DSMspotlight
August 1999
The Newsletter of the International Energy Agency Demand-Side Management Programme

DSM Trends in IEA Countries

At the last IEA DSM Executive Committee meeting in Denmark, members discussed how the Programme's current work is meeting its mission statement and what project initiatives might be undertaken to continue to fulfill that goal. The strategy for meeting the Programme's mission is to help governments increase their capability to develop policies and programmes for more effective use of DSM and energy efficiency (EE) and to provide energy businesses with the tools and information necessary to create new cost-effective products and services for a competitive world.

IEA DSM Programme Mission

To promote energy efficiency and DSM for global sustainable development and for business opportunities.

To set the groundwork for this discussion, each participating country completed a questionnaire and reported during the meeting on the present DSM and energy efficiency situation in their country. This session proved not only to be educational, as Executive Committee members learned of the DSM efforts being undertaken in other countries, but also insightful, as members discovered new areas for future Programme work.

The following is a summary of the topics discussed.

Status of DSM and EE in Member countries

The status of DSM and EE initiatives is as varied as the countries participating in this IEA Programme, ranging from no recent changes to new situations in some countries. Overall, the trend is that energy utility competition is growing, labeling programmes as well as voluntary agreements for energy efficiency are emerging, and that price is often the driving force for many customers with many people having little interest in or knowledge of DSM or EE. Specific examples of DSM and EE efforts include a Belgian tax levy per kWh which was imposed in 1996 to support DSM programmes. Also in Belgium, the EU labeling programme of energy efficient appliances is positively impacting the market—the sale of class A/B-efficient refrigerators rose from 26% in 1996 to 56% in 1998. And in Japan, DSM is primarily used for load leveling by electric power utilities which in1997 reduced Japan's electricity peak by 7.8 GW.

Drivers Encouraging DSM and EE

The main drivers encouraging DSM and EE government policies, utility initiatives and environmental concerns. In several countries, such as Australia and Japan, representatives noted that due to their ambitious Kyoto Protocol targets effective national initiatives which include DSM and EE are needed to meet those goals. Other drivers that were identified included laws and regulations (i.e., energy conservation laws), cost reductions, manufacturers' growing awareness of the power of marketing efficiency as a means of differentiating products and as a mechanism for providing customers with choices. In the U.S., the ENERGY STAR programme has proven to be a very successful driver. This government programme has recruited five major appliance manufacturers, over 60 window manufacturers and many consumer electronics manufacturers to market products with the ENERGY STAR symbol noting their improved energy efficiency.

Main Drivers Discouraging DSM and EE

Programme participants identified five reasons why DSM and EE programs were not flourishing. The primary reason is the low prices for electricity, gas and petroleum. Other barriers were excess energy

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COUNTRIES PARTICIPATING IN THE IEA DSM PROGRAMME

Australia
Austria
Belgium
Canada
European Commission
Denmark
Finland
France
Italy
Greece
Japan
Korea
Netherlands
Norway
Spain
Sweden
United Kingdom
United States

New Work

DSM Programme Initiating

The IEA DSM Programme will begin new work in the areas of energy service companies (ESCOs) and energy efficient market transformation. Also, DSM Task II, Communications Technologies for Demand Side Management, will begin work on the design and prototype implementation of a flexible residential customer DSM gateway.

ESCOs

Energy service contracting, or performance contracting, is a proven mechanism for promoting the installation of energy efficient building equipment and systems. By working directly with facility owners to retrofit building equipment, energy service companies (ESCOs) can ensure savings in the building operations. The savings in the energy bills due to the more efficient equipment is then shared between the facility owner and the ESCO. ESCO industries are well established in Canada and the U.S. as well as in some European countries. The continued success of the ESCO industry will depend on energy sector regulations, contracting laws, and an awareness by building owners of the benefits of energy service contracting.

The objectives of the new work to be undertaken by the DSM Programme are to 1) promote an understanding of the benefits of performance contracting, 2) clarify the potential contribution of performance contracting to promoting energy efficiency and minimizing global climate change, 3) promote an understanding of the necessary regulatory and legal context under which ESCOs may operate, and 4) identify the market potential in countries for which no mature ESCO industry exists.

For more information on this activity contact William Noel, U.S. Department of Energy, e-mail: william.noel@ee.doe.gov, fax: +1 202 586 5557.

Market Transformation

In many IEA countries there is a growing interest in the concept of "market transformation," that is, creating a permanent change in the market structure or processes using public policies and programmes of limited duration to increase the availability, sales, and appropriate use of energy-saving equipment or practices.

