

International Energy Agency

Implementing Agreement on **Demand-Side Management** Technologies and Programmes

2008 annual report



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2008 Annual Report

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Executive Secretary
IEA Demand-Side Management Programme

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Foreword

This report is the fifteenth Annual Report of the IEA Implementing Agreement on Demand-Side Management Technologies and Programmes, summarising the activities of the fifteenth year.

The report was published by the Executive Committee and was edited by the Executive Secretary, with contributions from the Chairman and the Operating Agents.

Stockholm, January 2009

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Overview of the IEA and the IEA Demand-Side Management Programme

The International Energy Agency

The International Energy Agency (IEA) acts as energy policy advisor for its 26 member countries in their effort to ensure reliable, affordable and clean energy for their citizens. Founded during the oil crisis of 1973–74, its initial role was to coordinate measures in times of oil supply emergencies. But during the last decades, the energy markets have changed, and so has the IEA. It now focuses well beyond oil crisis management on broader energy issues, including climate change policies, market reform, energy technology collaboration and outreach to the rest of the world. With a staff of around 150, mainly energy experts and statisticians from its 26 member countries, the IEA conducts a broad programme of energy research, data compilation, publications and public dissemination of the latest energy policy analysis and recommendations on good practices.

To support these core issues, the IEA created a contract – the Implementing Agreement – and a system of standard rules and regulations, that would allow interested Member and non-Member governments to pool resources and research the development and deployment of particular technologies. The basic aims of the IEA are:

- To maintain and improve systems for coping with oil supply disruptions.
- To promote rational energy policies in a global context through co-operative relations with non-member countries, industry and international organizations.
- To operate a permanent information system on the international oil market.
- To improve the world's energy supply and demand structure by developing alternative energy sources and increasing the efficiency of energy use.
- To assist in the integration of environmental and energy policies.

To achieve these goals, the IEA carries out a comprehensive program of energy co-operation and serves as an energy forum for its member countries.

For more than 30 years, technology collaboration has been a fundamental building block among IEA Member and non-Member countries in facilitating progress of new or improved energy technologies. There are currently 41 Implementing Agreements working in the areas of Fossil Fuels, Renewable Energies and Hydrogen, End-Use (Buildings, Industry and Transport), Fusion and Cross-Sectional Activities.

The IEA Committee on Energy Research and Technology (CERT) and its Working Parties review the effectiveness, achievements and strategy of each Implementing Agreement.

IEA Demand Side Management Programme

The Demand-Side Management (DSM) Programme, which was initiated in 1993, deals with a variety of strategies to reduce energy demand. The following 19 member countries and the European Commission have been working to identify and promote opportunities for DSM:

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

Programme Vision: In order to create more reliable and more sustainable energy systems and markets, demand side measures should be the first considered and actively incorporated into energy policies and business strategies.

Programme Mission: To deliver to our stakeholders useful information and effective guidance for crafting and implementing DSM policies and measures, as well as technologies and applications that facilitate energy system operations or needed market transformations.

The Programme's work is organised into two clusters:

- The load shape cluster.
- The load level cluster.

The "load shape" cluster includes Tasks that seek to impact the shape of the load curve over very short (minutes-hours-day) to longer (days-week-season) time periods. The "load level" cluster includes Tasks that seek to shift the load curve to lower demand levels or shift loads from one energy system to another.

A total of 21 projects or "Tasks" have been initiated since the beginning of the DSM Programme. The overall program is monitored by an Executive Committee consisting of representatives from each contracting party to the Implementing Agreement. The leadership and management of the individual Tasks are the responsibility of Operating Agents. These Tasks and their respective Operating Agents are:

Task I International Database on Demand-Side Management & Evaluation Guidebook on the Impact of DSM and EE for Kyoto's GHG Targets – *Completed*
Harry Vreuls, SenterNovem, the Netherlands

Task II Communications Technologies for Demand-Side Management – *Completed*
Richard Formby, EA Technology, United Kingdom

Task III Co-operative Procurement of Innovative Technologies for Demand-Side Management – *Completed*
Hans Westling, Promandat AB, Sweden

Task IV Development of Improved Methods for Integrating Demand-Side Management into Resource Planning – *Completed*
Grayson Heffner, EPRI, United States

Task V Techniques for Implementation of Demand-Side Management Technology in the Marketplace – *Completed*

Juan Comas, FECSA, Spain

Task VI DSM and Energy Efficiency in Changing Electricity Business Environments – *Completed*

David Crossley, Energy Futures, Australia Pty. Ltd., Australia

Task VII International Collaboration on Market Transformation – *Completed*

Verney Ryan, BRE, United Kingdom

Task VIII Demand-Side Bidding in a Competitive Electricity Market – *Completed*

Linda Hull, EA Technology Ltd, United Kingdom

Task IX The Role of Municipalities in a Liberalised System – *Completed*

Martin Cahn, Energie Cites, France

Task X Performance Contracting – *Completed*

Hans Westling, Promandat AB, Sweden

Task XI Time of Use Pricing and Energy Use for Demand Management Delivery – *Completed*

Richard Formby, EA Technology Ltd, United Kingdom

Task XII Energy Standards

Under development

Task XIII Demand Response Resources – *Completed*

Ross Malme, RETX, United States

Task XIV Market Mechanisms for White Certificates Trading – *Completed*

Antonio Capozza, CESI, Italy

Task XV Network-Driven DSM – *Completed*

David Crossley, Energy Futures Australia Pty. Ltd, Australia

Task XVI Competitive Energy Services, Jan W. Bleyl, Graz Energy Agency, Austria and Seppo Silvonen, MOTIVA, Finland.

Task XVII – Integration of DSM, Energy Efficiency, Distributed Generation and Renewable Energy Sources. Seppo Kärkkäinen, VTT, Finland

Task XVIII – Demand Side Management and Climate Change

David Crossley, Energy Futures Australia Pty. Ltd, Australia

Task XIX – Micro Demand Response and Energy Saving

Linda Hull, Barry Watson, John Baker, EA Technology Ltd., United Kingdom

Task XX – Branding of Energy Efficiency

Balawant Joshi, ABPS Infrastructure Private Limited, India

Task XXI – Standardisation of Energy Saving Calculations

Harry Vreuls, SenterNovem, the Netherlands

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Also, visit the IEA DSM website: www.ieadsm.org

CHAPTER I

Chairman's Report

DSM spells large scale-deployment

Much of the technology that is needed for effective abatement of Greenhouse gases exists. The problem is that it is not sufficiently disseminated to the market. There is an urgent need to scale up deployment by use of energy efficiency programmes. Demand Side Management, DSM, is facing a revival as a concept to organise such deployment. The basic concept remains but needs to be adapted to local and regional conditions. Not the least the conditions for market organisation. The IEA DSM-Programme has new work, both completed and under way, that meets most applications.

DSM formats

DSM is applied differently throughout the world. DSM-programmes can be run by government agencies or by utilities as change agents.

Market organisation ranges from vertically integrated monopolies to more or less competitive energy supply with remaining "natural monopolies" for energy distribution. Regulatory regimes are more or less strict. Regardless of the market framework governments still have a role in setting the rules and make use of utilities to reach out to the smaller customers with offers to make better use of the energy purchased.

The role of the energy companies

The energy supply chain may be divided into many functions such as generator, transmitter, system organiser, distributor and supplier. In some countries these are run in one integrated company and in others they are split up and fragmented. While there is a natural incentive to maximise production and sales, the network/grid companies may have some incentives to limit bottlenecks in their parts of the system (e.g. at time of peak load). These business interests do not always align with the general societal wish to reduce energy consumption.

The attitude of each of the system parts to energy efficiency as a business opportunity could be pictured as follows.

Actor	Business interest in Energy Efficiency	
	Peak Load (Power)	Load Level (Energy)
Generation company	No (prices are set on the margin)	No (loss of sales)
System and/or market operator	Yes (to avoid systems break-down)	Possibly regional and in special situations (to avoid bottlenecks and to allow systems to develop as planned)
Transmission and Distribution	Yes (to maintain systems and avoid bottlenecks)	
Energy supplier	Sometimes (as a business opportunity to shift loads and operate in pools)	Sometimes (but primarily as a marketing instrument)

Delivering DSM

Arguments have been made that the majority of the potential for energy efficiency can be released if implementation responsibilities are given to proper actors and the framework is arranged accordingly.¹ It is said that the focus should be on natural rather than artificial frameworks.

An *artificial framework* is characterised by the need to compensate losers, typically energy utilities that are losing profit from selling less energy, thereby incentivizing their participation. It will be very difficult to sustain such a framework. A *natural framework* uses the winners, such as manufacturers of efficient equipment and Energy Performance Contractors, as actors, but acknowledges the use of funding organisations as catalysts for the process. In both cases there is a need for “additional mechanisms” (training, branding) and “programmes” (labelling, rebates, loans) as instruments to support the frameworks.

DSM-concept		Change agent role	Example	
			Place	#
Classic (addressing utilities as they are)	Monopolised markets	Deliver products and services	Paradip Port (India)	A
	Customer aggregation	Fundraising	Public Benefit Charges (USA)	B
	Liberalised markets	Mandate utilities to achieve a set level of energy efficiency	White Certificates (Italy, some Australian states) and EE Commitment (UK)	C
Incentivising utilities to deliver energy efficiency		Decouple profit from sales volume	California Investor-owned Utilities	D
Energy Efficiency Power Station		Aggregate energy efficiency projects to the scale of a virtual power plant	Jiangsu, Shanghai and Guangdong (China) Efficiency Vermont	E
Government Deployment schemes		Aggregation of purchasing power	FEMP (USA), Technology procurement (Sweden)	F

Paradip Port (A)

The objective of the Paradip Port Substitution of Cooking Fuel Project was to reduce system peak demand by introducing LPG as a domestic cooking fuel through replacing electric stoves used by almost 90% of the 3,592 households. Because electric stoves were the largest contributors to the peak demand, replacing these with LPG cooking stoves would result in considerable electricity and cost savings. The replacement package offered included both stoves and LPG cylinders. A total of 2,874 electric cooking stoves were replaced with LPG stoves. The morning peak was reduced by 2.3 MW and the evening peak by 3.2 MW. The project resulted in ongoing annual savings of INR15 million.²

¹ [Didden and D'haeseleer] Demand Side Management in a competitive European market: Who should be responsible for its implementation?. Energy Policy 31 (2003) 1307–1314.

² http://www.ieadsm.org/Files/Tasks/Task%20XV%20-%20Network%20Driven%20DSM/Publications/IEADSMTaskXVResearchReport2_Secondedition.pdf

The following incentives to move from electric stoves to LPG stoves were provided:

- 100% subsidy on purchase and installation of an LPG stove.
- 100% reimbursement of the cost of the LPG cylinder.
- Reduction in the flat rate electricity tariff by 40% up to a level.

Public Benefit Charges (B)

Several countries have tried systems to make the utility-business fund either regular operations such as deployment of equipment, information-campaigns or research. In the U.S. several states use “public benefit charges”, which is a certain amount put on the tariffs.³ These charges are then funnelled via state bodies or special agencies for the activities. One of the older and more established is NYSERDA, the New York State Energy Research and Development Agency, which is financed with 175 million USD per year by use of a surcharge of 0.173 UScents/kWh (1.73 mills/kWh). A sum that is financing R&D, Energy Efficiency and Low-Income Programmes (LI).⁴

This funding mechanism has been used also in Norway in the 1990s to finance Regional Energy Efficiency Centres, but has since then been abandoned.⁵ In UK a similar mechanism was used to set up the Energy Saving Trust (EST), “a pound per customer”.

Certificates and Commitments (C)

These instruments attempt to make use of the utilities’ well developed infrastructure with direct customer relations in order to get a wider deployment of efficient end-use technologies. The most well known cases are the Italian system with tradable certificates and the British with “Efficiency Commitments”. These two have also targeted different market actors, i.e. the Italian white certificates give the responsibility to the distribution companies and the UK commitments to the energy suppliers.⁶

The Italian system aims at mobilising the “natural actors” such as ESCO’s for the job and therefore tends to make the utilities responsible for the financing rather than the result. In the U.S. there are also systems to the same end in the Energy Efficiency Resource Standards which is rapidly spreading across the country.^{7,8} Several Australian states are mandating energy retailers to achieve set levels of energy efficiency, with or without tradable certificates to mobilise ESCOs and other market intermediaries to implement energy efficiency projects.

³ <http://www.aceee.org/pubs/u002.htm>

⁴ <http://www.aceee.org/briefs/tbl5.pdf>

⁵ Public Purpose Energy Efficiency Programs and Utilities in Restructured Markets. The Electricity Journal, Volume 9, Issue 6, July 1996.

