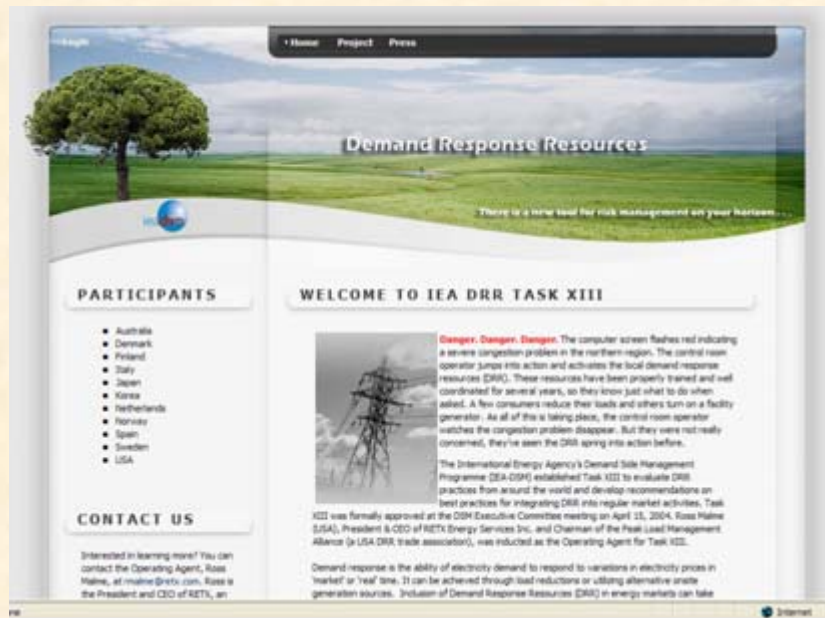


Demand Response Resources



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

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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

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DRR Project Schedule

Activity	2004	2005	2006
Phase 1			
Subtask 1 – Project Objectives	—		
Subtask 2 – Country Objectives Market Characterisation	—————		
Phase 2			
Subtask 3 – Market Potential of DRR	—————		
Subtask 4 – DRR Valuation		—————	
Subtask 5 – Role and Value of Technologies		—————	
Subtask 6 – Business Plan Development			—————
Phase 3			
Subtask 7 – Communication, Collaboration and Workshops	—————	—————	—————
Subtask 8 – Implementation			———
Education, Management and Administration	—————	—————	—————
Executive Relations, Education and Evangelising	—————	—————	—————
Project Management and Administration	—————	—————	—————



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.
 - Compiled 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.

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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

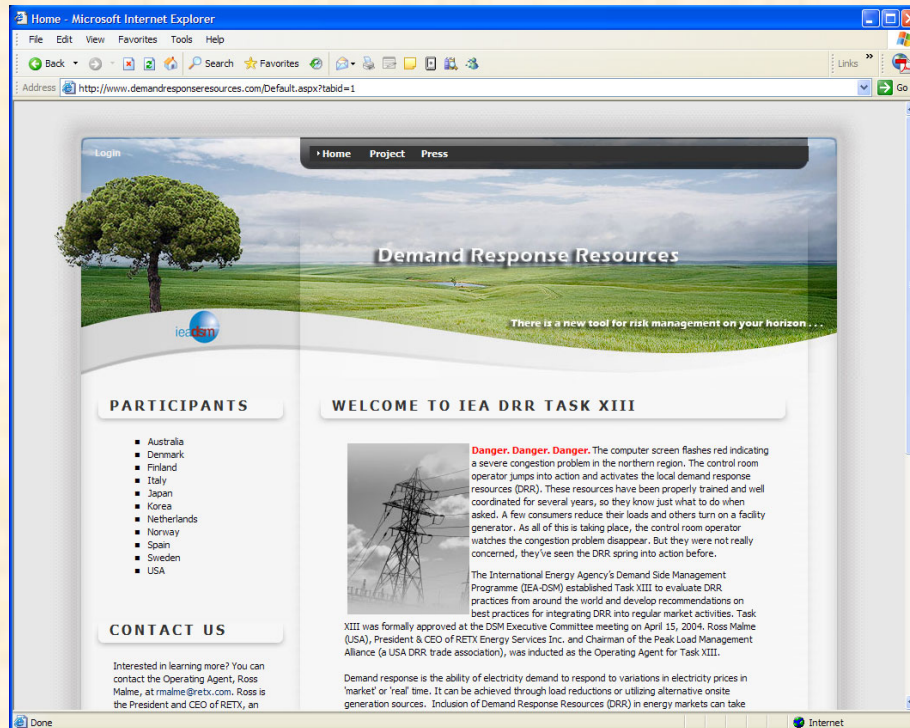
- Description:
 - Host regional workshops
 - Promote the use of the project tools in each country
- Status:
 - Country Experts are drafting Implementation Strategies
 - Workshop locations and timing will be determined during June Experts meeting
- Project Tools:
 - Final project toolkits
 - Task XIII Project Guidebook – a manual for developing DR Products

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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

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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

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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

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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

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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