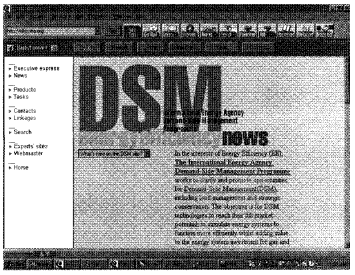
To capitalize on the increasing number of promising new initiatives and the work of DSM Task III, Cooperative Procurement of Innovative Technologies for Demand Side Management, the proposed new Task will 1) develop innovative market transformation program and policy ideas, 2) create a multinational forum for sharing and documenting relevant policy and program experiences, and 3) establish a simple, rapid, flexible and responsive framework for voluntary collaboration on market transformation studies and projects.

For more information on this activity contact Paul Davidson, Building Research Establishment, U.K. e-mail: davidsonp@bre.co.uk, fax: +44 1923 66 40 87.

Flexible Customer Gateway

Recent work of DSM Task II experts has been to specify a standard residential customer gateway which would enable independent communicating systems inside and outside the customer premises to cooperate. Task experts have defined and specified a flexible approach to the customer gateway design so that the different media and protocols can be handled on both sides of the gateway—inside and outside of the customer premises. Based on these specifications, Task experts will now begin to design and implement a flexible residential customer gateway. The benefits of such a gateway include the ability to provide services, such as security, energy management, and customer messages and metering from devices located around the customers' premises. Task work will include 1) development and implementation of daughter boards and software to handle different incoming and outgoing messages based on different protocols and communication media, 2) development of Common Protocol Bus software and associated mother board for interconnecting participating daughter boards, and 3) demonstration of a gateway using these devices in the flexible architecture configuration developed during earlier Task work.

For more information contact the Task II Operating Agent, Richard Formby, EA Technology, U.K., e-mail: jrf@eatl.co.uk, fax: +44 151 347 2226.



http://dsm.iea.org

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

Workshops

DSM Programme Organizes

Practitioners Workshops
A series of Practitioners Workshops are being held to present preliminary results of DSM Task VI, Mechanisms for Promoting DSM and Energy Efficiency in Changing Electricity Businesses. Over the past three years, Task experts have been developing a range of practical mechanisms for promoting the implementation of energy efficiency and DSM in changing electricity businesses, such as in restructured electricity industries and competitive electricity markets. The purpose of these workshops is to present information on the 26 mechanisms that have been developed to carefully selected audiences of practitioners who may eventually be involved with mechanisms for promoting energy efficiency and DSM. This involvement could include, for example, making policy decisions about the mechanisms, implementing the mechanisms or reviewing the effectiveness of the mechanisms.

During the workshops, the participants are asked to provide feedback about the practicality and likely effectiveness of the mechanisms developed in Task VI. To assist participants in providing this feedback, they are given draft summaries of the mechanisms prior to the workshop. Each workshop is tailored for the audience so that the mechanisms that are discussed are of interest and relevant to those attending. After an introduction on the work of Task VI, a plenary discussion on 7 or 8 mechanisms is held. Following this plenary, the participants are divided into three discussion groups to discuss another 7 or 8 mechanisms. Reports from these discussion groups are then presented to all the participants followed by a general discussion.

The first two Practitioners Workshops were held in May in Australia and France. At both workshops, audiences of 30 to 40 practitioners provided very useful feedback on each of the 26 mechanisms. Invited participants included government policy makers, industry regulators, electricity business managers, and analysts. And, as the Operating Agent, David Crossley, notes, "the workshops are providing a "reality check" on the practicality of the developed mechanisms." A third workshop will be held this August in Japan.

For more information on Task VI contact the Operating Agent, David Crossley, Energy Futures Australia Pty Ltd., e-mail: crossley@efa.com.au, fax: +61 2 9653 1977.

Procurement Lessons Learned Workshop
A workshop on lessons learned from DSM Task III, Cooperative Procurement of Innovative Technologies for DSM, was held last February in London. Seventy-five experts from 14 countries attended this two-day international event organized by the DSM Programme in collaboration with the European Commission DG XVII and the U.K. Department of the Environment, Transport and the Regions (DETR). Understanding the importance of this topic, the U.K. Energy Efficiency Minister addressed the participants as well as representatives from the European Commission DG XVII programme, the U.K. Lighting Association, and AB Electrolux Sweden.

