



DSM *spotlight*

December 1999

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

An Interview with Jan Moen

Chairman of the IEA DSM Programme

As Director of Regulation and DSM at the Norwegian Water Resources and Energy Administration and the Chairman of the IEA DSM Programme, you have extensive knowledge on how demand-side management (DSM) is transforming to meet the demands of the changing energy industry. The following questions are designed to share your thoughts with readers on the future of DSM and how the work of the IEA DSM Programme is addressing the new challenges of deregulation and global environmental issues.

How is the restructuring of the electricity industry impacting DSM and energy efficiency?

DSM is alive, but changing to adapt to the new business environment. In order to track the changes occurring in the Member countries of the IEA DSM Programme, a survey was conducted. Of the 15 countries surveyed, all but two are either in the process of significantly restructuring their electric industry or anticipate a decision on restructuring within the next five years. Of those countries in the midst of restructuring, there appears to be two competing forces. One force is a result of governments placing a higher priority on energy efficiency and/or DSM and other environmentally preferred technologies and mechanisms due to increasing concerns about the environment, particularly climate change. The other force is the result of increased competition and the reduction of energy costs which has in turn led to drastic reductions in energy efficiency, and DSM and other environmentally oriented electricity programs. An example of this is in Australia where the restructuring of the electricity supply industry has fundamentally altered the justification and motivation for utility businesses to undertake DSM and energy efficiency.

Furthermore, the move towards a free energy market will challenge energy efficiency efforts that are no longer as important as short-term cost efficiency.

Interestingly, countries not yet restructuring

their industries often use DSM as a way to reduce costs, as opposed to energy efficiency to reduce consumption, and view it to be closely linked to environmental benefits. For example, the Japanese electricity supply industry is trying to reduce their electricity price using DSM or load leveling. The Japanese government is not only supporting the industry's efforts, but also encouraging the energy efficiency programs in order to reduce energy consumption and CO₂ emissions.

How is the Programme addressing the changes in the electricity sector?

The IEA DSM Programme's is addressing the changes that are occurring in several ways. First, the Programme has adopted a new mission to guide its work into the new millennium. The Programme's mission is "to promote energy efficiency and demand-side management for global sustainable development and for business opportunities."

And second, the Programme is initiating several new Tasks. Work recently began on demand-side bidding (DSB). The objective of this Task is to evaluate and promote DSB as a means to improve the global environment. Experts from six countries (Finland, Netherlands, Norway, Spain, Sweden and the U.K.) have begun to evaluate current DSB schemes and to analyze these schemes for generic features as well as their strengths and weaknesses. The work will conclude with the preparation of guidelines for the development of new DSB schemes as well as enhancements to current schemes. The DSM Programme also is starting work on the role of municipalities and energy efficiency in a liberalized market and the market transformation of energy-saving equipment and practices. In addition, work is being formulated to address ESCOs, new products and services in competitive electricity markets, new effective measures for implementing DSM and energy efficiency, the impact of competitive electricity markets on DSM and energy efficiency, and the measurement and evaluation of DSM and energy efficiency programs and activities.

continued on page 4

IEA DSM PROGRAMME MISSION

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

New EE Copier Receives Award



The IEA DSM Award of Excellence was presented once again for another innovative energy efficient technology. This time, the award was presented to Rioch Company, Ltd. for their energy efficient digital copier. Their new "copier of the future" was developed based on specifications and tests methods established by an international team of buyers in cooperation with leading product designers and manufacturers as part of DSM Task III, *Cooperative Procurement of Innovative Technologies for Demand-side Management*.

This winning copier is a network capable, mid-speed digital photocopier that consumes less than 10 Watts of energy in standby mode. Other features include its ability to enter and recover from standby mode within 10 seconds, efficient duplexing performance and reliable and convenient copying capabilities. The combination of these features has reduced the copier's energy consumption, and associated consumer bills, by an estimated 60% compared to comparable copiers on the market today. While energy efficiency was an important criterion for the buyer group, they also wanted a product that was reliable and convenient.

