

DSM Spotlight

The Newsletter of the International Energy Agency Demand-Side Management Programme January 2002



EC Takes on Energy Demand Management

To ensure that the European Union could meet its Kyoto Protocol goal of a reduction in greenhouse gas emissions to 8% below 1990 levels by 2008-2012, the European Commission established the European Climate Change Programme (ECCP) in March 2000. The ECCP is taking a "twin-track" approach – EU-level policies and measures to cut greenhouse gas emissions and an emissions trading scheme – to achieve its objective of helping to identify the most environmentally and cost-effective measures to meet the Kyoto targets.

The work on developing policies and measures focuses on the energy, transport and industry sectors. Six expert working groups were created to focus on energy supply, energy consumption, transport, industry, research, and the Protocol's three mechanisms (emissions trading, Joint Implementation, and the Clean Development Mechanism). More than 40 possible measures were identified by the working groups based on the criteria of cost efficiency (cost less than 20 euros/ton of CO₂ equivalent), emission reduction potential, time horizon and political acceptability. The combined CO₂ emission reduction potential for these

measures is approximately 664-765 Mt CO₂ equivalent, which is twice the size of the EU's required emission reduction of 336 Mt CO₂ equivalent. Now what is needed is the political will to move forward.

The measures that the Commission intends to bring forward over the next 24 months are grouped in four areas: energy, transport, industry, and cross-cutting. For the IEA DSM Programme, those issues under energy are the most relevant and many pertain to the work done in this Programme. Specifically, the Commission proposed a Directive on Energy Demand Management to develop and encourage energy efficiency on the demand side, particularly that provided by utilities and energy service companies. Under this Directive, Member States will be required to set targets to promote and support energy demand management using efficient technology, and new services and programmes, especially for households and small/medium size businesses. The Directive also will establish a certain minimum level of investment for energy efficiency and demand management, primarily through business-driven activities. Member States will be required to support the development of a market for energy efficient technology and demand management services. These activities will be monitored by the Commission through annual reporting on the amount invested, the energy saved and, when possible, the cost-effectiveness of the investments. It is proposed that the Member States comply by 2006, which would lead to an estimated savings of 40-55 Mt CO₂ per year by 2010.

The IEA DSM Programme's work complements that of the ECCP. The participants in the IEA DSM Programme, many of which are EU countries, have collaborated for eight years to develop tools and deliver

COUNTRIES PARTICIPATING IN THE IEA DSM PROGRAMME

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

DSM PROGRAMME WORK

Current	Completed
Databases of DSM Programmes & Experiences	Methods for Integrated Resource Planning
Communication Technologies	Mechanisms for Promoting DSM
Market Transformation	Technology Procurement
Demand Side Bidding	Implementation of DSM Technology in the Marketplace
Role of Municipalities in Liberalized Systems	
Performance Contracting	

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X Performance Contracting

One mechanism used to promote the use of energy efficient equipment in buildings is energy service contracting or performance contracting. The successes of the performance contracting industry can be seen in Canada, the United States and some European countries.

To facilitate the greater use of performance contracts and other ESCO financial options and services, the IEA DSM Programme Task, *Performance Contracting*, started at the end of 2000.

Participating Countries

Finland
France
Italy
Japan
Netherlands
Norway
Sweden
United States

This Task is a business-to-business activity, therefore it is limited to the performance contracting agreements and other ESCO related financial options and services between client, businesses and all types of companies offering these services. In other words, it is "payment in relation to performance."

The success of an ESCO industry depends on energy sector regulations, contracting law, and an awareness by building owners of the benefits of performance contracting. To begin to better understand the mechanisms being used by the countries participating in the

Task, each country is has prepared a report on the establishment and activities of their performance contracting industry. In those countries with mature industries, information on model contracts, problems and barriers, case studies and market size also will be collected. The information gathered for these reports was obtained primarily through discussions with important service providers and building owners. In some cases, national reference groups and/or stakeholder meetings also were held.