At this workshop, participants had the opportunity to hear about the lessons experts have learned from ongoing DSM Programme procurement projects and to discuss how to facilitate future activities between buyers and suppliers. Some of the lessons shared were:

- Information about the market, stakeholders and barriers to market transformation should be collected before and during the procurement activity.
- Subsidies are, in many cases, not needed when buyer groups are established.
- An international forum or network should be created to enable the exchange of ideas and experiences from technology procurement and promotion projects.
- The existing public procurement rules, such as the European Commission Directives, need further clarification in order to facilitate innovative technology

Major Products of DSM Task VI
The products of Task VI provide a valuable compendium of information which has never before been available:
- Set of 26 detailed mechanism descriptions.
- Database of over 100 examples of existing mechanisms which have actually been implemented in the participating countries.
- Research on the public policy implications of these mechanisms—both what public policy measures have to be put in place to ensure that each mechanism will be successful, and the impacts on public policy which would follow the implementation of each mechanism.

Access to this information is presently restricted and for the use of Task VI participants only. However, the final results of Task VI will be available on the Internet to the public in January 2000.

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Status *from page 1*

capacity in one or more regions in a country, decreases in investments made to support energy conservation, lack of information (consumers are reluctant to install high efficiency equipment and appliances because they do not know the options or the benefits or they do not want to incur the initial investment costs), and liberalization of the electricity market. In Spain, interest in DSM has decreased over the past few years due to the introduction of competition and the unbundling of activities in the electricity sector. And although, distributors are required to implement DSM programmes, a portion of their profits depends on how much electricity they distribute therefore they are not much interested in EE.

Major Government Initiatives

Government initiatives range from R&D on new EE technologies to a series of market-related activities. In Finland, for example, the government is supporting R&D on new technologies for energy production and use as well as the demonstration and commercialization of these new technologies. Market-related activities that governments are undertaking include lighting programmes, appliance labeling, peak shifting, energy audits, and voluntary agreements for energy conservation. In the U.S., the administration has proposed a US $3.6 billion in tax incentives that would cover new homes, home equipment (e.g., heating, ventilation and air conditioning), appliances, solar roofs, efficient vehicles, and combined heat and power for industrial applications. The goal of these tax incentives would be to reduce the high first-cost of EE equipment, a major barrier to widespread adoption.

Major Business Activities

The primary business activities are the initiation of Energy Service Companies, voluntary agreements and performance contracting. Korea has a rather active business sector regarding DSM and EE. At the start of 1999, 29 energy service companies (ESCOs) were registered and at work retrofitting existing buildings. Korea has also initiated a Green Energy Family (GEF) program which is a nationwide energy efficiency and conservation campaign. Participants include public organizations, private companies and non-governmental organizations. The areas the program covers are the dissemination of high efficiency lighting fixtures, electric motor systems and energy saving designs. Participants in the program have the right to use the "energy saving mark" and may receive financial support.

What Can Be Expected in the Next 1-3 Years

The Executive Committee members agreed that the number of traditional DSM Programmes will decrease, but be replaced by new approaches. ESCOs and new businesses will emerge as the number of suppliers decreases leading to a greater emphasis on customer service. There also was general agreement that DSM and EE will have a role to play in meeting Kyoto protocol targets, to what extent will depend on the country.

After learning about the DSM and EE activities in participating countries, the Executive Committee went on to discuss how these initiatives could influence the future work of the Programme. Numerous ideas for new areas of work were generated. Topics the Executive Committee plan to explore include new services and products in competitive markets, measurement and evaluation of DSM/EE programs and activities, performance contracting, labeling and voluntary marketing, voluntary agreements, the impact of competition on DSM, and wire charges (tax on the wires that carry electricity).

Workshops *from page 3*

procurement projects.

- The next step in this procurement activity should be "market transformation," that is, the creation of a permanent change in the market structure or process by developing public policies and programmes of limited duration that increase the availability, sales, and appropriate use of energy-saving equipment or practices.

Using these and other lessons learned from the IEA DSM work as a basis, the workshop participants addressed the issue of how to move from developing innovative energy efficient technology to transforming the market. Topics discussed included when to use technology procurement and how to choose the most suitable projects for international collaboration. The second day of the workshop began with presentations on projects that are transforming the market— the AB Electrolux life cycle cost model for the household appliance market and the U.K. Lighting Association project. The workshop concluded with a working session to formulate specific suggestions for future actions.

For more information on DSM Programme procurement activities contact the Task III Operating Agent, Hans Westling, Promandat AB, Sweden, e-mail: hans.westling@promandat.se, fax: +46 8 660 54 82.

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***

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