

Consortium Materials technology for thermal energy processes – minutes board meeting no 2/17

Date	May 9, meeting time 13.00-15.00	
Place	Energiforsk, Stockholm	
Participants	Erik Skog (chair) Anna Jonasson Dilip Chandrasekaran Bo Jönsson Jesper Ederth Marie-Aude Porter Helena Oskarsson Eva-Katrin Lindman Erik Dahlén Rikard Norling Pamela Henderson Jesper Liske Bertil Wahlund (secr.)	Erik Skog AB E.ON Värme Sverige Sandvik Heating Technology Sandvik Heating Technology Sandvik Materials Technology Siemens Siemens Fortum värme Fortum värme Swerea KIMAB Vattenfall Chalmers (ers JES) Energiforsk
Prevented	Christoph Gruber Sebastian Kaiser Edgardo Coda Jouni Mahanen Thomas Norman Søren Aakjær Jensen Lars Mikkelsen Peter Emvin Matti Huhtakangas Johan Moverare Annika Stålenheim	Andritz Andritz Amec Foster Wheeler (Sumitomo) Amec Foster Wheeler (Sumitomo) B&W Vølund Dong Energy B&W Vølund GKN Aerospace MH Engineering Linköpings universitet Vattenfall
Distribution	participants, prevented and Sven Andersson Per Kallner Andreas Sundlöf Erik Westman Henrik Lindståhl Mikael Fransson Ulf Hagman Erika Antonsson Toni Holkko Lucas Enström Ulf Lindqvist Jesper Baaring Johan Thelander Magnus Eriksson Lars Hammar Patrik Schneider Erik Thornström	
		B&W Vølund/Götaverken Vattenfall Söderenergi Söderenergi Tekniska verken i Linköping AB Tekniska verken i Linköping AB Göteborg Energi AB Göteborg Energi AB Gävle Energi Gävle Energi Jämtkraft AB Öresundskraft Karlstads Energi AB Mälarenergi AB Krafringen Krafringen Swede energy

1 Agenda

Presentation of participants. Erik Dahlén, Fortum värme, was welcomed to the board.

The distributed agenda was approved.

2 Person to approve minutes

AJ, Eon, was elected to approve minutes (next present person/company on participants list).

3 Minutes from board meeting 1/17

The minutes from board meeting 1/17 was approved without comments.

4 Notifications

4.1 Coming dissertations

The board members are recommended to send information to BW.

Upcoming dissertations

Andrea Olivas, Licentiate thesis

Recently defended dissertations

Hannes Falk Windisch, *Improved Oxidation Resistance and Reduced Cr Vaporization from Thin-Film Coated Solid Oxide Fuel Cell Interconnects*, Chalmers/HTC

4.2 Coming conferences and workshops

Workshop Innovativ materials arena, Linköping, Mjärdevi Science Park, CreActive 12 juni 2017

25th European Biomass Conference and Exhibition (EUBCE), June 12-15, 2017, Stockholm, Sweden, <http://www.eubce.com/home.html>

Gordon Research Conference, High Temperature Corrosion, July 9-14, 2017, New London, USA, <https://www.grc.org/programs.aspx?id=11157>

20th European Corrosion Congress – EUROCORR, September 3-7, 2017, Prague, Czech Republic <https://eurocorr.org/>

EUROMAT Conference 2017, 17-22 Sept, 2017, Thessaloniki, Greece <http://euromat2017.fems.eu/>

EUROMAT Conference 2019, Stockholm, Sweden, 2019. Workshop to discuss material research and industry-academy collaborations in Sweden, 18 May, 2017, in Stockholm. Organisation FEMS (<http://www.fems.org/>). Contact person for workshop Sten Johansson, LiU

5 Budget

BW showed the updated budget follow. Follow up is made of funds used, requested cash and reported in-kind. The reporting follows the plan and two projects reports in-kind contribution over 100 %. Some companies late with reporting and BW reminded about the reporting dates for industry in-kind:

- March 31 the following year for the period July-December
- September 30 for the period January-June

Still no news regarding the synthesis report. BW has elaborated and provided a Draft ToR to SEA, but no clear answer yet. **BW will continue the dialogue.**

6 Follow up of project

6.1 Project status reports

Two reports not submitted. Updated project status reports, including the delayed reports, will be posted on web site.

