EGEC NEWS

THE VOICE OF GEOTHERMAL ENERGY IN EUROPE

Issue n°4. March 2007

WELCOME… to the first issue of the EGEC Newsletter…for 2007

A word from the EGEC President :

Dear members of EGEC, dear readers of this newsletter,

the first months of 2007 have been full of activities towards an increased share of Renewable Energy sources in the energy supply for Europe. Three main events can be named:

- the presentation of the Energy Package by the European Commission on January 10, 2007
- the first European Renewable Energy Policy Conference on January 29-31, 2007, organised by EREC and the German Minister of Environment (BMU) within the German presidency of the EU
- the European Council on March 9, 2007, agreeing on a binding target of 20 % renewable energy share within all of the EU

The decision of the European Council is a historic milestone for renewable energies. However, it is not the final arrival line, but merely the start of a new section of the road toward a sustainable energy future. The distribution of the 20 % target to the member states, the national allocation to sectors (and technologies), the right methods and measures, and much more promise to become even more challenging tasks for the renewable energy sector within the next years.

EGEC was active in the Policy Conference, taking the opportunity to inform high-level policy makers and decision makers about the advantages of geothermal energy. One tool was the new Geothermal Heating and Cooling Action Plan (cover see left), which is for download at the EGEC website http://www.egec.org and can be obtained as hard copy from the EGEC secretariat.

In April and March, EGEC will be involved in two events to promote geothermal energy, the geothermal seminar at the exhibition and conference "RENEXPO" in Budapest on 20.4.2007, and the European Geothermal Congress 2007 in Unterhaching (near Munich) on 30.5.-1.6.2007. Please see the information provided at the end of this newsletter, and please come to Budapest and to Unterhaching!

Sincerely yours,

Dr. Burkhard Sanner

This Issue :

POLICY

The European Council has decided: Target of 20 % renewable energies in the EU by 2020 !

EGEC welcomes the principle of having a binding target of 20% renewable energy by 2020 in the EU. But now the concrete work has to start, and the necessary measures to reach the target need to be implemented quickly.

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The spring council of the European Union has adopted the Action Plan "Energy Policy for Europe" for the years 2007-2009. The plan calls for a 20 % share of renewable energies in the overall energy supply of the European Union, the goal which EGEC has been calling for together with EREC and the partner associations in Renewable Energy. Sectorial goals (i.e. for electricity, transport and heating/cooling) have not been adopted for the EU at large, but shall be implemented on the level of the Member States.

The next tasks now for EGEC and its sister associations are to follow the development of the plan for the allocation of individual binding targets for the Member States, for which the Commission will submit a proposal in early autumn this year, and to accompany the implementation and the allocation to the energy sectors within the Member States. For this last task, EGEC needs the help of the relevant national associations in the geothermal sector. In a joint effort, and backed by the EU decision, we should be able to ensure a satisfactory share and a good future for geothermal energy use!

"We welcome this clear signal for changing our energy supply structure. The Council followed the call from its citizens and opted for clean, reliable, innovative and sustainable energy sources. This step today was only possible because of the Commission's efforts, now we hope that they will continue the follow-up with the same motivation. We need to go ahead with full speed in implementing the legislative framework, which will guarantee that renewable energy in all its sectors and potentials will be exploited." said EREC President Arthouros Zervos.

The heads of state of the EU Member States on Friday, March 9, 2007 legally bound the EU to use 20 % renewable energy and to cut CO_2 emissions by 20 % by 2020. Under wording agreed by all 27 member states, the EU endorsed "a binding target of a 20 % share of renewable energies in overall EU energy consumption by 2020". It would then be up to each member states to decide on national targets for specific sectors – electricity, heating and cooling, etc. This decision follows the publication by the European Commission of an Energy Package on January 10, 2007.

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The other element of discussion tries to prioritize the research and development choices to be set in the European Strategic Energy Technology Plan, which was announced by the European Commission for the second half-year of 2007. In the communication on the Strategic Energy Technology Plan, the Commission proposed three key objectives in the development of its energy technology: to lower the current cost of renewable energy, to facilitate the efficient use of energy and to place European industries in the leading position in low carbon technologies.

Now, it is the start of a legislative process in which a clear strategy needs to back-up the goals. It is crucial to translate the goal of 20 % renewables by 2020 into different binding national targets. A legislative framework, which respects the different sectors in renewable energy (heating/cooling, electricity and biofuels), is the key element in the pathway towards these targets, and is required as soon as possible. More specifically, the already existing and successful legislation in renewable electricity and biofuels needs to be maintained and strengthened (with no lengthy discussion on new approaches, in order not to create uncertainty). Effective policy instruments for the support of renewable heating and cooling need to be incorporated.

The European Parliament has decided to draft reports on the energy package and by that give its opinion. It was decided to prepare three reports, on :

- internal market and interconnection plan rapporteur Vidal-Quadras
- coal, nuclear and technology plan rapporteur Herbert Reul
- renewable energy roadmap rapporteur Britta Thomsen

The relevant portions of the EU Action Plan on Energy are available for download on the EGEC website. The Energy Council on 6-8 June 2007 will follow up on the energy-climate change package.

