

**ETSAP - ENERGY TECHNOLOGY SYSTEMS ANALYSIS PROGRAMME**  
**Implementing Agreement of the INTERNATIONAL ENERGY AGENCY – IEA/AIE**

**DRAFT MINUTES OF THE EXECUTIVE COMMITTEE MEETING**

*Held in Paris (IEA Secretariat, 9 Rue de la Fédération) on June 25, 2004 (9:00 – 12:30)*

*To be approved by means of a written procedure (by September 24, 2004)*

**Participants**

***Country representatives***

Mr. Ken Noble	Australia
Ms. Anne Fierens	Belgium
Mr. Hertsel Labib	Canada
Mr. Domenico Rossetti di Valdalbero	European Commission
Mr. Alfred Voss	Germany
Mr. GianCarlo Tosato (Project Head)	Italy
Mr. Young Gu Park	Korea
Mr. Koen Smekens	The Netherlands
Mr. Audun Fihje	Norway
Ms. Eva Centeno Lopez	Sweden
Mr. Socrates Kypreos	Switzerland
Mr. Tanay Sidki Uyar	Turkey
Mr. Peter Taylor (Deputy Chair)	United Kingdom

***“Stand-ins”***

Mr. Antti Lehtila, for Ms. Raija Pikkupyhälto	Finland
Mr. GianCarlo Tosato, for Mr. George Giannakidis	Greece
Mr. Osamu Sato, for Mr. Mutsuo Nishioka (Deputy Chair)	Japan
Mr. Chip Friley, for Mr. Brian Unruh	United States

***Guests***

Mr. Erik Ahlgren	Chalmers, Sweden
Mr. Markus Blesl	IER, Stuttgart, Germany
Ms. Chien Hui Chien	Taiwan EPA
Mr. John Conti	US-EIA
Mr. Carmen Di Figlio	IEA Secretariat, Head of ETP
Mr. Gary Goldstein	ETSAP, Primary System Coordinator
Mr. Heejung Kang	Korea
Mr. Amit Kanudia	Canada / India
Mr. Evasio Lavagno,	Operating Agent, Torino, Italy
Mr. Dan Loughlin	US-EPA
Mr. Richard Loulou	Canada
Mr. Sam Morris	ETSAP News, Editor
Ms. Jin-Young Park	KEMCO, Korea
Mr. Uwe Remme	IER, Stuttgart, Germany
Mr. Mehdi Sadeghi	Imam Sadiq Uni, Tehran, Iran
Mr. Alimorad Sharifi	Isfahan Uni, Iran
Mr. Fridtjof Unander	IEA Secretariat, ETSAP Desk Officer

***Opening***

The Deputy Chair of ETSAP, Peter Taylor, opened the meeting at 9.00.

He welcomed Ms. Eva Centeno Lopez and Mr. Audun Fidje, the new delegates of Sweden and Norway.

He welcomed Dr. Chien Hui Chien, who is organizing an Annex IX technical conference on behalf of the Taiwanese Energy Protection Agency, Prof. Mr. Alimorad Sharifi and Prof. Mehdi Sadeghi, who intend to use ETSAP tools for the Iranian energy plan, Dr. John Conti and Dan Loughlin, who employ ETSAP tools in their activities at the US-EIA and US-EPA.

***1. Quorum Count***

The chair ascertained that there was a quorum.

***2. Agenda***

The Agenda was adopted with an adjustment to the order (*in Italics*) for a presentation from Taiwan to accommodate the early departure of the Dr. Chien, as follows:

**1. Quorum Count****2. Adoption of the agenda**

2a - *Annex IX Technical conference, hosted by Taiwan EPA, Taipei, March 2005 (Att. G10)*

**3. Results of the written procedure (Attachment G1)****4. IEA/ETSAP Implementing Agreement:**

- 4.1 - Communication from the Secretariat, ETSAP extension (Attachment G2)
- 4.2 - Report of the Workshop

**5. Annex VIII (Exploring Energy Technologies Perspectives):**

- 5.1 - 2003 Annual Report (Attachment G3)
- 5.2 - 2003 Budget (Attachment G4)
- 5.3 - 2004 Program of Work (Attachment G5)
- 5.4 - 2004 Participants' Fees and Budget Proposal (Attachment G6)
- 5.5 - Guidelines for the distribution of ETSAP tools (Attachment G7)

