

ANNEX XIV: UNDERSTANDING AND FACILITATING THE ENERGY TRANSITION TO ACHIEVE THE
'WELL BELOW 2°C' GOAL

73ND EXECUTIVE COMMITTEE MEETING

Date: Monday, June 18, 2018 (14.00 - 18.00)
Chalmers University
Venue: Chalmers House/ Chalmersska Huset, Södra Hamngatan 11, 411 14, Gothenburg
Contacts: Kenneth Karlsson, [keka@etsap.org].

MINUTES OF THE 73ND EXECUTIVE COMMITTEE MEETING

held on Monday, June 18, (14.00 - 18.00), 2018, at Chalmers House, Gothenburg, Sweden

TABLE 1: PARTICIPANTS

N.	Country	Participant	Delegate	Attended	Stand-ins
1	Australia	CSIRO	Mr. Luke REEDMAN	Yes	
2	Belgium	VITO/SPW/Brussels	Mr. Jan DUERINCK	Yes	Ms. Natalie Arnould
3	Denmark	DEA	Mr. Aksel Laurids BECK	Yes	Mr. Kenneth Karlsson, OA
4	EC	JRC Directorate	Mr. Andreas ZÜCKER	Yes	Mr. Wouter Nijs
5	Finland	VTT/TEKES	Ms. Pia SALOKOSKI	Yes	Ms. Tiina Koljonen
6	France	ADEME/EDMP/ DGEMPEDAD	Mr. Emmanuel Combet	Yes	
7	Germany	IER	Mr. Markus BLESLE, Vice chair	Yes	
8	Greece	CRES	Mr. Philip Siakkis	Yes	Mr. George Giannakidis
9	Italy	ENEA	Ms. Maria Rosa VIRDIS, Vice Chair	No	
10	Ireland	SEAI	Mr. Brian Ó GALLACHÓIR, Chair	Yes	
11	Japan	IEEJ	Mr. Yuhji MATSUO	Yes	
12	Kazakhstan	NURIS	Mr. Yerbol AKHMETBEKOV	No	
13	Korea	KEA	Ms. HoChul Shin	Yes	
14	Netherlands	ECN	Mr. Bob van der ZWAAN	Yes	Mr. Francesco Dalla Longa
15	Norway	IFE	Ms. Kari Aamodt ESPEGREN	Yes	
16	Spain	CIEMAT	Ms. Helena CABAL	Yes	Ms. Kari Aamodt ESPEGREN
17	Sweden	STEM	Ms. Josefin THORESSON	Yes	Mr. Erik Ahlgren
18	Switzerland	PSI	Ms. Anne-Kathrin FAUST	Yes	Mr. Tom Kober
19	UK	DECC	Mr. Alec WATERHOUSE	Yes	Mr. Paul Dodds
20	US	DOE	Mr. Ian Mead	Yes	
21	Sponsor	ENEL Foundation	Mr. Carlo PAPA	No	
22	Sponsor	GE Global Research	Mr. Donald W WHISENHUNT Jr	No	

Officers:

Mr. Gary Goldstein ETSAP, Liaison Officer, GAMS, MARKAL, DWI

Guests:

Mr. Uwe Remme	IEA	Mr. Maurizio Gargiulo	E4SMA, Italy
Mr. Amit Kanudia	Kanors	Ms. Maryse Labriet	Eneris Environmental Energy Consultants

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Ms. Kathleen Vailloncourt	ESMIA consultant	Mr. Kannan Ramachandran	PSI
Mr. Steffen Dockweiler	Danish Energy Agency	Ms. Yingshu Li	Energy Studies Institute, National University of Singapore
Mr. Asnisnn Singh	Energy Studies Institute, National University of Singapore	Mr. Seunghee Hahn	Korea Energy Agency
Mr. Milos Banjac	Ministry for Miming and Energy of Republic Serbia	Ms. Biluana Ramic	Ministry for Miming and Energy of Republic Serbia
Mr. Arnold Nathalie	SPW DGOQ	Mr. Daniel Russo	Irena
Mr. Brian Denvir	Sustainable Energy Authority of Ireland		

AGENDA AS OF 18 JUNE 2018

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6.2	NEXT WORKSHOP AND EXCO MEETING: AUTUMN 2018, STUTTGART, GERMANY.	
6.3	<i>Successive meetings: Summer meeting 2019 together with IEW 2019, Autumn 2019.</i>	
6.4	<i>Others</i>	

