

**The Implementing Agreement of the INTERNATIONAL ENERGY AGENCY for a PROGRAMME of ENERGY TECHNOLOGY SYSTEMS ANALYSIS (IEA/ ETSAP)**

*DRAFT MINUTES OF THE EXECUTIVE COMMITTEE MEETING  
Held on Thursday, November 22 (16.00 – 19.00), 2007, at the  
Gran Bittar Hotel, Setor Hoteleiro Sul, Quadra 05 Bloco "A", Brasilia*

**PARTICIPANTS**

***Contracting Parties' Representatives:***

Belgium	Ms. Anne Fierens
Canada	Mr. Hertsel Labib
United Kingdom	Mr. Stephen Pye

***"Stand-ins":***

Denmark	for Mr. Aksel Laurids Beck	Mr. GianCarlo Tosato
Germany	Mr. Alfred Voss	Mr. Uwe Remme
Greece	Mr. George Giannakidis	Mr. GianCarlo Tosato
Korea	for Mr. Jong-Whan NOH	Mr. GianCarlo Tosato
The Netherlands	for Mr. Koen Smekens	Ms. Anne Fierens
Sweden	for Mr. Klaus Hammes	Mr. Hertsel Labib
Switzerland	for Mr. Socrates Kypreos	Mr. GianCarlo Tosato

***Contracting Parties not officially represented***

Australia	
European Commission	Mr. Mathieu GRISEL
Norway	
Finland	Ms. Pia Salokoski
Italy	Mr. Vincenzo Cuomo
Japan	Ms. Kiyoka Miki
United States	Mr. Carmen Di Figlio

***ETSAP Representatives:***

Operating Agent	Mr. GianCarlo Tosato, Italy
Primary Systems Coordinator	Mr. Gary Goldstein, US

***Guests:***

Mr. Audun Fidje	Institute for Energy Technology (IFE), Norway
Mr. Maurizio Gargiulo	Polytechnic University of Turin (PoliTo), Italy
Mr. Gilles Guerassimoff	Ecole de Mines Paris, Sophia Antipolis, France
Mr. Gilberto Hollauer	Ministry of Mines and Energy, Brazil
Mr. Evasio Lavagno	Polytechnic University of Turin (PoliTo), Italy
Mr. Richard Loulou	HALOA Inc., Montreal, Canada
Ms. Denise van Regemorter	KUL, Leuven, Belgium
Mr. Tanay Sitki UYAR	Marmara University, Istanbul, Turkey

## Opening

Mr. Hertsel Labib, chairman of ETSAP, opened the meeting at 16.00. Mr. Labib welcomed all and thanked them for their willingness to change date and time of the ExCo meeting. He also thanked Dr. José Carlos Gomes Costa and Dr. Gilberto Hollauer (Ministry of Mines and Energy, Brazil) for making appropriate facilities available and hospitality. And he also thanked the ETSAP Mr. Tosato and experts for making this workshop so successful. Mr. Labib also announced that two Contracting Parties appointed new delegates: Mr. Mathieu GRISEL by the European Commission and Ms. Kiyoka Miki by Japan.

## 1. Quorum Count

As listed in the text of the Implementing Agreement, presently ETSAP has 17 Contracting Parties, requiring 9 to be represented for a Quorum. With 3 Contracting Parties represented by the delegates and 7 Stand-ins a Quorum is present.

