
INTERNATIONAL ENERGY AGENCY

**IMPLEMENTING AGREEMENT ON TECHNOLOGIES
AND PROGRAMMES FOR DEMAND SIDE MANAGEMENT**

ANNEX XVIII

DSM AND CLIMATE CHANGE

1. INTRODUCTION

1.1 Description of Technical Sector

On a global basis, electricity production is estimated to contribute about 25% of the human-induced increase in greenhouse gas (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 2007 report on mitigation of climate change by the Intergovernmental Panel on Climate Change identified DSM 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: DSM and Climate Change 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.

1.2 Definitions

Task Experts

Each Participant in Task XVIII nominates one or more persons as its Task Expert. Task Experts contribute their knowledge to the progress of the Task and are responsible for carrying out any research work within their country which is required for the Task. A Participant may nominate more than one Task Expert, each with different knowledge and/or skills relevant to Task XVIII.

Experts Meetings

All the Task Experts meet regularly at Experts Meetings to review and assess the progress of the work completed by the Operating Agent and by the group of Task Experts.

2. OBJECTIVES

The objectives for Task XVIII are:

- to identify circumstances in which DSM may mitigate GHG emissions and in which emissions mitigation programs may deliver benefits to the electricity system;
- to identify the principles involved in methodologies for assessing the GHG emissions reductions available from specific DSM measures;
- to identify ways in which DSM programs can be modified so they contribute to mitigating GHG emissions;
- to identify ways in which GHG emissions mitigation programs can be modified so they deliver benefits to electricity systems;
- to identify opportunities for funding DSM programs with revenue from trading GHG emission reductions;
- to explore whether use time of use pricing can be used to achieve mitigation of GHG emissions;
- to identify and engage stakeholders and communicate and disseminate information about DSM as a resource and as a mechanism for mitigating GHG emissions.

3. MEANS

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.

3.1 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.

Work to be Carried Out

The Task 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.

3.2 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.

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.

3.3 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.

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.

3.4 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.

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 country Experts, in order to assess the opportunities, benefits and threats involved in trading emission reductions achieved through DSM programs.

3.5 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.

Work to be Carried Out

The Operating Agent, assisted by input from country 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.

3.6 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.

Work to be Carried Out

The Operating Agent will provide information about the progress of the DSM and Climate Change Task to the country 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.

4. RESULTS

The following deliverables will be developed in Task XVIII. Further details about each of these deliverables will be made available as the work of the Task is progressively completed.

Subtask 1: Interactions between DSM and Climate Change

1. A report summarising the interactions between DSM and climate change.

Subtask 2: Principles for Assessing Emissions Reductions from DSM Measures

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

Subtask 3: Mitigating Emissions and Delivering Electricity System Benefits

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

Subtask 4: Fungibility of DSM and GHG Emissions Trading

4. 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).

Subtask 5: TOU Pricing and Emissions Mitigation

5. 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).

Subtask 6: Communicating Information about DSM and Climate Change

6. A Task Newsletter.
7. An on-line database about DSM and climate change.
8. Regional workshops about DSM and climate change.

5. TIME SCHEDULE

This Annex shall enter into force at such time as the Executive Committee, acting by unanimity of those Contracting Parties which have communicated to the Executive Director a Notice of Participation in this Annex, determines that there is sufficient participation to perform Task XVIII, taking account of both cost-sharing and task-sharing elements of the Annex. This Annex shall remain in force until 31 December 2010. Within the limits of the term of the Implementing Agreement, this Annex may be extended by two or more Participants in Task XVIII, acting in the Executive Committee, and shall thereafter apply only to those Participants.

6. RESPONSIBILITIES OF THE OPERATING AGENT

In addition to the obligations enumerated in Article 5 of this Implementing Agreement, the Operating Agent shall:

- (a) Manage and coordinate the successful completion of the Task XVIII Subtasks and the work of the different Task Experts in accordance with the Task XVIII Work Plan.
- (b) Provide semi-annual reports to the Executive Committee on the progress and results of the work performed under the Task XVIII Work Plan.
- (c) Provide to the Executive Committee within three months after completion of all work under the Task XVIII Work Plan, a Final Management Report for its approval.
- (e) Use its best efforts, in collaboration with the Participants, to avoid duplication with activities of other related programmes and projects implemented by, or under the auspices of the Agency or by other bodies.
- (e) Market and disseminate information about Task XVIII to raise and maintain interest in, and understanding of, the Task and the IEA DSM Programme.

7. RESPONSIBILITIES OF THE TASK EXPERTS

Each Task Expert shall:

- (a) Undertake about two person-months of work during the expected 24 month duration of Task XVIII.
- (b) Contribute their knowledge to the progress of Task XVIII.
- (c) Carry out any research work within their country which is required for Task XVIII.
- (d) Where participation in Task XVIII involves several organisations in their country, coordinate contributions by these organisations to the work of Task XVIII.
- (e) Attend up to two Experts Meetings and participate actively in these meetings.

- (f) Analyse and comment on draft versions of work carried out by the Operating Agent and other Task Experts.
- (g) Comment on draft versions of Task Status Reports and the Final Management Report.
- (h) Contribute to organising regional workshops held in their region, including organising an appropriate venue and inviting potential workshop participants.
- (i) At the conclusion of Task XVIII, write a memorandum to the Operating Agent describing and analysing lessons learned from their country's participation in Task XVIII.

8. MEETINGS

Two Experts Meetings will be held during the expected 24 month duration of Task XVIII on a rotational basis in one of the countries participating in Task XVIII.

9. FUNDING

The Task XVIII Budget is set at EUR 246,300. This amount will fund the Operating Agent's labour and expenses in managing and coordinating the successful completion of the Task XVIII Subtasks and in accomplishing its other obligations as Operating Agent.

Each Participant in Task XVIII will contribute an equal share of the Task XVIII Budget.

If the number of Participants changes, the value of each Participant's share of the Task XVIII Budget will be adjusted accordingly by the Executive Committee, acting by unanimity of the Participants in Task XVIII. New Participants shall pay a full equal share of the Task XVIII Budget.

The Operating Agent shall send invoices to the Participants at the commencement of the Task and nine months after the commencement. Payments from each Participant must be received by the Operating Agent no later than 30 days after the Participant's receipt of the Operating Agent's invoice.

If necessary, an increase in the Task XVIII Budget may be agreed upon by the Executive Committee, acting by unanimity of the Participants in Task XVIII.

In addition to its share of the Task XVIII Budget, each Participant shall bear all the costs of its own participation in Task XVIII, and the costs it incurs in carrying out its obligations under this Annex, including necessary travel costs.

10. INFORMATION AND INTELLECTUAL PROPERTY

The Participants and the Operating Agent shall have the right to publish all information provided to, or arising from Task XVIII, except for proprietary information. This right will commence 12 months after the completion of Task XVIII.

11. OPERATING AGENT

Energy Futures Australia Pty Ltd, acting through the Commonwealth of Australia, is designated as Operating Agent.

12. CONTRACTING PARTIES WHICH ARE PARTICIPANTS

The Contracting Parties in this Annex and Participants in Task XVIII are the following:

The Australian Government Department of Resources, Energy and Tourism

Agence de l'Environnement et de la Maîtrise de l'Energie, France

The Bureau of Energy Efficiency, Ministry of Power, India

The Ministry of Science and Technology, Spain