

## MINUTES OF THE BOARD MEETING

### LONDON, UK, 6-7 DECEMBER 2012

#### **Present:**

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Uwe Kaltwasser (UK)	MTU
Herwart Hönen, Treasurer (HH)	RWTH Aachen
Andy Williams (AW)	Wood Group
Gary Lock (GL)	Frazer Nash Consultancy
Giovanni Cerri (GC)	University Roma TRE
Pericles Pilidis (PP)	Cranfield University
Robert Rijdsdijk (RR)	Shell
Christer Björkqvist (CB)	ETN
André Mom (AM)	President Emeritus

#### *Apologies:*

Jacques Maunand (JM)	EDF
Catherine Goy, Vice President (CG)	E.ON UK
Bernard Quoix, President (BQ)	TOTAL

#### **Content:**

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##### Welcome

1. Review and approval of the MoM Baden, Switzerland, July 2012
2. Review and report on completion of the Actions list
3. ETN Activities Update
4. ETN Finances 2012
5. High Level User Meeting in October – outcome and actions
6. Review of the Dinner Debate at the European Parliament
7. Review of the International Gas Turbine Conference 2012
8. External cooperation strategy and way forward (MoU)
9. Cooperation with EUTurbines
10. ETN meetings in 2013
11. Closing of the Board Meeting

Annex: Review of Action list from previous Board meeting (Baden, Switzerland, July 2012)

#### **Welcome**

In absence of the President and Vice President, Treasurer H. Hoenen opened the meeting and welcomed the Board members. B. Quoix, C. Goy and J. Maunand sent their apologies for not being able to join the Board meeting.

## **1. Review and Approval of the MoM Baden, Switzerland, July 2012**

The Board unanimously approved the July 2012 Board Meeting minutes.

## **2. Review of Action List and ANNEX from the MoM Baden, Switzerland, July 2012**

See below for details and List of all actions in the Annex.

- Action 1-3: Gas briefing paper: finalised, awaits final Board decision, see item 5.
- Regarding Action 4 (EU projects) and related action 8 (membership fees) a letter emphasising the importance of CSP hybridisation project was sent to EC. Since then the OMSOP project has been funded. Funding of OMSOP leads to less constraints on the ETN budget for coming years and a membership fee increase for 2013 and 2014 could be postponed. With respect to the Hycosol proposal (also initially approved, but no funding available) it is currently placed on a reserve list which means that it could only be funded if any of the selected projects fail in their contract negotiations or if additional budget could be transferred from unused FP7 budget.
- Action 5 (Exhaust Systems): Two approaches should be performed simultaneously: 1) the text of the standard should be modified before Jan 2013 meeting; 2) a benchmark case should be included in the standard. For this purpose it is required to define a component in the system, do CFD work on it and verify calculations with actual measurements in available machines. Total believe they will have a machine available in mid-2014. Sponsors have been identified but contract needs to be in place and measurements techniques should be fixed. Shell might also have machine available. **Action RR.**
- Action 9: PP described the organisation of the aerospace industry and the funding situation as a good example for the energy industry to follow: in the aerospace industry ACARE (Advisory Council on Aviation Research and Innovation in Europe) formulated very ambitious goals in 2000. Since then, and based on the ACARE goals which were in line with EU goals, a number of initiatives were set up, such as Clean Sky 1, now going over in Clean Sky 2. Other objectives in Clean Sky which indeed have been realised were to initiate cooperation between the major industrial players and to align their activities. PP suggested that in the energy field we should try to give ETN the same function. AW added that ETN should be the one body/voice for the GT community. CB mentioned that he is working on bringing in more organisations under the ETN umbrella. RR stated that we need a long term strategy where we want to stand in 2020. The board agreed that we need a strong vision highlighting how ETN could help EU industry and tie up with universities in a unique selling story. UK remarked that we also need a strategy telling our members what we have done (already existing achievements). AW said we would need a 5-10 year vision with a yearly review. **Action/CB and Board**
- Action 11: CB participated in an EPRI teleconference discussing potential cooperation and shortly after that EPRI expressed an interest to become an ETN member through their Madrid office but no formal decision has been made to date.
- Action 12: EVI-GTI proposes to set up a MoU between ETN and their association; CB and Chris Dagnall to discuss this further.

