



The ENGINE information system birthday

Philippe Calcagno*
WP2 partners and WP2 delegates

*BRGM, Orléans, France
p.calcagno@brgm.fr

<http://engine.brgm.fr>



Mid-Term Conference, Potsdam, Germany, 9-12/01/2007



Summary

> Information System presentation

> On-going works

- Lighthouse projects compilation
- Web site

> Future developments



Information and Dissemination System

7 Partners

> **BRGM (6 months)**



> **UOR (6 months)**



> **GFZ (4 months)**



> **Geowatt (2 months)**



> **GEUS (2 months)**



> **IGGL (2 months)**



> **IGG (1 month)**



Information and Dissemination System

WP2 Delegates of the workpackages

- > **Catalina Mayorga** (mayorga@igg.cnr.it, IGG) for WP3
- > **Brynja Jonsdottir** (brj@isor.is, ISOR) for WP4
- > **Stephanie Frick** (Stephanie.Frick@ie-leipzig.de, IE) for WP5
- > **Clément Baujard** (baujard@geowatt.ch, GEOWATT) for WP6
- > **Angela Spalek** (spalek@gfz-potsdam.de, GFZ) for WP7
- > **George Lemonis** (glemon@cres.gr, CRES) for WP8
- > **Erik Simmelink** (Erik.Simmelink@tno.nl, TNO) for WP9



Information and Dissemination System

> **Goals...**

- General information, Information on training and education, Reports and results publications, Publication policy, Connection with media

> **... and deliverables**

- Web site, Project and partners presentation, Newsletters, Tools for publications, Conferences and workshops organisation



On-going works

- > **ENGINE partners presentation material compilation (17 out of 35 incomplete or missing)**

- > **Education and Training**
 - Marcel Rosca (UOR)
 - Proposition of a route for students in Europe and feasibility of creating a European centre for geothermal education

- > **Lighthouse projects compilation**
 - Anders Mathiesen (GEUS)



Lighthouse projects compilation (1/3)

- > **Locate** and classify main **Geothermal Lighthouse projects** related to ENGINE topics and significant on a **European scale**.

- > **17 projects have been listed**
 - **EGS or related EGS projects**
(Soultz, Basel, Gross Schönebeck, etc.)
 - **Hydrothermal projects**
(Bouillante, Larderello, Kamchatka, etc.)
 - **Technological projects**
(Húsavík, Neustadt-Glewe, Altheim)
 - **Other Projects**
(Geothermal Asparagus Farm, etc.)



Lighthouse projects compilation (2/3)

> A questionnaire to describe the project has been set up

- **Comparable facts/statements for each project**
(number of wells, Temperature at total depth, Main production, etc.)
- **Short description of Exploration History**
(main geological context, expected CO2 emission saving, distribution network, etc.)
- **Reservoir Characteristics**
(type of reservoir, fracture system, stimulation types, etc.)
- **Exploitation**
(type of exploitation/power plant, injection fluid, monitoring, etc.)
- **Future plans**
(new wells, new power plants, new methods, etc.)



Lighthouse projects compilation (3/3)

- > **11 out of 17** questionnaires have been returned

- > The **preliminary result** shown that:
 - A list of Contact Persons has now been established
 - Examples of **all 4 project types** are **available** (EGS, hydrothermal, technological projects and other)
 - A compilation on a **Web-site suitable for the public displaying** is possible

- > **Soon available on the ENGINE Web site...**



Web site – Structure

http://engine.brgm.fr

Google Web Images Sources Actualités plus
Rechercher sur le Web
Rechercher dans engine.brgm.fr

Results 1 - 10

Launching Conference - Orleans, France (12-15 February 2006) | Trouver cette page |
The following necessary prerequisites for EGS using have been defined and evaluated sufficiently high in-situ rock temperatures, favorable seismo-tectonic ...
conferences-engine.brgm.fr/contributorDisplay.py?contributor=14&lang=...&page=conf0-17a - En cache - Pages similaires