## 2. Agenda

The Agenda was adopted, as follows:

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1. Quorum Count
  2. Adoption of the agenda
  3. Adoption of the minutes of the ExCo held in Stanford (Attachment N1)
  
  4. IEA/ETSAP Implementing Agreement
    - 4.1 - Energy Technology Perspectives (ETP2008): update
    - 4.2 - Network of Expertise in Energy Technology (NEET): update
    - 4.3 - Ad Hoc Group on Science and Energy Technology (AHGSET): possible co-operation (Attachment N2a-b)
    - 4.3b - Possible cooperation with the Renewable Energy Technology Deployment (RETD)
    - 4.4 - Other communication from the Secretariat (Attachment N2c)
    - 4.5 - The Netherlands' request to use ETSAP logo in the national IA web site
  
  5. Annex X (2005-2007): Global Energy Systems and Common Analyses
    - 5.1 - Report of activities
    - 5.2 - Approval of the conditions to access the ETSAP TIMES Integrated Assessment Model (Attachment N3)
    - 5.3 - Budget (Attachment N4)
    - 5.4 - The country-out-region-in versions of the ETSAP-TIAM model
  
  6. Annex XI: Joint studies for new and mitigated energy systems
    - 6.1 - Approval of the final draft (Attachments N5 and N6)
    - 6.2 - Towards an IEA/ETSAP technology database
    - 6.3 - ORDECSYS (Alain Haurie) proposal for a distance training course on TIMES/VEDA
  
  7. Other business
    - 7.1 - Report of the Workshop
    - 7.2 - Next workshop: Paris, June 30-July 4, 2008

### Attachments:

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| N1      | Draft Minutes of the previous Executive Committee, held in Stanford, Thursday, June 28, 2007 |
| N2a-b   | AHGSET letter and work plan  |
| N2c     | Letter from the Chair of the End-Use Working Party   |
| N3final | Conditions to access the ETSAP-TIAM model: final draft                                       |
| N4      | Budget   |
| N5final | Annex XI: JOint Studies for New And Mitigated Energy Systems (JOSTNAMES)                     |
| N6      | Intention to participate to Annex XI: letter form  |
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### 3. *Adoption of the minutes of the ExCo held in Stanford (Attachment O1)*

The ExCo minutes of the Stanford meeting had been sent to the representatives prior to the workshop. No observations were received by Mr. Tosato prior to meeting. The minutes were adopted without change.

### 4. *IEA/ETSAP Implementing Agreement*

#### 4.1 *- Energy Technology Perspectives (ETP2008): update*

Mr. Uwe Remme, who is currently assisting with the preparation of the ETP2008, presented at the Workshop (Tuesday, see final program at [www.etsap.org](http://www.etsap.org)) a report on the IEA activities, on behalf of Mr. Peter Taylor and Mr. Dolf Gielen, who could not attend.

In June the IEA has requested to the ETSAP partners to conduct country analyses to provide more detail for some of the ETP scenarios. Some teams have responded positively and contributed to the ETP scenarios. However, the report will describe only aggregate results for the most demanding scenario (Blue scenario, 50% CO<sub>2</sub> emission reductions by 2050). So the IEA suggested the possibility of ETSAP publishing the detailed country results of the Blue scenario in an ETSAP report (after ETP2008 is published). To this end Germany, Italy, the United Kingdom, France, the United States, and South Africa have indicated a willingness to provide their results for a common publication, and China and Japan are in negotiation; missing are Russia, Brazil, Mexico and South Korea. The ExCo supported the idea of ETSAP proceeding with its own publication. The Chair will contact all country representatives asking if they want to be included, and when assembled get the approval of those participating for publication and distribution for the common analysis report.

#### 4.2 *- Network of Expertise in Energy Technology (NEET): update*

The IEA/NEET held joint workshops with South Africa, China and now Brazil; the workshop presentations and contacts may be found on the NEET website. It is currently in discussions with Mexico regarding holding a meeting there, and it is expected that a meeting will be held in India in April and in Russia next summer. The primary goal of the IEA/NEET is to engage the Plus-Five, plus Russia and invite them to participate in various IEA Implementing Agreements.

It is clearly important for ETSAP to participate to this process. Mr. Tosato noted that ETSAP has attended the three NEET workshops organised so far. There has been an indication from China that they may be interested in joining ETSAP.