- Action 13-20: all done; RR remarked that apart from accent on utilities a contribution of oil & gas companies would also be required at next IGTC (2014).
- Action 21: The suggestions from the board with regard to the set-up of the Project Board have been well received by the members of the Project Board. The final set-up should be communicated to the General Assembly at the AGM.
- Action 22: deleted
- Action 23: Not done because of costs.
- All other actions: see list in these minutes.

Outstanding actions in ANNEX:

- Potential members to be approached: **Scottish & Southern (CB, AW), Turbocare (BQ), Maersk/Pedersen (UK), ENI (RR and BQ), GKN (UK).**

### **3. ETN Activities Update**

CB reported the current personnel situation at the office of ETN. Bernadett Parrag, Julie Kjeldsen and Christiane Leonard left ETN during the last months. Dominique Cornut, from Montreal, joined the ETN team on 15/11/12 as the new Policy and Communication Officer. Sabine Hoffman, from Germany, joined the team on 03/12/12 as Financial and Administrative Officer. Karen Geris was promoted to Project Manager and will take over the management of the H2-IGCC project. CB to evaluate if any additional required support for future activities would be necessary. RR proposed the opportunity to attract students for support at meetings etc. AM agreed and suggested to take on newly graduated engineers and give them the opportunity to stay 2-3 years at ETN in order for them to learn the business which could provide ETN with additional support at attractive cost.

### **4. ETN Finances 2012**

#### Financial situation 2012/Budget 2013

HH showed the financial situation (see Annex 2). Based on current and expected incomes and expenses a positive result is predicted for 2012. Some membership fee and sponsorship payments are still outstanding, but these seem to be related to internal bureaucratic procedures at the respective companies and are not a result of unwillingness to pay. The item "Project set up costs" (in total 35 k€ budgeted) will be partly used for payment of AM for setting up the TopCycle project (invoice to be sent in still this year). HH showed that the preliminary budget forecast for 2013 shows a positive result of about 25 k€ based on current costs and expenses. The final result and a detailed budget would be presented to the board at the first board meeting in 2013.

The Board discussed the amount of reserves: currently about 350 k€. PP remarked that the increasing interest of members in participation in EU programmes is an important factor for member companies to see the added value to be a member of ETN. RR suggested to further increase reserves and to use part of this money for paying universities for studies. For such a solution a justifiable approach would be required. HH remarked that the money would then have to be contributed by the member companies and that, in order to realise this, the added value for members should be made clear. CB said that this approach would require extensive deliberation in the board, before it can be adopted.

### Renting/buying of office space

CB reported on the situation regarding office accommodation: the current (rented) office is too small and should be renovated; in addition the landlord will sell the property in due time. Based on these facts CB has done some exploratory work regarding available office space in Brussels (mainly in the same area), and compared the possibilities and prices of renting and buying office space. Some real estate advisors recommend buying in the current market situation. A possibility has come up in the same area (Avenue Louise) for an office at the 5<sup>th</sup> floor of an office building, having 200 m<sup>2</sup> and in relatively good condition. The buy price is 450,000 €, excluding taxes. CB and HH presented tables in which the costs were shown for a 10-year period, in which a partial loan would be fully paid off. The rest of the investment should come out of the current reserves.

The board discussed the proposal. Based on the assumption that ETN is now well established and expected to continue to be successful the approach of buying seemed to be justifiable to the board from a financial point of view. It would also lead to some more space, thus Board meetings or meetings of subgroups or even external organisations could be organised in the office. In addition, the extra space would also allow for growing of personal or merging with other organisations in the same field in the future. However, the following concerns/observations were made and would need to be addressed:

- What is the current condition of the apartment; how much renovation is needed?
- Is the price competitive/better than for similar apartments in the area
- Have other areas in Brussels been considered?
- What are the advantages over renting; what are current possibilities for renting and the related costs?
- What are the risks? If ETN would get into serious financial problems in the future, would this result in repercussions for the members?
- If considering buying the General Assembly would need to approve such a big move; not just the Board
- An independent view should be requested from both our accountant and an independent real estate advisor.

