

# MICROCHEAP

## The Integration of Micro-CHP and Renewable Energy Systems

A European Commission Co-ordination Action

Sustainable development, global change and ecosystems  
Sustainable Energy Systems

TREN/04/FP6EN/S07.32890/503138

**Kick-off Meeting**  
**Belgrave Hotel, Torquay, UK**  
**Monday 11<sup>th</sup> & Tuesday 12<sup>th</sup> October 2004**



Project co-ordinator: Chalex Research Ltd.

## List of participants

### **Co-ordinator**

Chalex Research	Dr. Mark Pullinger (Leader, WP1)	UK
Chalex Research	Mr. Kevin Lidster	UK
Chalex Research	Miss Joanna Brockhurst	UK
Chalex Research	Dr. William Dawson	UK
Chalex Research	Mr. Giles Cooper-Smith	UK
Chalex Research	Mr. Steve Freer	UK

### **Work package leaders**

EA Technology (WP2)	Mr. Chris Wilcox	UK
Energy Research Centre of the Netherlands (WP3)	Mr. Sergio Herman	NL
Energy Research Centre of the Netherlands (WP3)	Mr. R. van der Woude	NL
FORCE Technology (WP4)	Mr. Jesper Noes	DK
Deutsche Gesellschaft für Sonnenenergie (WP5)	Mr. Jan Kai Dobelmann	D
Fördergesellschaft Erneuerbare Energien (WP6)	Mr. Eberhard Oettel	D

### **Project members**

ÅF Group	Dr. Henrik Bjurstorm	S
Aston University	Mr. Mark Coulson	UK
BEAMA Ltd.	Dr. John Parsons	UK
BTG Biomass Technology Group b.v.	Mr. Douwe van den Berg	NL
Centre for Renewable Energy Sources	Dr. Nicolas Lymberopoulos	EL
École Nationale Supérieure des Mines de Paris	Prof. François-Pascal Neirac	F
Energy Consulting Network	Mr. Georg Nielsen	DK
Enervac-Flutec Ltd.	Mr. Joseph Katsanevakis	EL
Fraunhofer Institut Solare Energiesysteme	Mr. Benoit Sicre	D
GAIA Group	Mr. Jari Hiltunen	FIN
Institut Für Solare Energieversorgungs Technik	Mr. Jan Muller	D
Lunds Universitet	Dr. Magnus Pålsson	S
National Technical University of Athens	Dr. Doukelis Aggelos	EL
Sustainable Technology Solutions Ltd.	Dr. Duncan Child	UK
Technology Codes Ltd.	Mr. Kevin Aggett	IRL
Universitat de Barcelona	Prof. Joan Mata-Alvarez	E
WBI Technology Ltd.	Miss Leila Conway	IRL

### Apologies

Ålborg University Esbjerg	Mr. Jens Bo Holm-Nielsen	DK
Istituto Universitario Di Architettura Di Venezia	Prof. Fabio Peron	I
Slovenská Poľnohospodárska Univerzita v Nitre	Prof. Ján Gaduš	SK

# Network meeting agenda

## Monday October 11th 2004

- 10:00 Welcome (Dr. Mark Pullinger, Chalex Research)
- 10:05 Introduction and presentation of agenda (Dr. Mark Pullinger, Chalex Research)
- 10:15 Presentation of MICROCHEAP (Dr. Mark Pullinger, Chalex Research)
- 10:25 Work Package 1 – Introduction (Dr. Mark Pullinger, Chalex Research)
- WP1: Presentation of draft web site (Miss Leila Conway, WBI Technology)
- Decisions needed: Final comments on consortium agreement; approval of draft web site*
- 10:45 Work Package 2 – Introduction (Mr. Chris Wilcox, EA Technology)
- Decisions needed: Strategy for literature survey; preliminary ideas for market survey*
- 11:05 Research Activities at CRES (Dr. Nicolas Lymberopoulos, CRES)
- 11:25 Coffee
- 12:00 Introduction of upcoming calls (Mr. Giles Cooper-Smith, Chalex)
- 12:20 Work Package 3 – Introduction (Mr. Sergio Herman, ECN)
- Presentation of D/B requirements (Miss Leila Conway, WBI Technology)
- Decisions needed: Strategy for research centre mapping; approval of database structure*
- 12:50 Presentation of project's reporting requirements (Dr. Mark Pullinger, Chalex Research)
- 13:00 Lunch
- 14:15 Work Package 4 – Introduction (Mr. Jesper Noes, FORCE Technology)
- Decisions needed: Decision on four expert group topics; appointment of expert group leaders (Decisions could be made after Tuesday)*
- 14:40 Partner presentations (Five minutes max.)
- ISET (Mr. Jan Muller)
  - Aston University (Mr. Mark Coulson)
  - ARMINES (Prof. François-Pascal Neirac)
  - NTUA (Dr. Doukelis Aggelos)
  - BEAMA Ltd. (Dr. John Parsons)
- 15:05 Work Package 5 – Introduction (Mr. Jan Kai Dobelmann, DGS)
- Decisions needed: None needed, WP doesn't start until Month 13)*
- 15:20 Introduction to financial statements and audits (Dr. Mark Pullinger, Chalex Research)
- 15:30 Coffee
- 15:40 An Introduction to CHAPNET (Mr. Chris Wilcox, EA Technology)