#### 4.3 *- Ad Hoc Group on Science and Energy Technology (AHGSET) (Attachments N2a-b)*

The Chair read a letter received from John Soderbaum and Jim Skea, co-chairs of the AHGSET regarding possible areas of cooperation. The group has been working under the IEA Secretariat for two years looking to see if new branches of science can contribute to future energy systems, such as advanced hydrogen, nano-technology, etc... The AHGSET wants to know if any organizations that may want to participate in their activities, and has requested a list of contacts. Mr. Tosato will provide the list of ETSAP institutions. Furthermore, ETSAP will raise the prospect of offering to use the ETSAP-TIAM model to evaluate the global potential for some of the AHGSET technologies of interest. AHGSET would be expected to provide the necessary data, as well as some funding for the exercise, and ETSAP would conduct an assessment, and a joint report would be produced. From an ETSAP perspective this could serve as an excellent example to the IEA Secretariat of how ETSAP can perhaps provide such analyses to other implementing agreements, providing global long-range insights to the benefits that could arise from their activities.

4.3b - *Possible cooperation with the Renewable Energy Technology Deployment (RETD)*

The Chair read a letter received from the RETD, a new IEA Implementing Agreement. One of their first activities will be to examine the potential for renewables in global energy strategies. As was just suggested with regard to the AHGSET, ETSAP will offer to conduct an analysis using the TIAM with an eye towards producing another joint publication.

4.4 - *Other communication from the Secretariat (Attachment N2c)*

Discussions turned to interest in participation in ETSAP by various countries.

- The Executive Committee unanimously resolved to invite the Government of France, Denmark and Turkey to join the Energy Technology Systems Analysis Program as a Contracting Party.
- Seconding the objectives of NEET, the Executive Committee unanimously resolved to invite the Government of Brazil, China, India, Mexico and South Africa, as well as Russia, to join the Energy Technology Systems Analysis Program as a Contracting Party.
- There are indications that Norway intends to participate to Annex XI. Since Norway has never withdrawn formally from the Implementing Agreement, it can "reactivate" its membership without having to complete all of the steps for joining the Implementing Agreement.
- With the departure of Mr. Sato Osamu, and thereby the inability of JAERI to continue to represent Japan, Mr. Tosato is asked to find another possible lead institution to represent Japan in ETSAP.

The IEA Legal Office makes the members of the Executive Committee aware that the answers to many questions that may come up concerning the IA are available in the IA Handbook, available online at the impag website: <http://www.iea.org/impag/index.asp>. The username is "impag" and the password is "brandy." On the "impag" homepage, click on "IA Handbook", which is at the top right in the second row of tabs. The model letters are now available in Word form, so they may be downloaded and filled in.

ETSAP is part of the IEA End-Use Working Party, chaired by Mr. Peter Kunz. Since there are too many Implementing Agreements under the EUWP, deputy chairs have been appointed. Mr. Peter Versteegh (NOVEM, The Netherlands) has been appointed Vice Chair for ETSAP. Mr. Versteegh is familiar with ETSAP, as 10 years ago he reviewed activities and programmes of ETSAP. He will be invited to attend the ExCo as of next meeting.

4.5 - *The Netherlands' request to use ETSAP logo in the national IA web site*

Koen Smekens, the delegate of the Dutch Contracting Party, has requested to add the ETSAP logo to a new web site in Dutch ([http://www.senternovem.nl/KEI/21\\_netwerken/51\\_ia/index.asp](http://www.senternovem.nl/KEI/21_netwerken/51_ia/index.asp)). SenterNovem is performing a task to bring all IAs, and other energy related international activities under a single umbrella in order to enhance (internal) communication between the IAs and to offer a joint platform for external communication and information dissemination. Links are made to the official IA websites. Each Dutch delegate decides which relevant and new information is posted directly on the SenterNovem site as well. Adding the logo would enhance recognisability of each IA.