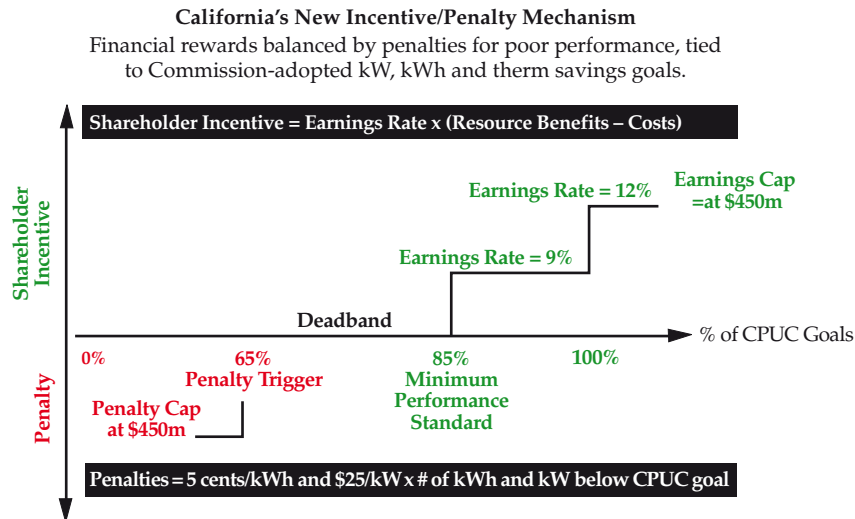
⁶ <http://www.ieadsm.org/Files/Tasks/Task%20XIV%20-%20Market%20Mechanisms%20for%20White%20Certificates%20Trading/Final%20Report/Task%20XIV%20Final%20Report.pdf>

⁷ <http://www.aceee.org/pubs/e063.pdf>

⁸ <http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-eeeps.pdf>

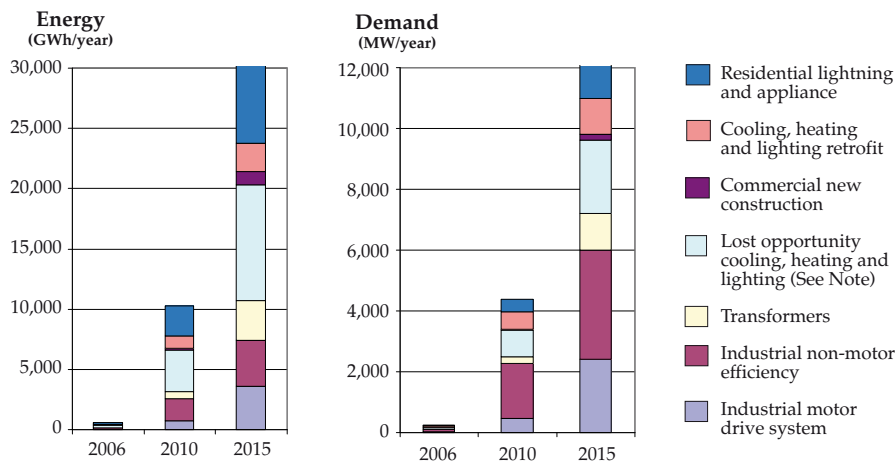
Decouple profit from sales volume (D)

In California, USA, the state regulator has taken it a step further by creating an incentivising bonus mechanism for the utilities and a penalty for underperforming. The regulators create benchmarks and baselines or to establish acceptable performance of eligible equipment.⁹ California has sugared the deal further with an incentivising bonus mechanism for the utilities and in consequence a penalty for underperforming.



Energy Efficiency Power Station (E)

The concept is to bundle several measures that have an impact on both energy use and demand for power and aggregate them in a way that makes them comparable to energy supply.¹⁰ There are a few tests with this in China and development of monitoring and software system is ongoing. In the United States, the electricity industry regulator in Vermont has encouraged the establishment of Efficiency Vermont, funded with money from the electricity industry, to implement and aggregate energy efficiency programs throughout the State as an alternative to building more power stations¹¹.



⁹ http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/73172.htm

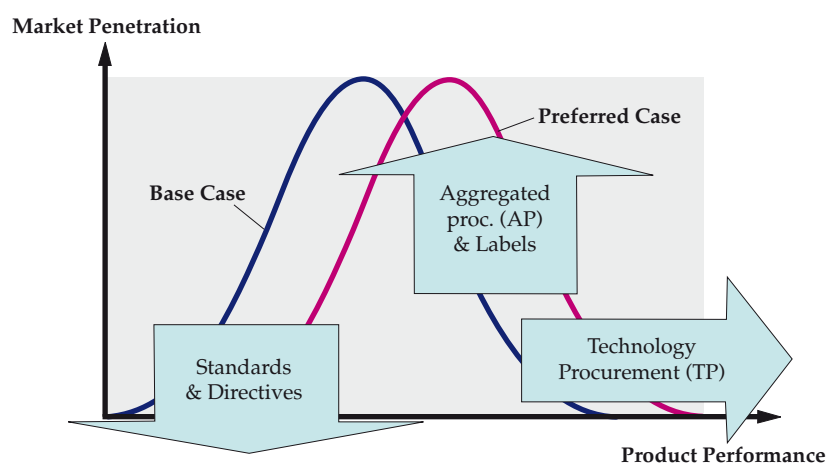
¹⁰ www.export.gov/china/trade_events/EE_Presentation2B_Finamore.ppt

¹¹ <http://www.energysavings.com/>

Aggregation of purchasing power (F)

The US Federal Energy Management Programme (FEMP) is the most well-known example of how the public sector acts as the motor for the desired market transformation.¹² Chartered in 1973, FEMP helps government agencies find innovative solutions to their most difficult energy challenges and address their full range of energy management responsibilities. FEMP is sometimes characterised as the organisation that serves the US government by managing the presidential order to buy from the best quartile of the market: "... agencies shall select products that are in the upper 25 percent of energy efficiency as designated by FEMP".¹³

The Swedish experiences with Technology Procurement is another experience that shows that not only market focus can be shifted to raise the use of good solutions, best available technology (BAT), but also the technology frontier to develop BAT+.¹⁴



DSM is adaptive

As can be seen from this brief overview the basic philosophy of Demand Side Management, as a way to change the load shape and the load level in an energy system, can be adapted to the relevant circumstances. DSM therefore is a powerful tool to stage large scale deployment of the technology that is needed to improve both the economics and the environmental performance of the energy system.

¹² <http://www1.eere.energy.gov/femp/index.html>

¹³ EXECUTIVE ORDER 13123. GREENING THE GOVERNMENT THROUGH EFFICIENT ENERGY MANAGEMENT. <http://ceq.hss.doe.gov/nepa/regs/eos/eo13123.html>

¹⁴ http://fourfact.com/images/uploads/Experiences_with_Technology_Procurements.pdf

Highlights

Two Tasks completed work in 2008. Highlights are presented below and additional details can be found in Chapter II:

Task XV: Network-Driven DSM

This Task was officially completed in May 2007. However, in early 2007, India, New Zealand and South Africa, who were intending to join the DSM Programme as new members, indicated an interest in Task XV. Consequently, in April 2007, an extension to Task XV was approved. The extension comprises an additional Subtask (6) to investigate the role of load control and smart metering in achieving network-related objectives. The Task XV extension was completed in October 2008.

Among the key accomplishments in 2008:

- The Case Studies Database was updated with 19 additional case studies.
- The Load Management Technology Database was updated with 6 additional detailed descriptions of load control and metering technology products.
- Subtask 6: “Role of Load Control and Smart Metering in Achieving Network-related Objectives” was completed.
- Research Report No 5: The Role of Advanced Metering and Load Control in Supporting Electricity Networks was completed and approved for public release.
- Second Editions of Task XV Reports No: 1–4 were completed.

While Task XV is completed, the Executive Committee has approved additional funding from the Common Fund to carry out updating of the Task XV databases. The purpose of the additional funding is to maintain the value of the databases as authoritative sources of information about network-driven DSM. The funding will be used to:

- Add more case studies of network-driven DSM projects as new projects are implemented.
- Update existing case studies as implemented projects gain further performance data.
- Add more descriptions of load management and metering technology products as new products are developed.

Task XVII: Integration of Demand Side Management, Energy Efficiency, Distributed Generation and Renewable Energy Sources

Task XVII started in September 2007 and the first phase of the Task was completed in October 2008. The Task will present a work plan for an extension (phase two) during the Spring of 2009.

The main objectives of the Task are to study how to achieve the optimal integration of flexible demand (demand response, demand side management) with distributed generation, energy storage and smart grids. The aim is to increase the value of demand response, demand side management and distributed generation and decrease problems caused by intermittent distributed generation (mainly based on renewable energy systems) in the physical electricity systems and in the electricity market. The Task deals with integration aspects both at local (distribution network and customer) level and at a transmission system level where large wind farms are connected.

Key accomplishments during 2008 were:

- Task experts have produced three kinds of documents: (1) a questionnaire dealing with market, policy and resource questions related to DER; (2) country description documents from each country as an annex to the state of the art report; and (3) descriptions of national case studies/pilots/research projects.
- The Operating Agent has: (1) produced several drafts of the state of the art report; (2) collected case studies from other countries not participating in the Task; and (3) has organised expert meetings and workshops with local experts and documented the results.

The Final Synthesis Report has been approved and is publicly available on the IEA DSM website, under key publications.

Achievements

The major accomplishments of the Tasks that were ongoing in 2008 are summarised below. Additional details can be found in Chapter II:

Task XVI : Competitive Energy Services

Task XVI started in July 2006. In order to contribute to the market development of innovative and competitive energy services the objectives of the Task are:

- To initiate and support country specific activities for developing the market for competitive energy services (with a focus on individually selected market segments).
- To initiate and establish an IEA DSM Energy Services Expert Platform.
- To design, elaborate and test innovative energy services and financing models (published as manuals or publications).
- To position the expert platform as a competence centre for energy services for international dissemination and assistance services (e.g. coaching, training courses, publications).

Key accomplishments in 2008 include:

- Successful completion of the midterm evaluation.
- Two energy service expert platform meetings were held in New Delhi and Brussels.
- Energy service expert platform dissemination workshops were held in New Delhi and Brussels.
- The Think Tank accomplished work on the following topics: (1) integration of demand side measures in energy supply contracting models; (2) public procurement of ESCo services; and (3) the publication of a financing manual.
- National Implementation activities were carried out according to the individual plans of country experts and activities were reported and reviewed at the platform meetings.
- Presentations at various national and international events have been made.

Task XVIII: DSM and Climate Change

This Task was initially approved in October 2007, and declared in force in March 2008. Task work started in October 2008.

On a global basis, electricity production is estimated to contribute about 25% of the human-induced increase in greenhouse gas emissions. However, the IEA DSM Programme has not so far carried out any work on possible interactions between electricity DSM and GHG emissions.

Currently, DSM and emission mitigation measures are usually implemented quite independently. DSM measures are implemented primarily to assist and improve the operation of electricity systems. Any impacts (positive or negative) of DSM measures on climate change are very much a minor consideration, if they are considered at all. Efforts to mitigate GHG from electricity production have focussed on improving the efficiency of both electricity generation and end-use. However, emission mitigation measures focussed on increasing end-use efficiency, have usually not considered any benefits to the electricity system (e.g. peak load reduction) that might be gained through implementing the measures.

The overall aim of the Task will be to reconcile these two different approaches so as to identify areas and circumstances in which DSM can contribute to mitigating GHG emissions and emission mitigation measures can achieve benefits for electricity systems. The Task will then determine what is required to maximise the emissions reductions and electricity system benefits from these two types of measures.

Participation in the Task will enable countries and organisations to:

- Understand the interactions between DSM and climate change.
- Develop methodologies for assessing the GHG emissions reductions available from specific DSM measures.
- Gain information about using DSM programmes to mitigate GHG emissions and about using GHG emissions mitigation programmes to deliver benefits to electricity systems.
- Identify opportunities for funding DSM programmes with revenue from GHG emissions trading schemes.
- Explore whether use time of use pricing can be used to achieve mitigation of GHG emissions.
- Gather the information necessary to launch and participate in deployment programmes for demand-side technologies.

Work in preparation

Task XIX: Demand Side Management – Micro Demand Response & Energy Saving

A Task Definition meeting was held in January 2008 and the Task is expected to start in January 2009. The Task is open for participation. The Task will:

Investigate the implementation of TOU pricing, remote/automatic demand switching and energy use monitoring to define specific Demand Response and Energy Saving products. The Task will identify how these products can be delivered into the residen-

tial and SME sectors on a commercial basis, with a focus on the business case from the perspective of Energy Saving Service Providers and Demand Aggregators. Funding mechanisms and the provision of information and control(s) infrastructure will be studied and evaluated. The potential for Demand Response measures to contribute towards Supplier targets for energy savings and/or be viable for inclusion within White Certificate or Energy Saving Certificate trading schemes is an important consideration and will also be evaluated.

Task objectives are to:

- Define DR and Energy Saving products to meet System Operator, Supplier, Government and Customer requirements.
- Identify, develop and define packages of DR and energy saving service products for residential and SME customers, based on EUMF, TOU pricing and demand control to meet the above requirements.
- Develop mechanisms to deliver DR and energy saving service products;
- Evaluate how ESSP/DAG businesses can provide DR and energy saving service products for residential and SME customers.
- Develop ESSP/DAG routes to market for residential and SME customers.
- Make an overall assessment of common ground and technologies to be shared with smart metering infrastructure.
- Estimate incremental costs of implementation of product delivery systems.
- Quantify the business case for the provision of DR and Energy Saving products.