The energy savings that can be gained from this copier, and hopefully other similar copiers in the near future, are important because office equipment is estimated to consume about 7% of all electricity in the commercial sector, and as this demand continues to grow electricity consumption will continue to increase. Photocopiers

alone account for over 10% of the office equipment electricity demand. And, the astounding fact is that more than 90% of that energy is consumed when copiers are not being used.

Buyers that have expressed interest in purchasing or leasing this winning copier include Credit-Suisse (Switzerland), Ikea and Volvo (Sweden), and 3M and Kinko's (United States). Other products which have received the IEA DSM Award of Excellence are a clothes dryer developed by AEG of Germany and two high-efficient motors developed by ABB.

For additional information contact the Task III Operating Agent, Hans Westling of Promandat AB, Sweden, fax: +46 8 660 54 82, e-mail: hans.westling@promandat.se. (See the IEA DSM web site for address.)

<http://dsm.iea.org>

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

The image shows a screenshot of a web browser displaying the IEA DSM website. The main content area features a large "DSM" logo and a news article titled "DSM News". The article text is partially visible, mentioning "The International Energy Agency" and "Demand Side Management Programme". The browser's address bar shows the URL "http://dsm.iea.org".

New Work

New Work to Address Climate Change & Kyoto

The IEA DSM Programme is in the process of initiating new projects to address the changing electricity market and to help countries meet their Kyoto targets for reduced greenhouse gas emissions. The overall objectives of these projects are to promote energy efficiency and DSM for global sustainable development and new business opportunities. Specifically, the new work will focus on 1) transformation of the energy efficiency market, 2) Energy Service Companies (ESCOs), 3) new products and services available to utilities, and 4) development of an evaluation guidebook for DSM/EE programs.

Market Transformation

To capitalize on the work of DSM Task III, *Cooperative Procurement of Innovative Technologies for Demand Side Management*, a new Task has been approved by the DSM Executive Committee. Task VII, *International Collaboration on Market Transformation*, will develop innovative program and policy ideas for market transformation and create a multinational network for sharing and documenting relevant policy and program experiences. 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 programs of limited duration to increase the availability, sales, and appropriate use of energy-saving equipment or practices.

The broad scope of this Task will allow for the sharing of information on policy and program information related to energy efficiency market transformation and cooperative studies on market transformation policy and technology issues, such as opportunities, underlying market, organizational and behavior dynamics. The Task will con-

clude with the implementation of cooperative action projects to test and demonstrate market transformation programs in several countries. These projects could include new technology procurements, competitions for the design and procurement of "next generation" energy efficient products, energy rating, labeling and quality marks.

For more information on this activity contact Verney Ryan, Building Research Establishment, U.K. e-mail: ryanv@bre.co.uk, fax: +44 1923 66 40 97.

Energy Service Companies

The development of a new Task on ESCO industries is well underway. Last September a meeting was held in the United States to begin to review the status of ESCO industries in countries wishing to participate in this initiative. The meeting was attended by representatives from Finland, Japan, the Netherlands and the United States, all of which expressed interest in such a Task.

This Task will focus on ESCOs from a business perspective. The objectives of the proposed work are to 1) promote an understanding of the benefits of performance contracting, 2) clarify the potential contribution of performance contracting to promote energy efficiency and minimize 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 where there is not a mature ESCO industry.

The expected results will include detailed country reports on the establishment and success of ESCOs. Countries with mature ESCO industries will provide information such as, model performance contract lan-

guage, examples of legislation permitting the use of performance contracts, and case studies of successful retrofits using performance contracts. Those countries participating in the Task without mature ESCOs will report on information such as, the existing legal and regulatory barriers as well as the potential size of the market for an ESCO industry.

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.