The ExCo welcomes the reference to ETSAP on the SenterNovem website. ETSAP would like to reciprocate by linking to SenterNovem. As soon as the Dutch Contracting Party will resume its full participation as paying party, the ExCo will give the permission to use its logo.

## 5. *Annex X (2005-2007): Global Energy Systems and Common Analyses*

### 5.1 - *Report of activities*

An initial draft of the final report is expected to be prepared by the end of February. It will illustrate the main activities carried out during Annex X and the objectives that have been achieved. Newsletter Issue 6 will be summary of final report that will be compiled once the draft report is assembled, most likely March 2008. Mr. Tosato notes that the Final Report of this Annex had an additional importance owing to the need to submit the Implementing Agreement activity report to the IEA as part of requesting continuation of the Agreement.

Mr. Tosato noted that there are 233 MARKAL-TIMES licensed institutions in 69 countries (the updated list has been posed on the ETSAP website) as of December 2007.

As presented during the Workshop, the ETSAP-TIAM global model has been recalibrated to the IEA Energy Balances of 2005 and it has been updated in several other parts. A prototype extract-a-country utility is ready and used during the Workshop. Mr. Tosato and Mr. Loulou will put together a list of topics to be proposed as topics for possible papers that can be produced from ETSAP TIAM. The ExCo was also strongly encouraged to work within their governments to try to insert someone from the ETSAP network into the IPCC WG3 for AR5. Nominees probably need to be put forward to the IPCC by mid 2008.

After completing the contribution to the working group “Hedging Policies under Climate Uncertainties” of EMF-22, the working group on “Transition Policies” will resume activities at the beginning of next year.

For the first time participants were requested to register on line for the Brasilia workshop. This greatly assisted both ETSAP and the Brazilian organizers with preparation for the workshop, and will now be standard practice.

As illustrated during the Workshop, the TIMES model generator has been improved as follows:

- Improved Climate Module, implementation and documentation;
- Non-constraining User Constraints;
- Two-objective programming allowing n% deviation;
- Trade-off curves;
- Exploration of near equilibrium solutions; and
- Uncertain RHS attributes for User Constraints.

VEDA-FE also saw substantial improvements, most notably:

- VEDA-Navigator has been further streamlined;
- Preliminary case management has been added for tracking runs, and
- A redesign of the management of large multi-region models, to improve performance in some circumstances, has been done.

The tutorial “Getting Started with VEDA-TIMES” will be posted at [www.etsat.org](http://www.etsat.org) before the end of the year.

The beta version of a fully functional multi-region ANSWER/TIMES system was distributed and demonstrated at the workshop; a draft user’s guide is available as well. It shows good promise, in particular for users familiar with ANSWER/MARKAL of building more traditional (less then enormous) TIMES models.

Mr. Tosato also noted that the ETSAP Guidelines for access to the ETSAP Tools was updated to reflect some adjustments to the pricing of ANSWER. The updated Guidelines have been posted on the website.

5.2 - *Approval of the conditions to access the ETSAP TIAM Model (Attachment N3 final)*

The proposed Guidelines to access the ETSAP TIMES Integrated Assessment Model had been distributed to the ExCo prior to the meeting. The Guidelines include a Letter of Agreement, which will need to be executed by parties interested in obtaining TIAM. Other than some minor editorial changes, the only other suggestion was that rather than identifying individuals to serve on the review committee (the TIAM developers, the Operating Agent) the Operating Agent establishes instead an editorial board. This change was agreed to.

Mr. Pye asked exactly what the training requirements will entail. Mr. Tosato indicated that this was basically part of a screening process to ensure the requesting institutions have the skills and experience necessary to be reasonably confident that they will be able to produce creditable results using TIAM. If there is some question in this regard a training workshop is expected to be able to bring capable teams fully up to speed and able to meet this key expectation of ETSAP for the use of TIAM.

