

Thursday, June 28, 2007
Models and Studies

Session 1:
***Contributions to the 2008 issue of the
“Energy Technology Perspective” study***

ETSAP Regular Workshop, June 28-29, 2007
Mitchell Earth Sciences Building, Stanford, California

IEA **ETSAP** ENERGY TECHNOLOGY SYSTEMS ANALYSIS PROGRAMME



In support of the G8 Plan of Action

ETSAP – IEA/ETP workshop

ETP2008 - Towards Country Level Granularity

A joint ETSAP – IEA workshop, 4-5 June, IEA
Headquarters, Paris

- Draft Proceedings 8 June 07 -

ETP2008, planned contents

The ETP2008 will contain a detailed analysis of the ETP2006 scenarios for the G8 + 5 countries. Six of these countries are separate regions in the ETP model (Canada, Japan, USA, China, India, Mexico). The other seven are not (Brazil, France, Germany, Italy, Russia, South Africa, UK). Most of the countries that are represented are very large. Regionalised country models can better capture the specifics of these countries. It is hoped that the use of more detailed models can complement and inform the ETP model analysis. A similar joint model analysis was done by the ETSAP Implementing Agreement in the late 90's which received a lot of attention.

Approach (1/3)

- A number of indicators will be used to assess the coherence and compatibility of the models. This includes data on (per capita) emissions, energy flows and energy prices (e.g. for electricity).
- The country models are run with 0- 10 - 25 – 50 – 100 - 200 USD/t CO₂, to get a feeling for their suitability for analysis of deep emissions reductions. Target is to have this ready for the next ETSAP meeting at the end of June. This quick analysis will provide insights to what extent the models are comparable and suitable for the proposed analysis, and will provide clues to what type of adjustments are needed.

Approach (2/3)

- An issue is how to deal with different national energy policies (bounds in the model), such as acceptance of nuclear in France and phase-out in Germany. As a first approach such differences will be taken into account in the analysis. Some sensitivity analysis may be done on this issue.
- In certain cases adjustments are needed to make the national databases comparable with the ETP assumptions. This includes adjustments to the technology data, demand projections and constraints.
- The country analysis will focus on 2050 only and its technology detail will be limited, given resource and time constraints.

Approach (3/3)

- The analysis will focus on four scenarios: Baseline, ACT Map, TechPlus and possibly TechPlus Plus. These national runs will be done with datasets that are consistent with the ETP dataset on 1st order effects in terms of CO2 impacts. Also the original national model will be run (Baseline and USD 25/t CO2). The difference with the ETP runs will provide an indication of the robustness of the results. The viability of a Tech Plus Plus scenario run with national models (-50% worldwide) depends on the suitability of the models for deep emission reductions. The teams from France, Germany and the UK have already analysed such scenarios. It will be important to consider demand changes as well. MARKAL elastic demand seems more suited than MARKAL-MACRO.

Program of work and schedule (1/2)

- A next meeting about this analysis will be held as part of the ETSAP meeting in Stanford on 28 June 2007;
- The IEA will identify parties for the missing four countries;
- The participants will send to the IEA (a list of) recent reports and papers that can be used to better understand the models;
- The participants will send the IEA the revised country questionnaires for distribution to the whole group;
- The IEA will provide templates for results that are needed for the analysis and a list of priority areas for national model validation;

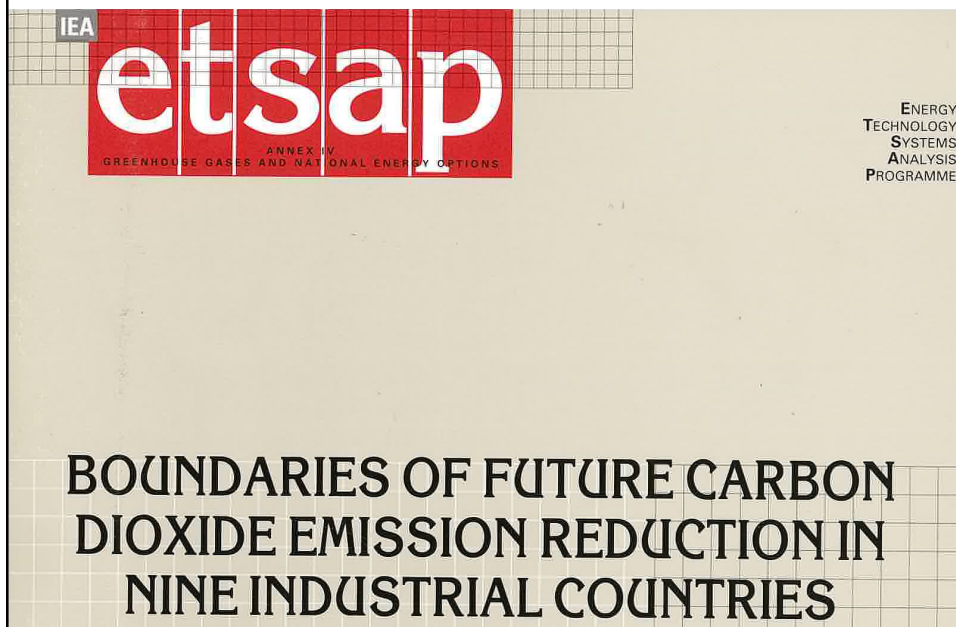
Program of work and schedule (2/2)