The Board decided that the option of a new office (whether renting or buying) should be seriously investigated during the next months. An intermediate option (in which CB would buy the apartment and ETN would rent from CB) was disapproved by the Board, because of conflict of interest. The Board decided to set up a small committee, which should investigate the possibility of buying/renting a new office space, consisting of the Treasurer (HH), the Vice-President (CG) and the Managing Director (CB). This committee would prepare a proposal for the Board, prior to the next Board meeting. The Board considered that the following steps are required:

1. An independent view of our accountant on buying/renting;
2. A comparison of real estate property currently on the market, with a space between 150 – 250 m<sup>2</sup>. Both buying and renting has to be regarded. This advice should be given by an independent real estate expert;
3. A financial review of all costs involved for buying and renting: including renovation, taxes, maintenance costs, service costs, mortgage loans, interest percentage, etc.
4. A financial review of the risks (what are maximum losses to be expected if we have to sell the property), especially for informing our members;
5. All data should be available; all pros and cons should be looked at before making a decision;

6. Decision to be made by the Board at next meeting (March 2013);
7. Proposal to the General Assembly ahead of the AGM via an internet procedure if the board recommend buying.

**Action: Committee on office housing CG, HH, CB**

## **5. High Level User Meeting in October – Outcome and actions**

CB presented the outcomes of the discussions during the HLU meeting in Brussels that took place before the IGTC-12 conference. The report to be sent to the Board (**Action CB**). During this meeting, ETN's strategy, latest position paper and briefing paper were presented and discussed. At the meeting the future views of the utilities and the oil & gas companies on technology and business were also recorded. With respect to the ETN gas briefing paper the following procedure was adopted by the Board at its last meeting in Baden:

- Verify the technical assertions and numbers in the Gas Briefing paper before end of September 2012 by AM, Dieter Krapp and Peter Jansohn and then prepare a new draft.
- CB to circulate the verified Gas Briefing paper to the participants of the 2012 HLU meeting, and to collect the outcome of their discussion as well as incorporate their remarks into the final version.
- Decision of the Board to publish the paper at its December meeting.

The Board concluded that the first two actions had been performed; the Paper was discussed in the HLU meeting and was received positively. However, the participants of the HLU meeting suggested more attention to the economic situation; data on economics of gas and coal + CCS should be added; some incorrect data should be corrected, and finally proposed some text changes to be incorporated in the conclusions. AM reported that all the above proposed changes have now been incorporated into the document. The Board unanimously decided that the Paper is now approved for publication and can be used externally. (**Action CB**).

## **6. Review of Dinner Debate at the European Parliament**

CB explained the set-up and outcome of the Debate. The board remarked that the debate was interesting and well organised. Even though well attended by EC officers the board had anticipated a higher MEP attendance. The discussion of the Board centred on how to follow up and improve the message as well as how to get more attention from MEP's and the European Commission. A few suggestions were made. ETN should:

- combine our activities towards the EP and the European Commission with the other main players, such as EUTurbines, Eurelectric, Eurogaz, ZEP, EPPSA, etc.
- combine environmental goals with an industrial policy;
- focus on setting up really high level meetings;
- give attention to both the electricity and oil & gas sector (two completely different approaches);
- highlight that there are major (national) campaigns elsewhere in the world resulting in increased support to the industry (US, China);
- follow the line of thinking: what are the future needs; what are the role of the European industry; the necessity to combine forces to stay competitive towards USA

and Asia, to stimulate industry and jobs, need for R&D, the combining of efforts of industry, universities/institutes and EU Commission and to develop an Road Map;

- Message should be simple but convincing.

Two possible ways to go forward were discussed:

1. Approach high level people in the Commission such as Samuel Farfari and Pierre Deschamps to ask them what they consider as the best way forward for us: make them part of our concern how to best get our message across to the EP and Commission. In addition we should follow up on Vicky Ford's request to have a meeting and to use that meeting also for expressing our wishes for future more intense collaboration.
2. Start collaboration with the other associations in the field; make Terms of reference, in which we write down what we want to achieve.

