



DSM *spotlight*

December 1998

The Newsletter of the International Energy Agency Demand-Side Management Programme

IX New Work to Focus on Municipalities' Role in the Changing Energy Market

Restructuring of the energy industries, which started in New Zealand, Norway and the United Kingdom, continued in Scandinavia and North America, and now is occurring in countries in South America and Central Europe, is having a profound effect on national energy industries. The restructuring of energy industries means that new rules of the game must be defined and how to apply these new rules (taxes, regulations, etc.) needs to be determined. And, municipalities have a critical role to play as they too are market players. To help municipalities play an active part in these changing markets, the IEA DSM Programme is initiating a new Task, *Role of Municipalities and Energy Efficiency in a Liberalized System*. For this work, the term municipalities includes any political administrative entity at the town or city level, a district or a grouping of local (not regional) authorities.

An open energy market means changes for all players, on both the supply side and the demand side. These changes include:

- Introduction of new suppliers, many of which are decentralized.
- Increased importance of the consumer, the consumer is now "king."

- New responsibilities for municipalities regarding sustainable development and Kyoto Protocol commitments.
- New responsibilities for municipal energy companies regarding their role in energy distribution and how to balance their social responsibilities with pressures to increase profits which threaten public interest activities such as DSM.

In every country, municipalities have responsibilities to fulfill in the energy sector. However, these responsibilities differ greatly from country to country due to reasons, such as political (degree to which power is decentralized, strategic importance of energy, role of the state), historical (who originally constructed the distribution network), and climatic (level of heat demand, construction of district heating networks). Furthermore, the ability of municipalities to take action is affected by their level of responsibility and degree of expertise. As a result, municipalities are involved in restructuring in varying degrees. Despite these differences, experience shows that municipalities have four definitive functions in the energy field: 1) energy consumer, 2) energy producer and distributor, 3) spatial planner and regulator, and 4) awareness raiser. By focusing on these four function areas, the Task experts will be able to conduct a detailed investigation of the role and responsibilities of municipalities, and where relevant, municipal energy companies.

This Task will examine municipal activities and practices, explore how municipalities are involved in energy markets, in particular DSM, and determine their responsibilities

and opportunities. The goals of this new work are to ensure that municipalities play a role in energy markets and to strengthen their capacity to participate in liberalized markets in a positive and dynamic way by providing access to information on the changes occurring and pilot projects that have been carried out. Task experts will develop an action guide on energy efficiency at the municipal level which identifies common features and outlines specific guidelines and recommendations. All these components of the Task will help to address the overarching question of how to create conditions which encourage DSM and energy efficiency policies that maintain economic competition and help meet national commitments to the Kyoto Protocol.

For information on this new Task contact the Task IX Operating Agent, Martin Cahn of *Énergie Cités*, France, e-mail: mcahn@energie-cites.org. (See the IEA DSM web site for address, telephone and fax numbers.)

The DSM Spotlight is published four times a year to keep readers abreast of recent results of the IEA Demand-Side Management Programme and of related DSM issues. The viewpoints or policies expressed in this newsletter do not necessarily reflect those of the International Energy Agency, the IEA Demand-Side Management Programme member countries, or the participating researchers.

For more information on the Programme, its work and contact addresses, please visit our web site at <http://dsm.iea.org>

IV

1st Phase of Work on DSM and Energy Efficiency in Changing Electricity Businesses Concludes

The IEA DSM Programme recently completed phase one of its work on DSM and energy efficiency in changing electricity businesses. Over a period of three years, DSM experts from 12 IEA Member countries worked with utilities and governments to consider demand-side options, on an equal basis, as alternatives or additions to conventional and non-conventional supply-side resources.