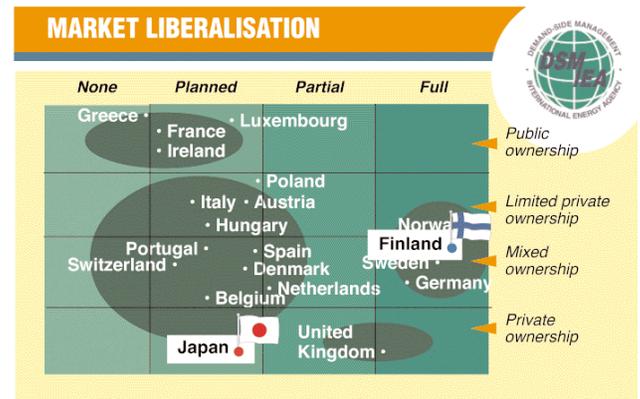
The country reports describe many different types of ESCOs that provide technology, energy, financing, and advisory services. Although the process that is used often differs by country, in most cases, the first step is an energy audit, preliminary analysis or feasibility study. The Operating Agent, Hans Westling, notes that "the main theme in the different country reports is 'payment in relation to performance,' which will be a very good start for the formulation of common principles."

Some of the most frequent services provided by performance contracts are the heating of public buildings, district heating, commercial lighting, industrial facilities management, the sale of heat from geothermal facilities, and the installation and

operation of solar collectors with guaranteed output. An example of a performance contract is for hospitals in the Piemonte Region of Italy. The process being used for the public procurement and the contract principles are being analyzed, including how the savings in energy cost is shared between the owner of the building and the contractor.

In addition to outlining how countries are using performance contracts, the reports also point out a series of barriers that need to be overcome before performance contracting can become the norm. Some of the barriers include a lack of information and understanding by the clients, a lack of public awareness, a lack of technical experts, a lack of capital, low energy prices, and some procurement rules which do not allow for a bidding system.

Market Liberalization Scheme of Countries



The countries noted by a flag compiled the data.

To further the work in this Task, the experts will involve specialists in legal issues, model contracts, financing and verification methods. Also, in connection with future Experts Meetings and Executive Committee Meetings representatives from other countries will be invited to Task seminars, for instance from countries in transition such as Hungary, Poland and the Czech Republic.

For more information contact the Task X Operating Agent, Hans Westling of Promandat AB, Sweden, e-mail: hans.westling@promandat.se (see the IEA DSM website for Task description and contact address).

Task II Promotional CD-ROM

The Task on Communications Technology for DSM has produced an informative overview CD-ROM on the importance of its work and the impact it can have on household energy consumption. This movie style CD-ROM clearly explains how the Task participants are working to develop ways to improve energy use and efficiency in homes using everyday appliances. The new technology that is described is the innovative FlexGate that opens two-way communication between households and energy suppliers.

To view the CD-ROM go to the DSM Programme's website and click on "video" on the Task II page.

Task IX Workshop on the Liberalization of Energy Markets in the U.K.

Experts from Task IX, *Municipalities and Energy Efficiency in a Liberalized System*, held a workshop on 6-7 December 2001 in the United Kingdom, which was hosted by the Milton Keynes Energy Agency and Milton Keynes Council. The workshop's objective was to better understand the impact of liberalization on British local authorities and

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solutions so that the DSM concept can be used under different regulatory regimes, including liberalized markets. As the new chairman of the DSM Programme, Hans Nilsson, notes, "the work carried out in the IEA DSM Programme, which has adapted to different regulatory regimes, will prove to be a very useful asset for the European Union and its members as they seek to fulfill their commitments." Mr. Nilsson also stated the IEA DSM Programme's current work is totally in line with the ambitions declared by the EC."

learn from their experiences. The experiences of the U.K. are important as about 60% of the electricity traded in Europe is traded in the U.K.

Presentations were made by various U.K. organisations that are working with local authorities, such as the Energy Savings Trust, the Association for the Conservation of Energy, and the Eastern Region government office as well as a number of local authorities that have actively responded to liberalization. Particular attention was paid to the procedures for funding energy efficiency activities and defining the new roles of local authorities.

Some of the issues that emerged from the discussions were:

■ It is essential to act as part of a consortium to be an energy purchaser in the liberalized market – this is a market where size equals bargaining power. The British have been able to adapt their cooperation procedures to make effective energy purchases while the local authorities in many other countries are not prepared for this and therefore need to plan carefully to ensure that efficiency and renewable energy considerations are taken into account.