The Executive Committee approves the rules stated in the document “Conditions to access the ETSAP-TIAM” and gives mandate to the Operating Agent to examine the requests of using ETSAP-TIAM model and grant TIAM access to the users who comply with the rules on a case-by-case basis. The rules will be reviewed after one year. TIAM will be made available to groups that meet conditions as of Jan 1, 2008. The TIAM team will be provided contact points for each Party to receive TIAM so that they can be kept informed on development of TIAM. With this Mr. Tosato will send the Guidelines to the two parties that have already expressed interest in accessing TIAM (Mark Jaccard and US-EPA/ORD).

5.3 - *Budget (Attachment N4)*

Mr. Tosato indicated that compared to the budget sent to the ExCo by e-mail prior to the workshop, two more payments have been received (now 7). He expects 2-3 more payments for 2007. With this the base proposed program of work is expected to be able to be completed, with perhaps some parts of the maximum program being able to be pursued as well. The ExCo was also reminded that the actually Excel file sent to the ExCo includes extensive comments if more explanation of any item is sought. Furthermore, the budget line opened by the IEA for supporting ETP activities has been singled out, as requested by the ExCo.

5.4 - *The country-out-region-in versions of the ETSAP-TIAM model*

As noted earlier, the “country-out-region-in” utility has been demonstrated; the 16 region global ETSAP-TIAM model has been distributed at the Workshop to the contracting parties that comply with the conditions of distribution. Mr. Loulou reminded everyone that the country teams need to recalibrate the region from which they are extracted, as well as their own.

There was some preliminary discussion then about where this procedure goes from here. It was agreed for now this is viewed of as a 1-time activity. The extracted model will always contain 16-regions, with one country added to the rest of the regions of the world. At this time there are no plans to make more regions in the overall model; however, Brazil and South Africa could be added, if good data come from those countries. Countries looking to work with their TIAM-16 models will be kept informed of any substantive changes in the core TIAM database, where regions not involved in their extract procedure will be able to be updated basically without complication (that is said region(s) replaced), but that changes within the “parent” region and any implications on the extracted region will have to be addressed by the country experts manually. It was suggested, and agreed, that a request would be made to those who are going to work with the 16 region ETSAP-TIAM model to participate in the sub-group to discuss the process of recalibration and thoughts on what it means or how to handle any redistribution in the future.

This decision, and the need to redistribute TIAM-16 on a regular or as needed basis, will be revisited late next year after experience has been gained with the 16 region ETSAP-TIAM models.

## 6. *Annex XI: Joint studies for new and mitigated energy systems*

### 6.1 - *Approval of the final draft (Attachment N5)*

The draft proposal for Annex XI was distributed to the Contracting Parties prior to the ExCo. The text highlights the changes that have been introduced as requested at the Stanford ExCo; a summary page was also added.

Mr. Tosato then mentioned that, after circulating the text, Mr. Remme has suggested adding further possible enhancements to point 2a) regarding improvement of the tools. Ms. Fierens requested that there be some clarification as to the wording regarding the annual fee, indication that for 2008 the participation fee is to be 20k€, and that as part of establishing annually the program of work the ExCo is required to review and set the annual fee. It was agreed that section 9a would be changed to reflect this and that the fee in any year will not exceed 20k€.

Mr. Fidje mentioned that the most important priority for Norway is carrying out coordinated analysis. Mr. Tosato indicated that idea is to come out with a report of country analyses, perhaps similar to what is now being considered to compliment ETP. After a short ensuing discussion it was agreed to eliminate the last lines in the summary, and that the text of 2b will be slightly modified, inserting a point that a common, coordinated analysis will be conducted and an ETSAP report prepared.

With the incorporation of the above changes the draft was approved. The parties that want to join forces in Annex XI are invited to send a letter of intent to the IEA headquarters, along the lines suggested in Attachment N6.

