

Summary Report Annex VII: Contributing to the Kyoto Protocol

ANNEX VII OF THE ENERGY TECHNOLOGY SYSTEMS ANALYSIS PROGRAMME (ETSAP), an implementing Agreement of the International Energy Agency (IEA). As such, the material presented is the result of a collaborative research task, drawing upon studies performed by participants in IEA-ETSAP/Annex VII and guided by the ETSAP Executive Committee. The views and opinions expressed herein do not necessarily state or reflect those of Governments of any IEA member state, or any agency, contractor or subcontractor thereof, nor those of the International Energy Agency.

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Executive Summary

In Annex VII, the Energy Technology Systems Analysis Programme (ETSAP) continued to extend its repertoire of models and methods for analyzing energy systems, with particular emphasis on supporting on-going international cooperation in reducing greenhouse gas emissions.

The overall goal of the annex was to serve national governments and work in international fora by fostering the development of constructive policy options to reduce emissions of greenhouse gases and to promote needed energy technologies. In particular, the aims were to encourage:

- the widespread use of the ETSAP tools, methodologies, data services and knowledge by the governments of the ETSAP contracting parties
- the constructive use of ETSAP tools by other countries as well as international organizations in multilateral collaboration, discussions and negotiations
- the establishment of linkages with economic and environmental models and approaches that complement the work of ETSAP
- the maintenance and ongoing use of the ETSAP worldwide network of systems analysts
- the demonstration and deployment of new methods, with increased flexibility to depict complex energy systems (1) to evaluate joint actions among countries such as trading emissions and energy, and (2) to treat technological 'learning' in models endogenously.

There were three principal programs in Annex VII:

- *International studies*, to examine the benefits of international cooperation and trading to meet future requirements to reduce greenhouse gas emissions
- *National studies*, appropriate to and funded by the individual Participants, aimed at supporting the objectives of this annex, and

- Ongoing *research and development studies*, primarily to further the development of the TIMES model and its supporting software, the next generation of the MARKAL family of models.

On a bilateral basis, individual ETSAP participants continued their programs of outreach.

- Joint modeling programs were developed by the Netherlands and Switzerland with agencies in China.
- Switzerland promoted the evaluation of projects in Colombia for the Clean Development Mechanism (CDM) of the Kyoto Protocol.
- Norway and Sweden engaged the Baltic countries of Estonia, Latvia and Lithuania in an analysis of cooperation in trading electricity and emission permits.
- Estonia was regularly represented at ETSAP workshops.
- Germany started a cooperative program with South Africa consisting of an exchange of students in the field of energy modeling, and support in establishing a national energy model of South Africa.
- The Netherlands began a collaboration project on integrated energy planning with South African Department of Minerals and Energy, starting with a training program that also included CSIR (the central research and development agency), ESKOM (the national power company), and Capetown University.
- USA evaluated building upgrades in Taiwan as an example for the CDM.
- USA together with Taiwan initiated a program to study joint strategies to reduce greenhouse gases from the Central American countries of Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.