The above requires coordinated action of Board and Managing Director. **Action CB and Board.**

## **7. Review of International Gas Turbine Conference 2012**

CB gave an overview of attendance, the set-up and outcome. Presentation to be distributed to Board members. **Action CB.** The policy meeting on the first day (differences in approach between US, Europe and Asia) and the OEM panel discussion on the second day were considered excellent and very attractive for the audience.

Based on this subject and the previous item (number 6) a discussion emerged about what the main objectives are for ETN and the European GT-sector and should be discussed with the Commission and European Parliament. The following 5 main areas were regarded as essential:

1. Improve efficiency (CO<sub>2</sub> reduction and cost reduction);
2. Operational flexibility (regarding increasing amounts of sustainable energy);
3. Fuel flexibility (CO<sub>2</sub> reduction, cost reduction, less dependency);
4. Hybrid systems (efficiency);
5. CCS.

GC emphasized the importance of the cost issue, stating that we need to stay competitive with energy prices in order for our industry to stay competitive. This is currently insufficiently recognised by the Commission and national authorities. Other areas are important also (storage, power to gas, renewables) but they are dealt with by other associations. CB would make adjustments to the IGTC outcome presentation by incorporating the Boards' comments. **Action CB**

## **8. External cooperation strategy and way forward (MoU)**

### **EUTurbines**

CB summarised the gradually improved interest in cooperation by EUTurbines and announced that the Board of EUTurbines has now expressed an interest to work together with ETN.

Their Board has decided that future technology projects should be coordinated by ETN, because they like the H<sub>2</sub>-IGCC management, and has agreed to put a MoU in place to describe a further cooperation with ETN. Also cooperation between their technology Committee and ETN's Project board regarding the choice of projects and the application of projects towards the EC is envisaged. EUTurbines has currently a list of projects with a total worth of 256 M€ (just industry input, no subsidy taken into account). CB presented a sheet describing possible cooperation with EUTurbines, and how the two organisations could be interacting. AW supported the idea of a MoU and proposed to clearly formulate how the cooperation would be organised and clearly indicate who would be doing what. The Board positively supported the idea of preparing a MoU for a more extensive cooperation with EUTurbines. **Action CB**

A discussion took place on the request of EUTurbines that ETN should cover steam turbines, apart from gas turbines, because it is also in their portfolio. Various Board members commented on this issue: GC remarked that at the onset of ETN steam turbines were initially left out for reasons of simplicity and to focus the ETN efforts on gas turbines. A few Board members mentioned, however, that if we bring in steam turbines, we would also bring in coal plant owners, with different views on the way forward. Others remarked that we have these companies already in the ETN community. The Board decided to take an intermediary position and proposed that we could address steam turbines because they are part of the total combined cycle plant, and it has been ETN's policy over the last years to consider the gas turbine system in a much more integrated way with all associated systems.

**EVI-GTI:** this cooperation was already discussed; action to be taken by C. Dagnall and CB.

**Turbine Forum:** Norbert Czech is organizing a yearly conference on materials and coatings for gas turbines. CB considers the network of Czech interesting; AW suggested that Czech (retired but do some consultancy work) could be part of the ETN activity. Some discussion addressed the position of Czech, his financial interest in this conference, and his willingness to work together with ETN. It was agreed that CB and CW would set up a meeting with Czech to discuss potential ways of cooperation. **Action CB, AW**

**IMechE (UK):** organised this autumn a GT users' conference to which ETN was invited as a speaker and have now asked ETN for our support for future events. PP remarked that this conference might compete with ours, but it might also have advantages to be involved in it. GL said that there is definitely a synergy and he does not see any downside if we support them as their objective is not to make money. Our members would be offered a discount and we could get exposure back. There was some further discussion if we should support these national organisations, distracting efforts from the ETN office. Cooperation with international organisations like ASME, GTSJ and Power-Gen is a different issue. The Board decided that PP and GL would have a meeting with IMechE to discuss the issue. **Action PP, GL**

**EPPSA:** has started an initiative on IPR and want to set up an IPR Alliance (another association) to protect IPR values in doing business with e.g. China. The Board saw no added value to ETN, also because this activity is not specifically energy related (also involves big parties as Nokia), and it very much addresses the IPR problems of the very big companies, which have huge departments working on it. Peter Childs also commented that China is changing its strategy and aim now for complete new design development rather than just copying existing technology as they target a wider market than China. No action.