### 6.2 - *Towards an IEA/ETSAP technology database*

Mr. Tosato distributed and led a discussion related to the “technology essentials” brochures made available by the IEA/ETO office. He was very positively impressed by the six issues produced to date. Each four pages brochure includes costs, efficiency range data, and some explanations that help thinking about how the data can be used. They are clear, with concise text and accompanying tables that are simple. It cost about 4-5k€ per sheet to produce. About 80-100 such technology essentials could cover all main supply – demand technology groups.

Mr. Tosato noted that with some adaptation the full series of these brochures could become the reference technology DB, in the form of a text and a spreadsheet. Allocating 70k€ per year we could achieve by the end of the annex about 50 essentials, covering the most important parts of the system. According to Mr. Antonio Pflueger, head of the IEA technology collaboration office, the IEA is intending to continue the series under the Renewable Energy Technology office, once the funding of this activity is decided. Furthermore, some Implementing Agreements are ready to contribute with sectoral materials. Some contributions could come from IER and other ETSAP participants. Mr. Tosato plans to ask to all users of the ETSAP tools to send the new technology part of their models (together with some lines that explain in our web site the content of their models).

On this issue cooperation with Charlie Heaps (LEAP developer) is possible, as made clear by recent e-mail exchanges. Mr. Pye asked what the objective of such collaboration would be. Mr. Goldstein indicated that LEAP contains a wide set of data that could be useful for ETSAP outreach activities, as well as ETSAP-TIAM, and that together we’d look for ways to make it is easier for an existing LEAP users to move to TIMES. It was decided that Mr. Tosato and Mr. Goldstein should begin a dialog with Mr. Heaps and report at the next ExCo.

### 6.3 - *ORDECSYS (Alain Haurie) proposal for a distance training course on TIMES/VEDA*

Mr. Tosato indicated that he received an inquiry from Alain Haurie, an experienced MARKAL user, regarding the possibility of developing a “distant learning” framework for TIMES. He has already done so for MESSAGE. He proposes to develop three courses, with incremental levels of sophistication, each containing three modules each. The cost for developing the first course of three modules would be 24.5k€. Mr. Labib wondered who would own the course and how would it be made available to others.

Mr. Hollauer mentioned that he has some experience with remote learning exercises conducted by the Latin American Organization of Energy (OLADE) that were very success. He felt that such a facility would be very useful. Mr. Goldstein expressed interest in reviewing the MESSAGE courses, both to gain a better feel for what Mr. Haurie has in mind, as well as insight into the MESSAGE modelling platform itself.

It was decided that Mr. Tosato would email Mr. Haurie being supportive of the idea, but requesting that Mr. Goldstein and Mr. Kanudia be given access to the MESSAGE distance learning material to evaluate the approach. If this request is granted Mr. Goldstein will then report to the ExCo on the approach, and if promising then look to resolve with Mr. Haurie the question of ownership and access raised by Mr. Labib.

## 7. ***Other business***

### 7.1 - *Report of the Workshop*

Mr. Tosato again thanked the Ministry of Mines and Energy (Brazil) for hosting the ETSAP workshop, training course and ExCo back to back to the joint NEET-Brazil MME meeting here.

Mr. Tosato indicated that participation in the workshop in terms of the presence of the ETSAP partners was “normal” given distance. But that the training involved some 25-30 individuals, with a dozen loading the ETSAP tools on their computers and participating hands-on. Ms. van Regemorter agreed that the workshop was fruitful and successful. Mr. Goldstein however noted that the NEET connection, while making it possible to hold the workshop in Brazil, would have been more beneficial if participants of other Implementing Agreement were invited to attend our workshop, something to keep in mind if another joint opportunity arises.

### 7.2 - *Next workshop: Paris, June 30-July 4, 2008*

The next workshop will be held at the IEA in Paris, coinciding with the IEW. As to Fall 2008 meeting, some offers are considered, including Turkey’s. There is a possibility of perhaps holding the meeting coincidental with REACCESS or in India along with TOCSIN. The spring 2009 meeting is set for Venice.

The meeting was closed 19:00.