Expected results include:

- Improved understanding of the advantages and disadvantages of TOU pricing, demand response and demand disaggregation and feedback for residential and SME consumers.
- Review of technology available for offering TOU pricing, demand disaggregation and demand response.
- Evaluation of the value of TOU pricing, disaggregation and demand response to consumers.
- Information which could be used to form the basis for the development of national policies to encourage TOU metering, pricing and demand disaggregation.
- The TOU metering or profile requirements to enable Demand Response to be appropriately validated.
- Knowledge of the infrastructure requirements for delivering Demand Response and Energy Savings.
- Recognition of the potential role the demand side can play in energy markets through the application of successful Demand Response programs and mechanisms.
- Appreciation of the contribution that Dynamic Demand Response could provide towards improving the utilisation of variable generation.

Task XX – Branding of Energy Efficiency Services

At the 31st Executive Committee meeting held in April 2008, Task XX – Branding of Energy Efficiency was put into force. The Task is expected to start in January 2009. The Task is open for participation. The primary motivation for undertaking a Task on this topic is to:

“Develop a cogent and comprehensive framework for promotion of branding of energy efficiency in electricity markets at different levels of maturity”.

The Task will:

- Identify knowledge and attitude of private households in developing electricity markets.
- Identify best practices in definition of suppliers of energy efficiency products and services.
- Identify the potential for energy efficiency products and services in other energy consuming sectors such as agricultural, industrial & commercial, etc.
- Identify the potential for a programmatic approach towards energy efficiency.
- Identify the barriers to branding of energy efficiency.

Work will focus on three levels of branding: (1) products/services and suppliers; (2) consumers; and (3) strategies.

Expected results will include:

- Analysis of energy efficiency products and important aspects of the energy efficiency value chain.
- Knowledge of possible products and services most suitable for branding based on the market segment from the consumers’ perspective.
- Understanding of the relationship between energy efficiency products pricing and maturity of the electricity market and also between electricity price and energy efficiency pricing.
- Branding strategies deployed by the products and services similar in nature to energy efficiency based on the research carried out in the various participating countries.
- Access to information about best practices in branding of energy efficiency in four aspects (products, services, programs and companies).
- Regular briefings on dealing with branding strategies and sharing international perspectives.

Task XXI – Standardisation of Energy Savings Calculations

At its meeting in October 2008, the IEA DSM Programme Executive Committee approved the initiation of Task XXI: Standardisation of Energy Savings Calculations. The Task is currently being established and is open for participation.

The overall aim of Task XXI is to identify basic concepts, calculation rules and systems for Energy Savings Calculations (ESC) standards. Additionally a methodology will be developed to nominate and describe the several Demand Response products. Within this framework of basic concept and calculation rules, the relationship to reduction of the environmental impacts in greenhouse gas emissions from energy savings will also

be incorporated. The Task will also explore how and by what type of organisations these standards could be used and improved to increase international comparable evaluation of policies and measures.

The objectives for the Task are:

- To identify national and regional existing energy saving calculation (ESC) standards and standards under development and most important reports for use in developing ESC standards.
- To identify what basic concepts, calculation rules and systems are in use in these ESC standards.
- To develop within the framework of basic concepts a methodology to nominate and describe the several Demand Response products.
- To identify how and why these standards are or will be used in reporting on energy efficiency improvements, energy savings and impact evaluations for policies and measures including estimating and reporting greenhouse gas emissions.
- To identify what organisations could be responsible for the maintenance and future development of these standards and conditions to do such a work.
- To explore to what extent the basic concepts, calculation rules and systems could be organised in such a way that (inter)national organisation can use these to improve international comparison (ahead of implementation of new standards).
- To explore how these standards can be used in national saving calculation.

Advanced Lighting

Lighting programmes have been a focus for DSM activities for a long time. In climate related work and in work related to rural electrification in the third world, it has been observed that the DSM-programmes for lighting could serve as models both for new work on lighting and for dissemination of other technologies. Work continues to identify an appropriate Task on Advanced Lighting.

Visibility

Maintaining and increasing visibility of the Programme among its key audiences continues to be a major activity of the Executive Committee. The principal tools available at present are the website, the Annual Report, the Spotlight Newsletter, the Programme Brochure and Task flyers.

The Annual Report for 2007 was produced and distributed to approximately 350 recipients in January 2008. It pulled together in one substantial document overviews of the Programme's activities and details on each of the individual Tasks.

Beginning in 2004, the Spotlight Newsletter was produced in electronic format only, designed as a printable newsletter. It is distributed by e-mail to a wide list of contacts. Executive Committee members forward the newsletter to those national contacts who used to receive the printed version or they print and distribute hard copies. One issue was produced in 2008 which included articles on:

- Calculating the Greenhouse Impact of DSM Measures.
- Energy Efficiency Needs to be Commoditised.
- Standardisation of Energy Savings Calculations.
- Task XX – Branding of Energy Efficiency.
- Task XIX – Micro Demand Response and Energy Saving.

At the start of a new Task, a flyer is produced to stimulate interest in participating in the Task. When the work is completed, a flyer is produced highlighting the results and directing the reader to the Task products.

The website (www.ieadsm.org) continues to serve as a vital window on the Programme's activities. Analysis of visits to the site shows a worldwide readership. In 2006 a complete new layout of the DSM website was put in place. During 2007 and 2008, additional developments have been made to the website and further improvements on the content have been made. The website has a "shop front" in which the Programme's principal outputs can be displayed in a manner relevant to non-participants.

Participation in the IEA DSM Programme as of December 2008

Country	Task I		Task II	Task III	Task IV	Task V	Task VI	Task VII	Task VIII	Task IX	Task X	Task XI	Task XIII	Task XIV	Task XV	Task XVI	Task XVII	Task XVIII	Task XIX	Task XX	Task XXI
	Indeep sub. 8	subt. 9	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.	compl.
Australia			*	*			*						*		*			*			
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European Commission				*		*	*		*					*							
Finland			*	*		*	*	*	*		*	*	*			◆	*		*	*	*
France	*	*	*	*		*	*		*	*		*		*	*				*	*	*
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United States	*		*	*							*		*		*				*	*	*
World Bank/ Tanzania						*															

■ Completed Tasks

◆ Co-operating Agent and participating country

* Withdrawn

■ Operating Agent and participating country

* Participating country

Benefits of participation

- **Enables complex and/or expensive projects to be undertaken.** Many countries do not have the expertise or resources to undertake every desirable research project. A collaborative project enables the strength and contribution of many countries to undertake collectively what individually would be prohibitive.
- **Enhances national R & D programmes.** National researchers involved in international projects are exposed to a multiplicity of ideas and approaches.
- **Promotes standardization.** Collaborative work encourages the use of standard terminology, notation, units of measurement, while also encouraging the portability of computer programs, and common methodology, procedures and reporting formats make interpretation and comparison easier.
- **Accelerates the pace of technology development.** Interaction among project participants allows cross-fertilization of new ideas, helping to spread innovative developments rapidly, while increasing the range of technologies and approaches employed.
- **Promotes international understanding.** Collaboration promotes international goodwill, and helps participants broaden their views beyond their national perspective.

The IEA DSM Programme provides an international platform of work. This is the only international organization that addresses management of energy on the demand side of the meter in a collaborative manner.

Reflects latest trends and issues

New areas of work are continually added to the Programme's scope to address changes in the energy market.

Enables complex and/or expensive projects to be undertaken

Collaborative projects allow countries to undertake projects that otherwise would be prohibitive due to lack of expertise and/or resources.

Saves time and money

Countries fund a portion of the international team's work, but have access to all project results.

Creates important networks

Specialists active in Demand Side Management, Demand Response, and Energy Efficiency, have the opportunity to work with other key experts from around the world.

Increases the size of the technology database

Collaboration among multiple countries creates a pool of information much larger than a single country could assemble by itself.

Permits national specialization

Countries can focus on particular aspects of a technology's development or deployment while maintaining access to the entire project's information.

Promotes standardization

Encourages the use and diffusion of standard terminology, notations, units of measurement, methodologies, and procedures and reporting formats to make interpretation and comparison easier.

To learn more

Visit the IEA DSM Programme web site www.ieadsm.org, to view:

- Project publications – handbooks, guidelines, technical reports and data bases.
- IEA DSM newsletter, Spotlight.
- IEA DSM Annual Report.
- Contact information.
- Conferences, workshops and symposia.

Streamlined Steps for Joining the IEA DSM Implementing Agreement

If you are from a country that is a member of the IEA or that is currently participating in an Implementing Agreement, take these three steps and you can join the IEA DSM Programme:

1. **Talk to Us**
2. **Meet with Us**
3. **Write to Us**

And You Are In!! Details below:

Interested Country	IEA DSM Programme
1. Talk to Us – Your country expresses interest in joining the Implementing Agreement by contacting an Operating Agent, the Chairman or the Executive Secretary.	The Executive Committee promptly provides information on activities, participation obligations, benefits and the process to join the Programme. The Executive Committee also invites country to attend Executive Committee meetings and Task meetings of interest.
2. Meet with Us – Your country attends Executive Committee meetings and Task meetings as an Observer.	
3. Write to Us – If your country is interested in joining the DSM Programme, your country's Minister sends a letter to the IEA Executive Director identifying the contracting party, who will sign the Implementing Agreement, the Executive Committee member from that country, and the Task or Tasks that country will participate in.	Immediately upon receiving a copy of that letter, the IEA DSM Programme will consider your country to be a participating country.

If your country is not a member country of the IEA or not participating in an IEA Programme, after Step 1 the Executive Committee will forward your country's expression of interest in joining the DSM Programme to the IEA Secretariat for consideration and approval. Once that approval has been received, the IEA DSM Executive Committee will vote to invite that country to join the Implementing Agreement. If favourable, the Executive Committee will invite your country to the next Executive Committee meeting, leaving Step 3 to complete the process to join.

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Acknowledgements

The efforts of the following people continue to be essential to the Programme's success. The Operating Agents who are identified in Chapter III, the Executive Secretary, Anne Bengtson, the Newsletter Editor, Pam Murphy, and the Webmaster, Solstice Associates Limited.

CHAPTER II**Task XV: Network Driven DSM**

Operating Agent: Dr David J Crossley, Energy Futures Australia Pty Ltd

Objectives of the Task**Why Network-Driven DSM?**

‘Network-driven’ demand-side management (DSM) aims to reduce demand on the electricity network in specific ways which maintain system reliability in the immediate term and over the longer term defer the need for network augmentation.

Network problems are becoming significant in countries where electricity demand is increasing and network infrastructure (‘poles and wires’) is ageing. As loads grow and infrastructure reaches the end of its economic life, the potential cost of augmenting networks is increasing exponentially. In many situations, DSM can delay the need for network augmentation. In certain limited situations, DSM may even be able to cost-effectively eliminate the requirement to build a ‘poles and wires’ solution.

While network-driven DSM can also lead to lower prices in a wholesale electricity market, increased energy efficiency and/or reduced greenhouse gas emissions, these are not the major objectives of this type of DSM. The two prime objectives for network-driven DSM are:

- To relieve constraints on distribution and/or transmission networks at lower costs than building ‘poles and wires’ solutions; and/or
- To provide services for electricity network system operators, achieving peak load reductions with various response times for network operational support.

Task XV identified and developed a wide range of DSM measures which can be used to relieve network constraints, whether these constraints are time-related (e.g. occurring at times of the network system peak) or location-related (e.g. associated with particular lines or substations) or both. All types of constraint were addressed, including capacity limitations, voltage fluctuations, reliability issues, etc. Such network-driven DSM measures are often more cost-effective, and may also have lower environmental impacts, than network augmentation (i.e. building ‘poles and wires’).

In addition to relieving network constraints, DSM can also provide services for electricity network system operators, achieving peak load reductions with various response times for network operational support. Task XV also covered DSM measures which provide network operational services.

Network-driven DSM measures include:

- Direct load control.
- Distributed generation, including standby generation and cogeneration.
- Demand response.
- Energy efficiency.

- Fuel substitution.
- Interruptible loads.
- Integrated DSM projects.
- Load shifting.
- Smart metering.
- Power factor correction.
- Pricing initiatives, including time of use and demand-based tariffs.

Benefits to Participants

Participating in Task XV enabled countries and organisations to:

- Understand the advantages and disadvantages of network-driven DSM measures as alternatives to network augmentation and for providing network operational services.
- Gain information about network-driven DSM measures currently in use in other countries and about the relative effectiveness of these measures.
- Understand the factors which lead to a network-driven DSM measure being effective.
- Participate in further developing the identified DSM measures so that they will be successful in achieving network-related objectives.
- Identify modifications which can be made to existing network planning processes to incorporate network-driven DSM measures as alternatives to network augmentation.
- Understand the interaction between network-driven DSM and the operation of competitive electricity markets.
- Participate in developing business models, rules and procedures to achieve the successful implementation of network-DSM measures under different electricity market structures and regulatory regimes.
- Understand how load control and smart metering can be used to defer network augmentation and to provide network operational services.

Work Plan

The original Work Plan for Task XV, as approved at the Executive Committee meetings in October 2004, comprised five Subtasks. Subtask 6 was added in April 2007 following the approval of the Task XV extension.

- Subtask 1: Worldwide Survey of Network-Driven DSM Projects.
- Subtask 2: Assessment and Development of Network-Driven DSM Measures.
- Subtask 3: Incorporation of DSM Measures into Network Planning.
- Subtask 4: Evaluation and Acquisition of Network-Driven DSM Resources.
- Subtask 5: Communication of Information About Network-Driven DSM.
- Subtask 6: Role of Load Control and Smart Metering in Achieving Network-related Objectives.