16:10 Work Package 6 – Introduction (Mr. Eberhard Oettel, FEE)

*Decisions needed: Selection of subjects for topical seminars; organisers of seminars*

16:30 Research at Lunds Universitet (Dr. Magnus Pålsson, Lunds Universitet)

16:50 Any other business

17:00 Meeting close

Monday 11<sup>th</sup> October 2004

## Proceedings

### Welcome

*Dr. Pullinger* welcomed all members to the kick-off meeting, and gave apologies for the members who were unable to attend the meeting. *Dr. Pullinger* then gave a brief introduction into *Chalex Research's* operations and its staff, before proceeding to detail the history of MICROCHEAP project to date.

*Dr. Pullinger* went on to give an overview of Work Package one. He started by stating the objectives of the work package, followed by a summary of proposed meetings and when they will occur. *Dr. Pullinger* went on to explain the expected and due dates of the deliverables for WP1: these can be seen in the Technical annex. To end the overview on WP1, *Dr. Pullinger* highlighted the activities within the WP that would be taking place during the forthcoming six months.

*Dr. Pullinger* also made suggestions on the variety of methods for disseminating the newsletter that will run with the project. He said it could be put into a Portable Document Format (PDF) file and sent out to members, who would then disseminate them independently. Another suggestion was to have the issues published so that they are available in a soft copy. A question that was raised at this point, as to whether the newsletter would be available on the network's website? *Dr. Pullinger* agreed this would be a good idea.

### Presentation of Draft Web site

*Miss Conway of WBI Technology* started her talk by outlining the draft of the network's web site. *Miss Conway* showed a slide presentation and talked about how the web site would include; the project's objectives, a state of the art page, expected innovations, and an area restricted to the project's members within the site. The restricted area will include contact information of the consortium and will also include an online form that will enable members to ask direct questions of the co-ordinator.

The general feedback after *Miss Conway* had presented the website was that it was attractive on the eye, and would be an important tool in the dissemination of the network and its achievements.

*Mr. Herman (ECN)* made the suggestion that it would be a good idea to make available through the web site any slide presentations that members show at the meeting. This suggestion received mutual agreement from the network members. It was also suggested that a picture of the network's members would be a useful tool. This, too, was agreed and several pictures were taken of the network members who were attending the meeting during the course of the two days that the meeting was held.

*Dr. Pullinger* asked that members who wanted to submit any work onto the website, should send it to Chalex for checking before been sent to WBI Technology for uploading. *Mr. Katsanevakis (ENEFEL)* suggested that it would be useful to have links to relevant sites to the subject and also to the members' web sites. This received general approval.

*Mr. Herman* asked that if a document is online and is an ongoing document, would the online version be updated or the original left on line and a new up to date document to be added. If the latter were the case, then a simple method of identification will be necessary as so that the edition number is clear and understandable. *Dr. Pullinger* explained that it would be best to leave the original online and to keep adding documents individually as they become updated. In this way, the original information would still be available.

### Work Package Two Introduction

*Mr. Wilcox* from *EA Technology* started by given a brief introduction the company, before going on to describe their participation in the CHAPNET project. *Mr. Wilcox* took the opportunity to highlight two forthcoming workshops that the network is holding. He felt some people might wish to attend, as it would be a useful opportunity to exchange information. The workshops that the CHAPNET members were hosting are to be held on the 25<sup>th</sup> and 26<sup>th</sup> October 2004.

