



DSM *spotlight*

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

The Kyoto Protocol on Climate Change and the IEA DSM Programme

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The draft Kyoto Protocol on climate change was negotiated this past December in Kyoto, Japan, by nations from around the world, and now countries must fulfill their obligations. The challenges confronting governments as well as electricity supply businesses are significant. With greenhouse gas reduction targets ranging from -8% to +10% of 1990 emission levels by around 2010, many Annex I (developed) countries will need to substantially reduce their energy related emissions in light of projected electricity growth increases of over 50%. For example,

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

Australia, with a young and rapidly growing population, has a projected electricity growth of 53% over the 1990 to 2010 period, with increases in related greenhouse gas emissions of approximately 40%.

The challenge for demand-side management and energy efficiency strategies, and programs such as the IEA DSM Programme, is to make these energy measures more relevant in terms of greenhouse gas abatement and an integral part of effective national and international responses. There are several actions that could be taken.

First, governments should be reminded not to lose sight of the benefits of energy efficiency and demand-side management in the current climate of micro-economic reform of the electricity supply industry with its vertical separation of businesses and, in many countries, privatization.

Also, an effective response to greenhouse gas reductions should include measures to improve supply and end-use efficiency and to maximize generation and network benefits through demand-side management. This will require effective regulation, focusing on market-based solutions.

In addition, efficiency standards for electricity production (generation, transmission, distribution and supply/retailing) and for end-use appliances, plants and equipment should be specified as they are an important means for achieving efficiency gains and reducing greenhouse gas emissions. The IEA DSM Programme has begun to offer sound solution-based

approaches through the work of the DSM Task on Co-operative Procurement of Innovative Technologies for Demand-Side Management and will continue this work under the proposed Task on Market Transformation. The proposed Task on Demand-side Bidding into market pools could lead to an effective market tool to moderate demand, while the proposed Task on identifying effective market-based tools for greenhouse gas response and sustainability will assist countries in identifying best options.

Second, the IEA DSM Programme should look more closely at both national and international emissions trading and the role of energy efficiency and demand-side management in delivering greenhouse gas abatement at the lowest marginal cost. In the marketplace, energy efficiency and demand-side management will have to compete with other measures, such as a more greenhouse-friendly fuel mix, renewables and carbon offsets, including sequestering (absorbing carbon dioxide through tree planting for instance).

Although the future for energy efficiency and demand-side management ought to be bright in light of the draft Kyoto Protocol, these strategies will face significant obstacles as the world's electricity businesses reorganize in response to government reforms. In addition, they will have to compete with other, possibly more effective and cheaper, greenhouse response measures. Fortunately, programs, such as the IEA DSM Programme, are providing national and international solution-based approaches to overcome these types of obstacles. ■

Finnish Energy Efficiency Services Program Benefits Consumers and Utility

Finland's electricity prices may be among the lowest in Europe, but utilities are still interested in the energy efficient use of electricity. Under IEA DSM Task V, Investigation of Techniques for Implementation of Demand-Side Management Technology in the Marketplace, three Finnish utilities, Hämeen Sähkö, Savon Voima and Vatajankosken Sähkö Oy conducted pilot projects on energy efficiency services for residential customers. An essential element of each of these projects was to obtain a clear understanding of the utility industry's role in promoting customer DSM and energy efficiency services—as a public policy objective and/or as a business strategy.

The following interview with Mr. Simo Pikkusaari of Vatajankosken Sähkö Oy (VSO) is an example of the type of research conducted in Finland and in other countries participating in DSM Task V.

Project Overview

The VSO project studied customers' interest and willingness to save energy. To accomplish this goal, the utility developed a service chain to enhance the services offered to customers. Mr. Pikkusaari, remarks that VSO also hoped to improve the company's image as a competitive partner in the open electricity market as well as to develop and test new services for its residential customers.

VSO is a small Finnish distributing company with approximately 16,000 consumers. The company's total electricity demand is 200 GWh, of which 110 GWh is residential use. The target group for this project was residential customers in the service area, approximately 14,300 households. Thirty percent of these customers live in flats, describes Mr. Pikkusaari, and 70% live in single-family houses. Of these single-family houses, 20% are farms and 25% use electric heat.

Under this project, VSO offered residential customers three new levels of service:

1. Instant analysis of energy use. Customers could receive an immediate summary of their energy consumption. Based on a series of questions, typically taken over the telephone, a customer's energy consumption would be classified as 1) less than, 2) about the same and 3) more than, based on the average consumption of the consumer group. This analysis was free of charge.
2. Detailed analysis of energy use (referred to as the Electric Doctor). This computer-based analysis was based on more detailed and numerous questions. This analysis was also free of charge.
3. Onsite advising. There was a charge for this in-depth analysis.

Customers could also borrow from VSO small portable kWh meters to analyze the electricity consumption of individual devices.

Marketing the New Services

To ensure the success of the project, states Mr. Pikkusaari, VSO marketed the new services in a series of ways. The first event was in keeping with the annual tradition of hosting an "open doors" event (open access to VSO headquarters to give customers an opportunity to see first hand the activities of the utility). About 5% of the residential customers attended the 1995 kickoff event, and 320 households completed questionnaires on their energy consumption. The questionnaire results as well as suggestions on how to increase energy efficiency were later sent to the surveyed customers. VSO continued its marketing activities in 1996 and by the summer six more "open doors" events were held throughout VSO's service area.