Subtask 1: Worldwide Survey of Network-Driven DSM Projects

Subtask Objective

To identify a wide range of DSM measures which can be used to relieve electricity network constraints and/or provide network operational services.

Subtask Deliverable

A report listing and summarising network-driven DSM projects implemented around the world.

Subtask 2: Assessment and Development of Network-Driven DSM Measures

Subtask Objective

To further develop the identified network-driven DSM measures so that they will be successful in cost effectively achieving network-related objectives.

Subtask Deliverable

A report listing and summarising successful network-driven DSM measures and the specific network problems they address.

Subtask 3: Incorporation of DSM Measures into Network Planning

Subtask Objective

To investigate how existing network planning processes can be modified to incorporate the development and operation of DSM measures over the medium and long term.

Subtask Deliverable

A report on ways in which network planning processes can be modified to incorporate DSM measures as alternatives to network augmentation.

Subtask 4: Evaluation and Acquisition of Network-Driven DSM Resources

Subtask Objective

To develop 'best practice' principles, procedures and methodologies for the evaluation and acquisition of network-driven DSM resources.

Subtask Deliverable

A report on 'best practice' principles, procedures and methodologies for the evaluation and acquisition of network-driven DSM resources.

Subtask 5: Communication of Information About Network-Driven DSM

Subtask Objective

To communicate and disseminate information about network-driven DSM to relevant audiences, including representatives of electricity network businesses, government agencies and electricity end-users.

Subtask Deliverables

- A Task Newsletter.
- Two databases containing case studies of network-driven DSM projects from around the world and descriptions of load control and smart metering technology products.

Subtask 6: Role of Load Control and Smart Metering in Achieving Network-related Objectives

Subtask Objective

To investigate in detail the role of load control and smart metering in achieving network-related objectives.

Subtask Deliverables

A report summarising ways in which load control and smart metering can be effectively utilised to achieving network-related objectives.

Progress in the Task

Both the original work plan for Task XV and the Task XV extension have now been completed.

Activities completed in 2008

Following are the major accomplishments in Task XV during 2008.

- **Case Studies Database.** An additional 19 detailed case studies of network-driven DSM projects were prepared and uploaded to the database. Since the target for this period was to add five new case studies, this represented considerable over-achievement. The new case studies were from: Australia (3), Canada (1), India (9), New Zealand (2), United Kingdom (2) and the United States (2). This brings the database total to 64 detailed case studies of network-driven DSM projects from 13 different countries.
- **Load Management Technology Database.** An additional six detailed descriptions of load control and metering technology products were added to the database. This formed part of Subtask 6: "Role of Load Control and Smart Metering in Achieving Network-related Objectives". This brings the database total to 17 detailed product descriptions of load control and metering technology from four different countries.
- **Subtask 6: Role of Load Control and Smart Metering in Achieving Network-related Objectives.** This subtask was completed. A major new report Research Report No 5: *The Role of Advanced Metering and Load Control in Supporting Electricity Networks* was complete and approved for public release.
- **Second Editions of Task XV Reports.** Second editions of the four existing Task XV Research Reports were completed. These editions incorporated information from each of the new participating countries, India, New Zealand and South Africa:
 - Research Report No 1: *Worldwide Survey of Network-Driven DSM Projects* (including the 19 new case studies).

- Research Report No 2: *Assessment and Development of Network-driven Demand-side Management Measures.*
- Research Report No 3: *Incorporation of DSM Measures into Network Planning.*
- Research Report No 4: *Evaluation and Acquisition of Network-driven DSM Resources.*

Activities planned for 2009

While Task XV has been completed, the IEADSM Executive Committee has approved additional funding from the Common Fund to carry out updating of the Task XV databases. The purpose of this additional funding is to maintain the value of the databases as authoritative sources of information about network-driven DSM. The funding will be used to:

- Add more case studies of network-driven DSM projects as new projects are implemented.
- Update existing case studies as implemented projects gain further performance data.
- Add more descriptions of load management and metering technology products as new products are developed.

Involvement of industry and other organisations

The following organisations participated in Task XV.

Australia

Eight electricity network businesses at both the transmission and distribution level, comprising: Country Energy, Energex, EnergyAustralia, Ergon Energy, Jemena (formerly Agility and Alinta), Powerlink Queensland, SP AusNet and TransGrid.

France

Agence de l'Environnement et de la Maîtrise de l'Énergie and Réseau de Transport d'Electricité.

India

Bureau of Energy Efficiency, an agency within the Ministry of Power, Government of India.

New Zealand

Energy Efficiency and Conservation Authority, Electricity Commission, Electricity Networks Association, Ministry of Economic Development, TransPower.

Spain

Red Eléctrica de España.

South Africa

Eskom.

USA

Oak Ridge National Laboratory.

Reports produced in 2008

Name of report	Date published
Task XV Research Report No 1: <i>Worldwide Survey of Network-Driven DSM Projects</i> . Second edition.	10 October 2008
Task XV Research Report No 2: <i>Assessment and Development of Network-driven Demand-side Management Measures</i> . Second edition.	10 October 2008
Task XV Research Report No 3: <i>Incorporation of DSM Measures into Network Planning</i> . Second edition.	10 October 2008
Task XV Research Report No 4: <i>Evaluation and Acquisition of Network-driven DSM Resources</i> . Second edition.	14 October 2008
Task XV Research Report No 5: <i>Role of Load Control and Smart Metering in Achieving Network-related Objectives</i> . First (and only) edition.	13 October 2008

Databases produced in 2008

Name of database	Number of records
Case Studies Database. Detailed case studies of network-driven DSM projects.	64 case studies
Load Management Technology Database. Detailed descriptions of load control and metering technology products.	17 product descriptions

Experts meetings held in 2008

The fifth and final Task XV Experts meeting was held in Mumbai, India on 25 March 2008.

Task meetings/Seminars/Conferences held in 2008

Type of meeting	Place	Total participants	Government	Industry	Academic
Task XV Workshop	Mumbai, India	TBA			

Technology development success stories

Prior to Task XV, each of the seven participating countries was using only one or two different types of network-driven DSM to achieve only limited objectives:

- *Australia* – to relieve specific network constraints and to achieve deferral of network augmentations.
- *France* – to achieve deferral of network augmentations.
- *India* – to relieve network and generation capacity shortages, particularly at peak times.
- *New Zealand* – to relieve specific network constraints and to achieve deferral of network augmentations.
- *South Africa* – to relieve generation capacity shortages, particularly at peak times.
- *Spain* – to address generation and network capacity shortages in the electricity market (interruptibility only).
- *United States* – to provide ancillary services and to address generation and network capacity shortages in the electricity market.

Task XV enabled electricity business in each of these countries to examine using a large number of different types of network-driven DSM to achieve a broader range of objectives.

The first report from Task XV contained detailed case studies of network-driven DSM projects from around the world. This report was cited in a United States Federal Energy Regulatory Commission report:

Federal Energy Regulatory Commission (2006). Staff Report and Report to the US Congress. *Assessment of Demand Response and Advanced Metering*. Washington DC, FERC. Available at: www.ferc.gov/legal/staff-reports/demand-response.pdf.

Positioning of the Task

Previous to Task XV, the IEA DSM Programme had not undertaken any work on the potential for DSM to cost-effectively relieve electricity network constraints or to provide network operational services. In fact, Task XV is the first broad and systematic investigation of the potential for DSM to cost-effectively support electricity networks being carried out anywhere.

Activity time schedule

Task XV was entered into force in October 2004. The original work plan for Task XV was completed in May 2007. The Task XV extension was completed in October 2008.

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Task XVI: Competitive Energy Services (Energy-Contracting, ESCo Services)

Operating Agent: Jan W. Bleyl, Graz Energy Agency Ltd, Austria
Co-Operating Agent: Pertti Koski, Motiva Oy, Finland

Towards the energy policy targets

The success of further increasing energy efficiency in all sectors of consumption will play a vital role in coping with the challenges of our common energy future. Avoiding energy consumption by increasing end-use efficiency, is a highly effective way to meet all three key targets of energy policies: security of supply, affordable costs of energy services and environmental soundness.

Energy Services (ES) – also labelled as Energy-Contracting or ESCo Services – are a well proven instrument to implement energy efficiency measures such as lighting, HVAC or comprehensive refurbishment of buildings. An Energy Service Company (ESCO) takes over the technical and economical implementation and operation risks and has to guarantee for the savings and overall results. Over the whole contract term. ES are also well suited to implement innovative and renewable energy systems.

Energy services are an expanding business throughout the world contributing to the improvement of energy efficiency, control of energy costs and reduction of greenhouse gas emissions. The concepts of offering these services can get various forms resulting in diverse contract models and financing arrangements. The basic feature is guarantee of energy savings and/or cost savings by the energy service company to the client.

Energy service activities have been started in different segments of energy consumption in different countries, even though the building sector is common to most of them. White areas on the market map are gradually being covered by existing and new enterprises.

Task XVI 'Competitive Energy Services' serves as a forum for the representatives of the participating countries to exchange information and experience of the different aspects of the energy service business, including the public sector actors, and giving that way incentives to the advancement of activity in this area.

Objectives of the Task

In order to contribute to the market development of innovative and competitive energy services the objectives of this IEA DSM Task are:

1. To initiate and support country specific activities for developing the market for competitive energy services (with a focus on individually selected market segments).
2. To initiate and establish an IEA DSM Energy Services Expert Platform.
3. To design, elaborate and test innovative energy services and financing models (published as manuals or publications).
4. To position the expert platform as a competence centre for energy services for international dissemination and assistance services (e.g. coaching, training courses, publications).

Expected Results

The benefits for the participating countries and for the DSM agreement will be:

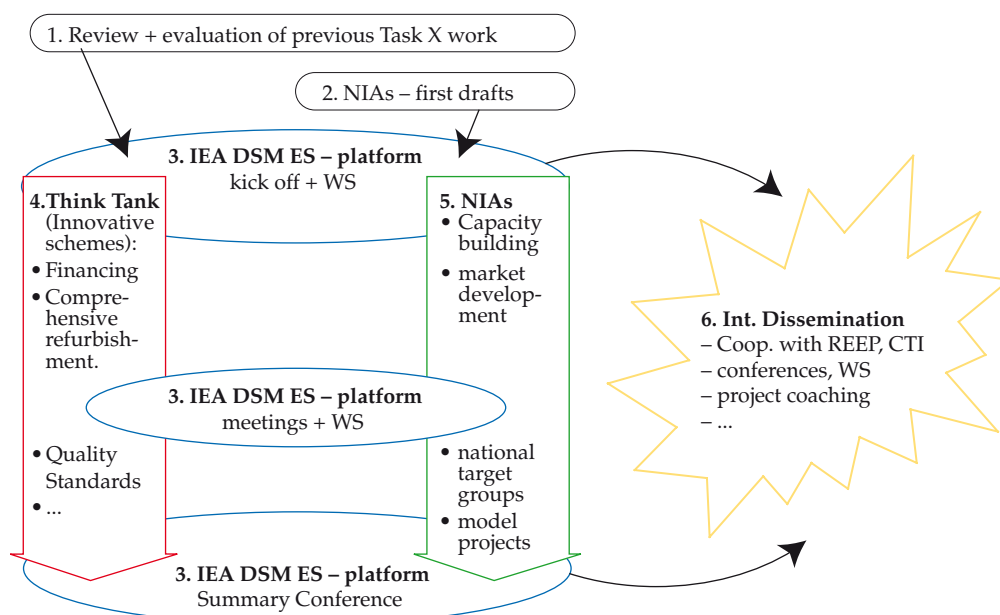
- Enlarging the market for energy services.
- Participation in the IEA DSM energy services expert platform and communicating with external stakeholders.
- Mutual feedback, coaching and experience exchange for country specific market development activities (NIA's).
- Know-how and capacity building on innovative and competitive energy services and financing models from the Think Tank.
- EU countries can prepare for the EU-directive on "energy end-use efficiency and energy services" and help closing the gap between policy targets and the "real world".
- Task XVI will play an active role in the international dissemination of competitive ES and offer assistance services for the market development in other countries.
- Developing business opportunities for internationally acting ESCOs.
- Contributions to an IEA DSM competence centre.

Structure of the Work

The Task XVI Work Plan consists of four main components:

1. IEA DSM energy services expert platform (ES-platform, subtask 3).
2. Innovative and competitive energy services think tank (think tank, subtask 4).
3. National implementing activities (NIAs, subtask 5).
4. International dissemination activities (subtask 6).

The following scheme illustrates the general structure and workflow of the proposed Task:



Subtask 1: Review and evaluation of the previous Task X work.

Subtask 2: National implementation activities – first drafts.

Subtask 3: IEA DSM energy services expert platform.

Subtask 4: Innovative and competitive energy services Think Tank.

Subtask 5: National implementation activities (NIA'S).

Subtask 6: International dissemination.

A more detailed description of the above organisational structure and subtasks can be obtained from the Task Work Plan (exerts printed in the 2005 Annual Report).

