

# The new AMR legislation of Finland – Energy efficiency, demand response and better services in focus

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# Background for current situation

- Finland: one of the forerunners in electricity market liberalization since early 1990's
- Market opening for all customers during 1995-1998
- Participation in the common Nordic Power Market since 1998
- AMR-based third party access for all customers since 1995 and for large- and medium-scale customers since 1998
- Load profile-based third party access for small-scale customers since 1998
- New AMR legislation into force on 1 March 2009 with at least 80 % scope in rollout of smart meters and specifications for operational system requirements to enable the exploitation of smart meters in wide range



# Energy Efficiency (EE) & Demand response (DR)

- Energy Service Dir. (ESD); metering in Energy Efficiency (EE)
  - Electricity, District Heating & Cooling, gas...
- EE vs. DR (electricity)
  - DR is short time load shifting / lowering
    - Main focus in power balance
    - Also increasing EE and reducing emissions in production
  - EE is more general, long term response
  - Price is the main driver in both
- Definition and sorting (EE / DR) more academic
  - Yet clear difference between short (peak) and long price increase
- Here more about electricity market & DR



# Policy objectives for the new AMR-legislation by the Government

- Adoption of demand response more broadly into the power system
- Facilitating energy saving among electricity consumers
- Adoption of hourly measurement for retail customers in distribution networks for wide range
  - Demand response and load control, energy saving (incl. house automation), balance settlement, billing etc.
- More accurate and more efficient balance settlement
- Adoption of more efficient customer switching procedure in distribution networks
- Updating fragmented and partly outdated legal provisions

- ➡ More efficient and more sustainable power system
- ➡ Better services for consumers
- ➡ Clearer legal provisions



# How to reach these objectives – new provisions on measurement by the Government

- The premiss for electricity measurement => electricity consumption to be measured hourly by the end of 2013 at the latest
  - Requirement for at least 80 % rollout of AMR equipment for consumption sites in distribution networks
  - Bidirectional net measuring for micro generation
  - Daily meter reading and exploitation of hourly data in balance settlement
  - DSOs to establish a plan for rollout by the end of 2009
    - Systematic implementation
    - Information for customers and the Regulator
  - A step-by-step approach for implementation
    - Micro generation and the last consumption sites with at least 3\*63 ampere fuses by the end of 2010
    - Daily meter reading and exploitation of hourly data in balance settlement by the end of 2011 at the latest
    - Provisions fully into force from 1 January 2014



# Operational system requirements for measuring equipment and data system

- Operational system requirements for measuring equipment and data system in order to secure the implementation of policy objectives
  - AMR capability
  - Capability to receive and to implement or distribute load control commands sent via communication network
  - Registering of outages exceeding 3 minutes
  - Storage of registered information 6/2 years
  - Securing proper privacy protection
- Equipment with standardized interface for real-time follow-up of consumption to be offered by the DSO, if ordered by a customer



# Provisions for exploitation of consumption data

- Daily meter reading and exploitation of hourly data in balance settlement
  - Implemented instantly, if a customer has an hour-based supply contract => DR to be exploited
  - For other customers with AMR-equipment by the end of 2011 at the latest
- Customers' rights to exploit his own consumption data
  - Access to own consumption data in standardized form without extra payment
  - Delivery simultaneously when ready to be delivered to customer's supplier
  - Customer's assent to be needed for delivery to third parties except customer's supplier and parties involved in balance settlement



# Expectations for future development

- Suppliers and system operators
  - To develop and to provide to customers new products and services for demand response and energy saving
  - To exploit possibilities of new technology in their business operations
- Equipment and software suppliers
  - To develop metering equipment and software compatible with other suppliers
  - Standardized and open interfaces
- EU-commission and regulators
  - Predictable and stable legal environment
  - To avoid legal actions which could lead to sunken costs for system operators and customers