New Products and Services in Competitive Electricity Markets

There are several driving forces in the energy industry, including privatization and deregulation, which are having a clear impact on DSM and energy efficiency strategies. As these changes occur, it is necessary to establish an understanding of the particular roles of utilities, government and third parties in promoting customer DSM and energy efficient services. This Task will focus on new products and services offered by utilities and the support provided by governments through the development of functioning energy markets and commercial stimulation of energy efficient products.

The main objectives of the Task will be to 1) study what kind of products and services are being offered, 2) what the impact of these products and services are having on energy efficiency and environment, 3) what kind of potential new products are coming into the market, and 4) how government can stimulate the demand for these new products and reduce any barriers.

continued on page 4

For more information on this activity contact Seppo Kärkkäinen, Technical Research Center of Finland, e-mail: seppo.karkkainen@vtt.fi, fax: +358 9 456 6538.

Evaluation Guidebook for DSM/EE Programs

The measurement and evaluation of DSM and energy efficiency programs is a high priority for many countries. Not only do they want to know whether their efforts are worthwhile, but more importantly, how these programs are contributing to the climate change policies agreed to in Kyoto. Information on these programs' impact on energy use and greenhouse gases, particularly CO₂ reductions is critical. Evaluation plays an important role in this process as the success of such programs become based on more cost-effective results in addition to increased emissions reduction. Recognizing that many countries already are evaluating their programs, this Task will focus on the development of an evaluation guidebook that can be used by national experts.

The proposed work, benefiting from the international collaboration of the IEA DSM Programme, is to develop, test and promote an evaluation guidebook for government and non-government energy efficiency programs and utility DSM programs that are targeted towards energy end-users. Once the guidebook is prepared, it will be tested in the participating countries by evaluation experts. After that, the national and international experiences will be discussed at a series of workshops. The recommendations from these workshops will then be used to update the final version of the guidebook.

For more information on this activity contact Harry Vreuls, Novem, The Netherlands, e-mail: h.vreuls@novem.nl, fax: +31 46 452860.

What are some of the major accomplishments of the Programme to date?

Due to the international nature of this Programme, many countries have benefited from its work. A few highlights of our work, include:

- The IEA DSM Award of Excellence has been given to two new products on the market as a result of the Programme's international procurement work. The first award was presented to AEG for a super-efficient clothes drier which uses a heat pump to improve energy performance by 50-70%. The second award was presented to ABB for two super-efficient electric motors which succeeded to reduce losses by 25-50% compared to an average motor working at a good performance level.
- The design of a prototype residential customer gateway to allow independent communicating systems inside and outside customer premises to cooperate. This will facilitate the greater uptake of value-added services, such as remote metering, remote security services, electronic banking at home and remote switching of appliances.
- The development of the INDEEP database which has information on over 200 DSM programs from 13 countries. This database is of significant value to developing countries wishing to establish effective energy efficiency programs.

- The implementation of nine pilot projects in Europe and Africa to test a variety of DSM marketing strategies.
- The examination and reporting on existing mechanisms for promoting DSM and energy efficiency and the public policy implications of mechanisms for promoting energy efficiency and load management in changing electricity businesses.

As the new millennium begins, what do you think is the future of DSM? And, will the IEA DSM Programme have a prominent role to play?

DSM will remain a force in the energy sector as there is a key linkage between international action on global climate change and support for energy efficiency and DSM programs. I believe that the international pressures to reduce greenhouse gas emissions, particularly those associated with electricity production, will trigger a major new interest in DSM and energy efficiency in the electricity supply industry.

In addition, the current drivers for DSM and energy efficiency remain highly relevant, including cost reductions to suppliers and users of electricity from better asset utilization and reduced energy use.

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>

No. 9, December 1999

Prepared for the IEA Demand-Side Management Executive Committee
by
Morse Associates, Inc.
1808 Corcoran Street, NW
Washington, DC 20009 U.S.A.
Editor:
Pamela Murphy Kunz