Progress in the Task

During the last 6 month period the following accomplishments were achieved:

- **Midterm evaluation** of Task XVI was positive.
- **Subtask 3 – Energy Service Expert Plattform:**
 - 4th Expert Platform meeting in Dehli, India March 31st–April 1st
 - 5th Expert Platform meeting under preparation in Brussels, Belgium, November 11th + 12th.
- **Subtasks 3+6 – Energy Service Expert Plattform + Dissemination:**
 - 4th workshop with external ESCo business stakeholders: “ESCo business in India”, April 1st in Dehli, India.
 - 5th workshop with external ESCo business stakeholders: “ESCO Association and Market Development” under preparation in Brussels, Belgium, November 12th.
- **Subtask 4 – Think Tank:**

The Think Tank has accomplished work on the following topics:

 - Integration of Demand Side Measures into Energy Supply Contracting models: Tendering materiel for a model project in Styria (schools, office buildings and a seminar house) in the framework of a Europeanwide public tendering process.
 - *(Public) procurement of ESCo services:* Monetary and qualitative awarding criteria, Functional tendering vs. detailed specifications, Evaluation of bids with a cost-benefit-analyses.
 - *Financing manual* has been published and can be downloaded from the public Task XVI website.

Some further publications of results of the think tank work can be downloaded from the public Task XVI website (<http://dsm.iea.org/ViewTask.aspx?ID=16&Task=16&Sort=0>)

- **Subtask 5 – National Implementation Activities:**
 - NIA's were carried out according to the individual plans of the country experts. Activities are reported and reviewed in the platform meetings.

- **Subtask 6 – International Dissemination:**
 - Presentations at various international and national events, e.g.:
“UNEP SEFI Public Finance Alliance”, “GTZ Med-EneC in Syria, Jordan and Algeria”, “Envietech ’08”, “Energiewende ’08 TU Graz”, “GTZ Med-EneC in Turkey”, Task XVI stakeholder workshop, Energy Contracting for potential new ESCo customers in Vienna, NOEST Lunch ...
 - For publications please see below.
- **Subtask 7 – Management & Reporting:**
BAU + individual national reporting requirements of participating countries.
Preparation of Task extension.
- **Japan** will continue its participation in the implementing agreement and Task XVI. Japan has nominated Mr. Takeshi Matsumura, General Manager at Japan Facility Solutions (JFS) as new country expert, replacing Jun Kawana, who has left JFS with a new assignment at JFS’ mother company TEPCO.

Goals and activities planned for 2009

At their last experts meeting in Delhi, India, the participants have taken a unanimous decision to apply for an extension of Task XVI. The operating agent has prepared an extension proposal to the existing task work plan. The ExCo at its Milan meeting in October 2008 has approved the extension in general. At the same time financing in some countries still has to be secured, which needs to be accomplished during the next couple of months.

During the next reporting period, the following goals have been set and activities planned:

- **EXCo approval of Task XVI extension** including financing and assignment of experts. Continuation of activities after June 2008 depend upon approval of Task extension.
- **Subtask 3 – Energy Service Expert Platform:**
 - 6th and final Expert Platform meeting will take place first half of 2009. Location and exact date to be decided at Brussels meeting.
- **Subtasks 3+6 – Energy Service Expert Platform + Dissemination:**
 - 6th and final workshop with external ESCo business stakeholders will take place first half of 2009. Location to be decided in Brussels.
- **Subtask 5 – National Implementation Activities:**
 - National Implementation Activities according to the individual plans of the country experts will be followed. Exchange of information and experiences. Mutual coaching on concrete projects.
- **Subtask 6 – International Dissemination:**
 - Dissemination of information within the scope of Task XVI will be continued. Presentations at various international conferences and seminars, publications are planned (e.g. “Energy Forum” in Brussels, IEWT ’09 in Vienna, “EcoProcura 2009” in Island, “ECEEE ’09” ...).
 - Translation of Finance manual into French in cooperation with Energymag.
 - Translation of “Comprehensive Refurbishment ...” into German.
 - Reprint of “Comprehensive Refurbishment ...” chapter from “Urban Energy Transition” book for wider distribution.

Involvement of Industry and other organisations

Two participating countries are representatives from the ESCo industry. Further representatives of commercial actors in the field of energy services as well as of their clientele have participated in the stakeholder workshops and Think Tank sessions. The experts have disseminated information gathered in the Task XVI work to their clients and other national stakeholders in their countries.

Reports produced in 2008

Name of report/publication	Date published
<i>Book contributon: "Energy – Contracting' to Achieve Energy Efficiency and Renewables using Comprehensive Refurbishment of Buildings as an Example. A Guide for Building Owners and ESCos" from Urban Energy Transition, Elsevier Science & Technology edited by Peter Droege</i>	March 2008 (ISBN-13: 978-0-08-045341-5)
<i>Manual (perliminar version for comments): Opportunity Cost Tool, Comparison and Evaluation of Financing Options for Energy-Contracting Projects</i>	March 2008

Reports and Publications planned for 2009

Name of report/publication	Date published
<i>Manual: Publishing of "Comparison of Financing Options for Energy-Contracting. A manual for ESCOs, ESCO customers and ESCO project developers" in cooperation with Energymag, possibly with French translation</i>	2 nd quarter 2009
<i>ECEEE Conference paper: Energy Efficiency First! Integration of Demand Side Measures into Energy Supply Contracting Models (Integral Energy Contracting)</i>	June 2009
<i>Reprint of chapter: "Energy – Contracting' to Achieve Energy Efficiency and Renewables using Comprehensive Refurbishment of Buildings as an Example. A Guide for Building Owners and ESCos" from Urban Energy Transition, Elsevier Science & Technology edited by Peter Droege</i>	1 st quarter 2009
Final management report	3 rd quarter 2009

Meetings held in 2008

Date	Place	Total Experts	Type of meeting	Government	Industry	Academic
31 March–1 April	Delhi, India	5	Experts meeting	2	2	1
1 April	Delhi, India	ca. 25	Stakeholders workshop	10	10	5
11–12 November	Brussels, Belgium	6	Experts meeting	2	3	1
12 November	Brussels, Belgium	ca. 25	Stakeholders workshop	10	10	5

Meetings planned for 2009

First half of 2009, Experts meeting, location and exact date to be decided at Brussels meeting

First half of 2009, Stakeholder workshop, location and exact date to be decided at Brussels meeting

Second half of 2009, Experts meeting, extension of Task XVI provided

Second half of 2009, Stakeholder workshop, extension of Task XVI provided

Seminars and/or conferences held in 2008

Type of meeting	Date	Place	Total participants	Government	Industry	Academic
Internat. Workshop	1 April	Delhi, India	ca. 25	10	10	5
National Workshop	7 April	Vienna, Austria	ca. 10	2	6	2
Internat. Workshop	12 November	Brussels, Belgium	ca. 25	10	10	5

Technology development success stories

Task XVI is dealing with innovative Energy Service models to implement and deploy any kind of efficiency technology with market based instruments. It is not developing any particular technology itself.

ESCO services apply whatever (innovative) efficiency technology is available on the market. Accordingly, successful examples are available in all sectors of efficiency technologies such as street lighting, heating, ventilation and air conditioning (HVAC-technologies), combined heat and power systems (micro-CHP) or comprehensive refurbishment of buildings and others.

Positioning of the Task – v.s. other bodies

“Competitive Energy Services” is a unique task in providing an international expert platform for Energy-Contracting experts, developing innovative energy service models, initiating and mutually supporting national implementation activities and disseminating results to international stakeholders.

The members of the task work and cooperate with their respective national bodies and projects and are involved in a large variety of other international projects, dealing with the in particular with the implementation of energy efficiency and related topics.

Activity time schedule

Task XVI has started its operation in July 2006 and will remain in force until June 2009.

Subtasks	2006	2007	2008	2009
1. Review of previous Task X work	—————			
2. National implementation activities – first drafts	—————			
3. IEA DSM Energy Services expert platform	—————	—————	—————	—————
Expert meetings/workshops	◆	◆ ◆	◆	◆ ◆
4. Energy Services and financing Think Tank	—————	—————	—————	
Publications		◆ ◆	◆	
5. National Implementation Activities	—————	—————	—————	—————
6. Intern. Dissemination	—————	—————	—————	—————
7. Management & Reporting	—————	—————	—————	—————

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Task XVII – Integration of Demand Side Management Distributed Generation, Renewable Energy Sources and Energy Storages

Operating Agent: Seppo Kärkkäinen, VTT, Finland

Objectives of the Task

The main objective of the Task is to study how to achieve the optimal integration of flexible demand (Demand Response, Demand Side Management) with Distributed Generation, Energy Storages and Smart Grids, and thus increase the value of Demand Response, Demand Side Management and Distributed Generation and decrease problems caused by intermittent distributed generation (mainly based on RES) in the physical electricity systems and at the electricity market. The Task deals with integration aspects both at local (distribution network and customer) level and at transmission system level where large wind farms are connected.

Thus the integration means in this connection:

- How to optimally integrate and combine Demand Response and Energy Efficiency technologies with Distributed Generation, Storage and Smart Grids technologies, at different network levels (low, medium and high voltage).
- How to combine the above mentioned technologies to ideally support the electricity networks and electricity market.

Content of the work

The first phase of the Task defines the state of the art of integration. This phase was finished in 2008. On the basis of the results of this phase, the next phase will be planned.

The first phase of the Task (the scope study) included the following subtasks

- (a) *Subtask 1:* Information collection on the characteristics of different types of DER in the integrated solutions.
- (b) *Subtask 2:* Analysis of the information collected and preliminary conclusions (state of the art).
- (c) *Subtask 3:* Feedback from the stakeholders: Workshop.
- (d) *Subtask 4:* Final conclusions and the definition of the further work.

Progress in the Task

In the beginning of 2008 there were 6 participating countries: Finland, Italy, Korea, Netherlands, Spain and USA. Austria joined the Task officially in June, 2008, although the Austrian expert started work already in April, 2008.

Second expert meeting was arranged in Washington 11–12 March 2008.

A public workshop was arranged in Petten, the Netherlands, June 9, 2008, followed by the third expert meeting on 10 June, 2008.

Fourth and final expert meeting was arranged in Seoul, Korea 10–11 September, 2008. A national workshop “Today and tomorrow for DER” was arranged the day before expert meeting 9 September, 2008.

After that the final versions of the reports were produced in co-operation with country experts. Reports were approved by the experts and EXCO members and published in December 2008.

The progress by subtasks is as follows:

Subtask 1:

- Questionnaires of six countries were collected.
- Country reports of seven participating countries were collected.
- More than 50 case studies/pilots/research projects were collected and documented.

All the above information is in the secure side of the IEADSM-website and can be used by the participating countries.

Subtask 2:

- Draft of the synthesis report was delivered to the participants of the public workshop.

Subtask 3:

- The presentations and summary of the public workshop are available in the public side of the IEADSM-website inside Task XVII.

Subtask 4:

- Fourth draft of the synthesis report was delivered before the Seoul expert meeting including the main report and Annex report (with country descriptions and description of analysis tools and methods and with the list of case studies).
- During the expert meeting a list of future activities was produced.
- Next versions of the main report and Annex report were produced after the expert meeting and final versions after the comments of experts.
- EXCO members of participating countries approved the reports and they were published in the public side of the IEADSM website in December 2008.

Activities completed in 2008

All activities related to the phase one of the Task were completed in 2008.

Activities planned for 2009

Detailed plan of the second phase of the Task will be produced with the experts in January/February 2009.

The second phase is planned to start in Spring 2009 and its duration is about 2 years. The exact date of the start depends on the interest of countries. The second phase is open to all member countries of the DSM Agreement.

Involvement of industry and other organisations

National experts from different countries represent a mix of industrial, governmental and research organisations. Industry was involved in the workshops that have been arranged.

Reports produced in 2008

- Task XVII – Integration of Demand Side Management, Distributed Generation, Renewable Energy Sources and Energy Storages – Final Synthesis Report vol 1. December 2008 (<http://ieadsm.org/Publications.aspx?ID=18>).
- Task XVII – Integration of Demand Side Management, Distributed Generation, Renewable Energy Sources and Energy Storages – Final Synthesis Report vol 2. (<http://ieadsm.org/Publications.aspx?ID=18>).
- Petten Workshop: presentations and summary (<http://ieadsm.org/ViewTask.aspx?ID=16&Task=17&Sort=0>).
- IEA-DSM Task XVII – Integration of Demand Side Management, Distributed Generation, Renewable Energy Sources and Energy Storages. Visions of successful integration and conclusions. Seppo Kärkkäinen, Operating agent and Matthias Stifter, Austrian country expert. Poster Session in “Third International Conference on Integration of Renewable and Distributed Energy Resources”. Nice, 10–12 December, 2008.

Reports planned for 2009

Detailed work plan for additional work.

Meetings held in 2008

Date	Place	Total Experts	Government	Industry	Academic/Research
11–12 March, 2008	Washington, expert meeting	16	4	5	7
9 July, 2008	Petten, stakeholder workshop	20	1	6	13
10 July, 2008	Petten, expert meeting	10		5	5
9 September, 2008	Seoul, national workshop	25			
10–11 September	Seoul, expert meeting	12	1	6	5

Meetings planned for 2009

No fixed plans.

Task meetings/Seminars/Conferences held in 2008

See the meetings above.

Positioning of the Task – vs. other bodies

Cooperation and coordination has been arranged with IEA Implementing Agreements ENARD and WIND. Participation in the Steering Group of the Integrating Renewables in Grids project of IEA.

