IEA DSM Task XIII
PLMA Briefing

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Agenda

• Task XIII Purpose and Objectives
• Project Task Work and Tools
• Subtask 8: DR Implementation Strategy
• Project Web Portal
Project Vision

• Promote the development of Demand Response Resources (DRR) by providing a roadmap for integrating DRR into liberalized markets.
Task XIII Project Objectives

#1 - Identify and develop the country-specific information needed to establish the potential for demand response.

#2 - Perform the market and institutional assessment needed to set realistic goals for the contribution of DRR to sector objectives.

#3 - Mobilize technical and analytic resources needed to support the implementation of DRR programs and track their performance.
DRR Project Participation

• Countries Participating
  – Australia, Denmark, Finland, Italy, Japan, Korea, Netherlands, Norway, Spain, Sweden, USA

• Countries Interested
  – China, India, South Africa, Thailand, Mexico, Dominican Republic
  – Tanzania, Kenya, Zimbabwe, Canada
## DRR Project Schedule

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Task 1: Country Objectives

• **Description**
  – Each country drafts a set of project objectives and a work plan

• **Status:**
  – Each country created stakeholder groups
  – In-country objectives and work plans were created

• **Project Tools**
  – Task XIII Project Guidebook
  – Sample Work Plan: USA & Australia
Task 2: DR Resource Base

• Description:
  – Survey participating countries to define DR resource base and market structures

• Status:
  – Each country completed Marketplace Overview data sheets.
  – Complied list of DR programs with some performance figures
    • Program operating structures/tariffs
    • Reliability, Economic, & TOU/RTP

• Project Tools:
  – Country Comparison Report
  – Marketplace Overview data sheets
  – Communication Toolkit
Task 3: DR Market Potential

• Description:
  – Develop tools to assess DR market potential

• Status:
  – Draft tools presented at last Experts Meeting
  – Waiting on additional data from Countries to improve benchmark database

• Expected Tools
  – DR Product Benchmarks w/ translation methodology
  – Consumer market survey forms
  – Review and discussion of known modeling techniques
Task 2: DR Resource Base

- **Finland DR Products:**
  - At least one supplier recently began offering a new commodity product based on day-ahead spot prices. The results of their effort won’t be known until the end of the 2004/2005 heating season.

  - Fingrid allows aggregated loads to bid in 10 MW blocks into the regulating (balancing) power market. However, consumers are not taking advantage of this opportunity.

  - There is about 1000 MW of industrial load shedding that participates in Fingrid’s ancillary service market. These are ten year agreements (2005-2015) designed to provide capacity as new generation plants are being built (e.g. the next nuclear plant is expected to go on line in 2009).
Task 4: DR Valuation

• Description:
  – Develop methodology for valuing DR

• Status:
  – Creating NPV methodology based on long term market operations
  – Draft method was recently circulated for review and comment
  – Expect final draft in July 2005

• Expected Tools
  – Standardized Benefit / Cost Tests for DR
  – Technical Guidebook describing methodology for incorporating DR into system planning models
  – Layman Guidebook for regulators and/or industry executives describing DR value to the marketplace
Task 4: DR Valuation

- **Methodology:**
  - Calculate NPV of DR by using existing long term system modeling techniques
  - Provide sample calculations to illustrate process

- **Rational:**
  - Differences in costs between a resource plan with DRR, without DRR, and with varying amounts of DRR provide estimates of the value of DRR as a resource appropriate addressed in a planning environment.
  - Correctly addressing the benefits and costs of DRR in this context will produce a resource plan with the appropriate amount of DRR.
Task 4: DR Valuation

• Sample markets:
  – USA market: fossil and nuclear based
  – Nordic market: hydro dominated