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ATTACHMENTS

- 11 Minutes of the 72nd ExCo meeting, held in Zürich Tuesday, December 12, 2017.
- 12 Communication from the Secretariat
- 13 Final report of Annex XIII
- 14 Progress of projects and tools
- 15 Budget report 2017

IEA ETSAP TCP 72ND EXECUTIVE COMMITTEE AGREED ACTIONS

- The ExCo minutes should be distributed within one month from the meeting.
- IEA secretariat will make available a quarterly report that ETSAP Operating Agent (Kenneth) will circulate to ExCo Members
- Kari (Norway, IFE) and Pieter (Belgium, VITO) are available to represent ETSAP at the IEA-EC Electro-fuel workshop 10 September in Brussels.
- ETSAP will participate in the Asian modelling workshop in Singapore 10-11 and organise a TIMES training session September 12-14.
- ETSAP Project Head will follow up with Canadian TIMES modellers regarding which Ministry to approach on possible reengagement of Canada with ETSAP.
- ETSAP ExCo Chair (Brian) will prepare a presentation *Introduction to IEA-ETSAP* and George a draft welcome note for distribution amongst ExCo members.
- ETSAP should have more regular proactive communication with sponsors and recently engaged members. ETSAP Project Head (George) will coordinate this.
- ETSAP Project Head (George) will coordinate an ETSAP sub-group to explore possible joint efforts on NDC modelling.
- ETSAP ExCo Chair (Brian) will participate in the IRENA session at the GSTIC (Global Sustainable Technology & Innovation Conference) conference on November 29 2018 organized by VITO
- ETSAP will become an official partner to IRENA's campaign on long-term energy scenarios for clean energy transition under the Clean Energy Ministerial. ETSAP ExCo Chair (Brian) will be the ETSAP contact point.
- ETSAP ExCo Chair (Brian) will invite Mission Innovation to the next ETSAP workshop for a workshop session on innovation
- Kari (Norway, IFE) and ETSAP Project Head (George) will lead further engagement with Hydrogen TCP on possible collaboration. Interested parties: France, Norway, Australia, Germany, UK, Belgium, Switzerland, Ireland.
- ETSAP will develop an infographic and bullet point list of findings from the Annex report
- ETSAP will explore options for making a living updated list of publications on the homepage.
- Future calls for abstracts for ETSAP workshops will require an indication of which part of the work-program it aligns with (requiring additional field in registration form)

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- ETSAP Operating Agent (Kenneth) will issue a template (for tracking progress) to those leading ETSAP supported projects and the completed reports should be distributed before each ExCo meeting.
- ETSAP Project Head (George) will organise an ETSAP webinar on the parametric analysis feature before next Workshop.
- ETSAP Project Head (George) and Maurizio will generate a list of existing and proposed demo models and tutorials and a priorities list will agreed on the next ExCo.
- Regarding server applications of ETSAP modelling, ETSAP Liaison Officer (Gary) will look into the costs of scaling the existing solution and Maurizio will look into the pay per use market for the next ExCo.
- ETSAP Operating Agent (Kenneth) will prepare and circulate a cash flow sheet in addition to the budget overview for discussion at future ExCo meetings.

Opening

The Chair, Mr. Brian Ó Gallachóir, opened the meeting at 14:00 welcoming the delegates and guests, Operating Agent and Operating Agent Secretary and thanking the hosts from Chalmers. He also mentioned that we had a great ETSAP workshop, but we might try to complement presentations with other workshop formats for the next workshop.

1. QUORUM COUNT

The chair asked everyone representing a country to identify themselves by name and by country.

ETSAP has twenty-two Participants comprising twenty Contracting Parties (CP) and two Sponsors. The quorum is one-half of the members plus one, i.e. twelve.

There were 18 Participants present in total, 8 delegates attended in person and 10 participated through their stand-ins (see above, Table 1).

A quorum was present.

2. ADOPTION OF THE AGENDA

The Chair presented the agenda for the Executive Committee (ExCo) meeting. A draft agenda had been circulated prior to the meeting.

Under Other business an item on servers was added. Under Communication and outreach the ExCo agreed to have a discussion on i) ETSAP's role with NDCs ii) IRENA's proposal for ETSAP to become a partner in supporting IRENA on work for the Clean Energy Ministerial iii) a Hydrogen TCP proposal for collaboration and iv) events coming up in Singapore and Brussels.

The agenda including the suggestion was adopted.

3. FOR THE RECORD

3.1 Minutes of the 72st Executive Committee

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There was no comments to the finalised minutes. The ExCo agreed with the proposal that the minutes should be out within one month from the meeting.

