - 14 MS
 - c: support advanced tariff systems
 - 12 MS

	Electricity		Gas	
	Legal point of view	Practical point of view	Legal point of view	Practical point of view
Information on actual consumption	AT, BE, ES, FI, FR, GB, IT, NL, NO, PT, RO	AT, BE, DK, ES, FI, FR, GB, IE, IT, MT, NL, SE, SI	AT, BE, DK, FR, GB, IT, NL, PT	AT, BE, DK, FR, GB, IE, IT, NL
Information on cost	ES, GB, HU, NO	DK, ES, GB, NL	DK, GB	DK, GB, NL
Access to information of consumption on customers' demand	AT, BE, ES, FI, GB, HU, IT, NL, NO, PT, RO	AT, BE, DK, ES, FI, GB, IE, IT, MT, NL, SE, SI	AT, BE, GB, NL, PT	AT, BE, GB, IE, NL
Remote power capacity reduction/increase	AT, BE, ES, FI, FR, GB, HU, IT, NL, NO, PT, RO	AT, BE, ES, FI, FR, IT, MT, NL, SI	BE, FR, GB, NL, PT	BE, DK, FR, NL
Remote activation/de-activation of supply	AT, BE, ES, FR, GB, IT, NL, NO, PT, RO	AT, BE, ES, FI, FR, GB, IE, IT, MT, NL, SE, SI	BE, FR, GB, IT, NL, PT	BE, FR, GB, IE, IT, NL
Timely adaptation to customers' demand	BE, ES, FR, NL, PT	DK, ES, FR, NL, SE	BE, FR, NL, PT	DK, FR, NL
Easier supplier switching process	AT, BE, FR, IT, NO	AT, DK, FI, FR, IE, IT, NL, SE, SI	AT, BE, FR, IT	AT, FR, IE, IT, NL
Customer control of metering data	AT, BE, FR, GB, HU, IT, NL, NO, PT	AT, BE, DK, FR, GB, IE, IT, MT, NL, SE, SI	AT, BE, FR, GB, IT, NL, PT	AT, BE, DK, FR, GB, IE, IT, NL
Bills based on actual consumption	AT, BE, ES, FI, FR, GB, IT, NL, NO, PT	AT, BE, ES, FI, FR, GB, IE, IT, MT, NL, SE, SI	AT, BE, FR, GB, IT, NL, PT	AT, BE, DK, FR, GB, IE, IT, NL
Alert in case of non-notified interruption	AT, GB, NO	AT, MT, NL	GB	NL
Alert in case of exceptional energy consumption	IT, NO, PT	GB, IT, MT, NL	PT	GB, NL
Interface with the home	AT, BE, FI, FR, GB, IT, NL, NO, PT	AT, FI, FR, GB, IE, IT, NL, SI	BE, FR, GB, IT, NL, PT	FR, GB, IE, NL
Other	BE, ES, FI, NL, SI	FI, NL	BE, FI, NL	FI, NL

Source: CEER Database, National Indicators (2015).

Article 9.2.b: Privacy and Security



Outline: IF Member States introduce smart metering, ensure:

- security of smart meters and data communication
- privacy of the final customers

Implementation Status:

- Most MS:
 - DSO responsible
- UK:
 - Data access, privacy framework
- UK, NL:
 - data protection legislation
 - opt-out functionalities
- Other MS:
 - privacy mentioned
 - But no legislation/ regulation yet

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

6th Annual Smart Energy UK & Europe 2015 Energy ENER Smart Grids © European Commission 2015

Article 9.2.c: accounting electricity into the grid



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Outline: IF Member States introduce smart metering, ensure:

- smart meters that can account for electricity put into the grid
- from the final customer’s premises (prosumers)

Implementation Status:

- Minimum functionality ‘J’
- Most MS:
 - Integrated by DSO’s

Member States rolling out Smart Meters (SM)	SM MinFun - (a)	SM Min Fun - (b)	SM MinFun - (c)	SM MinFun - (d)	SM MinFun - (e)	SM MinFun - (f)	SM MinFun - (g)	SM MinFun - (h)	SM MinFun - (i)	SM MinFun - (j)
Austria	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Denmark	YES	Partly	YES	YES	YES	YES	YES	YES	YES	YES
Estonia	YES	Partly	YES	YES	YES	YES	YES	YES	YES	YES
Finland	YES	Partly	YES	YES	YES	YES	YES	YES	YES	YES
France	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Greece	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ireland	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Italy	YES	Partly	YES	YES	YES	YES	YES	YES	YES	YES
Luxembourg	NA	NA	YES	YES	YES	NA	NA	YES	NA	NA
Malta	Partly	YES	YES	YES	YES	YES	Partly	YES	Partly	YES
Netherlands	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Poland	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Romania	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Spain	YES	No	YES	YES	YES	YES	YES	YES	YES	YES
Sweden	YES	Partly	YES	YES	YES	YES	Partly	Partly	YES	YES
United Kingdom - GB	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Article 9.2.d: product and market developments



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Outline: IF Member States introduce smart metering, ensure:

- E-metering data will be available for consumer , 3rd parties (on request consumer)
- Easily understandable format for comparing

Implementation Status:

- Market development energy management
 - CA-EED, April 2016
 - ‘Service market development E + G’
 - Survey 23 MS:
 - New business opportunities expected
 - Barriers (lack of demand, public campaigns)
 - NL: slowly developing
 - Increasing installations
 - Integration in home automation services

 <p>Toon@ - Eneco Purchase price: € 120 Subscription: € 42</p>	 <p>E-manager - Nuon Purchase price: € 149 Subscription: € 35,40</p>	 <p>Smile P1 - Plugwise Purchase price: € 109,95 Subscription: € 12</p>
 <p>Internet gateway - BeNext Purchase price: € 135 Subscription: -</p>	 <p>Enologic P1 - Enologic Purchase price: € 99 Subscription: € 19 / year</p>	 <p>Flukometer V2b - Flukso Purchase price: € 108,90 Subscription: -</p>
 <p>i-Care Premium - EnerGQ Purchase price: € 79,95 Subscription: € 35 / year</p>	 <p>i-CE - iNRG Purchase price: € 179 Subscription: -</p>	 <p>iungo - iungo Purchase price: € 160 Subscription: -</p>
 <p>SmartBridge - NET2GRID Purchase price: € 49,95 Subscription: € 30 / year</p>	 <p>Current Obox - Current Purchase price: € 90 Subscription: -</p>	 <p>Watch-E Portal - Watch-E Purchase price: € 98,50 Subscription: € 30</p>

Article 9.2.e: advice/ information and meter reading management



Outline: IF Member States introduce smart metering, ensure:

- Appropriate advice and information for customers at moment installation
- About full potential with meter reading management, consumption monitoring

Implementation Status:

- Little research so far
- NL: cooperation:
 - Network operators
 - Market players
- UK:
 - Installation Code of Practice



Thank you for your attention



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