Stimulation of reservoir and induced microseismicity - Zurich, 1 | Trouver cette page |
Induced seismicity due to EGS stimulation is well known and useful, it can depict ... For new EGS sites, the monitoring of local seismicity by a suitable ...
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Defining, stimulation and reservoir assessment for EGS and UGR projects ... It is now generally agreed that an EGS resource assessment has to focus on these ...
conferences-engine.brgm.fr/contributorDisplay.py?contributor=24&lang=...&page=conf0-22a - En cache - Pages similaires

EGS prospects in Hungary
The following necessary prerequisites for EGS using have been defined and evaluated ... The EGS evaluation tool down to the identification of numerous ...
conferences-engine.brgm.fr/contributorDisplay.py?contributor=14&lang=...&page=conf0-4a - En cache - Pages similaires

EGS resource in France and Europe
EGS resources accessible by drilling is mainly dependent of the deep-seated geology to minimum depths ranging between 1 and 5km ...
conferences-engine.brgm.fr/contributorDisplay.py?contributor=15&lang=...&page=conf0-6a - En cache - Pages similaires

Defining, stimulation and reservoir assessment for EGS and UGR ...
Out of several worldwide EGS (including EOR) projects only a small number of ... As such, the acronym EGS (Enhanced Geothermal Systems) now stands for ...
conferences-engine.brgm.fr/contributorDisplay.py?contributor=24&lang=...&page=conf0-8a - En cache - Pages similaires

Borehole imagery contribution to EGS reservoir exploration
For Enhanced Geothermal Systems (EGS) controlled by pre-existing fracture ... In this paper, the contribution of borehole imagery to EGS reservoir is based ...
conferences-engine.brgm.fr/contributorDisplay.py?contributor=17&lang=...&page=conf0-15a - En cache - Pages similaires

Defining, exploring, imaging and assessing reservoirs for ... | Trouver cette page |

> Google - search

ENGINE logo

Enhanced Geothermal Innovative Network for Europe

SIXTH FRAMEWORK PROGRAMME

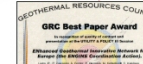
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On the 7th of December died D
ENGINE Mid-Term Conference 19

The ENGINE Project

The ENGINE project (Enhanced Geothermal Innovative Network for Europe) is a co-ordination action supported by the 6th Research and Development framework of the European Union. Its main objective is the co-ordination of the present research and development initiatives for Unconventional Geothermal Resources and Enhanced Geothermal Systems, from resource investigation and assessment stage through to exploitation monitoring.

Best Paper Award for ENGINE presentation at GRC 2006



ENGINE logo

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Events in this category:

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 - February 2008
 - 13 - 14 Final Conference - Vilnius, Lithuania
- 2007
 - November 2007
 - 08 - 09 Risk analysis for development of geothermal energy - Utrecht, The Netherlands, Workshop7
 - September 2007
 - 13 - 14 Increasing policy makers awareness and the public acceptance - Milos island, Greece, Workshops
 - June 2007
 - 29 - 29 Drilling cost effectiveness and feasibility of high temperature drilling - Reykjavik, Iceland, Workshops
 - April 2007
 - 02 - 04 Exploring High Temperature reservoirs: new challenges for geothermal energy - Valterra, Italy, Workshop2
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 - 09 - 12 Mid-Term Conference - Potsdam, Germany
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 - 11 Special meeting (Steering Committee) - Paris, France
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 - September 2006
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 - June 2006
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 - April 2006
 - 27 - 28 Special meeting (WP2, WP3) - Potsdam, Germany
 - February 2006
 - 17 - 15 Launching Conference - Orleans, France

> Indico - meetings management

> RefShare - bibliography

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ENGINE, Enhanced Geothermal Innovative Network for Europe, Bibliography

Rechercher * Visualiser * Langues * Aide * A propos de cette base de données

Toutes les références

Titre: Chemical and isotope characteristics of the Chachaburo geothermal fluids (Ecuador)
Auteurs: Andara, C., Chirack, E., Maza, G., Maza, J., Paez, Z.
Source: Geothermics, 2005, 34, 4, 495-517

Titre: Assessment & Evaluation of Geothermal Potential in Switzerland (Atlas des Ressources Géothermiques Suisses)
Auteurs: Andriessen, J., Kohl, T.
Source: 2003, Swiss Geophysical Commission Office Fédérale de l'Énergie, Zurich

