

**SECOND ANNUAL MEETING OF THE GROUND-MED CONSORTIUM
FIRST PROJECT REVIEW**

Venue: CRES offices, 19th km Marathonos ave., 19009 Pikermi Attikis, Athens, Greece

Date: 25-26 February 2010

LIST OF PARTICIPANTS

01-CRES	C. Karytsas, D. Mendrinos, A. Benou, O. Polyzou, J. Choropanitis, E. Kontoleontos, N. Theodorakou
02-CEA	-
03-EHPA	Thomas Nowak
04-FIZ	Axel Lehmann
05-CIAT	-
06-HIREF	-
07-UOR	Marcel Rosca
08-ISR UC	Anibal de Almeida
09-GEJZIR	Peter Kralj
10-GEOTEAM	Johann Goldbrunner
11-UPV	Jose Miguel Corberan, Carla Montagud
12-BES	Miguel Sierra
13-ECO	-
14-EGEC	Theresa Doetsch
15-GRETh	-
16-NUID UCD	Donal Finn
17-UNIPD	Davide del Col, Enrico da Riva
18-EDRASIS	Vassilis Ramoutsakis, Marios Karanikitas
19-CETIAT	-
20-OCHSNER	Christian Brenner
21-ESTSetubal	Luis Coelho, Joao Garcia
22-GROENH	Henk Witte, Guus van Gelder
23-KTH	Bjorn Palm
24-ENEREN	-

Remark: Due to the strikes in Greece and Europe, some partners were not able to attend

PROGRAM

25 Feb 2010: CRES offices, Pikermi

9:00	Departure from Golden Age Hotel			
9:30	Arrival in CRES			
10:00	Project financial management	C. Karytsas, CRES	WP1	
10:30	Project technical management: planning next 12 months	D. Mendrinos, CRES, Ground-Med Coordinator	WP1	
11:00	Coffee-Break			
11:30	Revision of WP2 results, next actions towards developing high capacity heat pump prototypes, PCM, FCU and AHU by October 2010	D. Mendrinos, CRES	WP2	
12:00	Revision of research results, next actions towards developing low capacity heat pump prototypes by October 2010	Davide del Col, U-PADOVA	WP3	
12:30	Heat pumps research in UPV	JM.Corberán, C. Montagud, UPV	WP3	
13:00	Integrated design and optimisation of borehole heat exchanger systems	H. Witte, G. van Gelder, GROENHOLLAND	WP5	
13:30	"	"	"	
14:00	Light Lunch			
14:30	"			
15:00	Brussels meeting with EC: suggestions on venue, time, participants, topics, speakers, etc.	T.Nowak, EHPA	WP9	Working time: collaboration between partners
15:30	Calculating and reporting heat pump SPF	T.Nowak, EHPA	WP9	Working time: collaboration between partners
16:00	Licensing and permitting for Ground-Med demo sites	D.Mendrinos, CRES, M. Rosca, U-Oradea, A. de Almeida, ISR, P. Kralj, GEJZIR		milestones
16:30	"	C. Montagud, UPV, H. Giannelis, EDRAISIS		milestones
17:00	End of day 1, departure to Golden Age Hotel			
20:00	Dinner, Downtown meeting in front of Golden Age Hotel			