Activity time schedule

The Task was entered into force in 1st of September, 2007 and was completed 27th of September, 2008. Reports were published in December 2008.

Subtasks	2007	2007	2008	2008
Subtask 1 Preparation of information collection First expert meeting Information collection by experts and OA			—	
Subtask 2 State of the art of the integration Impacts of the integration Preliminary conclusions Second expert meeting Workshop preparation			—	
Subtask 3 Workshop Workshop documentation				—
Subtask 4 Synthesis report Work plan for the future work Third expert meeting				—

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Task XVIII: DSM and Climate Change

Operating Agent: Dr David J Crossley, Energy Futures Australia Pty Ltd

Objectives of the Task

Why DSM and Climate Change?

On a global basis, electricity production is estimated to contribute about 25% of the human-induced increase in greenhouse gas (GHG) emissions. However, the IEA DSM Programme has not so far carried out any work on possible interactions between electricity DSM and GHG emissions.

Creating sustainable energy systems with minimum levels of GHG emissions requires the deployment of both renewable energy and other low emission technologies on the supply side and technologies that increase energy efficiency on the demand side. The purpose of this project is to investigate the potential contribution to mitigating GHG emissions that can be made by demand side management technologies. The fourth IPCC Working Group III Report *Mitigation of Climate Change* identified demand side management programs as a mechanism that may be effective in reducing emissions.

Currently, DSM and emission mitigation measures are implemented quite independently:

- DSM measures are implemented primarily to assist and improve the operation of electricity systems. Any impacts (positive or negative) of DSM measures on climate change are only a minor consideration, if they are considered at all.
- Efforts to mitigate GHG emissions from electricity production have focussed on improving the efficiency of both electricity generation and end-use. However, emission mitigation measures focussed on increasing end-use efficiency have usually not considered any benefits to the electricity system (eg peak load reduction) that might be gained through implementing the measures.

The overall aim of Task XVIII is to reconcile these two different approaches so as to identify circumstances in which DSM can contribute to mitigating GHG emissions and emission mitigation measures can achieve benefits for electricity systems.

Task XVIII will then determine what is required to maximise the emissions reductions and electricity system benefits from these two types of measures.

Benefits to Participants

Participating in Task XVIII enables countries and organisations to:

- Understand the interactions between DSM and climate change.
- Develop methodologies for assessing the GHG emissions reductions available from specific DSM measures.
- Gain information about using DSM programs to mitigate GHG emissions, and about using GHG emission mitigation programs to deliver benefits to electricity systems.

- Identify opportunities for funding DSM programs with revenue from GHG emissions trading schemes.
- Explore whether use time of use pricing can be used to achieve mitigation of GHG emissions.
- Gather the information necessary to launch and participate in deployment programmes for demand-side technologies.

Work Plan

The Work Plan for Task XVIII comprises six Subtasks.

- Subtask 1: Interactions between DSM and Climate Change.
- Subtask 2: Principles for Assessing Emissions Reductions from DSM Measures.
- Subtask 3: Mitigating Emissions and Delivering Electricity System Benefits.
- Subtask 4: Fungibility of DSM and Emissions Trading.
- Subtask 5: TOU Pricing and Emissions Mitigation.
- Subtask 6: Communicating Information about DSM and Climate Change.

Subtask 1: Interactions between DSM and Climate Change

Subtask Objective

To identify circumstances in which DSM may help to mitigate GHG emissions and situations in which DSM may contribute to increasing emissions.

Subtask Deliverable

A report summarising the interactions between DSM and climate change.

Work to be Carried Out

The Experts will identify DSM projects in their countries in which DSM may have mitigated GHG emissions, and emissions mitigation projects which may have delivered benefits to the electricity system. The information collected about each project will include: details about: the objectives of the project; the DSM measures employed; the emissions mitigation measures employed; the market segments addressed; the regulatory regime under which the project was implemented, the cost of the project; and the impact of the project in terms of MW or MVA and GHG emissions reduced. As information about the projects is received, the Operating Agent will enter it into an on-line database.

Once all the information is collected, the Operating Agent will summarise the results and draw conclusions about the interactions between DSM and climate change.

Subtask 2: Principles for Assessing Emissions Reductions from DSM Measures

Subtask Objective

To identify the principles involved in methodologies for assessing the GHG emission reductions available from specific DSM measures.

Subtask Deliverable

A report summarising the principles involved in methodologies for assessing the GHG emission reductions available from specific DSM measures.

Work to be Carried Out

The Operating Agent will examine existing carbon accounting methodologies to identify methods which could be adapted to assess the GHG emissions reductions available from specific DSM measures. The Operating Agent will then develop a set of principles for methodologies to assess emission reductions from DSM measures. These principles will be tested by calculating emission reductions from a range of actual DSM projects.

Subtask 3: Mitigating Emissions and Delivering Electricity System Benefits

Subtask Objectives

To identify ways in which DSM programs can be modified so they contribute to mitigating GHG emissions.

To identify ways in which GHG emission mitigation programs can be modified so they deliver benefits to electricity systems.

Subtask Deliverable

A report summarising the ways in which DSM programs and emission mitigation projects can be modified.

Work to be Carried Out

The Operating Agent will examine the information about DSM and GHG emission mitigation projects in the database and draw conclusions about how the projects could be modified to maximise GHG emission reductions and deliver benefits to the electricity system while still achieving the original project objectives.

Subtask 4: Fungibility of DSM and GHG Emissions Trading

Subtask Objective

To identify opportunities for funding DSM programs with revenue from trading GHG emission reductions.

Subtask Deliverable

Part of a report summarising the ways in which DSM programs can be funded with revenue from trading GHG emissions reductions (this report will also include the results from Subtask 5).

Work to be Carried Out

The term “fungibility” means interchangeability, particularly of one financial instrument with another based on identical terms. In this context, fungibility refers to the ability to trade any GHG emission reductions that are achieved through DSM programs. Such trading could occur through national and regional emissions trading schemes and possibly also through the two project-based mechanisms under the Kyoto Protocol, the Clean Development Mechanism and Joint Implementation.

The Operating Agent will examine a number of emissions trading schemes and the Kyoto Protocol mechanisms, using input provided by Experts, in order to assess the opportunities, benefits and threats involved in trading emission reductions achieved through DSM programs.

Subtask 5: TOU Pricing and Emissions Mitigation

Subtask Objective

To explore whether time of use pricing can be used to achieve mitigation of GHG emissions.

Subtask Deliverable

Part of a report exploring whether time of use pricing can be used to achieve mitigation of GHG emissions (this report will also include the results from Subtask 4).

Work to be Carried Out

The Operating Agent, assisted by input from Experts will examine the benefits and impacts of time of use pricing on greenhouse gas emissions and emissions abatement. The work will focus on sectors potentially affected by time-of-use pricing, and in particular the domestic sector and its challenges of peak electricity demand.

Subtask 6: Communicating Information about DSM and Climate Change

Subtask Objective

To identify and engage stakeholders and communicate and disseminate information about DSM as a resource and as a mechanism for mitigating GHG emissions.

Subtask Deliverables

- A Task Newsletter.
- On-line database about DSM and climate change.
- Regional workshops about DSM and climate change.

Work to be Carried Out

The Operating Agent will provide information about the progress of the DSM and Climate Change Task to the Experts through a regular newsletter.

The Operating Agent will establish and update an on-line database containing information about DSM and GHG emission mitigation projects. Twelve months after the conclusion of the project, public access will be provided to this database.

During the Task, four regional workshops about DSM and climate change will be held; where possible these will be held in conjunction with Experts meetings.

Progress in the Task

Task XVIII was initiated in October 2007 and in March 2008 the Task was declared in force.

Activities completed in 2008

During 2008, there was uncertainty about participation in Task XVIII by some organisations in Australia, and delays in receiving financial contributions from European participating countries because of the northern hemisphere summer holiday period. Consequently, a limited amount of work was completed on Task XVIII. The Task XVIII work commenced in earnest at the first Experts meeting to be held on 20 October 2008 in Paris.

Calculating the Greenhouse Impact of DSM Measures

The Operating Agent completed some preliminary work on calculating the greenhouse impact of DSM measures. A summary of this work was published in the June 2008 issue of the DSM Spotlight newsletter. This preliminary study demonstrated that the greenhouse gas emissions intensity of electricity supplied to end-users varies with the time of day, with the days of the week, and with seasons. These variations are relatively small but can be significant for some common end-uses that occur mainly at certain times of the day (e.g. lighting). The variations can also be significant for certain facilities that use large quantities of electricity at particular times of day (e.g. water supply pumping facilities), and/or on specific days of the week (e.g. sporting venues), and/or during certain times of the year (e.g. agricultural facilities such as sugar mills and cotton gins). Therefore, it is important that when DSM measures are implemented for these types of end uses and in these types of facilities, the emissions reductions attributed to the DSM measures should be calculated using time-variable emission indices.

Activities planned for 2009

Subtask 1: Interactions between DSM and Climate Change. The country Experts will identify DSM projects in their countries in which DSM may have mitigated GHG emissions, and emissions mitigation projects which may have delivered benefits to the electricity system. As information about the projects is received, the Operating Agent will enter it into an on-line database. The Operating Agent will commence summarising the results of the projects and drawing conclusions about the interactions between DSM and climate change.

Subtask 2: Principles for Assessing Emissions Reductions from DSM Measures. The Operating Agent will commence examining existing carbon accounting methodologies to identify methods which could be adapted to assess the GHG emissions reductions available from specific DSM measures.

Subtask 6: Communicating Information about DSM and Climate Change. The Operating Agent will provide information about the progress of the Task XVIII to the country Experts through a regular newsletter.

Involvement of industry and other organisations

The following organisations are participating in Task XVIII.

Australia

Sustainability Victoria.

France

Agence de l'Environnement et de la Maîtrise de l'Énergie.

India

Bureau of Energy Efficiency, an agency within the Ministry of Power, Government of India.

Spain

Red Eléctrica de España.

Reports produced in 2008

None.

Reports planned for 2009

Work on the following reports will be undertaken during 2009:

- Task XVIII Research Report No 1: *Interactions between DSM and Climate Change.*
- Task XVIII Research Report No 2: *Methodologies for Assessing Greenhouse Gas Emission Reductions from DSM Measures.*

Experts meetings held in 2008

The first Experts meeting for Task XVIII was held on 20 October 2008 in Paris, France.

Experts meetings planned for 2009

The current work plan for Task XVIII envisages that two Experts meetings will be held during the Task. However, given the usefulness of the first Experts meeting, the Experts agreed that it may be better to hold more than two meetings, provided that there was sufficient work to merit additional meetings. The next Experts meeting has been tentatively set for April 2009 in Madrid, Spain.

Task meetings/Seminars/Conferences held in 2008

None.

Technology development success stories

None.

Positioning of the Task

Previous to Task XVIII, the IEA DSM Programme had not undertaken any work on DSM and climate change. In fact, Task XVIII is the first broad and systematic investigation of this specific topic being carried out anywhere.

Activity time schedule

Task XVIII was initiated in October 2007 and in March 2008 the Task was declared in force. Task XVIII is scheduled to be completed by October 2010.

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Task XIX: Micro Demand Response and Energy Saving

Operating Agent: Linda Hull, Barry Watson and John Baker, EA Technology, United Kingdom

Description

Energy plays a central role in each of our everyday lives. We use electricity for lighting our homes and offices, for powering our refrigerators, ovens, televisions and computers. For most of the time we don't even think about the energy we use; it's simply there allowing us to carry on with our everyday activities. However, our use of energy has significant impacts on the environment and global warming.

The domestic and SME sectors alone consume up to 50% of the electricity generated in developed countries, and are good targets for the implementation of energy saving measures. However, there are other reasons to focus on these sectors.

The generation of and demand for electricity must be kept in balance at all times. Conventionally this is achieved by managing the output generators. However, increasingly the Demand Side is being actively managed to help achieve both actual and financial system balance. Participation in the balancing and reserve markets by those demanding energy can help to improve overall system balance, reducing the peak generation capacity and spinning reserve, and helping to exploit the full potential of wind generation, particularly in off-peak times.

In the case of domestic and SME customers, to achieve these benefits it is necessary to influence millions of micro loads. Recent work under IEA DSM Task XI, *Time of Use Pricing and Energy Use for Demand Management Delivery*, showed that small customers could provide useful Demand Side services through a combination of End Use Monitoring and Feedback (EUMF), Time of Use (TOU) pricing and Demand Side Bidding (DSB). All have the potential to deliver valuable demand profile change and financial benefits. The work demonstrated that relatively small amounts of demand flexibility can have large benefits in reducing peak capacity requirements.

Task XIX will define demand response and energy saving products and how to actually deliver them into the residential and/or SME markets on a commercial basis using Energy Saving Service Provider and/or Demand Aggregator businesses. Funding mechanisms and the provision of information and controls infrastructure will be studied and evaluated. The potential for these measures to be accredited for financial support by Governments and Regulators, (White Certificates, EEC/CERT, etc) will also be evaluated. Accreditation to enable Suppliers to include demand response measures towards meeting their energy saving targets is an important consideration and will also be evaluated.