Titre: 3-D thermal simulation of 3-D thermal fields from GOCAD geological models
Auteurs: Andriessen, J., Kohl, T.
Source: 2003, I.-R., Nancy

Titre: Water-rock interaction processes in the Triassic sandstone and the granite basement of the Elze Graben, geochemical investigation of a geothermal reservoir
Auteurs: Andriessen, J., Frensch, H., Genter, A., Frensch, C.
Source: Studies in Geothermal Science, 1997, 41, 20, 4201-4295, International (III)

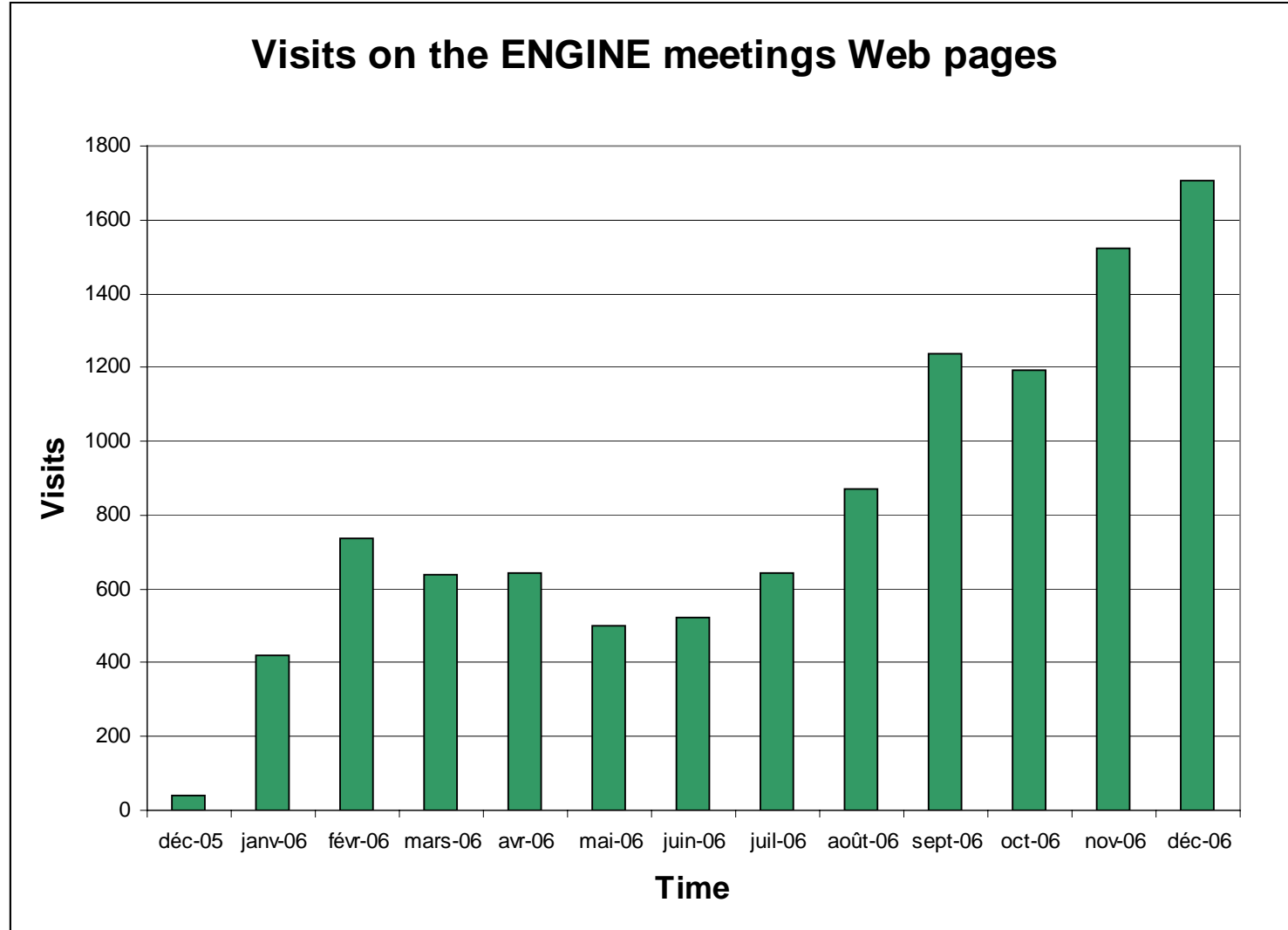
Titre: Experimental study and modeling of granite-hosted water interactions at 180 degree C and 14 bars
Auteurs: Anzures, M., Frensch, C.
Source: Appl Geochem, 1997, 12, 1, 55-73

