”DRR- Norway” project

IEA/DSM workshop Trondheim, 14 April 04

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To improve **Demand Side price sensitivity** and to create “**Regulation objects**” from consumption as alternatives to investments in new production/transmission capacity.

**Vision**

Requirements:
- Real time pricing
- Controllability
Market based Demand Response

Price hedging Phase

Market Phases

Price

Spot Phase

Elspot

Control Phases

Pre operational Phase

Operational Phase

Production scheduling. RPM bidding

Demand Response

Price-dependant load reduction

Remote controlled load reduction
Improved utilization of reducible loads.

Main aspects (Norwegian case)

- Hourly metering
- Remote and/or local load control
- Improvement in data management procedures
- Improvement in End User markets

Direct Communication

MVS/CIS

Market Design
Values for Norway

- Potential improvement of demand response in the Nordic Elspot and Balancing Market
- Improved business models
- Development of new technology and tools for DRR
- Information exchange and access to professional network
Norwegian projects of relevance

- Implementation of Demand Side Management in Oslo (1998-2001)
- IEA/DSM annex “DSB” (1998-2001)
- End user flexibility by efficient use of ICT (2001-2004)
- EU/SAVE - EFFLOCOM (2002-2004)
- Improving end user knowledge for managing energy loads and consumption (2003-2005)
- Load control in the balancing market – RKOM (2001-2006)
- Controlling power load in Oslo (2001-2004)
DRR-Norway
Participants - contributors

- ENOVA
- Statnett (Norwegian TSO)
- Statoil
- Norwegian Hydro
- Skagerak Nett
- Norwegian Electricity Industry Association (EBL)
- Troms Kraft

+ Technology Vendors
  - Elink
  - Powel
DRR-Norway
Project group

- SINTEF Energy Research (project management)
- E-CO Tech
- Elink
- Powel