Comments:

- Would be good if results could be included in the reports (according to template).
- As annual projects status reports are submitted to SEA, they will become public accessible. It is therefore important that the results are not including any secret or sensitive information. Results must be cleared with project group.
- For the current programme period, it will however not be a problem as the remaining reporting of status, is only to KME.

6.2 Approval of final project reports

The projects are to be reported in two different final project reports, one short version to SEA (in the SEA's template) and one complete KME project report (in KME report template). Important is that the report to SEA is public. The reports must be approved and cleared by project group as well as project reference group.

Decision:

- **BW informs/reminds all project leaders** that all publications from project must be approved by project group, and final report by project group and reference group.

Approval of project report KME-708 *High temperature corrosion in waste-wood fired boilers*, Project leader: Pamela Henderson, Vattenfall.

The report is approved by the project group and the reference group. The short final report to SEA is also published as an Energiforsk report (2017:357), approved by board at meeting 1/2017.

Comments:

- Extensive and interesting report.
- JE will check if the report is approved for publication or if Sandvik MT has any comments
- BW have some minor comments that is communicated directly with the project leader.

Decision:

- **The report is approved** when the above comments are attended to.

7 The future of KME programme

BW and ES reported from the meeting with SEA held 31 March, and BW presented a suggestion for the way forward, including a time plan, for KME, **appendix 1**. Notes from the KME future group meeting with SEA is posted on the KME web.

The general impression from the meeting was positive. SEA informed that they are positive to applications from strong consortiums and that they welcome "consortium applications" with (working)packages of projects.

The programme *Turbines for future technologies* is already ongoing and KME is discussing with SEA on how and when materialtechnology research could be included in the programme (not included in the first call), and the programme *Steam based processes* will start during the autumn with a call for proposals in November.

Comments:

- With the possibility with shorter time perspective in the research (more applied, and shorter to implementation), it could be even more interesting for energy companies
- In applications, it is important to highlight what is new and that the reality has changed, and that the project is working with new tasks.
- It is possible to apply grants from others than SEA, such as Vinnova etc.
- The board was positive to consortium applications, which probably is the only way to maintain and keep the forum for cooperation (network). The risk for rejection of the entire package need however to be considered. Important with dialogue with SEA.
- The consortium application should have a red thread, and thus be directed towards respective SEA programme; *Steam based processes* and *Turbines for future technologies*.
- Discussions ongoing with the boiler manufactures, and they are generally going well. Valmet has shown an interest to participate in next period. Outokumpu is also contacted. The board was recommended to suggest any new partners.
- Specific project meetings with respective energy utility and boiler manufacturer could be relevant

Decision:

- **The board approved the plan and way forward** presented by BW. BW will thus continue to elaborate the programme with consortium application as the aim.

8 Programme conference HTC/KME

The 2018 conference will be held in Stockholm. Dates March 21-22 (alt 20-21) 2018. Spårvagnshallarna.

Generally, it is interesting useful with arranging a study visit at the end of the conference, but at this time when final results will be presented, the board preferred that if a study visits was to be arranged, it should be arranged outside the conference programme.

9 Others

9.1 Workshop Energy utilities and plant owners

A workshop with Energy companies and utilities (plant owners), to get input on relevant problem areas to work with, will be organised May 12. The aim is to identify problem areas and challenges and how the research can contribute to find solutions. The outcome from the workshop shall be incorporated in the programme plan, and could also form the basis for project discussions.

9.2 The Swedish Energy Agencies' workshop

The Swedish Energy Agency will organise a workshop for the entire programme "Steam based processes" on May 30, in Stockholm. Important that as many as possible attend to the workshop. BW will call for a pre-meeting (telephone) to discuss common input.

9.3 Evaluation of KME programme

SEA plans to evaluate that the current programme during the autumn 2017.