Early Task IV Activities

Early activities in this Task focused on developing improved methodologies for integrat-

ing demand-side management options into utility resource planning and related government policies. The first job for the experts in Task IV, *Development of Improved Methods for Integrating Demand-Side Options into Resource Planning*, was to review and document the utility structures and the characteristics of conducting DSM in countries participating in the Task. Once this review was completed, an inventory was performed of the available methods for assessing the benefits and costs of DSM options and how to integrate these benefits and costs into the resource plans of utilities. Using this inventory as a basis, the experts then wrote a guidebook, "Guidebook on Analytical Methods and Processes for Integrated Planning," designed to be used as a one-stop reference on applying analytical methodologies to evaluate DSM. To write this guidebook, the experts first had to determine what was missing in the existing inventory of DSM planning and evaluation methods and then develop recommendations on how to improve the methodologies and to build better models. The experts then examined the transferability of evaluation methods and analytical approaches from one utility to another. Six case studies on the successful transfer of methods and processes were reported on and are described in the report, "Guidelines for Transferring Methods and Processes for Integrated Planning."

As the Task was drawing to a close, the restructuring of electricity industries was underway or being considered by many of the participating countries, and so the experts recommended that the Task be extended in order to stay abreast of these changes. The new work undertaken investigated the available and new mechanisms to promote DSM and energy efficiency in the new business environments. The results of this work are reported on in two documents, "Review of Existing Mechanisms for Promoting DSM and Energy Efficiency in New Electricity Business Environments" and "Preliminary Concepts for New

Electricity Business Environments." Although this Task has ended, a new DSM Task has picked up where Task IV left off. This work is being conducted under Task VI, *Mechanisms for Promoting Demand-Side Management and Energy Efficiency in Changing Electricity Businesses*.

Task Results

Through the exchange of experiences and the development of practical mechanisms for incorporating DSM and energy efficiency into the changing environment of electricity businesses, many results were achieved in this Task.

Categorization of Strategies

The introduction of a competitive electricity market has realigned the roles of the industry players (generators, transmission businesses, distribution 'wires' businesses and retail suppliers) relative to customers, and this competitive market has created a stronger need for defining why DSM and energy efficiency programs should be carried out by the different players. To categorize these strategies, the Task experts divided the DSM strategies into two categories – those pursued by or at the direction of government and those pursued as part of a business. The government strategies are carried out to achieve public policy goals, such as to reduce environmental damage, to increase overall energy system efficiency and to create jobs. The business strategies are carried out by energy businesses or their partners to achieve commercial goals, such as to improve the profitability of existing business areas, to improve market positioning, to retain customers, to improve customer relations and to increase profitability from new business areas (e.g., new products and services).

Analysis of Traditional & Restructured Markets

The primary differences in DSM and energy efficiency mechanisms suitable for implementation in traditional regulated markets and those applicable to restructured electricity markets are listed in Table 1.

Identification of New Mechanisms

The uncertainty of the market structure of new

Incentives and Motivations for Implementation

Government and Regulators

- Increase energy system efficiency
- Reduce environmental damage
- Stimulate the market to adopt energy-efficient appliances and equipment
- Demonstrate energy-efficient technologies
- Provide improved information for more efficient functioning on the markets
- Reduce the transaction cost barrier

Distribution Utilities

- Provide correct price signal
- Increase market share
- Reduce operating costs
- Increase profit margin
- Reduce capital requirements
- Provide better information for customer decisions
- Improve customer satisfaction

Manufacturers

- Increase market share
- Increase revenues
- Improve profitability
- Increase customer satisfaction

Energy Businesses

- Increase market share
- Increase revenues
- Improve profitability
- Create new business areas

electricity business environments lends itself to a number of possible opportunities to ensure the advancement of DSM and energy efficiency. Task experts joined with other interested parties to discuss and solicit insights regarding the shape of new mechanisms to be considered. While many of the mechanisms identified were not entirely new, the discussions confirmed that it is possible to develop new combinations in the type of activity, implementing organization and funding source to create new mechanisms for promoting DSM in restructured markets. Some of the mechanisms identified in the Task are:

New combinations of existing mechanisms

- Customer audits tied to the Internet or to home automation, provided by the private sector or the distribution utility, and funded by the customer or the government.
- Partnerships for technology improvement implemented by government and manufacturers, and funded by tax revenues.