*Mr. Wilcox* then went on to give an overview of work package two, and how the results would be achieved. He asked partners involved within the work package to highlight their specialist areas. These were as follows:

ECN – Solar Energy

DGS – Natural gasification

ENEFEL, to research Southern Europe legislation

CHALEX, Patent searches and database for information

CODES – Legislation searches

LUND – Wood power engines

CRES, working with field cells, and the study of field cells from biomass

BTG, Have been involved with many projects relevant to micro-CHP

FEE – National task group involved with elaborating on obstacles in the way of instating new technologies

GAIA – Have been involved in several relevant projects.

BEAMA – Work with peripheral components and identifying gaps within the market

EAT – Have been involved for years with CHP, and field trials

*Mr. Katsanevakis* highlighted a project with which he has been involved in the last two years and highlighted that this could be a good opportunity to expand the consortium and share knowledge.

As a unified method of collaborating the information that is obtained, the information will be entered into a database. *Mr. Oettel (FEE e. V)* said that it would be necessary to maintain a uniform database that clearly shows information that is required at both domestic and commercial levels. *Mr. Oettel* expressed that this would be useful if it was identified in the first two months. It was also expressed that whatever method is used at the start should be maintained throughout the project. It was also expressed that the database should hold some structure throughout. A suggestion to include manufacturer, and a link to the developer database was also suggested.

*Mr. Dobelmann (DGS)* suggested it would be a good idea to distribute questionnaires to identify technologies and the variety of technologies available. *Dr. Pullinger* felt this was a good idea especially for members with further contacts *i.e.* member groups *etc.*

*Prof. Neirac (ARMINES)* made the suggestion that new technologies that are coming onto the market should also be included with the research. This was agreed all round.

### Research Activities at CRES

*Dr. LyMBERopoulos (CRES)* started by giving a company introduction. *Dr. LyMBERopoulos* highlighted the fact that CRES is one of only three companies in Europe that tests to such a high standard. *Dr. LyMBERopoulos* then went on to describe the projects that they at CRES are currently involved in.

Coffee

### Introduction to Upcoming Calls

*Mr. Cooper-Smith (Chalex)* started by giving a detailed presentation on Chalex Research and its work (for more information on Chalex you can visit [www.chalex.com](http://www.chalex.com)). *Mr. Cooper-Smith* went on to give an explanation on several upcoming calls closely related to CHP technology, because he thought that there might be some interest. Due to a high level of interest, *Mr. Cooper-Smith* announced a discussion group to be held after the close of meeting.

### Work Package 3 – Introduction

*Mr. Herman (ECN)* started his presentation by giving a brief overview of ECN's previous experience in leading projects. *Mr. Herman* then went on to give an overview of work package three, this included the objectives and main foci as well as the expected outcomes from the work carried out. *Mr. Herman* went on to state that the best course for mapping the centres of excellence would be to set up a database into which to enter the information. It was suggested by *Mr. Oettel* that the database should give an indication of the importance of the technologies that are identified. *Mr. Oettel* also felt that the database would be restricted if the countries who do not have a representative within the project were to be neglected. *Mr. Herman* assured him that the countries that are not directly involved within the project will be researched by another network member, who would be responsible to research the required information.

*Prof. Neirac* commented that he had been involved with an old project that had researched information for a similar database and that the information that they had obtained could be of relevance. *Dr. Child* expressed the need to establish what guidance will be given and to which country each member will be allocated. This was a concern for members of the network, as not everyone knew exactly what was expected of them. *Mr. Herman* replied that members of the network would also receive e-mails detailing the information that is required.

*Dr. Doukelis (NTUA)* expressed that a completed picture of Europe would be required. *Mr. Herman* assured that countries that are not directly involved would be covered by another network member. *Mr. Coulson (Aston)* expressed that there are currently networks of excellence that do not necessarily hold the desired information that is needed. He also stated that the information obtained should focus on specifics to the people and organisations involved, giving the end result of a matrix rather than unnecessary information. *Mr. Katsanevakis* suggested that it would be a good idea to put an information pack together for the network members involved, stating what was required and what was expected of the information that was obtained. This was welcomed by mutual agreement.

*Mr. Herman* said he will draw up a draft and send to partners for their agreement.

### Presentation of Database Requirements

*Miss Conway* introduced the information database and the headings that it entails these were; Category/description, organisation, contact person, contact address and telephone number, e-mail address, the website address and a date of contact column.

