

Demand Response: A Sustainable Win-Win for All

**ENER B3 - Retail Markets
&
ENER C3 - Energy Efficiency**

Brussels, November 2013

Benefits and Potential

Reduced Consumer Bills (demonstrated)

- Individual energy savings/reductions: 2-4% kWh
- Partial consumption shift to cheaper periods: € ca.10%(HH)/20%+(I)
- (Lower system costs)

System Efficiency

- Reduced peak generation: up to 60 GW (HH controllable load)
- Reduced grid needs

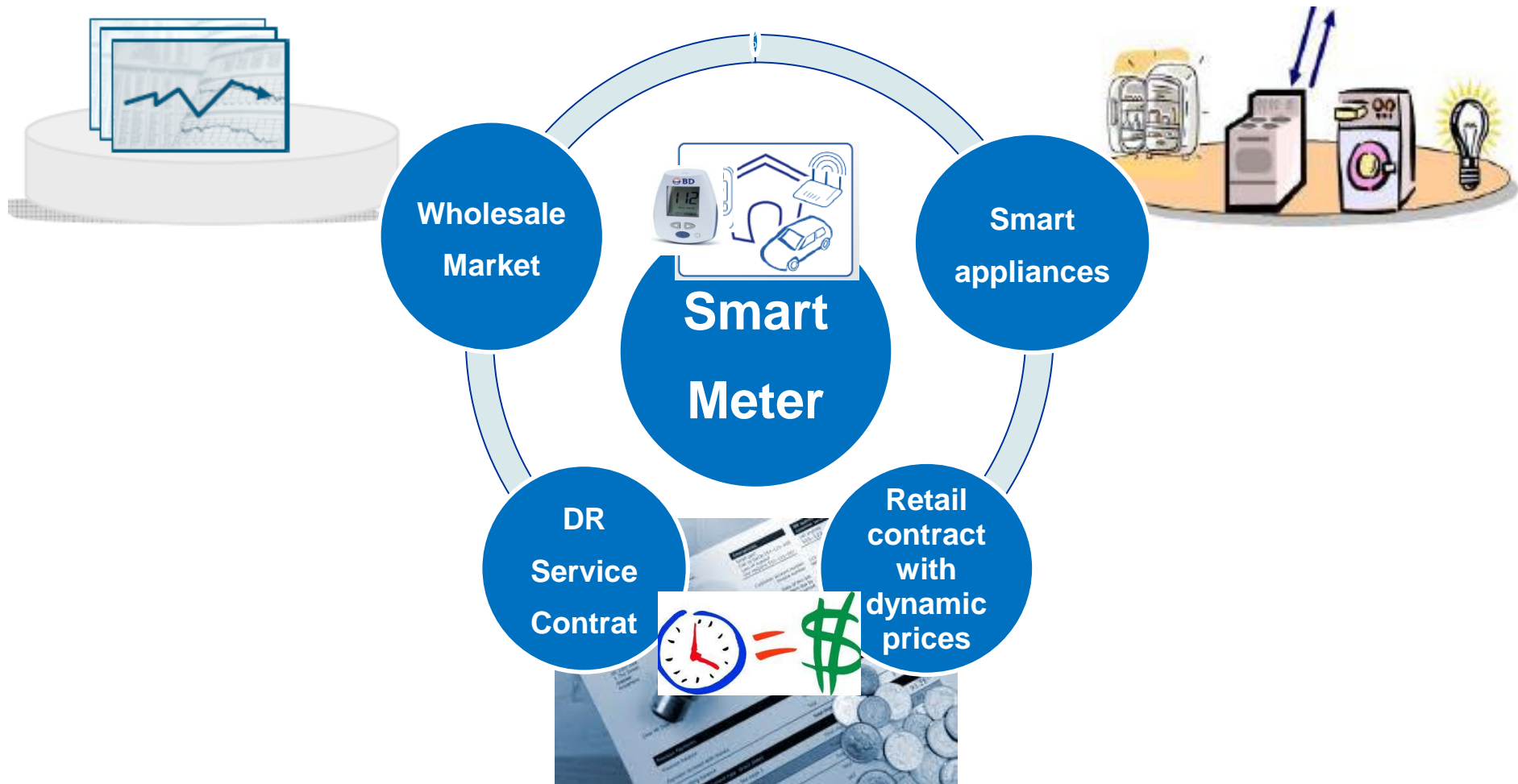
Vicarious benefits

- More RES possible on the grid
- Environment/CO₂↓
- Consumer engagement/empowerment