**6. Annex IX (Energy Models Users' Group)**

- 6.1 China Multi-Province Energy Model Proposal (Attachment G8)
- 6.2 Others

**7. Proposals for Annex X (2005-7) (Attachment G9)****8. Election of the Chairperson****9. Other business:**

- 9.1 - IEA "Ad-hoc group energy science technology", presentation by Mr. Hoshino, IEA/EET
- 9.2 - Next ETSAP regular Workshop: Florence (Italy) Nov. 22-26, 2004
- 9.3 - *Annex IX Technical conference, hosted by Taiwan EPA, Taipei, March 2005 (Att. G10)*
- 9.4 - 2005 Joint IEW Workshop: Kyoto (Japan) July 4-8 (promoted by Prof. Kaya)
- 9.5 - Others

<b>Attachments:</b>	G1	Results of the written procedure, held in February 2004
	G2	ETSAP five year extension: excerpt from the minutes of the meetings held by the End Use Working Party in March 2004 and the CERT in June 2004
	G3	2003 Annual report
	G4	2003 Budget
	G5	2004 Program of work
	G6	2004 Budget Proposal
	G7	Guidelines for the distribution of ETSAP tools
	G8	China Multi-Province Energy Model Proposal
	G9	Proposals for Annex X: Objective and means
	G10	Conference Announcement

## 2a Annex IX Technical conference, to be hosted by Taiwan EPA, Taipei

It was noted that essentially no developing countries were represented in the meeting. In an attempt to engage developing countries in ETSAP a meeting in Taiwan is being planned under Annex IX for early 2005 (see first announcement in attachment G10; if the extension is accepted, see below, points 6 and 7). Besides hosting the meeting, the Taiwan EPA (TEPA) has offered to invite experts from developing countries in Asia and Latin America, who are currently engaged in regional MARKAL capability building projects. In addition, travel and lodging costs for two ETSAP experts will also be covered by the TEPA. The offer of the Taiwan EPA to host an Annex IX Technical conference, in Taipei, April 4-7, 2005, was endorsed by the Executive Committee. The Project Head will either coordinate the planning of the meeting, or designate someone to do so.

### ***3. Results of the written procedure***

The Project Head communicated the results of the written procedure held in February – March 2004. The representatives of Australia, Belgium, Canada, Germany, Greece, Korea, Italy, Japan, Netherlands, Sweden, Switzerland, Turkey, UK and US sent back the questionnaire with positive answers. Nobody opposed. Therefore the Executive Committee has approved:

- the End of Term report (pages 10-23 of attachment G2);
- the request of a five-year extension of the ETSAP Implementing Agreement, whose revised text is posted at <http://www.etsap.org/Annex/IAtext-rev2-Feb04withlogo-final.pdf>, and
- the minutes of the Executive Committee meeting held in Beijing (October 23, 2003) (the text is reported in Attachment G1).

Regarding the five-year extension as well as the update text of the Implementing Agreement (IA), the European Commission representative stated that:

- 1) there are currently legal discussions between the IEA Secretariat and the Commission concerning the IEA "Framework" for International Energy Technology Cooperation, and
- 2) in the present circumstances, the Commission cannot remain a Contracting Party to the extended and updated IA and consequently cannot pay its annual contribution.

As soon as the issues with respect to the application of the "Framework" to new and existing IAs to which the Commission is Contracting Party are solved, the Commission anticipates rejoining the ETSAP IA.

### ***4. IEA/ET SAP Implementing Agreement***

#### **4.1 Communication from the Secretariat, ETSAP extension**

As part of the formal review by the IEA of each Implementing Agreement, Peter Taylor and GianCarlo Tosato made presentations on behalf of ETSAP to the End Use Working Party (EUWP) and to the Committee on Energy Research and Technology (CERT) (see attachment G2). Owing to this and strong support from the IEA Energy Technology Policy office and the member countries, ETSAP was granted a five-year extension. Taylor and Tosato were congratulated for their hard work and excellent collaboration with the IEA secretariat (applause).

#### **4.2 Report of the Workshop**

The ETSAP meetings were hosted by the IEA and held in conjunction with the International Energy Workshop (IEW, jointly run by Stanford University and IIASA). All agreed to thank IEA for hosting the meeting, and in particular the desk officer (Fridtjof Unander) for his efforts in coordinating logistics. A discussion ensued regarding the considerable benefit arising from holding the ETSAP meeting, owing to the number of world-class energy modellers drawn to the IEW. The Project Head recommended that ETSAP strive to schedule one of the bi-annual ETSAP workshops to coincide with the IEW on a regular basis. This idea was endorsed by the Executive Committee, continuing with the next IEW (see 9.4).