*Miss Conway* explained that every member would be receiving a blank copy of the database entry form, so as they can fill in the relevant contact details before sending it back to WBI to enter into one final version. This would ensure that all members are working within the same format. *Mr. Coulson* asked how the information that is required will be identified; would it be up to ECN? *Mr. Herman* said that once information was obtained then they would identify the information that is required. *Mr. Dobelmann* suggested that it would be a good idea to make the database electronically available. He also suggested a good idea for partners to identify keywords for this.

Before lunch took place *Mr. Noes (FORCE)* handed out questionnaires to the network members. The questionnaires were aimed to help determine partners' areas of expertise.

Lunch

### Presentation of project's Reporting Requirements

After lunch *Dr. Pullinger* opened the meeting with an explanation and description of the requirements for reporting during the duration of the project. *Dr. Pullinger* described that when a report is due to be written, a request for a short work package report will be sent to the work package leaders. The short report should include the deliverables and milestones that were expected within the reporting period, any problems that may have arisen, future actions that are being taken.

### Work Package 4 – Introduction

*Mr. Noes* introduced work package 4 by highlighting the aims of the work package which include the Co-ordination of European research activities by:

- Reviewing current work in small expert groups
- Co-ordinate current research in micro-CHP
- Formulate joint strategies for the future
- To make recommendations for future research activities

*Mr. Noes* felt the best way to achieve these results would be to establish small expert groups, that would result in joint strategies for the future. This would enable individual technologies to be investigated more thoroughly than if the information was researched as a big group.

Through the use of the questionnaires that were handed out before lunch, *Mr. Noes* explained that he would look at the answers that have come back and use the information to establish expert groups. Through the results from the questionnaires, *Mr. Noes* explained that it would also give a clear idea of 'hot' topics to be investigated. *Mr. Noes* went on to explain that the information that was obtained would not be restricted to one expert group, but that the groups would work openly

with one another and exchange knowledge that they obtained, and also any concerns or problems to be discussed openly. Through the information that will be gathered, a report will be compiled stating the consortium's recommendations for future research policies that will encourage the development of renewable micro-CHP operations for the final meeting.

*Dr. Lymberopoulos* asked how they would identify what information is necessary. *Mr. Noes* replied that the information would be based upon technologies. *Mr. Lymberopoulos* followed this by stating that it would be better to confine the boundaries of technologies to those within the network member's areas of expertise. *Mr. Noes* explained that once he had had a look at the results from the questionnaires, he would have more of an idea, but also expressed that it would seem pointless to look at technologies that are outside of the member's fields.

*Mr. Herman* then suggested the idea of compiling a list of the technologies and let the group decide how the boundaries are identified and set. *Mr. Noes* explained that it might be more effective to have boundaries within the project, rather than individual ones for each group. This would help to ensure all information is covered. *Mr. Coulson* stated that the key barriers should be identified so that the expert groups have boundaries to work from. *Mr. Noes* expressed how it is hard to identify the barriers at that moment. It was then agreed that a small discussion would take place during the next day's meeting once the questionnaires had been studied.

#### Partner Presentations

*ISET* – *Mr. Müller* showed a slide presentation that gave an Introduction to ISET. He explained how they are a state founded and there location. The aims of the company department were also presented.

*ASTON* – *Mr. Coulson* gave a brief description of the department that he works in, and its recent expansion. *Mr. Coulson* stated that there are twenty people that work in his department. He went on the explain the work that Aston University take part in, these included thermal conversion biomass projects and chemical engineering and science technology.

*ARMINES* – *Prof. Neirac* introduced himself and through the use of a slide presentation and gave an overview of ARMINES, which consists of 19 separate research centres. One part of which is in Paris, the other half in Nice. It is within the centre at Nice that he is situated. Within his department, he works alongside about sixty people. Currently he is involved within two other projects.

- 1) EPACOP, which focuses on fuel cells for co-generation
- 2) PVFCSYS, systems under study is constituted by a photovoltaic field, an electrolyser, a fuel cell and gas storage systems. More information on this project can be found at <http://pvfcsys.cma.fr/>.

*NTUA* – *Dr. Doueklis* started his slide presentation by giving an overview of his University department, which is the Laboratory of Steam Boilers and Thermal plants. The department has been established for twenty years. Key areas of work include:

- Energy savings of thermal plants,
- Process simulation and development of advanced cycles for power generation.