**ASME:** cooperation works, well established contacts, to be continued.

**GTSJ:** they want to broaden their association in the same way as ETN has done; cooperation delivers very good contacts, e.g. for our IGTC. To be continued.

**PennWell/PowerGen:** contacts are good; ETN part of PowerGen Conference Board; gives a lot of advantages for ETN (articles in PEI); to be continued.

### **9. ETN meetings in 2013**

The following meetings were agreed upon:

- Week starting 4 March 2013 (doodle to be circulated): ETN Board meeting
- 16 –17 April 2013: ETN AGM and workshop (visit to Enel in the afternoon on the 15<sup>th</sup> and then the AGM take place on the 16<sup>th</sup> followed by a workshop on the 17<sup>th</sup>).
- Week starting 24 June 2013 (doodle to be circulated): ETN Board meeting
- Week 14 October 2013 (doodle to be circulated): ETN Workshop
- 9 - 10 December 2013: ETN Board meeting

### **10. Upcoming ETN meetings and events in 2012 and 2013**

H <sub>2</sub> -IGCC meeting	10-11 December 2012	Berlin, Germany
Board meeting	March 4 – 5, 2013	Brussels
AGM and Workshop	16-17 April 2013	Pisa, Italy
Board meeting	Week 24 June 2013	tbc
Workshop	Week 14 October	tbc
Board meeting	9–10 December 2013	tbc

### **11. Closing of the Board meeting**

H. Hoenen closed the Board meeting, and thanked Peter Childs (partially present on Friday morning) for hosting the meeting.



### **ACTION LIST (old)**

<b>No</b>	<b>Action</b>	<b>Resp.</b>	
1	<i>AM to verify the technical assertions and numbers in the Gas Briefing paper before end of September 2012.</i>	AM	Done
2	<i>CB to circulate the verified Gas Briefing paper to the participants of the 2012 HLU meeting, and to collect and incorporate the outcome of their discussion in the final version.</i>	CB	Done
3	<i>The Gas Briefing paper to be discussed in December 2012 and agreed on a final version and how the paper should be used.</i>	Board	Done during item 5 of Board meeting
4	<i>C. Björkqvist to write and submit a paper to the EC, to promote the importance of CSP hybridisation and to express request for clearer evaluation feedback.</i>	CB	Done
5	<i>C. Björkqvist to determine by August 2012 whether the Exhaust Systems CFD validation should go forward.</i>	CB	Ongoing, meeting in Jan 2013
6	<i>C. Björkqvist to distribute the list of external contacts to Board for approval.</i>	CB	Pending
7	<i>C. Björkqvist to send an email to the main contact person of each member organisation, listing the representatives from their organisation which are receiving ETN material.</i>	CB	Done – follow up ongoing
8	<i>C. Björkqvist to draft a communication to ETN members, outlining the vision and the reasons for the proposed increase in membership fees, as well as the expected benefits. After approval by the Board this should be circulated to the ETN general assembly.</i>	CB/ Board	Not carried out; new vision on financial situation does not require increase in fees
9	<i>P. Pilidis to investigate the structure and set up of Aerospace and Defence - ASD and C. Björkqvist to investigate other associations like EWEA (Wind).</i>	PP/CB	Reported
10	<i>H. Hönen, ETN Treasurer, and C. Björkqvist to make a projected balance sheet for the coming 3 years taking into account the suggested increase in membership fees.</i>	HH/CB	To be done after finalising 2012 finances
11	<i>C. Björkqvist to participate in the upcoming EPRI teleconference and to check if EPRI fulfils ETN's membership requirements.</i>	CB	Done, await final decision by EPRI
12	<i>C. Björkqvist and C. Dagnall to explore a wider cooperation with EVI-GTI.</i>	PP/CB	Ongoing
13	<i>A. Williams and C. Björkqvist to have teleconference with Yrjö Komakallio.</i>	AW/CB	Pending
14	<i>C. Björkqvist to produce a draft invitation, and list of invitees (organisations and specific names) to be circulated to the ETN Board members for additions and approval.</i>	CB /Board	Done
15	<i>R. Rijdsdijk to contact Shell Vice President Mr. Christoffersen, and C. Goy to contact E.ON representative, either Head of Operations or Chief Manager of Fleet Managing Centre, to try to recruit them as chairmen for the IGTC-12.</i>	RR/CG	Done
16	<i>C. Björkqvist to identify potential representative for the German/North European view for the IGTC-12.</i>	CB	Done
17	<i>B. Quoix and R. Rijdsdijk to identify suitable persons from Solar and GE Oil &amp; Gas to invite to the OEM panel session.</i>	BQ/ RR	Done
18	<i>C. Björkqvist to circulate information on the IGTC-12 to ETN Board members, in order for them to recruit remaining chairpersons, panellists and sponsors.</i>	Board	Done
19	<i>Additional questions or suggested modification to the IGTC-12 OEM panel questions to be sent to ETN.</i>	Board	Done