10 Next meetings

2017 meetings

- Telephone meeting in September
- Physical meeting in November, Gothenburg

2018 conference

- KME/HTC programme conference 2018, March, Stockholm

Minutes by

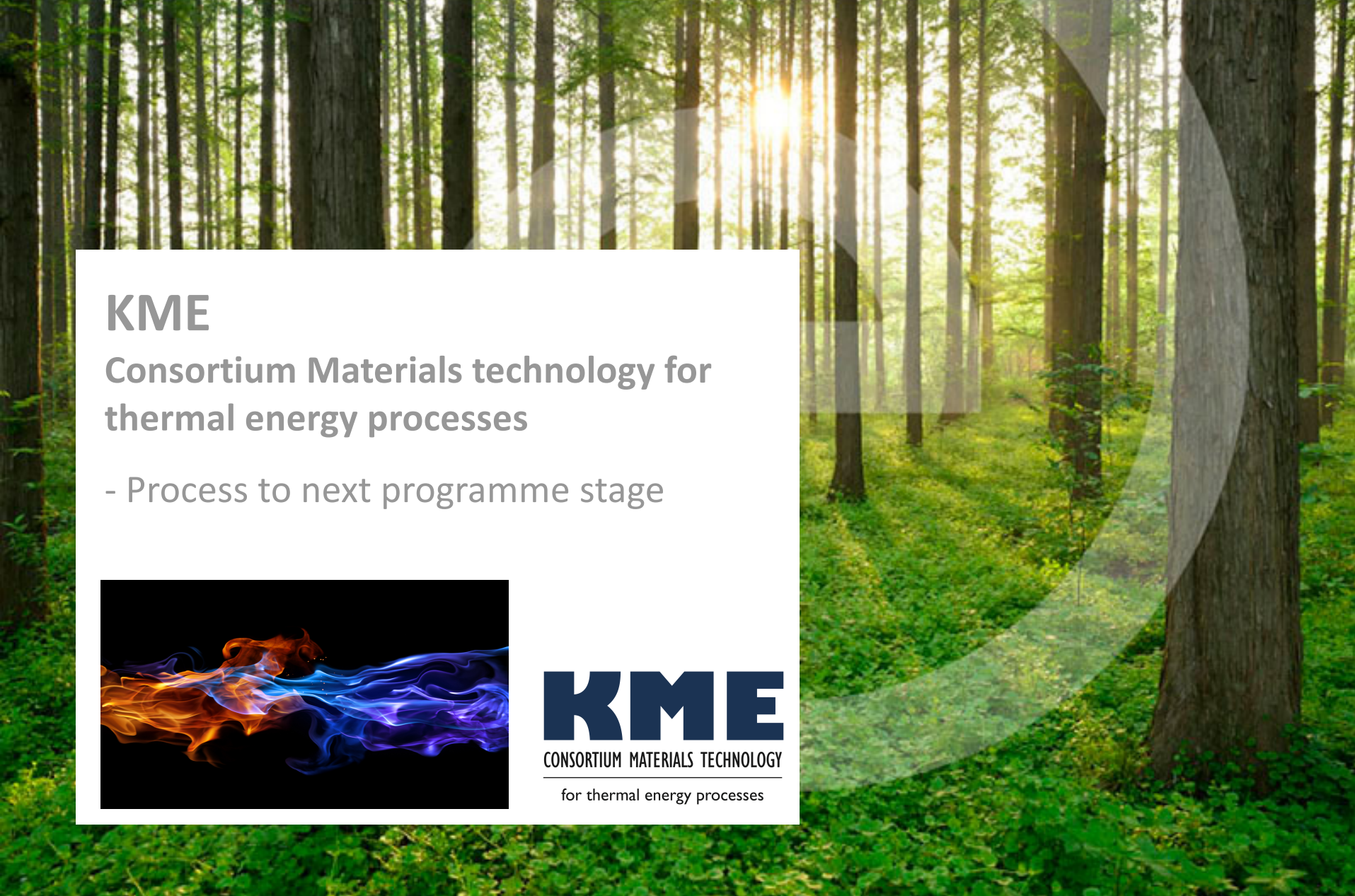
Bertil Wahlund

Minutes approval

Anna Jonasson, EON

Minutes approval

Erik Skog, chairperson



KME

Consortium Materials technology for
thermal energy processes

- Process to next programme stage



KME
CONSORTIUM MATERIALS TECHNOLOGY
for thermal energy processes

KME

- The Swedish Energy Agency opens two new programmes
 - Steam based process & Turbines
- Role for KME
 - Phase 1, before programme start:
 - gather the industry and provide a forum
 - influence and give input on content
 - Phase 2, when programme is ongoing:
 - gather the industry and provide a forum for cooperation and network
 - generate industry relevant and industry driven research projects
 - apply research grants from the Swedish Energy Agency
 - Energiforsk keeps it together