- Development of new technologies and combustion systems such as solid fossil fuels and biomass combustion in a Fluid Bed, Fuel Cells, hydrogen technologies, carbon capture and sequestration technologies,
- Testing and checking of efficiency and exhaust gas quality of heating systems

*Dr. Doueklis* went on to describe the facilities that they have at NTUA, before outlining a few of the many projects that they have been involved in. To finish the presentation, he outlined the contribution that they will be making to the MICROCHEAP project.

BEAMA – *Dr. Parsons* introduced BEAMA and explained that they are a trade association that represents the majority of electric organisations within the UK. BEAMA has been established for approximately one hundred years. They have been involved with the development of standards at both and national level as well as international.

### Work Package 5 – Introduction

*Mr. Dobelmann (DGS)*, started by briefly introducing himself and DGS, before going on to the outline the work of work package five. The aims and objectives of the work package were explained. *Mr. Dobelmann* explained that work package five does not begin until month 13, so with the use of a slide presentation showed what research/tasks each participant within work package five will be expected to achieve/carry out.

### Introduction into Financial Statements and Audits

*Dr. Pullinger* gave an explanation into the workings of the financial statements and there importance to partners. *Dr. Pullinger* went on to explain the funding structure of the project.

Coffee

### An Introduction to CHAPNET

*Mr. Wilcox* showed a slide presentation whilst introducing CHAPNET. He started by highlighting why we need micro-CHP, before identifying market issues, such as legislation, financial support, technical skills *etc.* Following this *Mr. Wilcox* went on to explain; developments that have taken place recently within the UK these included unnecessary restriction being revised, as well as other technical developments and fuel cell status.

### Work Package 6 – Introduction

*Mr. Oettel* began his presentation with a proposed definition of ‘renewable ‘MicroCHP’, this was:

“Appliance with an installed electrical or thermal capacity of less than 5 kW to transform primary or secondary renewable energy sources (RES) into combined end energy carriers, as combined:

- Heat and power
- Heat, cold and power
- Cold and power
- Heat and cold

- Power and storage medium (like hydrogen, pressurized air or kinetic energy)”

Following this *Mr. Oettel* went on to outline the objectives, tasks and deliverables of work package six. *Mr. Oettel* gave two suggestions for the next venue for the workshops that will be held by network members along side the project. It was agreed that this should running along with the network meetings to reduce time travelling and other troubles associated with this. The proposed venues for the meetings/workshops are Potsdam or Berlin.

Next *Mr. Oettel* went on to outline the plan for researching manufactures of any kind of RES –Micro-CHP. It was proposed that each member is to cover their own country plus one other, as shown in his presentation, available on the MICROCHEAP web site. The aimed outcome from this action is:

- List of obstacles and barriers for research & development and implementation
- To elaborate checklists on marketability of RES-Micro-CHP
- To identify target groups, *i.e.* craftsmen and their chambers (special training instructions?)
- Early markets
- Niche markets
- Mass markets
- To report on every public relation measure (posters, papers, articles, interviews, exhibitions *etc.*)
- To deliver and exchange individual websites for publication and offer to transfer RES-micro-CHP technology
- To dedicate one workshop to a special meeting of developers and manufacturers of RES-micro-CHP with researchers to stimulate transfer of successful scientific results.

A list of professional associations, and ongoing projects would also be a useful to establish, as a form of technology transfer and dissemination. This was agreed, as it would be a very useful tool in encouraging public acceptance to the technologies currently being developed.

Following this a debate took place into the maximum power output that should be researched for both commercial usage and residential usage. It was argued that many technologies would be omitted if only 1 kW (for residential) were to be researched, thus making a lot of technologies appear as commercial when this was not necessarily the case. The final decision that was made was that the maximum power output for residential research would be 5Kw and for commercial it would be 50Kw. If any technologies were found that would fall outside these guidelines then a separate sector would be created this will be titled as promising technologies. Work will start on these specifics with the opportunity at the next meeting (Germany, March 2005) to discuss any findings, or problems that may have been discovered.

Due to discussion on the maximum power outputs to be researched there was not enough time for *Dr. Pålsson* to present the research carried out at *Lunds University*, this was therefore postponed to day two of the meeting.