In November 1996, a more focused marketing approach was undertaken, notes Mr. Pikkusaari. Letters were sent to 300 "heavy users," customers with a higher than average annual rate of energy consumption. This target group was divided into two groups based on when the letter would be sent—before the monthly bill or after the monthly bill. Customer responses were not really influenced by the timing of the mailing, 19 responses and 20 responses respec-



First “Class A” Dryer on the Market

tively. What did prove to be a successful marketing technique was to send the questionnaire with a return envelope instead of only informing customers of the service and requiring them to contact VSO.

Project Results

Mr. Pikkusaari remarks, that since the results of these new services could not be seen directly in the kWh-meter, VSO surveyed all the customers who received a detailed analysis of their energy consumption. Nearly 25 % of the surveyed customers responded and half of the respondents stated that they would change their electricity use behavior. He notes, however, that what seemed to be most important to the customers was simply learning that their level of energy use was average.

In summary, VSO customers have a positive attitude towards energy saving, but are not eager to make more of an effort to save electricity. The main reasons for this, remarks Mr. Pikkusaari, are most likely:

- The price of electricity is so low that it is difficult to benefit enough from energy saving efforts unless the customer is willing to invest in the renovation of his/her home.
- Over the past 15 years, VSO has taken the time to advise customers on electricity use and as a result customers are already using electricity sparingly.

Lessons Learned

- Although the economics of the project may be impossible to calculate in numerical terms, it can be stated that this project has strengthened the utility's reputation and experience as a service oriented company which should give the utility a competitive edge in the newly opened electricity market and improve customer retention.
- VSO should establish as close a relationship with its customers as possible.
 - Customers appreciated receiving concrete, individualized information on their energy consumption use.
 - Before changes in energy use occur, customer attitudes towards energy use must change.
- The main motivation for improving household energy efficiency was based on the savings and then environmental concerns.

In conclusion, VSO was very pleased, states Mr. Pikkusaari, with the results of the DSM Task V project, and will continue to market energy efficiency services as one option for customers to save energy. ■

More information on Task V can be obtained from the Operating Agent, Juan Comas, FECSA, e-mail: jcomas@fecsa.es. (See the IEA DSM website for address and fax.)

Task III's "IEA-DSM Dryer Promotion Competition" has selected a winner. The AEG clothes dryer was awarded the first EU Energy Class A Label making it the best dryer on the European market. This new machine uses a heat pump to achieve a 50% reduction in energy use compared to earlier models. Although the cost of the dryer is higher than others on the market at this time, the German manufacturer is considering large-scale production which will reduce the price considerably. An award ceremony and press conference is planned for April 1998 in the Netherlands. ■

More information on Task III can be obtained from the Operating Agent, Hans Westling, Promandat AB, e-mail: hans.westling@promandat.se. (See the IEA DSM website for address and fax.)

Publications

A variety of reports covering the ongoing work of IEA DSM Tasks have been produced. The following list highlights some of these reports. A complete list of Task reports, along with information on their availability, can be found on the IEA DSM web site.

<http://dsm.iea.org>

Task I

■ *DSM Program Summaries*

Ten programs will be available in one-page summaries: United States-Energy management hardware rebate program; Canada-Industrial power smart and employee involvement; Spain- DOMOLUZ program and air conditioners campaign; Denmark-Energy audits, industrial sector program and energy management in the public sector program; Netherlands-Low-flow showerhead program and E(nergy)team low income household program; Sweden-Procurement of electric water boilers for a residential area; Italy- Lampadina blu program; Germany-Pilot project P6; and Austria-Electric appliance exchange program.

■ *Lessons Learned by an International DSM Database*

This paper, presented at the 1997 DA/DSM conference in the Netherlands, gives an overview of the INDEEP database and the results and lessons learned to date.

■ *International DSM and DSM Programme Evaluation: An INDEEP Assessment*

This paper was published in "Energy" vol. 21, 1996.

For more information on Task I contact the Operating Agent, Harry Vreuls, NOVEM, e-mail: H.Vreuls@novem.nl or visit the DSM website.

Task III

■ *Co-operative Procurement, Market Acceptance for Innovative Energy-Efficient Technologies*

The second edition of this booklet explains the concepts of international procurement collaboration.

■ *The Challenge*

This brochure highlights the objectives of the Task and includes inserts on the market acceptance process and current competitions.

■ *Buyer Co-operation for More Efficient Solutions*

This paper was presented at the 1997 DA/DSM conference in the Netherlands.

For more information on Task III contact the Operating Agent, Hans Westling, Promandat AB, e-mail: hans.westling@promandat.se or visit the DSM website.

Task IV

■ *Recommendations for Implementing Improved Analytical Methods and Processes for Integrated Planning*

This report presents recommendations of procedures, methods and processes to integrate DSM options into resource planning.

■ *Guidelines for Transferring Methods and Processes for Integrated Planning*

This report outlines a generic approach for transferring planning methods and processes to electricity business environments.

■ *Preliminary Concepts for New Mechanisms*

Concepts for new mechanisms to promote DSM and energy efficiency in restructured electricity supply industries are identified in this report. The mechanisms presented are not DSM or energy efficiency programs, but

rather different means for assisting in the implementation of such programs.

■ *Inventory of Available Methods and Processes for Assessing the Benefits, Costs and Impacts of Demand-Side Options*

This three volume report is a survey of computer tools and the approach of integrated planning taken in different countries.

■ *Guidebook on Analytical Methods and Processes for Integrated Planning*

This report discusses how the approach to integrated planning varies between utility-market situations.

■ *Review of Existing Mechanisms for Promoting DSM and Energy Efficiency in New Electricity Business Environments*

This report documents and reviews mechanisms for promoting DSM and energy efficiency in the new electricity environments that result from unbundling traditional electricity utility functions and exposing some to competition.

For more information on Task IV visit the DSM website.

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