4. IEA-ETSAP TECHNOLOGY COLLABORATION PROGRAMME

4.1 Communication from the Secretariat

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Uwe Remme, IEA ETSAP Desk Officer presented the IEA Energy Technology Network 1st Quarter 2018 Report (detailed report in appendix I2).

The IEA secretariat plans to issue a report from the every quarter from this year. ETSAP Operating Agent (Kenneth) will circulate to ExCo Members

The IEA Committee for Energy Research and Technology (CERT) discussion on the proposed Action Plan for TCP Enhancement continues. There are four action areas:

1. Enhanced IEA-TCP collaboration
2. Engagement with governments and industry
3. Interactions with multilateral initiatives
4. Awareness, communication, visibility

Further to discussions at the 2017 TCP Universal Meeting, CERT delegates considered the proposed Action Plan for TCP Enhancement at the second meeting in February 2018. ETSAP was represented by ETSAP ExCo Chair (Brian) and IEA ETSAP Desk Officer (Uwe) also participated. The draft document

<http://www.iea.org/media/protected/iaforum/DRAFTActionPlanforTCPEnhancement.pdf> is available at the TCP Forum with the intention that it will be adopted in the 2nd Quarter 2018:

CERT has established three task forces, focussing on external engagement, CERT processes and TCP enhancement, to support these actions. Also the legal framework underpinning the TCP's is being examined with a view to improvement.

There is a common meeting with involvement from several TCP organised by IEA together with EC in Brussels 10 September on electro-fuels.

The new action areas for CERT align well to planned ETSAP activities:

Action Area 1. Kari and Pieter can represent ETSAP at the IEA-EC electro-fuel workshop 10 September in Brussels.

Action Area 2. National ETSAP team engagements with national governments can be compiled to feed them into ETSAP updates. The planned ETSAP engagement with Hydrogen TCP could have some links to industry.

Action Area 3. Interactions with multi-lateral bodies is aligned well with ETSAP's new engagement with IRENA on supporting the Clean Energy Ministerial.

Action Area 4. ETSAP should start to use tweets etc. to communicate. There is a need to make ETSAP more visible and the members has a responsibility to do this in our home countries. It was agreed that ETSAP would produce a new presentation PPT that can be used as starting point.

Some publications from IEA:

Recent reports focus on areas often over-looked in the energy discussion namely: Future of trucking, Future of Cooling and ongoing Future of chemical industry.

Currently IEA are preparing the next edition of WEO with focus on i) electricity as a fuel and ii) China. Earlier in 2018 the Nordic Electric Vehicle Outlook (NEVO2018) was launched and

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later the Global Electric Vehicle Outlook (GEVO2018). The Danish ETSAP team was heavily involved in NEVO2018.

4.2 ETSAP Participation and Outreach activities

The chair asked for updates on activities targeting new potential partner countries engaging with ETSAP.

Serbia: Work has commenced on the development of a TIMES model for Serbia. Serbia is a candidate for EU and energy systems modelling is seen as useful for analysing how to meet many energy and EU climate action targets.

Singapore: Will switch from MARKAL to TIMES. ETSAP will participate in the Asian modelling workshop in Singapore 10-11 and organise a TIMES training session September 12-14.

Canada: There are positive discussions on the possible re-engagement of Canada in ETSAP. There is a need to find out which ministry should take the lead. ETSAP Project Head will follow up with Canadian TIMES modellers

Morocco: The plans for a workshop in Morocco this Spring 2018 progressed well between ETSAP and IEA secretariat, but unfortunately the workshop and training was cancelled from Moroccan side.

Mexico: An ETSAP Workshop and TIMES Training session and was held in Mexico in January 2018. They are developing TIMES model with UCL together with the ministries.

ETSAP TIMES training sessions:

Singapore (12-14 September)

Germany (in conjunction with next ETSAP WS)

The chair asked for reflections from recent ETSAP partners on communication with ETSAP.

Useful feedback was received from US and Japan. The ExCo agreed that ETSAP ExCo Chair (Brian) will prepare a presentation *Introduction to IEA-ETSAP* and George a draft welcome note for distribution amongst ExCo members.

It was further agreed that ETSAP should have more regular proactive communication with sponsors and recently engaged members. ETSAP Project Head (George) will coordinate this.