■ There is a need for effectively funded programmes to promote energy efficiency in the residential and small business sectors, and the U.K. has been active in this area. Local authorities are seen as a reliable intermediary in this field who do not have vested interests. In general, their programmes actively involve other local interests while utility operated programmes have proven to be vague and often loyal to their own energy source.

■ A significant number of U.K. local authorities have staff who specialize in monitoring energy use in municipal buildings. The information retrieved is an essential first step to an in-house programme to reduce energy consumption and also an essential precursor before

going out to public tender. This has given local authorities a valuable resource to build upon.

■ There is a role for combined heat and power plants (CHP) that can be developed even in a liberalized market. If anything, district heating, generally very poorly developed in the U.K., has expanded in recent years. However, the recently revised electricity trading arrangements have discouraged small suppliers, including local authority CHP plants, from selling their surplus to the network.

A complete set of workshop notes will be available from the Operating Agent, Martin Cahn, e-mail: martin@tf.com.pl in early 2002.

New Website & Communication Strategy

To improve how the IEA DSM Programme disseminates information and Task results, a new communication strategy was endorsed at the October 2001 Executive Committee meeting. The four key areas of this strategy are to improve information dissemination tools (website, etc.), provide better support of the Programme's Tasks, reach the target audience better, and evaluate the Programme's impact. The most recent outcome of this strategy is a new Programme website and logo.

Have a look at the improved site, and let us know what you think.

<http://dsm.iea.org>



International Energy Agency Demand Side Management Programme
Energy Efficiency and Demand Side Management for global sustainable development and the better opportunities

In the interest of Energy Efficiency (EE), the International Energy Agency Demand Side Management Programme (DSM) wishes to share and promote opportunities for Demand Side Management (DSM), and also load management and energy conservation. The objective is to give the public the maximum information value in the energy system in respect for gas and electricity customers.

<http://dsm.iea.org>

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

2002 WORKSHOPS

Energy Efficiency Certificate Trading Workshop 17 April 2002 Milan, Italy

Certificate trading is a "new breed" of financial instruments designed to combine the 'guaranteed results' of regulation with the economic efficiency of market-based trading mechanisms. Several national schemes have been developed for the "greening" of the energy supply, and recently an Italian scheme on energy saving certifications was instituted. The Italian program is part of an overall decree to reduce the primary energy consumption for the production of electric energy. Energy saving bonuses will be granted to the company that carries out the measure, either the distribution company or the energy service company (ESCO). The bonuses, which can be freely traded, are to be based on the energy reductions obtained by consumers.

As this new policy approach may soon become an important market-based approach to DSM and energy service provision, the members of the IEA DSM Executive Committee are planning a workshop in April 2002. This workshop will focus, for the most part, on technical policy design

issues, with a pragmatic focus on assisting policy designers and administrators in their work.

The objectives of the workshop are:

- To understand the specific issues, challenges and opportunities associated with certificate trading as an instrument to promote energy efficiency and IEA DSM.
- To share learning between practitioners engaged in the development, administration or evaluation of such mechanisms.

The expected outcomes are:

- To widely disseminate the lessons learned to policy makers throughout the IEA and globally.
- To identify areas for new or reformulated Tasks within the DSM Programme.

Demand Side Bidding in Competitive Electricity Markets Workshop March 2002

The move towards competitive electricity markets has led to many changes in the way that electricity is traded. Demand side participation is often considered an important feature

in competitive electricity markets. For example, load reductions by consumers could reduce the reliance on fossil fuel generation for maintaining the quality of electricity supply or for balancing supply with demand.

As interest in Demand Side Bidding continues to increase, particularly from consumers, it is important to understand the technical and operational issues associated with an active demand side. For example, can the demand side be relied upon to provide support to the System Operator at times of system need, or do they simply pose a risk to system security. This, together with other key issues, will be discussed at a workshop being organized as part of DSM Task VIII, *Demand Side Bidding in a Competitive Electricity Market*.

The workshop will provide a forum for key individuals within the electricity sector to discuss the benefits, opportunities, experiences and any potential risks associated with demand side participation.

More information on these workshops can be found on the Programme website <http://dsm.iea.org>.

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 website at <http://dsm.iea.org>

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