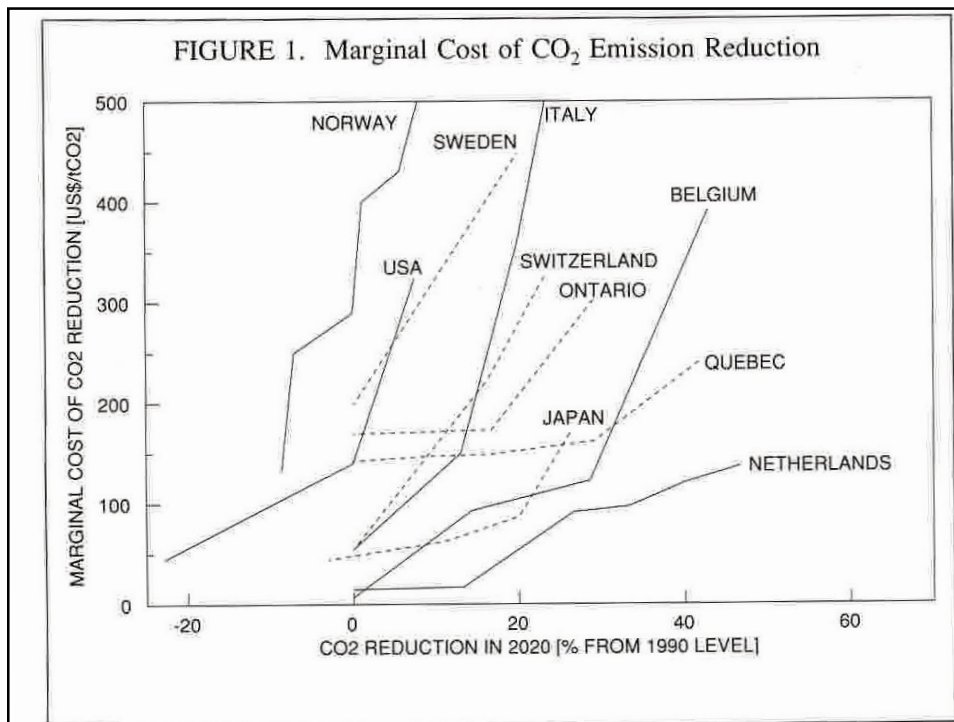
- Goal is to have draft results ready this fall, to be discussed at an expert meeting in late September-early October, followed by government review and another round of model analysis, if needed;
- The final draft ETP2008 report will be submitted to the G8 in February 2008, for preparation of the G8 summit in Japan July 7-9 2008;
- This analysis could develop into a recurring ETSAP contribution to ETP, provided there is sufficient country interest to make this into an Annex.

Agenda of the session

- 9.00-9.30 Dolf Gielen, IEA/ETO
Summary of the IEA/ETP-ETSAP meeting, held in Paris, June 4-5, 2007
- 9.30-9.45 Tom Alfstad, Brookhaven National Laboratory
Preliminary analyses with the US multi-region MARKAL model
- 9.45-10.00 Markus Blesl, Uwe Remme, IER, Stuttgart University
Preliminary analyses with the German TIMES model
- 10.00-10.15 Edi Assoumou, Gilles Guerassimoff, Nadia Maizi, Ecole des Mines
Preliminary analyses with the French TIMES model developed for NEEDS
- 10.15-10.30 Francesco Gracceva, ENEA Casaccia
Preliminary analyses with the Italian MARKAL model

Final report of Annex V (1993-5): front page





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International Energy Agency
Energy Technology Systems Analysis Program

DEALING WITH UNCERTAINTY TOGETHER
SUMMARY OF ANNEX VI (1996-1998)

Marginal Abatement Cost Curves by Country

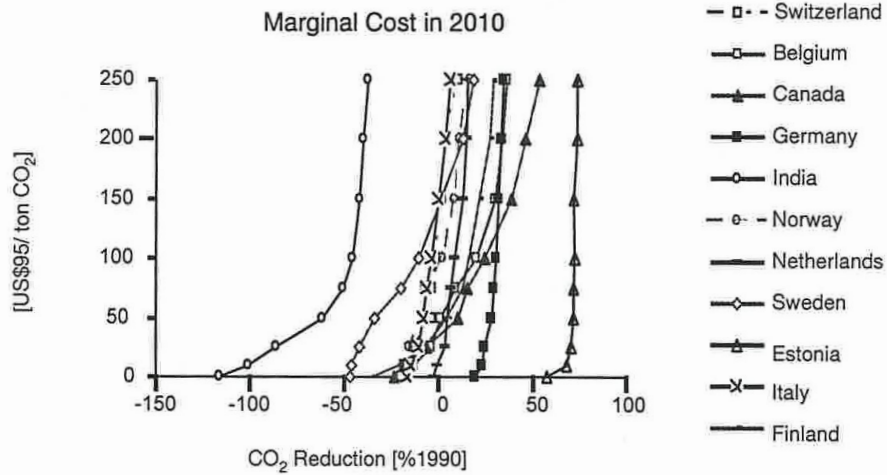


Figure 1. Marginal cost of carbon dioxide emission reduction varies enormously among different countries.