• Sample DR Products
  – Interruptible Product – Known amount of load reduction based on a two-hour call period. Customers will be paid a capacity payment for the MW’s pledged and there will be penalties if MW reductions are not attained.
  – Direct Load Control Product – Known amount of load reduction with 5 to 10 minutes for notification.
  – Dispatchable Purchase Transaction – A call option where the model looks at the “marginal system cost” and decides to “take” the purchase when that price is less than the marginal system cost.
  – Real-Time Pricing Product – Modeled as a resource using price elasticity factors to calculate demand reduction.
Task 5: DR Technologies

- **Description:**
  - Catalogue available DR technologies

- **Status:**
  - Created case study template and database organization
  - Countries currently collecting DR technology case studies
  - Expected task completion: September 2005

- **Project Tools:**
  - Database of DR Technologies currently being used w/ case studies & cost/benefits if available
  - Database of DR Technologies in R&D
  - Database of Consumer Marketing materials
    - DR programs
    - DR technologies
Task 6: Market Barriers & Potential Solutions

• Description:
  – Characterize barriers and offer recommended solutions

• Status:
  – Operational Issues Work Group will convene today
  – Expected task completion: September 2005

• Project Tools:
  – DR Product database
  – Market infrastructure requirements for DR
  – Identification of unique DR operating characteristics
  – List of regulatory concerns and how they were addressed
Task 7: Project Communications

• Description:
  – General project management and promotion/marketing

• Status:
  – Host periodic teleconferences with each Country Expert
  – Participate in country stakeholder meetings
  – Various conference speaking engagements

• Project Tools:
  – Project Web Portal
  – Newsletter: “Demand Response Dispatcher”
  – Presentations from speaking engagements
Task 8: Project Delivery & In-Country DR Implementation Strategy

- **Description:**
  - Host regional workshops
  - Promote the use of the project tools in each country

- **Status:**
  - Country Experts are drafting Implementation Strategies
  - Workshop locations and timing will be determined during June Experts meeting

- **Project Tools:**
  - Final project toolkits
  - Task XIII Project Guidebook – a manual for developing DR Products
DRR Project Portal

dsm.iea.org/NewDSM/Work/Tasks/13/task13.asp
www.demandresponseresources.com

New guidebook updates
New research in library
New project roadmap
New site map
New meeting info
New presentations
Search engine coming
Task Information Plan - Publications

- Demand Response Resources Newsletter
  - 3 issues published in November, January, and April
- Project Guidebooks
  - Distributed at last Experts Meeting including A4 versions
  - 2 updates distributed through the project portal
- IEA Publications
  - Open Newsletter, Spotlight Newsletter
- Electricity Today – Dan Violette and Ross Malme
- Restructuring Today – Dan Violette
- Project Announcements
  - Phase II Solicitation
  - DR Market Implementation Strategy Announcement
Task Information Plan - Presentations

- **USA**
  - PLMA Spring Meeting (2005)
  - NARUC Spring Meetings (2005)
  - DistribuTECH (January 2005)
  - US DRCC Road Shows (Winter/Spring 2005)
  - PIER California DR Workshop (February 2005)
- **Europe**
  - Renewable Resources, Brussels (December 04)
  - EU JRC Advanced Metering Workshop, Ispra (March 2005)
  - Task XIII Web Conferences
- **Asia**
  - Task XIII Web Conferences
Potential Project Extensions

- Project Session II (countries/participants)
- ISO/TSO DRR Collaboration
- Integration of DR and EE
- Country Implementation of DR
- DSM Center of Excellence
  - On line Library
  - Training
  - Certification
  - Program evaluation and recommendations
Possible Industry Partnerships

- PLMA
- European Union (EU)
- Climate Technology Initiative (CTI)
- Inter American Development Bank (IADB)
- Renewable Energy & Energy Efficiency Partnership (REEEP)
- CIGRE
Next Experts Workshop

- Next meeting scheduled in Stockholm, Sweden
  - June 13-14, 2005
  - Discussion on valuation implementation
  - Review of market potential tools
  - Progress on technology assessment
  - Progress on market barriers and solutions
  - Discussion on DR Market Implementation Strategies