Proposed Energy Saving Service Provider and/or Demand Aggregator business tasks are expected to include the following:

- Identify potential customers and develop demand response data base.
- Recruit demand response customers and energy end uses to be managed.
- Develop the demand switching schedules into System Operator, specified products.
- Conduct face to face energy advisor interviews and demand modelling with customers.
- Contracts and settlement mechanisms.
- Negotiate accreditation for energy savings.
- Funding and grants management.
- Micro generation advice/promotion/management.
- End use remote diagnostics/leasing.
- Manage demand response payments (customer/System Operator/Supplier).
- Aggregate demand response customer groups.
- Finance/install demand response control infrastructure.
- Advise on demand response enabled end uses.
- Advise customers on tariffs.
- Micro loads local control dispatch and metered energy saving accounting system.

Task aims and objectives

The aim of Task XIX is to investigate the implementation of TOU pricing, remote/automatic demand switching and energy end use monitoring for SME and residential customers so as to quantify the costs, benefits and business viability of such measures from the System Operator, Demand Balancing and energy saving perspectives.

Specific objectives of Task XIX are to:

- Define demand response and energy saving products to meet System Operator, Supplier, Government and Customer requirements.
- Identify, develop and define packages of demand response and energy saving service products for residential and SME customers, based on EUMF, TOU pricing and demand control to meet the above requirements.
- Develop mechanisms to deliver demand response and energy saving service products.
- Evaluate how Energy Saving Service Provider and/or Demand Aggregator businesses can provide demand response and energy saving service products for residential and SME customers.
- Develop Energy Saving Service Provider and/or Demand Aggregator routes to market for residential and SME customers.
- Make an overall assessment of common ground and technologies to be shared with smart metering infrastructure.
- Estimate incremental costs of implementation of product delivery systems.
- Quantify the business case for the provision of demand response and Energy Saving products.

The Task will consist of six Subtasks:

Subtask 1: Demand Response and Energy Saving Products

Subtask Objectives

- Define demand response parameters required by System Operator, Energy Suppliers and Balance Responsible Parties.
- Determine Energy savings from demand response and EUMF products.

Subtask Deliverables

Part of a report providing definitions of the requirements for micro demand response and energy saving products.

Work to be Carried Out

The Operating Agent, supported by information provided by the Task Experts, will investigate the needs of System Operators, Energy Suppliers and Balancing Responsible parties in order to define the requirements for micro demand response and energy saving products.

Subtask 2: End Use Demand Changes

Subtask Objectives

- Identify specific demands which could be influenced by the demand change motivating mechanisms defined above.
- Identify what demand changes may be possible as a result of applying the motivators to SME end uses.
- Identify what demand changes may be possible as a result of applying the motivators to residential customer end uses.
- Outline technical architectures for collecting and estimating end use demand information and delivering control motivators to change demand.

Subtask Deliverables

- Part of a report describing the end use demand changes for delivering demand response and energy savings.

Work to be Carried Out

The Operating Agent, with input from the Task Experts, will analyse the end uses of energy by residential and/or SME customers and will seek to identify those that could be influenced by the demand change mechanisms identified in Subtask 2.

Subtask 3: Demand Response and Energy Saving Delivery Mechanisms

Subtask Objectives

- Define mechanisms for motivating and delivering energy savings by residential and SME customers (disaggregated demand information, TOU pricing, remote switching, DSB and customer interviews).
- Define “smart” metering, disaggregated data and control mechanisms for motivating and delivering demand shifting by residential and SME customers (metering, switching, pricing, EUMF).

Subtask Deliverables

- Part of a report providing details of demand response and energy saving delivery mechanisms and technologies.

Work to be Carried Out

The Operating Agent, supported by the Task Experts, will examine a number of options for residential and/or SME customers using mechanisms such as disaggregated demand information, time of use pricing, remote switching to motivate demand response and energy savings, together with the metering, data collection and control mechanisms required for their delivery.

Subtask 4: SME Customer Costs and Benefits

Subtask Objectives

- Determine Energy Saving Service Provider and/or Demand Aggregator costs and benefits for delivering Energy Saving and Demand Shift services for SME customers using disaggregated demand information, metering and control.
- Determine Energy Saving Service Provider and/or Demand Aggregator implementation methodologies for delivering benefits and viable businesses.
- Estimate energy savings.

Subtask Deliverables

- Part of a report describing the costs and benefits of demand response and energy saving to SME customers.

Work to be Carried Out

The Operating Agent, supported by information provided by the Task Experts, will evaluate the costs and benefits associated with the delivery of demand response and energy saving products to SME customers. The information will then be used to identify viable routes to their implementation by Energy Saving Service Providers and/or Demand Aggregators.

Subtask 5: Residential Customer Costs and Benefits

Subtask Objectives

- Determine Energy Saving Service Provider and/or Demand Aggregator costs and benefits for delivering Energy Saving and Demand Shift services for residential customers using disaggregated demand information, metering and control.

- Determine Energy Saving Service Provider and/or Demand Aggregator implementation methodologies for delivering benefits and viable businesses.
- Estimate energy savings.

Subtask Deliverables

- Part of a report describing the costs and benefits of demand response and energy saving to residential customers.

Work to be Carried Out

The Operating Agent, supported by information provided by the Task Experts, will evaluate the costs and benefits associated with the delivery of demand response and energy saving products to residential customers. The information will then be used to identify viable routes to their implementation by Energy Saving Service Providers and/or Demand Aggregators.

Subtask 6: Business Case Estimation

Subtask Objectives

- Determine customer financial instruments and reward mechanisms to achieve commercially viable Energy Saving Service Provider and/or Demand Aggregator businesses delivering CO₂ savings and equivalent, network and generation capacity provision, by modifying demands of residential and SME customers.
- Quantify the potential for demand response and energy saving measures to be accredited for meeting Government, Regulator and Supplier energy saving targets (White Certificates, CERT, etc) and obtaining financial support.
- Compare overall costs and benefits.

Subtask Deliverables

- Part of a report providing a detailed assessment of the business case for the provision of demand response and energy saving products for residential and/or SME customers.

Work to be Carried Out

The Operating Agent, with input provided by the Task Experts, will identify potential financial instruments and reward mechanisms to enable Energy Saving Service Providers and/or Demand Aggregators to deliver commercially viable businesses delivering CO₂ savings and equivalent, network and generation capacity provision, by modifying demands of residential and SME customers.

Activities completed in 2008

Eleven countries expressed an initial interest in participating in Task XIX when discussed at the October, 2007 and April, 2008. Executive Committee meetings and regular dialogue has been maintained.

The Status of Participation report is split into two sections:

- Countries that have confirmed their commitment.
- Countries that are still considering participation.

Country	Status
Finland	Confirmed participation
France	Confirmed participation
Greece	Confirmed participation
India	Confirmed participation
Spain	Confirmed participation
United Kingdom	Confirmed participation

Country	Status
Sweden	Still some interest. Dialogue ongoing
Netherlands	Still some interest. Dialogue ongoing

Activities planned for 2009

- Confirm International Participators.
- Finalise support and funding for Task XIX.
- Start the Task in January 2009.

Involvement of industry and other organisations

The following organisations will participate in Task XIX.

Finland

VTT Technical Research Centre of Finland

France

Agence de l'Environnement et de la Maîtrise de l'Énergie and Réseau de Transport d'Electricité

Greece

Public Power Corporation of Greece

India

Bureau of Energy Efficiency, an agency within the Ministry of Power, Government of India

Spain

Red Eléctrica de España

United Kingdom

Department of Energy and Climate Change (DECC), E.ON UK, National Grid, and Scottish and Southern Energy. Dialogue is continuing with other potential contributors.

Reports produced in 2008

None.

Reports planned for 2009

Work on the following reports will be undertaken during 2009:

Name of report
Micro Demand Response and Energy Saving Products – Definition of the Requirements, and the Options for Effective Delivery
The Business Case for Micro Demand Response and Energy Saving

Meetings held in 2008

Date	Place	Type of meeting	Total Experts	Government	Industry	Academic/ Reseach
23–24 Jan	Chester, UK	TDM*	7	2	5	-

* TDM = Task Definition meeting

Meetings planned for 2009

Inaugural Task Experts meeting 15–16 January, 2009 – Chester, United Kingdom

Technology development success stories

None.

Positioning of the Task – vs. other bodies

Many organisations are trying to motivate business and residential customers to save energy. Demand Response and Demand Side Bidding by larger customers are being carried out in many countries to assist energy savings and supply security. Residential customers' participation using a range of demands is not carried out to any significant extent. Task XIX Experts will address smaller customer Demand Response and Demand Side Bidding from both supply and demand side perspectives and routes to implementation.

Activity time schedule

The Task will enter into force on 1 January 2009 and will remain in force until 30 March 2010.

Subtasks	2009	2009	2010	2010
Subtask 1 Demand Response and Energy Saving Products	■			
Subtask 2 End Use Demand Changes	■			
Subtask 3 Demand Response and Energy Saving Delivery Mechanisms	■			
Subtask 4 SME Customer Costs and benefits		■		
Subtask 5 Residential Customer Costs and Benefits		■		
Subtask 6 Business Case Estimation		■	■	

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Task XX – Branding of Energy Efficiency

Operating Agent: Balawant Joshi, ABPS Infrastructure Private Limited, India

Introduction

“Branding of Energy Efficiency” was first identified as an area for new work at April 2006 Executive Committee meeting in Copenhagen. At the 31st Executive Committee meeting held in April 2008, Task XX on Branding of Energy Efficiency was put into force.

The Task is expected to develop significant understanding of barriers associated with branding of energy efficiency and strategies to overcome those barriers. The Task has been proposed with the belief that it should be possible to reverse the fortunes of energy efficiency products and services, if successful branding is achieved. Branding of energy efficiency products and services would increase their visibility and credibility.

The Task is expected to build in the achievement of Task VII. While Task VII has taken the initial step towards development of a framework for market transformation, it is necessary to evolve a comprehensive framework, which could be used by the government and industry to develop the market for energy efficient products.

Objectives

The Primary Objective of this Task would be to ‘Develop cogent and comprehensive framework for promotion of branding of energy efficiency in electricity markets at different level of maturity’. Apart from the above mentioned main objective, need for research in the following areas was felt to be immediate:

- To identify knowledge and attitude of private households in developing electricity markets.
- To identify best practices in definition of suppliers of energy efficiency products and services.
- To identify the potential for energy efficiency products and services in other energy consuming sectors such as agriculture, industrial and commercial, etc.
- To identify the potential for programmatic approach towards energy efficiency.
- To identify the barriers to branding of energy efficiency.

Subtasks

Subtask 1: Energy Efficiency Offerings Analysis

Subtask Objective

To develop the comprehensive Energy Efficiency Branding Framework which may help to demonstrate a strong relationship among potential avenues such as Products, Services, Programs and Services for development of successful branding concepts.

Subtask Deliverables

A report summarising the energy efficiency product analysis and important aspects of energy efficiency value chain.

Work to be Carried Out

The Country Expert will carry out a survey of energy efficiency products and services in their respective countries to identify the products categories offering EE attributes, assessing technological maturity of the existing EE products, identifying best practice in definition of products and services, identifying other aspects amenable to energy efficiency, identifying services/programmes serving EE attributes, identifying barriers experience in successful branding effort and also identifying special needs of developing countries. Once all the information is collected, the Operating Agent will summarise the results of the energy efficiency product analysis and important aspects of the energy efficiency value chain.

Subtask 2: Energy Efficiency Consumer Analysis

Subtask Objective

To carry out survey of consumers in all participating countries for products and services and to collect data on consumers' attitude towards the products and services which suppliers can provide in the market.

Subtask Deliverables

A report summarising the list of possible products and services most suitable for branding based on the market segment from the consumers' perspective.

Work to be Carried Out

The Country Expert will carry out a survey of consumers, specifically for products and services identified in Subtask 1, by utilising appropriate methodologies such as socio cultural value maps, cognitive information processing and emotion driven choices to collect data on consumers' attitude towards the products and services. The Country Experts in consultation with the Operating Agent will undertake the following activities: identify attitudes and behaviour of the consumers towards various aspects of energy efficiency, establish preferences for range of products and services, identify socio-cultural issues in selection of products and services and understand the pre-requisites for successful branding. Once all information is collected, the Operating Agent will identify products and services most suitable for branding in that particular market from the consumers' perspective. While some countries have expressed the necessity of primary surveys, such surveys are not envisaged at this point of time.

Subtask 3: Assessment of relationship between EE products pricing and maturity of electricity market

Subtask Objective

To identify the relationship between the product offerings and maturity of the electricity market and to develop statistical models for determination of the relationship between electricity price and energy efficiency pricing.

Subtask Deliverables

A report summarising the relationship between EE products pricing and maturity of the electricity market and also between electricity price and energy efficiency pricing.

Work to be Carried Out

A survey and analysis of the market place for energy efficiency products and services in all countries participating in this Task would be undertaken by the Operating Agent with the help of the Country Experts. Based on the results of the survey and analysis, the Operating Agent will identify the relationship between the product offerings and maturity of the electricity market and also develop statistical models for determination of the relationship between electricity price and energy efficiency pricing. The Operating Agent will also test the applicability of the findings of this study to non-electricity energy segments.

Subtask 4: Review of Branding Strategies in similar areas

Subtask Objective

To identify the products and services, similar in nature to “energy efficiency” and learn from the strategies deployed by them during early period of their life cycle.