Titre: Data analysis and code of laws of understanding reservoir behavior and the creation of a conceptual reservoir model
Auteurs: Bähler, D., Einar, K. F., Hekkel, R. J., Kohl, T., Marel, T., Frensch, C.
Source: 2001, Projekt 98 0008 1, 203, Bundeszent der Bildung und Wissenschaft

Titre: Impact of graben-parallel faults on hydrothermal convection - Elze Graben case study
Auteurs: Bähler, D., Kohl, T., Frensch, C.
Source: Physics and Chemistry of the Earth, 2003, 28, 9-11, 431-441

Titre: Geothermal energy technology and current status: an overview
Auteurs: Bähler, D.





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 Résultats 1 - 10

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EGS prospects in Hungary
 The following necessary prerequisites for EGS using have been defined and evaluated ... The EGS evaluations boil down to the identification of numerous ...
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Defining, stimulation and reservoir assessment for EGS and UGR
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Borehole imagery contribution to EGS reservoir exploration
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EGS prospects in Hungary	Philippe Calogato	0	0	2006-09-22 10:17
EGS resource in France and Europe	Philippe Calogato	0	0	2006-12-07 16:44
EGS prospects in Hungary	Philippe Calogato	6	5	2006-12-07 16:51
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> eProjet - partners shared space

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Toutes les références

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13 résultats

Titre	Auteurs	Source
Chemical and isotope characteristics of the Chachaburo geothermal fluids (Ecuador)	Andrés E. Cova, J. Chirack, E. Maza, G. Maza, L. Paz, Z.H.	Geothermics, 2005, 34, 4, 495-517
Assessment & Evaluation of Geothermal Potential in Switzerland (Atlas des Ressources Géothermiques Suisses)	Andersson, N., Kottl.	2003, Swiss Geophysical Commission Office Fédérale de l'Énergie, Zurich
3-D thermal models from GOCAD geological models	Andersson, N., Kottl.	Report Reference 7 sur 142
Water-rock interaction processes in the Triassic sandstone and the granite basement of the Elze Graben, geochemical investigation of a geothermal reservoir	Andersson, N., Kottl., Genter, A., Frohlich, C.	Geothermics, 2005, 34, 4, 420-429, International (I)
Experimental study and modeling of granite-hosted water interactions at 180 degree C and 14 bars	Andersson, N., Frohlich, C.	Report Reference 8 sur 142
Data analysis and control towards understanding reservoir behavior and the creation of a conceptual reservoir model	Baehler, D., Ennos, J.E., Henkels, R.J., Kottl., Marel, T., Erbach, L.	2001, Projekt 98 0008 1, 203, Bundesrat der Bildung und Wissenschaft
Impact of graben-parallel faults on hydrothermal convection - Elze Graben case study	Baehler, D., Kottl., Erbach, L.	Report Reference 9 sur 142
Geothermal energy technology and current status: an overview	Baehler, D., Kottl., Erbach, L.	Report Reference 10 sur 142

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Web site news - Partners access



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ENGINE partners access

Access restricted to the partners:
Partners shared space

- > Partners accounts (login + password) sent on 13/12/2006
- > The shared space will be closed by the end of ENGINE

Hosted by :