New mechanisms

- Certification of energy service companies (ESCOs) by governments using funds from tax revenues or from ESCOs.
- Development of state-of-the-art energy efficient construction techniques in collaboration with architects and engineers, and implemented by governments using tax revenues or distribution charges.
- Provision of "frequent user credits" for large electricity users, with credits to be redeemable for energy efficient appliances or equipment.
- Information campaigns implemented through government-utility partnerships.
- Pricing options (such as real-time pricing, progressive use rates, "green pricing," etc.)
- Consortia of governments, manufacturers and regional distribution utilities to offer energy efficient products and equipment.
- Performance contracting for energy efficiency offered by utility or private-sector ESCOs or by government.
- Utility end-use service rates.

When reviewing the new types of mechanisms identified during the Task, a number of

Table 1

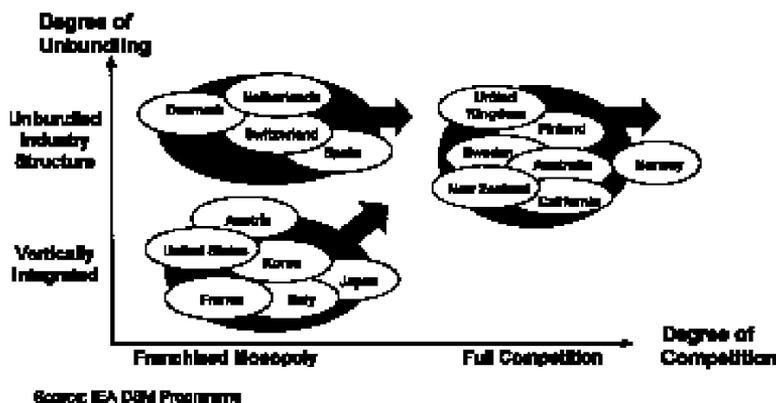
	Traditional Regulated Market	Restructured Competitive Market
Motivation	Regulators	Marketplace
Driven By	Load shape objectives	Customer needs
Targeted At	Resource value	Customer value
Paid By	All customers (ratepayers)	Beneficiaries only
Focused On	Electricity only	All energy sources

important implications were identified by the experts. For example, there appears to be a need for shared-risks and responsibilities across all stakeholders as a requisite for assuring DSM in re-regulated markets. This "shared risk" approach means a higher level of intervention by government, manufacturers, consortia of trade groups or utilities in order to obtain the benefits of economies of scale in the marketplace. Another implication is the need to rely on government intervention to ensure top-level involvement in advancing

logically about what type of DSM mechanism would be appropriate for a specific situation given all the specifics of the energy sector, energy policies and government objectives in a given economy. The Task work shows that basic planning fundamentals can be used as a means to look at both the generation and the DSM options.

Many countries recognize the importance of DSM and energy efficiency in reducing greenhouse gas reductions and sustainable

Degree of Restructuring Among IEA Members



DSM and energy efficiency opportunities. Also, a key ingredient to ensuring energy efficiency in restructured markets is customer education. Customers must be informed of the benefits and costs of energy efficiency. And, finally, the experts concluded that no single mechanism will adequately assure energy efficiency in restructured markets, but rather a strategy is needed which combines complementary mechanisms.

Task Conclusions

This work provides a framework for thinking

development goals, and so what has been started in this Task and is being continued in Task VI will help countries promote DSM while sorting through the challenges of restructuring, competition and privatization. The key challenge for many countries will be to create a close working relationship between utilities, government agencies and the private sector.

More information and how to obtain Task reports can be found on the Task IV homepage of the IEA DSM web site.

Events

Upcoming

Lessons Learned Workshop

The DSM Task on Cooperative Procurement of Innovative Technologies for DSM will host a workshop on lessons learned about international cooperative procurement projects, February 24-25 in London. The workshop will focus on procurement activities of the IEA DSM Programme and the EC DG XVII Programme. Workshop participants will learn about current procurement projects and have an opportunity to discuss how to facilitate future activities between buyers and suppliers. All are welcome.