Subtask Deliverables

A report summarising the branding strategies deployed by the products and services similar in nature to energy efficiency based on the carried out research in the various participating countries.

Work to be Carried Out

The Country Expert along with the Operating Agent and Co-operating Agent (specialist in branding) will carry out research for identification of products and services which is similar in nature to energy efficiency. They will also carry out a survey to identify the branding strategies deployed by similar products and services during the early period of their life cycle.

Subtask 5: Identification of ‘Best Practice in Branding EE’

Subtask Objective

To identify Case Studies and develop best practices in branding of energy efficiency in four aspects such as Products, Services, Programmes and Companies and to identify role of institutional structures and government support in development of successful branding strategies.

Subtask Deliverables

A report summarising best practices in branding of energy efficiency in four aspects (Products, Services, Programs and Companies).

Work to be Carried Out

A survey of successful efforts in branding of energy efficiency in the participating countries as well as other countries will be undertaken the Operating Agent with the help of the Co-operating Agent and Country Experts. The Country Expert in consultation with the Operating Agent will undertake the following activities for the development

of best practices in branding of energy efficiency in four aspects: development of case studies for successful branding effort, synthesize information collected during subtask-I & II, understand business enablers for branding, identify best practice in each of the four key aspects of branding of energy efficiency, identify inter linkages for different aspects of branding and identify role of institutional structures and government support in development of successful branding.

Subtask VI: Communication and Outreach

In this subtask, the operating agent with the help of country experts will identify and engage various stakeholders to communicate and disseminate information about the branding efforts in different areas of Energy Efficiency. This would ensure well promulgated information across the masses, which in turn would be beneficial for the branding task.

Information dissemination would be carried out by preparing six monthly Task Newsletters as well as by conducting two Regional workshops to discuss various branding efforts.

Activities completed in 2008

- Establishment of the Task XX Website: The Operating Agent established a Task XX section as part of the IEA DSM website. The section outlines the objectives and work plan and invites participation in the Task.
- Participants in Task XX: The Operating Agent has followed up the countries that, at the India meeting, expressed interest in participating in Task XX.

Activities planned for 2009

Commence the Task in January 2009.

Involvement of industry and other organisations

India

Bureau of Energy Efficiency

Spain

Red Electrica de Espana

United States

Lawrence Berkeley National Laboratory.

Reports produced in 2008

None.

Reports planned for 2009

Name of report
Inception Report
Analysis of Energy Efficiency Offering

Meetings held in 2008

Date	Place	Type of meeting	Total Experts	Government	Industry	Academic/ Research
October 21, 2008	Milan, Italy	TDM*	9	8	1	-

* TDM = Task Definition meeting

Meetings planned for 2009

First Expert Meeting in March 2009.

Second Expert Meeting in October 2009.

Technology development success stories

None.

Activity time schedule

The Task will enter into force on 15 January 2009 and will remain in force until 14 January 2011.

Subtasks	2009	2009	2010	2010	2011
Subtask 1 Energy Efficiency Offerings Analysis	—————				
Subtask 2 Energy Efficiency Consumer Analysis		—————			
Subtask 3 Assessment of relationship between EE products pricing and maturity of the Electricity Market			—————		
Subtask 4 Review of Branding Strategies in Similar Areas				—————	
Subtask 5 Identification of "Best Practices in Branding EE"					—————
Subtask 6 Communication and Outreach	—————				

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Task XXI: Standardisation of Energy Savings Calculations

Operating Agent: Harry Vreuls, SenterNovem, The Netherlands

Objectives of the Task

At its meeting in October 2008, the IEA DSM Programme Executive Committee approved the initiation of Task XXI: Standardisation of Energy Savings Calculations. The Task is currently being established and is open for participation.

Many policies and measures for improving energy efficiency now exist and continue to improve, both of a voluntary and mandatory nature. The continued development of this field of policy reflects growing acceptance of the importance of such measures in seeking to reduce carbon dioxide emissions, minimise the cost of energy services, enhance energy security and address wider environmental concerns. Estimations as to projected energy savings, emissions reductions or financial gains from energy efficiency measures are now common place.

On 8 June 2008, the G8 countries, China, India, South Korea and the European Community decided to establish the International Partnership for Energy Efficiency Cooperation (IPEEC) In their scope one of the areas they want to take action to facilitate improvements is: methodologies of energy measurement, auditing and verification procedures, certification protocols and other tool to achieve optimal energy efficiency performance over the lifetime of building and industrial processes, relevant products, appliances and equipment. With this new Task the IEA DSM Agreements wants to provide products related to methodologies of energy measurements.

The overall aim of Task XXI is to identify basic concepts, calculation rules and systems for Energy Savings Calculations (ESC) standards. Additionally a methodology should be developed to nominate and describe the several Demand Response products. Within this framework of basic concept and calculation rules also the relation to reduction of the environmental impacts in greenhouse gas emissions from energy savings should be incorporated. The Task will also explore how and by what type of organisations these standards could be used and improved to increase international comparable evaluation of policies and measures.

The objectives for the Task are:

- To identify national and regional existing energy saving calculation (ESC) standards and standards under development and most important reports for use in developing ESC standards.
- To identify what basic concepts, calculation rules and systems are in use in these ESC standards.
- To develop within the framework of basic concepts a methodology to nominate and describe the several Demand Response products.

- To identify how and why these standards are or will be used in reporting on energy efficiency improvements, energy savings and impact evaluations for policies and measures including estimating and reporting greenhouse gas emissions.
- To identify what organisations could be responsible for the maintenance and future development of these standards and conditions to do such a work.
- To explore to what extent the basic concepts, calculation rules and systems could be organised in such a way that (inter)national organisation can use these to improve international comparison (ahead of implementation of new standards).
- To explore how these standards can be used in national saving calculation.
- To explore how these standards can improve international comparable evaluation of policies and measures.

Work plan

The Work plan for Standardisation of Energy Efficiency Calculations will comprise four subtasks:

- Subtask 1: Existing energy savings calculation (ESC) standards and standards under development including barriers for (inter)national standardisation and use of most relevant reports for ESC.
- Subtask 2: Basic concept, rules and systems for ESC standards.
- Subtask 3: Potential for use and continue development and maintenance of ESC standards.
- Subtask 4: Communication and information.

Subtask 1: Existing energy savings calculation (ESC) standards and standards under development and use of most relevant reports for ESC

Subtask Objectives

To identify national and regional existing energy saving calculation (ESC) standards and standards under development and to identify and assess the most relevant evaluation and monitoring reports for ESC.

To identify basic concepts, calculation rules and systems as well as key elements to nominate and describe Demand Response products.

Subtask Deliverable

A report summarising the most relevant guidelines and standards – national and international – on ESC, with a focus on identifying common approaches for determining savings and terminology as well as key elements to nominate Demand Response products.

Work to be carried out

The country experts will identify national standards and indicate regional standards and also what barriers exist for transforming energy savings calculations into agreed standards. As far as possible these barriers will be researched for different parties (governmental organisations, producers, consumers, scientific groups). In this process the country experts and the Operating Agent will also include definitions for DR

products. The country experts, as well as the Operating Agent, will identify the most relevant evaluation and monitoring reports for ESC. They will assess these reports for use to define basic concepts, calculation rules and systems.

The Operating Agent will ensure (in co-operating with the participating national experts) that the international standards will be included. He will include experiences from other Tasks within the IEA DSM Agreement and from other IEA Implementing Agreements; (e.g. the ECBCS and the 4E). He will organise the country experts' assessment of the most relevant documents. Once all the information is collected, the Operating Agent will summarise the results and draft a report summarising the most relevant guidelines and standards on ESC and barriers to realise standards as well as key elements to nominate and describe DR products. This draft report will be discussed and commented by the country experts.

Subtask 2: Basic concepts, rules and systems for ESC standards

Subtask Objective

To draft the basic concepts, calculation rules and systems in use in ESC and how these are transformable to (draft) standards and to develop a methodology to nominate and describe the Demand Response products, including 'general accepted' criteria.

For existing standards or standards under preparation to identify how and why these standards are or could be used in impact evaluation for policies and measures.

Subtask Deliverables

A report dealing with the basic concepts, calculation rules and systems for energy savings calculations. This report includes definitions and generally accepted evaluation criteria for DR product and should have the potential to serve as a reference manual for other IEA DSM Tasks.

Also an overview will be generated on how existing guidelines could be utilised or modified to make results from energy savings calculation more comparable and more harmonised in the future.

A compilation report on the comments to and experiences with commenting on draft ESC standards, including reactions from the standardization organisations on comments and their views on identified barriers.

Work to be carried out

The country experts will contribute and comment on updated versions of the report on the basic concepts, calculation rules and systems as well as on the section dealing with a methodology to nominate Demand Response products. They will give attention to the opportunities to implement the common elements in the national and regional standards for energy savings calculations and report on the (potential) usefulness of the three level approach and the harmonisation of energy savings lifetime. Related to ongoing or planned standardisation work for energy savings calculations they will consult the national standardisation bodies and – if applicable – draft comments on (selected) national standards.

The country experts will also collect information on potential 'general accepted' criteria to be included in a methodology to nominate and describe the Demand Response products.

The Operating Agent will co-ordinate the improvements of draft reports on the basic concepts, calculation rules and systems. He will take care that definitions for DR products will be compatible with relevant existing terminologies, especially the System operation and the Market operation terminology used by energy companies. He will draft comments on regional standards and will organise the process of discussion on these and the co-ordination of the reactions to and from the standardisation organisations.

The Operating Agent will consult the international standardisation organisations and will ensure that the communication process with the Operating Agents for other relevant Tasks within the IEA DSM Agreement. He will present preliminary conclusions from the work on international meetings to get involvement from as broader range of market organisations.

Subtask 3: Potential for use and continue development and maintenance of ESC standards

Subtask Objectives

To finalise the report on the basic concepts, calculation rules and systems including related GHG emissions and Demand Response products and to explore to what extent these basic concepts, calculation rules and systems could be organised in such a way that (inter)national standards organisations can use these, to improve international comparability of evaluations of policies and measures and how these could be used for training purposes.

To explore how the methodology to nominate and describe the Demand Response products, including 'general accepted' criteria could be used by other IEA DSM Tasks and relevant (inter)national organisations.

Subtask Deliverables

The final report on the basic concepts, calculation rules and systems and a report on roadmaps along which ESC standards could be further developed.

Work to be carried out

The country experts will research the (inter)national organisations responsible for the further development of the results of the IEA work into official ESC standards, the working processes and the planning. They will assess the expected use of existing and future ESC standards in evaluation of policies and measures and meta-evaluation and/or reports. They will take into account the relations with (inter)national estimations of GHG emissions. They will consult relevant national organisation for comments to the draft methodology to nominate and describe the Demand Response products, including 'general accepted' criteria. The experts will give input to and comments on the drafts of the final report and the report on roadmaps. They will give special attention to the potential of the draft report for use as support material for training.

The Operating Agent will organise the communication with the international standardisation organisation and organise one or two regional workshops. He will finalise the report on the basic concepts, calculation rules and systems including the section on DR product. For the report he will draft the conclusions and recommendations for maintenance of ESC standards and results from discussions with country experts and relevant market parties and Operating Agents for relevant IEA DSM Tasks.

Subtask 4: Communication and information about Standardisation of Energy Savings Calculations

Subtask objective

To inform experts and inform and engage stakeholders and communicate the ongoing work in the Task on ESC standards, to provoke the Reference manual for DR products and discuss this with other IEA DSM Tasks and to stimulate adoption of the concepts and terms by IPEEC and other international institutions on policies, research, trade and education.

Subtask Deliverables

Task leaflets and newsletters will be produced and distributed. Presentations on relevant international conferences will be given and one and potential two regional workshops on ESC standards (and relevant DR products) will be organised in co-operation with the country experts.

Progress in the Task

Task XXI was initiated in October 2008.

This Task was identified as an area for new work in October 2006 during the EXCO meeting in Maastricht and at the meeting October 2008 in Bruges the EXCO decided that a concept paper should be developed. This paper was presented at the EXCO meeting in New Delphi in April 2008 and got support from several countries within the EU and outside. The EXCO also agreed that a Task Organising meeting should be organised.

This Task Organising meeting was held in Milan, 21 October 2008. Austria, France, Netherlands, Republic of Korea, Sweden and the USA participated in the meeting while Spain gave written comments to the draft work plan. Canada Denmark and South Africa planned to attend the meeting, but had to excuse. The participants made several suggestions for modifying the Task and to include Demand Response products and estimations of greenhouse gas emission reductions related to energy savings calculations. These modifications were incorporated into the presentation made to the EXCO meeting at 23 October 2008.

The Executive Committee approved the initiation of the Task Standardisation of Energy Savings Calculation as IEA DSM Task XXI. Following this meeting a revised work plan and a leaflet for Task XXI were prepared. Participation letters were sent to interested countries and the drafting of the Legal Annex was also started.

Activities planned for 2009

In February 2009 a first experts meeting is foreseen. At the meeting the revised work plan will be discussed and finalised.

The work of Subtask 1 will start and the products are expected to be available for discussion by the country experts in the second half of the year 2009. In that period also the preparation for the activities indicated for Subtask 2 will start.

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