The New ETSAP book ([Limiting Global Warming to Well Below 2°C: Energy System Modelling and Policy Development](#)) was published by Springer ahead of time. The ExCo expressed a big thanks to Maryse for coordinating this project to completion. The book will be launched as an ETSAP Side Event during the International Energy Workshop. The previous book ([Informing Energy and Climate Policies Using Energy Systems Models](#)) has more than 20,000 downloads! This new book be even more successful because of the subject.

The book marked an interesting start in creating innovative scenarios collaboratively based the work done for the book. A journal special issue on a topic is another possible target publication.

ETSAP Supporting NDC's

ETSAP are covering national models for many countries. A number of countries are actively looking for support in developing their modelling competences. A key question is whether ETSAP teams should collectively or individually support these countries in improving their NDC's?

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VEDA-TIMES starter model could be a game changer for ETSAP engaging in this kind of work. The World Bank has e.g. put out expression of interest requiring the VEDA-TIMES starter.

The Program for Market Reform ([PMR](#)) is a forum for collective innovation and action and a fund to support capacity building to scale up climate change mitigation, established and managed by the World Bank and will primarily support modelling projects building up competences in the countries to analyse NDC's. Others like [EuropeAid](#) is also supporting similar projects.

This is timely as countries has to deliver NDC's upon ratification and update in 2020 and every five years thereafter.

There is a big interest among a number of ETSAP teams to participate in supporting NDC development through capacity building and consultancy. The ExCo agreed that ETSAP Project Head (George) will coordinate an ETSAP sub-group to explore possible joint efforts on NDC modelling. The proposal from the group will be presented at the next ETSAP meeting.

ETSAP collaboration with Hydrogen TCP

The ExCo discussed options for further ETSAP collaboration with the Hydrogen TCP following the discussion on this topic during the ETSAP workshop. The ExCo agreed to explore a possible Joint ETSAP Hydrogen TCP Annex on power to X and the role of hydrogen in energy system that could include:

- Common data set on hydrogen technologies - get feedback from Hydrogen council (
- Scenario analysis comparing more detailed modelling of hydrogen systems (Scenarios). Hydrogen TCP interest is a fair representation of the technologies in the models
- A joint E-Tech-DS on Hydrogen (with agreement required on whether it should be in PDF or database format)
- Discussion on how H₂ should be represented in the models - what are the most promising solution with H₂ in future?
- Joint Workshop on Hydrogen in future energy scenarios

A joint Annex can be created between two TCP's. At least two countries should sign up to realize it and it does not necessarily include extra funding. Norway (Kari) and ETSAP Project Head (George) will take lead on engagement with Hydrogen TCP. Interested parties: France, Norway, Australia, Germany, UK, Belgium, Switzerland and Ireland.

ETSAP collaboration with IRENA on Clean Energy Ministerial Campaign

The ExCo discussed supporting IRENA in their work supporting the Clean Energy Ministerial Campaign *Long term energy scenarios for the clean energy transition*.

The CEM Campaign aims to promote the wider adoption and improved use of long-term model-based energy scenarios by:

- sharing country experience in the benefits and factors for success of energy scenario modelling for national and regional policy planning;
- showcasing innovative tools and methods for energy scenario modelling that address the integration challenges of variable renewable energy (VRE); and
- identifying channels to build capacity for clean energy transition planning in countries with limited experience.

ETSAP's role in supporting IRENA CEM work under Clean Energy Ministerial - could include:

- providing expertise and analytical methods and supports for long term scenario development
- hosting and participating in events

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- capacity building

The ExCo accepted the invitation from IRENA to ETSAP to become an official partner to IRENA's campaign on long-term energy scenarios for clean energy transition under the Clean Energy Ministerial agreed. ETSAP ExCo Chair (Brian) will be the ETSAP contact point. The ExCo agreed number of further actions that are aligned with this namely:

- A joint ETSAP IRENA session at the next ETSAP workshop on CEM Campaign topics
- ETSAP participation in the IRENA session at GSTIC 29 November organized by VITO
- ETSAP teams: Sweden, Norway, US, Finland, Australia, Germany UK, Belgium, Ireland, Denmark.
- Mission Innovation will be invited to next ETSAP workshop for a common session on innovation (Brian)

4.3 Development of ETSAP's tools

Based on evidence from Noble-Soft and discussion amongst ExCo Members, it is clear that there remains a clear demand for ANSWER support. Here is a short summary of recent requests:

- During the first 5 months of 2018 Noble-Soft responded to requests from around 30 ANSWER-TIMES and ANSWER-MARKAL users. The majority of these requests were from users wishing to get new ANSWER licenses because they had acquired a new computer. A few requests involved providing assistance to users who had encountered technical issues.
- In addition to the above requests, in February and March 2018 there was substantial interaction between Noble-Soft and DecisionWare Group regarding aspects of the ANSWER-TIMES Starter model being used for the World Bank funded Costa Rica project.
- In March 2018, ANSWER-TIMES update version 6.9.24 was released to support changes to the ETSAP TIMES GAMS code v4.2.2, and distributed to the ETSAP Partners who are using ANSWER-TIMES. The special Library Region version used by the IEA was likewise updated to version 6.9.24 and provided to Dr Uwe Remme at the IEA.