20	<i>P. Pilidis to write an article and be interviewed for the ETN Quarterly Newsletter on CFD modelling to support operational, environmental, and economic decisions.</i>	<i>PP</i>	<i>Done</i>
21	<i>C. Björkqvist to bring forward the Boards recommendations to the Project Board.</i>	<i>CB</i>	<i>Done</i>
22	<i>C. Björkqvist to discuss the proposal at the Project Board meeting and to circulate the project outline to A. Williams.</i>	<i>CB</i>	<i>Deleted</i>

### **ANNEX (old)**

<b>Actions (from April 2012 Board meeting)</b>	<b>Outcome / Next action</b>	<b>Responsible</b>
ETN membership discussion with Ronnie Glen at Scottish & Southern Energy.	<i>Pending.</i> New, higher up contact required!	AW/CW
B. Quoix to contact Frits De Jong of Turbocare about ETN membership.	<i>Current status not known</i>	BQ – Dec 2012
U. Kaltwasser to meet with Bo Pedersen of Maersk to discuss ETN membership.	<i>Ongoing.</i> UK to try again.	UK – Dec 2012
B. Quoix to contact BP representatives in Houston, US.	<i>Ongoing.</i> Current status not known.	BQ – Dec 2012
ENI membership of ETN.	<i>Ongoing.</i> R. Rijdsdijk will re-approach Pasquale Bove of ENI. BQ can help.	BQ/RR – Dec 2012
C. Björkqvist to install mirror server in external location.	<i>Ongoing.</i> A mirror server is in place, but automatic updating is outstanding.	CB – Dec 2012
C. Björkqvist to present a list of the ETN external contacts to receive the ETN public Quarterly Newsletter.	<i>Ongoing.</i> Will be circulated to the ETN Board members by email.	CB – Dec 2012

<b>No</b>	<b>New Actions</b>	<b>Resp.</b>	
1	R. Rijdsdijk to see if Shell would have a machine available for the CFD validation in case the GT of Total could not be made available	RR	
2	Board and CB to prepare a 5 – 10 year vision on ETN: how to support the European GT-industry	Board + CB	
3	U. Kaltwasser to approach GKN for membership	UK	
4	C. Bjorkqvist to follow up on remaining 2012 invoices (membership + IGTC)	CB	
5	Office housing committee to do a study on office space and prepare a report before next Board meeting	CG, HH, CB	
6	C. Bjorkqvist to distribute HLU meeting report to Board	CB	
7	C. Bjorkqvist to officially publish ETN gas Briefing paper	CB	
8	C. Bjorkqvist and Board to prepare plan to approach EP and Commission	Board + CB	
9	C. Bjorkqvist to adjust paper on IGTC outcome and distribute it to Board	CB	
10	C. Bjorkqvist to prepare a MoU for cooperation with EUTurbines	CB	
11	C. Bjorkqvist and A. Williams to meet with Czech (Turbine Forum) to discuss cooperation	AW, CB	
12	P. Pilidis and G. Lock to meet IMechE to discuss possible cooperation	PP, GL	