26 Feb 2010: EDRASIS head office, Koropi

08:30	Departure from Golden Age Hotel			
9:00	Arrival in Edrasis head office			
9:30	Revision of research results, next actions towards developing medium capacity heat pump prototypes by October 2010 - final decisions	C. Brenner, OCHSNER	WP3	
10:00	Revision of WP4 results, next activities towards an innovative control system	D. Finn, UCD	WP4	
10:30	Presentation of Data Management System (DMS), decisions on DMS access, duration after project end, languages	Miguel Sierra, BESEL	WP4	
11:00	Instrumentation, hardware and software requirements for demo buildings - Discussion	A. de Almeida, ISR	WP4	
11:30	Coffee-Break			
12:00	Revision of demo systems engineering design	C. Montagud, UPV	WP5	
12:30	Presentation of the design concept (BHE design, heat pump capacity, water circulation pumps, & distribution system) for EDRASIS	V. Ramoutsakis, EDRASIS	WP5	
13:00	Presentation of the design concept (BHE design, heat pump capacity, water circulation pumps, & distribution system) for ISR	A. de Almeida, ISR	WP5	
13:30	Presentation of the design concept (BHE design, heat pump capacity, water circulation pumps, & distribution system) for Benedikt	P.Kralj, GEJZIR	WP5	
14:00	Presentation of the design concept (BHE design, heat pump capacity, water circulation pumps, & distribution system) for Oradea	M.Rosca, U-ORADEA	WP5	
14:30	Light Lunch, Discussion-decisions on OCHSNER heat pump specifications	D.del Col, C. Brenner, A. de Almeida, D. Finn, J.Corberan, B.Palm, M.Rosca, P.Kralj, V.Ramoutsakis, D.Mendrinis	WP3	Working time: collaboration between partners
14:30	Planning demo site works: BHE construction, heating-cooling system, heat-pump & monitoring system	H. Giannelis, V. Ramoutsakis, EDRASIS	WP6	
15:00	Revision of dissemination activities, dissemination plan, meeting with EC in Brussels (June 2010), Seminars in Spain (June 2010) & France (December 2010) - Discussion: training courses coordination	E. Kontoleontos, CRES	WP9	Working time: collaboration between partners
16:00	Visit to EDRASIS demo site & HVAC system	V. Ramoutsakis, EDRASIS	WP6	
16:45	End of Meeting, departure to Golden Age Hotel			
17:30	Arrival at Golden Age Hotel			

MINUTES

Project partners presented and discussed the work progress so far and planned project activities for the next 14 months according to the above program. Main conclusions of the meeting are:

1st project review

Work progress: After one year since the project beginning, work progressed according to plan. Research tasks were directed towards development of heat pump and control system technology. The main features of the data management system have been concluded. Deliverables prepared are D3.1 “report on methods for improving heat pumps COP”, D4.1 “generalized dynamic control model”, D9.2 “scientific announcements and publications”, D9.3 “project web site” and D9.16 “dissemination plan”. In addition, engineering design of borehole heat exchangers and demonstration systems has been under way with final decisions made for the GSHP capacity and BHE field configuration. Permits for 4 of the 8 demonstration sites were issued, with 3 more under way.

Next period: Eight advanced heat pump prototypes plus monitoring and control software and hardware to be completed by next October. Construction at demo sites is expected to start with the BHE field in April, with site commissioning and commencement of monitoring scheduled for one year later, in April 2011. In parallel, a series of meetings and seminars will be organized, where the project results will be communicated.

Administrative matters

Preparation of first project report: Almost all partners have already submitted their technical reports and financial documents (form-C and cost details tables) to the coordinator, with the last pending items to be received shortly during the next days after the meeting.

Consortium Agreement: The revised consortium agreement has been concluded since March 2009; however, signature of three partners was still pending.

Contract amendment: The application for amending the Ground-Med contract was done, with communication between the coordinator and the Commission under way. The process cannot be completed until all partners become validated by the Commission services and obtain a permanent PIC number.

Next project events

Second project review

The meeting for the second project review on demonstration site permits has been scheduled to be held in Athens on 7 May. Issuing of permits for BHE construction at every demo site on time is essential for the smooth project implementation, according to the project contract.

WP2 meeting

It will be held in CIAT premises on 17-18 May, as planned.

Seminar and WP3/WP4 meeting

The first project seminar and project coordination meeting on WP3 and WP4 will take place in Madrid in mid June. BESEL to organize it; Ground-Med partners should present the research and engineering design results to trainees.

Meeting in Brussels

The first meeting with EC officials in Brussels will be held during the last week of October. Exact venue will be decided by EHPA. Invited participants will include Eurostat officers, DG-Energy officers related to the RES directive, the Ground-Med project officers. The coordinator and work package leaders of WP2, WP3, WP4 and WP5 (CRES, CIAT, UNIPD, UCD and UPV) should present the project results.

Ochsner heat pump specifications

The heat pumps capacity for the three demo sites where Ochsner Heat Pumps will be placed was discussed and concluded as:

- Oradea: 37,6 kW at W10/W35
- Benedikt: 22,6 kW at W10/W35
- Koropi, Athens: 55 kW

Despite the OCHSNER heat pumps have TCP/IP communications, the heat pump controllers shall communicate with the DAQ (not the DMS), which will facilitate the data to the DMS by FTP protocol as agreed.

