

Good morning dear colleagues, ladies and gentlemen

It is my pleasure to welcome you to the GFZ Potsdam, the German national Research Centre for Geosciences and Member of the Helmholtz Association.

I appreciate very much that you have chosen our institution for holding the Mid-Term Conference of the EU-project ENGINE. ENGINE stands for “Enhanced Geothermal Innovative Network for Europe” and represents a joint action supported by the 6<sup>th</sup> Framework Programme of the EU. Its main objective is the coordination of current Research and Development activities with respect to Unconventional Geothermal Resources and Enhanced Geothermal Systems.

I cordially welcome Dr. Schuppers from the Directorate General Research of the European Commission, who is responsible for New and Renewable Energy Sources.

In Germany significant funds for geothermal energy research and development are provided by the Federal Ministry for Environment, Nature Conservation and Nuclear Safety. This Ministry is represented today by Mr. Bruchmann who I am also pleased to welcome.

This Mid-Term Conference marks, as the title suggests, so-to-speak the half-time of the ENGINE coordination action, which was initiated in 2005 and officially started with a Launching Conference in February last year in Orléans, excellently organized and conducted by the French Bureau de Recherches Géologiques et Minières, BRGM. The Final Conference will take place in February 2008 at a venue yet to be defined.

After more than one year of cooperation ENGINE has now 35 partners, among them 8 private companies, from 16 European and 3 non-European countries.

This international conference, which is being attended by about 130 experts from 28 countries is an important forum in geothermal research for the communication and exchange of information and experience between experts from academia, industry and policy makers. It provides the opportunity to present recent developments in the environmental-friendly exploitation and utilization of geothermal resources and allows participants to meet with experts from around the world who have a shared interest in the promotion of geothermal energy.

There is a noticeable increase in interest from industry in geothermal energy. Therefore, we are planning to establish a stakeholder committee for the ENGINE-project later today. For the many representatives from industry, let me just mention a few, Mr. Romagnoli from ENEL, Italy, Dr. Cook from Schlumberger Cambridge, Dr. Yang from Shell, Dr. Bücken and Dr. Blanke from RWE Germany, and Mr. Beyer from KCA DEUTAG.

Among the many well known experts from all over the world attending this meeting, whom I all welcome here today, are Prof. Blackwell from Dallas, Suzan Petty from Seattle, Zosimo Sarmiento from the Philippines, Mr. Monterrosa from El Salvador, and Dr. Romo-Jones from Mexico.

Last but not least, I am glad to welcome leading members of the ENGINE-consortium, in particular, Dr. Foulliac, President of the Executive Group and Dr. Ledru, Project Coordinator, both from BRGM, Dr. Flovenz from ISOR, Iceland, Prof. Rybach from Switzerland, Mr. Elewaut from TNO, and Dr. Adele Manzella from Italy, just to mention a few.

Themes of this conference include the presentation of the current status of geothermal technology world wide and the definition of future research requirements such as cost reduction, productivity increase and efficiency in the development and use of geothermal resources. The ultimate goal of the conference is to strive for an increased utilization of geothermal energy in Europe and the initiation of joint future research activities.

In this respect, cooperation between countries already advanced in the exploitation of geothermal energy with nations who are still at the beginning of geothermal energy development plays an essential role. Countries with particularly favourable geological conditions such as Italy or Iceland, with their steep T gradients in many regions have already a lot of expertise in the use of geothermal energy and profit from low risk and costs. Such countries are, thus, in a much better geological situation than for example Germany or Poland which are - in most regions - distinguished by normal geothermal gradients. However, the exploitation of geothermal energy from low-enthalpy resources is of particular importance as it will open - literally and in the figurative sense - new horizons in the application of this renewable energy.

Therefore, the development of geothermal technologies for the use of low-enthalpy deep geothermal resources is a challenging field for future research. In this respect the hot saline waters contained in the North German Sedimentary Basin offer, as we believe, great potential for the exploitation of geothermal energy in the form of heat or electricity.

The GeoForschungsZentrum Potsdam has been dealing with this subject for many years and is participating in the Programme “Renewable Energies” of the Helmholtz Association with the research topic “Geothermal Technologies”. This programme centres mainly around the generation of electricity.

We concentrate on the utilization of deep geothermal reservoirs and focus on the identification of suitable geological structures for extracting energy and on the development of new methods to increase the productivity of these reservoirs.

For this purpose we reopened and deepened - in a first step - a former gas exploration well near Groß Schönebeck, some 30 km northeast of Berlin, to a depth of a little over 4300 m and used it as a geothermal in-situ laboratory for testing stimulation concepts. The objective of these stimulation operations has been to create secondary flow paths and to improve the inflow performance of the well.

Groß Schönebeck is also one of the test sites of the EU-project I-GET (Integrated Geophysical Exploration Technologies for deep fractured geothermal systems), where new, cost-effective and reliable geothermal exploration techniques are developed to increase the success rate of drilling.

Just a few days ago, the next step of our project was completed. We drilled our second well at the location Groß Schönebeck to a final depth of 4400 m so we now have a doublet allowing access to the deep Rotliegend reservoir with its hot water resources. This reservoir consists of a sequence of sandstones, conglomerates, and volcanic rocks containing saline fluids with formation T of 150° C in porous and fractured horizons.

Within the next few months we will be conducting a series of sophisticated experiments in this second well that are designed to lead to a reliable technology for sufficient production of deep fluids in such reservoirs.

We hope that with this project in Groß Schönebeck we will be able to demonstrate that even under the not very favourable conditions in Germany, low-enthalpy deep hydrothermal reservoirs can be used for energy production.

Looking back at the first year of ENGINE, the growing interest of international partners, especially energy providers, shows that geothermal energy is increasingly gathering attention and is becoming more and more attractive as a promising energy option, not only in high-enthalpy regions.

I wish you all a pleasant stay in Potsdam, a successful meeting, and - since 2007 has just begun - a happy New Year.

I will now hand over to Christian Foulliac who will speak about “Reinforcing the role of Enhanced Geothermal Systems in the future energy mix”.