What – you decides

- Goals = your goals; Research content = your interest
- KME “programme description”, goals and research topics
- Input to Swedish Energy Agency
- Activities for identifying KME research interest: workshop, meetings, written → we need your input
- Possibility for a wider KME programme, materials main focus but also relating topics:
 - Combustion and combustion environment in boiler/turbine
 - Equilibrium calculation
 - Process technology solutions
 - Low temperature corrosion
 - ... and adjacent R&D areas

What – overarching goals

Materials and process technology research and development for thermal energy processes, based on renewable fuels and waste

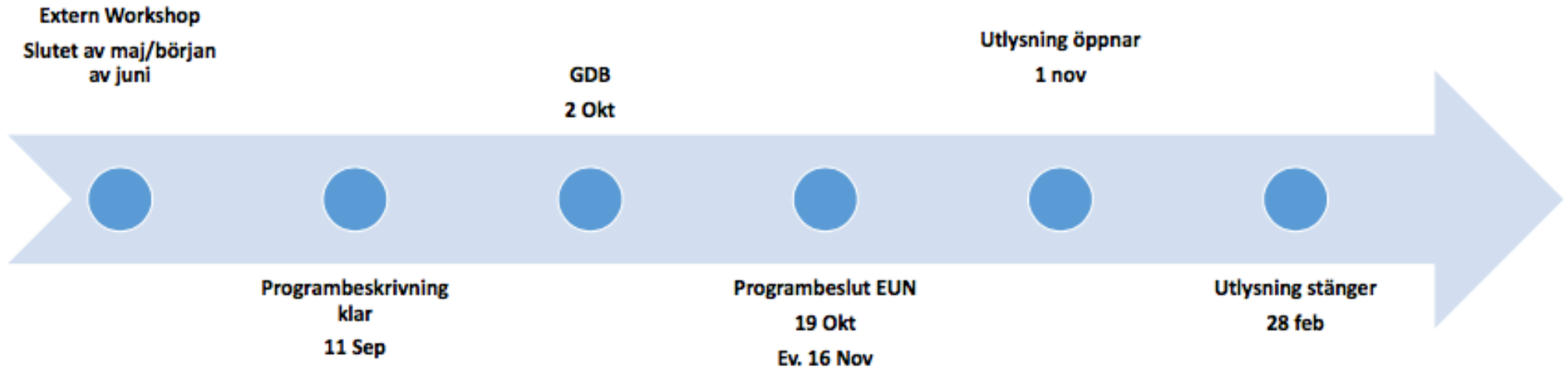
- **Cost effective solutions** for increased power and heat production, and fuel and operating flexibility
- Increased **electric efficiency** and **streamlined production**.
- Improved **availability**
- Improved **fuel flexibility**
- Improved **operating flexibility** and **part-load characteristics**
- The possibility to use **renewable fuels in gas turbine** processes

=> OK?

How – apply for grants

- “Consortium application” with packages of projects
 - Specific research projects with individual scope, participants and budget
 - Project participants writes
 - Summary including
 - Energiforsk puts it together and writes a summary
 - Budget for conference, information dissemination, implementation of results
 - Total budget for package
 - Red thread ...
- Projects could have different integrated parts:
 - Part with fundamental research, 100 % financed from Energy agency
 - **Main part with applied research, “normal KME” 40/60 (core of project)**
 - Part with more applied development, implementation of results, consultants work, 20/80?

Relate to SEA time plan (steam)



- Input to SEA possible up to 1 sept
- SEA decision 16 or 19 October, programme finalised
- Call for proposals open 1 November, closes 28 February
- First call normally open to all areas in programme

When – time plan for next KME (steam)

Now	Start process of defining new projects now!
May 12	KME workshop
May 30	SEA workshop
September 1	KME programme goals and research topics finalised – input now!
September	Board meeting
October 1	Draft project descriptions to KME (steam)
November	Board meeting selection project
February 1	Final project descriptions to KME
February 28	Submission of consortium application (programme package)
Spring/summer	Project start