A round table discussion took place during lunch break between D.del Col (UNIPD), C. Brenner (OCHSNER), A. de Almeida (ISR-UC), D. Finn (UCD), J. Corberan (UPV), B. Palm (KTH), M. Rosca (UOR), P. Kralj (GEJZIR), V. Ramoutsakis (EDRASIS), D. Mendrinou (CRES), who decided that the heat pump prototypes should be able to deliver both heating and cooling by reversing the refrigerant cycle. This was also agreed during the meeting in Ochsner factory last year.

BHE design at demo sites

Demo sites at Oradea and Benedikt were discussed between demo site owners and WP5 project partners. Topics included ground temperature, water temperature, BHE design and heat pump prototype. Groenholland to do additional BHE calculations. UPV to make calculations on pump sizing, etc.

Various dissemination issues

T. Nowak pointed the need for common wording to third parties when presenting the project results and suggested to adopt the same definition of SPFs in both GROUND-MED and SEPEMO projects. The consortium agreed on the principle, but decided by voting to maintain the SPF variables definition already used for more than a year for Ground-Med as they have been already integrated in all mathematical formulas and project deliverables. SEPEMO, which is a new project should try to adopt any presentations according to the Ground-Med logic.

Data management system

DMS for the Ground-Med project was presented by BESEL according to the WP4 work. The following decisions were made:

- the English language will be used for all demo sites.
- the DMS will remain functional until the end of the project (month 60) when recorded monitoring data will be made available at the project website for all the project partners to download, password protected.
- access levels for refrigerant cycle measurements could not be defined, as two of three heat pump manufacturers were not present; they will be decided later on by email communication.

Deliverables

Deliverables already completed to be submitted with the first project report are:

Del. no.	Deliverable name	WP	Lead beneficiary	Dissemination level	Delivery date
1.1	1 st project report to the European Commission	1	1-CRES	CO	March 2010
3.1	Report on methods for improving heat pumps COP	3	17-UNIPD	RE	March 2010
4.1	Generalised Dynamic Control model software	4	16-UCD	PU	March 2010
9.2	Presentations at workshops and conferences	9	All partners	PU	March 2010
9.3	Project website	9	4-FIZ	PU	March 2010
9.16	Dissemination plan	9	1-CRES	PU	March 2010

Deliverables due next period are:

Del. no.	Deliverable name	WP	Lead beneficiary	Dissemination level	Delivery date
1.1	2 nd project report to the European Commission	1	1-CRES	CO	February 2011
2.1	3 heat pump prototypes of large capacity	2	5-CIAT	RE	October 2010
2.2	Low temperature heat storage nodules	2	5-CIAT	RE	October 2010
2.3	Low energy fan coil units	2	5-CIAT	RE	April 2010
2.4	Air handling units using condensing heat	2	5-CIAT	RE	July 2010
3.2	3 heat pump prototypes of medium capacity	3	20-OCHSNER	RE	October 2010
3.3	2 heat pump prototypes of low capacity	3	6-HIREF	RE	October 2010
4.2	Report on the validation studies of the GCM software	4	16-UCD	PU	April 2010
4.3	Suite of control strategies for demonstration	4	16-UCD	PU	October 2010
4.4	Data management system	4	12-BESEL	PU	October 2010
4.5	Microprocessor control Board	4	8-ISR	PU	October 2010
5.1	Engineering design of CIAT demo system in Septemes les Vallon in France	5	5-CIAT	PU	October 2010

5.2	Engineering design of University of Oradea demo system, in Romania (UOR)	5	7-UOR	PU	October 2010
5.3	Engineering design of Coimbra demo system in Portugal	5	8-ISR	PU	October 2010
5.4	Engineering design of Gejzir demo system of Cultural Centre Benedikt in Slovenia	5	9-GEJZIR	PU	October 2010
5.5	Engineering design of University Polytechnic of Valencia demo system in Spain	5	11-UPV	PU	October 2010
5.6	Engineering design of ECOSERVEIS sun-factory demo system in Barcelona, Spain	5	13-ECOSERVEIS	PU	October 2010
5.7	Engineering design of HIREF demo system in Padova, Italy	5	24-ENEREN	PU	October 2010
5.8	Engineering design of Edrasis demo system in Koropi-Athens, Greece	5	18-EDRASIS	PU	October 2010
9.2	Scientific publications, announcements	9	All partners	PU	December 2010
9.6	First meeting with EC officials in Brussels	9	3-EHPA	PP	October 2010
9.10	Training course in Spain	9	12-BESEL	PU	June 2010
9.11	Training course in France	9	19-CETIAT	PU	December 2010