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Consumer Not Only Pays But Also Gets Paid



Going for More with Less

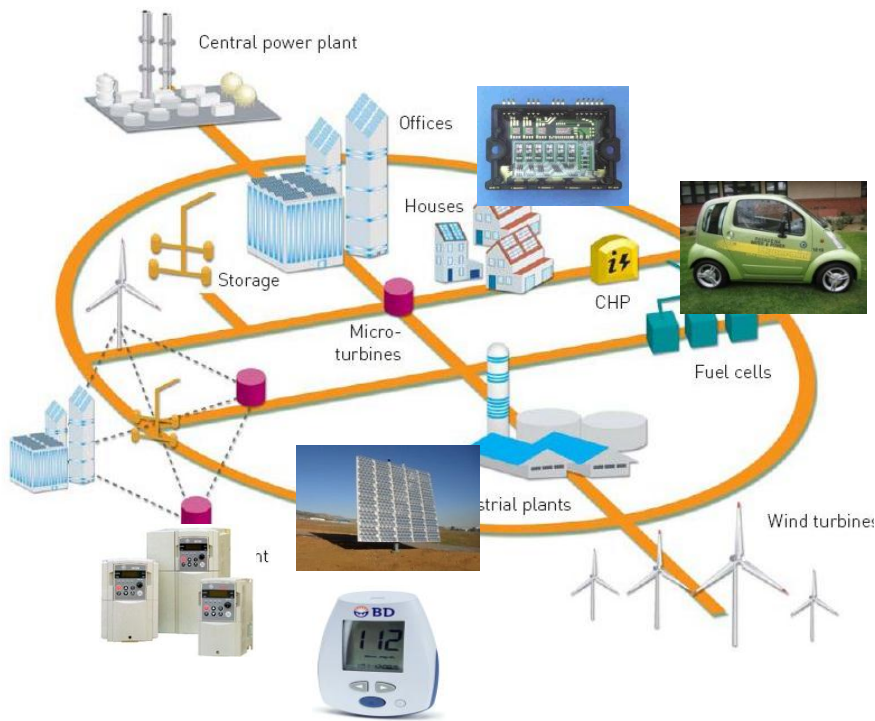
Industrial DR already in some MS:



- Consumer-driven
- Market-based
- ↓energy bills (+ ↑grid stability)

How to bring:
more DR in industry? DR also in households?

Demand Response as Part of Smart Grids



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

Successful roll-out of smart metering is key

Demand Response: What is Needed?

Market-based & transparent incentives

- Dynamic pricing and reward structures
- Data protection and security

Opening up the market to DR

- Equal footing with supply
- Contractual/technical rules, e.g. network codes

Bringing technologies into the retail segment

- Smart meters
- Smart appliances

EED + Third Package provide basis for DR in IEM

New roles New actors

- For TSOs, DSOs, NRAs
- Aggregators

EE criteria in network tariffs and regulation

- Incentives for smart grids
- Tariffs, dynamic pricing

Demand response

- New roles, effective price signals
- Market access, participation, transparency

EE in network design & operation

- Both gas and electricity infrastructure
- Incentives for network operators

Framework for market up-take of smart appliances

Action 13 – IEM Communication Action Plan (November 2012)

Possible aspects:

- **Define essential features of "smart appliances" (being capable of responding to price and/or network signals)**
- **Make sure that smart appliances have access to necessary information (smart metering and pricing information)**
- **Support interoperability**
- **Create the basis for incentives for smartness and/or interoperability**



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Thank You



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Back-ups

- Member States shall ensure that national regulators encourage demand side resources to participate alongside supply in wholesale and retail markets.
- In meeting requirements for balancing and ancillary services, TSOs and DSO must treat demand response providers, including aggregators, in a non-discriminatory way.
- Member States must arrange for technical modalities to promote access and participation of demand response in balancing, reserve and other system services markets.
- Removal of incentives in transmission and distribution tariffs that hamper participation of demand response.

Providing incentives for smart grids

MS must ensure that NRA give incentives to TSOs & DSOs to make available to network users system services to take advantage of the energy efficiency potential of smart grids.

Annex XI: possibilities for dynamic pricing

Network tariffs and regulation must not prevent TSOs, DSOs or energy retailers from offering as system services measures to:

- ✓ Shift demand from peak to off-peak;
- ✓ Induce customers to reduce demand;
- Network tariffs must reflect reductions in network costs from demand response



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Investment in Smart Metering roll-out: CBAs results