## 5. Annex VIII: Exploring Energy Technologies Perspectives

### 5.1 2003 Annual Report

The Project Head briefly elaborated the main achievements of Annex VIII “Exploring Energy Technology Perspectives” in 2003.

#### *Analyses*

ETSAP partners continued to support directly or indirectly the use of global multi-regional energy models at the US Department of Energy’s Energy Information Administration in the form of the System for Analysis of Global Energy markets (SAGE) and at the IEA with the Energy Technology Perspective (ETP) project.

ETSAP national teams in Belgium, Finland, Germany, Italy, Japan, Korea, Netherlands, Sweden, Switzerland, UK, and the USA carried out regional, national or local analyses and studies. The various studies dealt with the prospects for a hydrogen economy, experience curves and technological change, emission permit allocations and multi-gas mitigation strategies, internalizing externalities, white and green certificates, and local mitigation strategies. Preliminary national modelling efforts have been started in New Zealand and Turkey. The work with both MARKAL and TIMES being done by the modelling team at the Energy Research Centre or the University of Cape Town, South Africa was also noted. Papers and presentations on the various studies are downloadable from, or links may be found on, the ETSAP web site.

#### *Tools*

The MARKAL model generator has been improved, particularly the version to generate multi-regional global models. This is particular true with regard to supporting the IEA ETP project, where enhancements were made to the core model to better represent the global energy system. The endogenous technology learning and myopic (time stepped) versions are now available for general use.

The new TIMES model generator has been further tested and is now being used by teams in Finland, Germany, European Fusion Development Agreement (Germany, Austria, Spain, Italy, etc.), Italy, and South Africa.

The ANSWER users’ interface for MARKAL has been improved to better support multi-region (global) databases. This was instrumental in enabling the IEA ETP project to effectively and efficiently manage the world energy database supporting the global model.

The VEDA users’ interfaces for MARKAL and TIMES have been further developed. Version 4 of the VEDA Back-End (VEDA-BE), producing tables with drag and drop functions across existing model dimensions, has improved grouping capabilities across scenarios and runs through an extended use of sets. GAMS Development Corporation has developed a VEDA “dump” utility, GDX2VEDA, to facilitate passing data from the modelling environment to VEDA-BE. This technique is optionally operational for MARKAL, and the only means by which results are passed from TIMES to VEDA-BE. A beta version of the VEDA Front End (VEDA-FE) had been distributed in February 2004 to TIMES users for further testing. Improved versions were distributed at the ETSAP workshop in Paris, and are available for downloading (for authorized users) from the ETSAP website. VEDA-FE is also supporting the SAGE model at EIA and the six-state New England MARKAL model under development.

#### *Documentation*

A major effort has been underway since February to replace the twenty years old MARKAL documentation by a new, comprehensive MARKAL reference manual. The first (nearly) complete draft of the documentation is ready for review and comment by ETSAP partners and other interested parties. After revision and completion of the MARKAL documentation, the documentation of TIMES will get underway.

#### *Dissemination*

The ETSAP web site was revamped in March 2004 to a new, better structure and with improved content. From the front page (exemplified in figure 1) more information is directly accessible. Further to the material related to ongoing annexes, the site makes publicly accessible official documents, decisions and reports produced, as well as those arising from previous annexes.

## What is ETSAP ?

The Energy Technology Systems Analysis Programme (ETSAP) is an [Implementing Agreement](#) of the International Energy Agency (IEA), first established in 1976. It functions as a consortium of [member country teams](#) and invited teams that actively cooperate to establish, maintain, and expand a consistent multi-country energy /economy /environment analytical capability.

Its backbone consists of individual national teams in over 35 countries, and a common, comparable and combinable [methodology](#), mainly based on the MARKAL / TIMES family of models, permitting in-depth national, multi-country, and global energy and environmental [analyses](#).

ETSAP holds open [workshops](#) twice a year, to discuss methodologies, disseminate results, and provide opportunities for new users to get acquainted with advanced energy-technology developments.

As part of its outreach activities, ETSAP collaborates with many other [research teams](#) throughout the World, participates in various global forums, and makes its [Newsletter](#) and its [Workshop Proceedings](#) available online to the public at large.