To receive more information contact: Hans Westling, Operating Agent for DSM Task III, telephone: +46 8 667 80 20, fax: +46 8 660 54 82 or e-mail: hans.westling@promandat.se

Market Transformation Forum

The DSM Programme plans to organize a workshop in 1999 to identify potentially successful market transformation strategies for energy efficient products. The workshop will focus on how other markets were successfully transformed and explore how these approaches might work for a variety of energy efficient products. To accomplish this goal, marketing experts, product manufacturers and government officials will be invited to discuss what will make people voluntarily purchase more energy efficient products.

To receive more information contact: Eric Malm, Norwegian Executive Committee member, telephone: +47 22 959595, fax: +47 22 959099 or e-mail: eric.malm@nve.no.

Practitioners Workshop

The DSM Task on Mechanisms for Promoting DSM and Energy Efficiency in Changing Electricity Businesses is organizing a series of Practitioners Workshops to be held in Europe, Japan and Australia. These "by invitation only" workshops are designed to bring together energy practitioners and analysts to discuss Task VI work and how to stimulate energy efficiency given increasing competition and the demands of global climate change. The first workshop will be held in France this May.

To receive more information contact: David Crossley, Operating Agent for DSM Task VI, telephone: +61 2 9653 1188, fax: +61 2 9653 1977 or e-mail: crossley@efa.com.au.

Publications

Noteworthy

Task I

International Programme Experience in Providing Energy Efficiency Services Comparing Cost Effectiveness. This analysis report is the first in a series that will be published detailing the results of the INDEEP database, an international tool for designing, planning, evaluating and comparing DSM and energy efficient activities. This report analyzes and compares DSM programmes in 13 countries and includes a summary of the top 10 programmes in the database.

To order this report contact: Harry Vreuls Operating Agent for IEA DSM Task I, telephone: +31 46 4202202, fax: +31 46 452860 or e-mail: h.vreuls@novem.nl. Cost: USD 100.

Task IV

Inventory of Available Methods and Processes for Assessing the Benefits, Costs, and Impacts of Demand-Side Options. This document reports on the methods, techniques, and models being used in different countries by utilities and governments to address various issues related to the planning, analysis, and forecasting of the benefits, cost and impacts of DSM options. The report includes a survey of more than 40 different tools used for performing the elements of integrated planning, and a survey of the approach taken to integrated planning in 15 different countries.

Review of Existing Mechanisms for Promoting DSM and Energy Efficiency in New Electricity Business Environments. This report documents and reviews existing mechanisms for promoting DSM and energy efficiency in the new electricity business environments that result from unbundling the traditional electricity utility functions and exposing some of them to competition. The information was collected through extensive telephone and face-to-face interviews with key policy makers and leading decision makers in governments and electricity industry businesses.

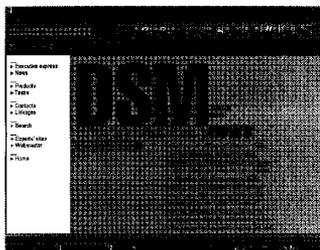
To order these reports or others on the results of this completed Task, visit the Task IV homepage on the IEA DSM web site.

Task V

Techniques for Implementation of Demand Side Management Technology in the Marketplace: Final Report. This report summarizes the work conducted and the lessons learned from 10 pilot projects in 6 countries. The lessons learned are grouped by utilities, governments and institutions; customers; consumption habits; purchasing process; DSM as a service; and TOU tariff as a service.

To order this report contact, Juan Comas, FECSA (ENDESA Group), telephone: +34 93 404 1537, fax: +34 93 443 1559 or e-mail: jcomas@fecsa.es.

<http://dsm.iea.org>



Visit the IEA DSM web site for more information on Programme activities and publications and the names of contacts.

The Newsletter of the IEA Demand-Side Management Programme

No. 6, December 1998

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