BRGM - 3, avenue Claude Guillemin - BP 6009 - 45060 Orléans

Sujet	Propriétaire	Lu	Dossiers	Documents	Modifié le
ENGINE > DOCUMENTS > Partners					
Dossier parent					
Partners	Philippe Calcagno	0	0	0	2006-09-22 10:17
Steering Committee	Philippe Calcagno	0	0	0	2006-12-07 14:44
WP2	Philippe Calcagno	6	5	0	2006-12-07 14:51
WP3	Philippe Calcagno	1	3	0	2006-12-07 14:51
WP4	Philippe Calcagno	0	0	0	2006-12-07 14:51
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WP6	Philippe Calcagno	0	0	0	2006-12-07 14:49
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WP8	Philippe Calcagno	0	0	0	2006-12-07 14:50
WP9	Philippe Calcagno	0	0	0	2006-12-07 14:52



Publication policy

> Next issue #6 February 2007



ENGINE Newsletter
Enhanced Geothermal Inn
for Europe - co-ordinat

N°1 - January 2006

Editorial
1. ENGINE Web site
2. Launching Conference 1
3. Relationship with decision

Editorial

November 1st, 2005 is the official starting date for the ENGINE Co-ordination Action. Six what has been achieved during the two first months of the project? The **scope, mission of the Steering Committee and Editorial Group** were held in Potsdam on November 10th and 11th. You have been informed of the main achievements of these meetings, and the **main topics to be discussed** during the coming events.

The launching conference constitutes a unique opportunity to present the state-of-the-art and to identify topics for which a significant gain could be made through technology transfer, exchanging know-how and information. It is considered as a "steiner" for preparing and motivating the partners for their participation in the "integration phase" of the project through the preparation of the workshops. Thus, the speakers have been invited to focus their talks on synthesis and general reviews of the various aspects of Enhanced Geothermal Systems. Specific topics and detailed

present as possible during the coming events. Informal Monday afternoon contact conferences reviews. We intend to keep the work next two months. On the represent stakeholders, the open made to conference support and bus interests makes, hope to establish group of meetings energy. Let's all feel stor well-worl Orlans.

ENGINE Newsletter N°1 - January 2006

> #1 01/2006



ENGINE Newsletter
Enhanced Geothermal Innovative Network for Europe co-ordination action

N°2 - April 2006

Editorial
1. The ENGINE website
2. News from the Comité
3. News from the Workshop
4. News from the Workshop

Editorial

Co-ordination actions within the Sixth Framework Programme (FP6) are intended to complement other FP instruments in contributing towards integrating research at European level through well-planned networking or co-ordination activities. The exploratory notes for Co-ordination Actions define a wide range of medium to long-term networking or co-ordination activities, such as monitoring performance of studies, analyses, benchmarking exercises, exchanging and disseminating information and good practices, exchanging personnel, organising conferences, seminars and meetings, setting up common information systems, setting up expert groups, defining, organising and managing joint or common initiatives. This means that the launching conference that was held in Orleans on 10-11 February 2006 must be considered as a first step towards a medium to long-term process that is aimed at strengthening our community to promote research projects on geothermal energy. Several positive aspects have been identified by the steering committee:

- The successful mobilisation of the geothermal community: 103 registered participants, involvement of 20 partners of the ENGINE network, 46 presentations that can be downloaded from the [Website](http://www.enge.fr), 19 European countries represented. The audience proved to be highly attentive and collaborative. Let's try and repeat this for the upcoming workshops and conferences.
- The significant participation of 15 non-partner research institutes, demonstrating the interest network appreciate
- A range of state-of-the-art, special or overview and case studies
- Several research collaborative case studies further job
- A good energy (i.e. LOW/High) program: no trap of inform
- The ass involved: sensor and deep sea
- The ability to transfer of inform
- And, so strong communit regional a of BRGM

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ENGINE Newsletter N°2 - April 2006

> #2 04/2006



ENGINE Newsletter
Enhanced Geothermal Innovative Network for Europe co-ordination action

N°3 - August 2006

Editorial - Feedback from the Zurich workshop

In the framework of the ENGINE Project, a first workshop has been held in a former monastery next to Zurich, Switzerland. The Workshop 3 "Stimulation of reservoir and geomechanics" was organized from 29 June - 1st July 2006 in the Klostergarten. The meeting was attended by a large number of scientists of the geothermal community: 52 registrants came from 12 countries and 4 continents. During the 2 days of the meeting, 3 sessions have been held with a total of 25 contributions.