## NEWS

- MARKAL documentation is available now. Follow the link "Documentation" on the main menu.
- Next semi-annual regular ETSAP will be held in the week 22-26 November 2004 in Florence (Tuscany, Italy) at the "Palazzo Ricasoli". Special room prices are available by reserving before October 30. For details, see the [draft program](#) and the program of a [special event](#) for Italians on November 25, 2004.
- Call for Papers for the "[Technical Conference of Energy Models Users' Group: Global and Regional Energy Modelling](#)", to be held in Taipei (Taiwan), April 4-7, 2005 (Abstracts due January 10, 2005).
- The Executive Committee held in Paris Friday June 25, 2004, appointed Mr. Hertsel Labib (NRCan) new chair of ETSAP. The delegates expressed words of thanks to Mr. Phillip Tseng, who chaired the committee for more than four years, wishing him success in his new position at the US Energy Information Administration.
- The Energy Technology Collaboration Division Head, Dr. Antonio Pflueger, communicated that "the IEA Committee on Energy Research and Technology (CERT) has agreed to extend the term of ETSAP for a period of five years, i.e. until 30 June 2009".
- ETSAP participants and users are invited to comment objectives and tasks for the coming years, in view of the final discussion and approval of [Annex X](#).

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**Figure 1:** Reproduction of [www.etsap.org](http://www.etsap.org) home page.

As in the previous years, two issues of the ETSAP newsletter were prepared and disseminated in 2003. These reports are written in less technical language and include an extended summary of accomplishments by various ETSAP members and others employing the ETSAP tools.

### *Workshops and Training*

In 2003 two workshops were organized. The spring meeting took place in Vienna on June 23-27, 2003, and was held in association with the IEW. About one third of the experts attending the IEW were ETSAP members; where some 20 presentations reported analyses using ETSAP tools. Training courses on ETSAP tools have been offered by IRG at US-EPA, by ECN to Swedish and Spanish experts and by IER/KanORS to experts who will be involved in EFDA and NEEDS projects.

The second semi-annual workshop was held in Beijing in October 19-24, 2003. Two days were devoted to the joint China – IEA seminar on "Energy Modelling and Statistics". About 60 Chinese and 20 foreign experts participated to the workshop. Side meetings and discussions gave the opportunity to carry out common activities related to ETP and to a new proposed multi-province China energy model to which ETSAP is providing some conceptual and organization assistance.

The Executive Committee approved the 2003 Annual Report (see attachment G3)

## 5.2 2003 Budget

The Executive Committee discussed the 2003 budget. Volunteer contributions from Germany and the USA were noted. It was also noted that a few participants had not yet paid the 2003 fee. Assuming said payments are received, ETSAP will carry forward a balance of 227,783 € into 2004. As requested by the representative of the European Commission, the subcontracts are broken down in the budget statement by contractor and by country (see attachment G4).

## 5.3 2004 Program of work

Activities planned for 2004 include (see attachment G5):

- Completing the MARKAL documentation, with the goal being to finalize it within 2months;
- Completing the TIMES documentation;
- Providing ongoing support for MARKAL and ANSWER;
- Advancing TIMES, including preliminary work on "macro" economic coupled version of TIMES, development of the Climate Module, as well as experiments with more powerful versions;
- Continued advancement of the VEDA systems, as needed;
- Updating documentation on the shells, both ANSWER and VEDA-FE/BE;
- Continued support to the IEA ETP project, and
- Supporting outreach activities including, but not limited to, China multi-region, Brazil, Kazakhstan, and Iran.

Owing to the advent of global models employing the ETSAP Tools, there was a suggestion that ETSAP participate in EMF22 "*Climate Policy Scenarios for Stabilization and in Transition*" (*Tentative Title*), both to raise outside awareness of ETSAP and for ETSAP to be more fully engaged with the rest of the global energy modelling community. This will require the inclusion in TIMES of climate impact equations. Richard Loulou will serve as the coordinator of this activity.

Improvements to the web site and the opening of a chat room have been proposed.

After discussion the Executive Committee approved the program of work by unanimity, including the endorsement of the idea of participating in EMF22.

## 5.4 2004 Participants' fees and Budget Proposal

Mr. Tosato proposed to allocate the funds to be conferred by the twelve participants in 2004 and carried forward from 2003 in order to implement the program of work described above. With the updates explained in the preface, it is possible also to participate to EMF22 and to include the climate equations in TIMES, maintaining reserve funds for about 100k€.

The Executive Committee confirmed the 2002 participation fee of 24000€ per participant per year for 2004. The Project Head suggested that beginning with the next Annex X the participation fee should be reduced to 20.000 €.

The Executive Committee approved by unanimity the 2004 budget (see attachment G6).

## 5.5 Guidelines for the distribution of ETSAP tools

ETSAP has been re-writing the Guidelines for Distribution and Use of the ETSAP Tools (see attachment G7). There was a discussion as to exactly what should appear in this write-up (e.g., pricing of 3rd party software), and how comprehensive it should be. There was a question raised with regard the fees collected by ETSAP for the ETSAP Tools (the MARKAL and TIMES models). It was proposed that a version of the model source code be made available at no cost to interested parties, after the execution of a Letter of Agreement governing the use of the ETSAP Tools, but without provisions for any support, and that ETSAP would also make the models available providing limited support for a nominal fee.