Close

## Tuesday October 12th 2004

10:00	Welcome	(Dr. Mark Pullinger, Chalex Research)
10:05	An introduction to STSL	(Dr. Duncan Child)
10:15	An introduction to Fraunhofer ISE	(Mr. Benoit Sicre)
10:25	An introduction to EC Network	(Mr. Georg Nielsen)
10:35	An introduction to the GAIA Group	(Mr. Jari Hiltunen)
10:45	An introduction to FEE	(Mr. Eberhard Oettel)
10:55	An introduction to ECN	(Mr. Sergio Herman)
11:05	An introduction to Tech. Codes	(Mr. Kevin Aggett)
11:15	An introduction to the ÅF Group	(Dr. Henrik Bjurstorm)
11:25	Coffee break	
11:55	An introduction to EA Technology	(Dr. Chris Wilcox)
12:05	An introduction to Uni. Barcelona	(Prof. Joan Mata)
12:15	An introduction to BTG	(Mr. Douwe van den Berg)
12:25	An introduction to FORCE Tech.	(Mr. Jesper Noes)
12:35	An introduction to WBI Technology	(Miss Leila Conway)
12:45	An introduction to DGS	(Mr. Jan Kai Dobelmann)
12:55	An introduction to Enervac-Flutec	(Mr. Joseph Katsanevakis)
13:05	Free discussion and conclusions	(Dr. Mark Pullinger, Chalex Research)
13:15	Meeting close and lunch	

Tuesday 12<sup>th</sup> October 2004

Proceedings

Welcome

*Dr. Pullinger* welcomed all members to day two of the kick-off meeting, before introducing *Dr. Palsson* from *Lunds Universitet*.

Research at Lund Universitet

*Dr. Pålsson*, began his talk by outlining the location, a faculty at Lund Universitet, before going on to talk about the research focus of Stirling engines within his division. Within the department, he explained the extent of their equipment and capabilities, which included lasers to test the internal combustion of engines. *Dr. Palsson* finished his presentation by talking about the development of gas combustion engines.

Following this Company presentations were given by each of the partners, in the following order:

Dr. Henrik Bjurstorm	ÅF Group
Dr. Duncan Child	STSL
Mr. Benoit Sicre	Fraunhofer ISE
Mr. Georg Nielsen	Energy Consulting Network
Mr. Jari Hiltunen	GAIA Group
Mr Eberhard Oettel	FEE e. V.
Mr Sergio Herman	ECN

*Mr. Herman* also presented a draft proposal for the database. *Mr. Herman* said that he would set this up on the computer and send it out to the network members for comments, suggestions and ideas to be sent to him. Headings proposed for the database included higher education, research, renewables, facilities, CHP and credit. The credit column would be a reflection on how useful the information is to the project.

Following *Mr. Herman's* presentation *Mr Kevin Aggett* from *Technology Codes* presented a short presentation on his company.

Coffee

Following coffee more Company presentations were given by, the remaining partners, in the following order:

Mr. Chris Wilcox	EA Technology
Prof. Joan Mata	Universitat de Barcelona
Mr. Douwe van den Berg	BTG
Mr. Jesper Noes	FORCE Technology

Once *Mr. Noes* had presented FORCE, he presented his suggestions for the expert groups and hot topics that he had compiled from the information that was obtained through the use of a questionnaire from Day one of the meeting. The expert groups and hot topics that were proposed were as follow:

Expert Group	Hot Topics
1) Combustion	Stirling engines
	Gas turbines
	IC
2) Non- Combustion Technologies	Solar Power
	Geothermal
	Fuel cells
3) Energy Carriers	H <sub>2</sub>
	Biogas
	Bio-oil
	Waste solid biomass
4) Other Barriers	Market Issues
	Legislation
	Grid Connection
	Acceptance

A few members expressed concern for topics only being under one heading, as they felt certain issues might get neglected. It was suggested that maybe the expert groups should be chosen in a different way. *Mr. Noes* indicated that if it was carried out in a different way then the result would be too many groups. *Mr. Wilcox (EA Technology)* suggested that at the beginning of meeting they raise issues that they feel necessary, before going off into their expert groups. *Mr. Noes* agreed that this would be a good idea as well as possibly meeting after the expert group meetings to discuss issues and any other matters that may arise. *Mr. Sicre* suggested that maybe the Organic Rankine Cycle (ORC) should also be included. *Mr. Noes* said that nobody had any knowledge of it, so it would be a good idea to investigate.

*Mr. Noes* said that the expert group meetings would be held alongside the network meetings.

More Company presentation followed *Mr. Noes* presentation; they appeared in the following order:

Miss Leila Conway	WBI Technology
Mr. Jan Kai Dobelmann	DGS
Mr. Joseph Katsanevakis	Enervac-Flutec

An opportunity for free discussion took place.

*Dr. Pullinger* thanked all members that attended the meeting and closed the meeting before lunch.

Close