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A break between two sessions.

The talks were mostly documented by Extended Abstracts (88 pages). The final contributions will be published by September on a CD-ROM. The sessions were grouped as "Review of stimulation techniques" (chaired by Ernst Huenges), "Case studies on reservoir stimulation" (chaired by Sverre Thomassen) and "Reservoir characterization using stimulation" (chaired by Thomas Kohl). The participants came from industry and universities, and the interaction between major companies such as Shell or TNO with institutions (BRGM, Tohoku University...) was found to be very fruitful. It is encouraging and stimulating for the geothermal community to observe that discussion was continuing late in the night (ie. although the meeting was over).

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ENGINE Newsletter N°3 - August 2006

> #3 07/2006



ENGINE Newsletter
Enhanced Geothermal Innovative Network for Europe co-ordination action

N°4 - October 2006

Editorial - Feedback from the Strasbourg workshop

Workshop 5 of the ENGINE project dealing with "Electricity generation from Enhanced Geothermal Systems" was held from 14th to 16th of September 2006 in the charming quarter "La Petite France" in Strasbourg, France where 50 participants coming from 15 countries could be welcomed. Thereof 18 ENGINE representatives from a dozen partner organisations more than one third of the overall partners) were sent to present and debate with numerous external participants (20 mostly coming from industry and private companies (34).

geothermal power generation is a promising technology in order to make it within Europe etc.

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geothermal power generation is a promising technology in order to make it within Europe etc.

Based on this fact workshop - more as all present [website](http://www.enge.fr) - can be:

- Power plant of thought to thermodynamic geothermal in the whole all economic an specific fuel included in availability as Therefore it

20 presentations were given and various debates conducted based on openminded, courteous and also conciliatory. Apart from this general common understanding in discussing also sharpened demanding mutual information exchange and insisting on accurate phrasing came up at times. The driving force for all participants however, was clear:

ENGINE Newsletter N°4 - October 2006

> #4 10/2006



ENGINE Newsletter
Enhanced Geothermal Innovative Network for Europe co-ordination action

N°5 - December 2006

Editorial - Potsdam workshop

Workshop 1 of the ENGINE project dealing with "Defining, exploring, imaging and assessing reservoirs for potential heat exchange" was hosted from 8th to 10th November 2006 in the conference rooms of the Geoforschungszentrum Potsdam. 68 participants coming from 13 countries attended the workshop. 51 ENGINE representatives from 14 partner organisations (more than one third of the overall partners) were sent to present and debate with numerous external participants from 13 different organisations mostly from industry. The goal of the workshop was to discuss all parameters that should be known before drilling for exploitation of potential geothermal reservoirs.

The workshop was terminated on November 8 by an excursion to the Groß Schönebeck geothermal test site.

On the 9th morning before departing to Groß Schönebeck.

Definition of targets, characterization of reservoirs and optimisation of investigation methodology for EGS. To achieve this focus, four thematic sessions were defined (Signatures of temperature field for defining and exploring potential geothermal reservoirs, Signatures of fluid transport in EGS, State of the Art in the exploration systems of the knowledge of the paleotectonic field as well as of the heat flow and temperature distribution at depth. Following the workshop, it is stated that heat stress and pathways as well as the structural inventory of the subsurface are the key elements that could be considered as priority for research needs. Four main research targets were defined, and the main conclusions can be summarized as follows.

ENGINE Newsletter N°5 - December 2006

> #5 12/2006



Meetings management



> **Launching Conference**
Orléans, France



> **Workshop 3**
Zurich, Switzerland



> **Workshop 5**
Strasbourg, France



> **Workshop 1**
Potsdam, Germany



> **Mid-Term Conference**
Potsdam, Germany



Future developments

> 4 workshops and the Final Conference

- Volterra, Italy
- Reykjavik, Island
- Milos Island, Greece
- Utrecht, Netherlands
- Vilnius, Lithuania

> Deliverable from WP3 to WP9

- Publication policy
- Scientific journal special issue
- Display on the Web site



Good resolution

- > Make the ENGINE Web site a reference for EGS promotion in Europe still available after the end of the Coordination Action**