It was agreed that the Project Head would complete the redraft of the Guidelines and then submit it to IEA Office of the Legal Counsel. Until the Executive Committee and IEA legal approve the updated Guidelines, current rules apply.

## 6. Annex IX: Energy Models Users' Group

Owing to the increased flexibility with regard to participation in an IEA Implementing Agreement, which embraces provisions for participation by non-IEA countries, it was agreed that Annex IX should not be renewed in the future. However, it will be extended on a no-cost basis so that it coincides with the end of Annex VIII.

### 6.1 China Multi-Province Energy Model Proposal

After the proposal launched during the Beijing Workshop, Mr. Tosato and Dr. Yufeng YANG, with input from others, have drafted a proposal for the China Multi-Province Energy Model Proposal (see Attachment G8). The proposal has been discussed in March in Manila with officers of the Asian Development Bank (ADB) and with those responsible for energy and environment issues at the Beijing Branch of the ADB. A revised version of the project will be submitted to the Ministry of Finance of the Chinese Government for co-financing before a formal submission to the ADB for a grant for the undertaking is put forward in fiscal year 2005.

### 6.2 Others

As part of ETSAP's outreach activities the Project Head participated in a training course in Nanjing (China), and gave a demonstration of ETSAP tools in Tehran (Iran) on the occasion of the 27<sup>th</sup> International Conference of the International Association of Energy Economists (IAEE). The Primary Systems Coordinator (PSC) represented ETSAP at a joint IEA/Brazil seminar on Energy Modelling and Planning. The seminar was very well attended by over 120 Brazilian energy experts from the Ministry of Mines and Energy (MME), various universities, and the major Brazilian energy players (e.g., Petrobras, Electrobras). The ETSAP presentation was very well received. As part of the MME's planning initiatives a new "institution" for Energy Planning will be formed. The ETSAP Tools are under consideration for the core planning tool to be employed by this new entity. The PSC will continue the engagement with the relevant parties in Brazil.

## 7. Proposals for Annex X (2005-7)

The Project Head illustrated the objectives of next proposed Annex X (see Attachment G9):

- R&D priority setting;
- Impacts of R&D and learning;
- New global analysis with involvement with local analysts;
- Common analysis to set priorities;
- Development;

- Simplification of models;
- Conceptual analysis to underlie better models, and
- Maintenance, enhancement and development.

A suggestion was made to also include in the Annex X program of work an “In-reach” initiative designed to foster the use of the global models employing the ETSAP Tools, most notably ETP, SAGE and EFDA.

The project head will submit to the Executive Committee a new draft Annex 10, for final adoption.

### ***8. Election of the Chairperson***

Dr. Hertsel Labib, the Executive Committee representative from Canada, was nominated and unanimously elected the new ETSAP Executive Committee chairperson. Gratitude was expressed to Phillip Tseng, the previous ETSAP Executive Committee Chairperson who has elected to step-down owing to changes in his responsibilities at the US DOE. The current Deputy Chairs, Peter Taylor of the UK and Mutsuo Nishioka of Japan, were re-elected.

### ***9. Other business:***

#### **9.1 IEA “Ad-hoc group energy science technology”**

Mr. Hoshino, IEA/EET presented the IEA “Ad-hoc group energy science technology” and invited ETSAP to contribute with a presentation to the conference "New links between basic research and applied energy R&D - The computational approach" (Berlin, November 8-9, 2004). The Executive Committee accepted the invitation and asked the Project Head to represent ETSAP.

#### **9.2 Next ETSAP regular Workshop**

The Executive Committee approved venue and date of next semi-annual regular ETSAP workshop: Firenze (Tuscany, Italy) at the "Palazzo Ricasoli", November 22-26, 2004.

#### **9.4 2005 IEW ETSAP Joint Workshop**

The Executive Committee approved to hold again the first semi-annual 2005 workshop jointly with the International Energy Workshop, which will take place in Kyoto (Japan), July 4-8 (promoted by Prof. Kaya).

#### **9.5 Others**

The Energy Research Institute of the University of Cape Town, has invited ETSAP to hold its second semi-annual regular workshop in Cape Town, South Africa (Oct-Nov 2005). The project head invited the Executive Committee to accept the proposal at next meeting.

The Executive Committee Meeting ended at 12:30.