The number and nature of requests from ANSWER-TIMES and ANSWER-MARKAL users (thus far in 2018), seems to be at a similar level to what encountered in 2017.

Noble-Soft has indicated that they are willing to support another year if there is interest (2019), which was positively received at the ExCo and it was decided to continue the contract in 2019.

4.4 Final report of Annex XIII

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The ExCo thanked Kathleen for the excellent work she did in compiling the final report for Annex XIII. The ExCo then discussed how we can best use the report and the information in it for out-reach.

The ExCo decided that ETSAP will develop an infographic and bullet point list of findings from the Annex report and develop a living updated list of publications on the homepage.

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The chair briefly summarized the work plan of Annex XIV to introduce the discussion.

Following discussion on how best to focus on the priorities of Annex XIV, the ExCo agreed future calls for abstracts for ETSAP workshops will require an indication of which part of the work-program it aligns with (requiring additional field in registration form)

5.1 Progress of current projects and ETSAP tools 14

The ExCo complemented KanORS on the the new features to VEDA that were approved in the Zurich ExCo, completed, presented and very well received at the ETSAP Workshop. The ExCo agreed that ETSAP would host a webinar on the parametric analysis feature before next WS (ETSAP Project Head George).

In addition, the VEDA migration project was discussed and is progressing well with the migration to database PostgreSQL and C#. Within the next steps, KanORS plan to present the Case Manager at Stuttgart meeting.

The ExCo discussed documenting new features and concluded that the demo model and tutorials provide a very useful method of documenting existing and new features. The ExCo agreed to generate a list on existing and proposed demo models and tutorials and that priorities list will agreed on the next ExCo (George, Maurizio).

The ExCo discussed the option of ETSAP accessing a server application for model runs. The test phase cost \$1,500 and is nearly completed. Maurizio has used it for TIMES training sessions and it worked well. A full application require approx. €20,000 per year and this requires an ExCo decision.

The server option may also be an alternative to open source TIMES software that has been previously discussed at ExCo. It could help overcome the barrier for developing countries starting on TIMES.

A question arose regarding whether one of the ExCo Participants host a server? There are a number of pay peer use providers on the market. Gary will look into the costs of scaling the existing solution and Maurizio will look into this (pay per use) market for the next ExCo.

The list of on-going ETSAP supported projects was discussed. The ExCo agreed that a common template for reporting on projects should be developed and that progress reports should be distributed before each meeting.

5.2. Annex XIV Budget report approval and general status from OA 15

The budget report was discussed and the ExCo approved the 2017 accounts and deemed them closed.

In addition the ExCo agreed that a cash flow sheet will be provided in addition to the budget overview and discussed at future ExCo meetings.

6. OTHER BUSINESS

6.1 Election of a Chairperson and Vice-Chairpersons

Tom Kober nominated Brian as Chair and the ExCo approved this unanimously. The current ExCo Vice-chairs were also re-elected (Markus, Maria).

6.2 Next workshop and ExCo meeting: Autumn 2018, Stuttgart, Germany

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The 73rd ETSAP Workshop will take place on November 7-9, hosted by IER in Stuttgart. The ETSAP workshop will take place Nov 7-8 and the ExCo meeting will take place the afternoon of November 8. November 9 will be used for self-organized thematic and/or interactive tools meetings. ETSAP Project Head (George) will explore with Amit the possibility of an advanced training session on November 5-6.

6.3 Successive meetings: Summer meeting 2019 together with IEW 2019, Autumn 2019

The IEW 2019 Conference will be in Paris, hosted by the IEA. The ExCo decided to align the the ETSAP Summer 2019 workshop back-to-back with IEW in 2019 as has been done previously.

Australia offered the host the autumn 2019 ETSAP and ExCo meeting and the ExCo agreed.

6.4 Others

The Chair thanked participants for a collegial and productive meeting and closed the meeting at 17:11.