European Renewable Energy Policy Conference 2007

The "Brussels Declaration" from the European Renewable Energy Policy Conference 2007 put conclusions presented at the closing session by the facilitator Mr. Svend Auken as the Declaration on the New Role of Renewable Energy Sources for a Sustainable, Secure and Competitive Energy Future for Europe. It can be downloaded from the EGEC website, with all the video documentation of the Renewable Energy Policy Conference (incl. the geothermal presentations given by Burkhard Sanner and by Pierre Ungemach).

EU citizens in favour of Renewable Energies

According to the recent EUROBAROMETER energy survey, 83% of citizens in the member states agree that the EU sets a minimum percentage of the energy used in each Member State that should come from renewable sources. The relevant press release of the EC was issued on March 5, 2007; it can be downloaded from our website. On the other hand, 61% of the overall EU population think that the share of nuclear energy should be decreased due to concerns such as nuclear waste and the danger of accidents. In 22 out of the 27 member states a majority of citizens favour decreasing the nuclear share.

In a previous EUROBAROMETER on the 'Energy technologies', published by DG Research on January 8, 2007, Geothermal energy is considered as a new technology (!) known by 44% of the EU citizens with the greatest score for Finland, Germany and France, and the lowest in Ireland and Baltic countries.

Unfortunately, for the second part of this EUROBAROMETER on 'Acceptance of Renewable energy sources', Geothermal energy was not considered by DG Research…

Progress Report on Geothermal Electricity

In its Energy Package, the European Commission published notably a *Report on progress in renewable electricity.* In 2001, the European Union set a target that 21% of electricity generated in the EU Member States should come from renewable energy sources by 2010. Although 50% additional renewable electricity has been produced since the last report two years ago, figures show that the overall share of renewable electricity will fall just short of the target, reaching 19% by 2010.

The report states that "*electricity production from geothermal sources is currently mainly used in Italy, Portugal and France. The undisputed European leader is Italy, with over 95% of all installed capacity in the EU. Apart from these leading countries, new developments can be observed in Austria and Germany with binary cycle technology producing electricity and heat at the same time. At the end of the year 2004, it represented 8.911 MW worldwide installed. Europe has 9 % of worldwide geothermal capacity. The evolution of geothermal electricity would considerably depend on the possibilities of producing heat and electricity at the same time".*

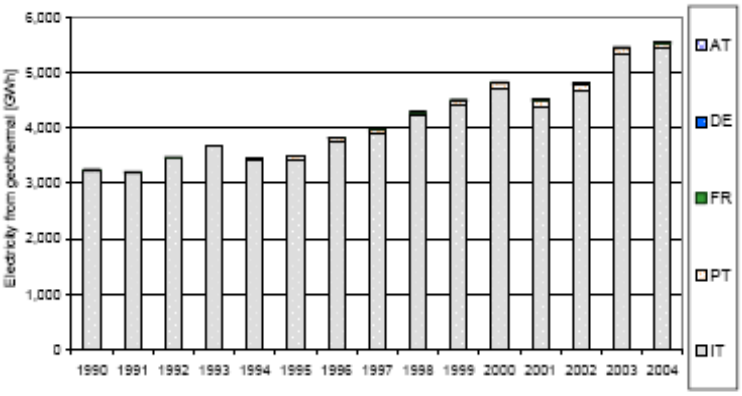
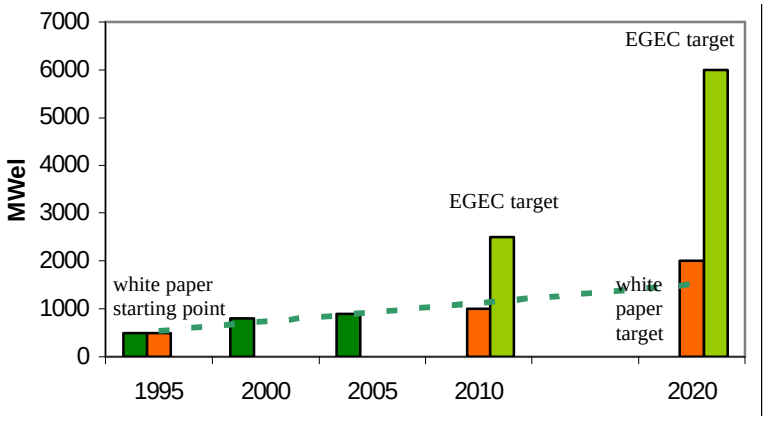


Figure 10 : Historical development of electricity generation from geothermal sources in the EU-25 Member States from 1990 to 2004[33].

Source: Eurostat

In its conclusion the report underlines the importance of a full and correct implementation of the Directive on renewable electricity, and the immediate lifting of administrative barriers, unfair grid access and complex procedures. The Commission will, in 2007, re-examine the support schemes for renewable electricity and propose a new legal framework for the promotion of renewable energy sources.



Source : EGEC

The Swiss Geothermal Association issues a statement concerning the future use of deep geothermal energy.

As a reaction to the seismic events in the surrounding of the Basel DHM project, and to the subsequent public discussion, the Swiss Geothermal Association / Géothermie.CH, member of EGEC, has issued a press release:

After the setback for the Geothermal Project in Basel the Swiss Geothermal Association SVG calls for a national research program dedicated to research and application of deep geothermal energy. The insufficient experience and scientific knowledge that became obvious after the earthquake happening in the Deep Heat Mining geothermal project in Basel highlighted the necessity of a broad research program concerning electric power generation from deep, hot rocks. The use of deep geothermal energy, scarcely investigated and developed up to now, must be supported more.

Advantages and risk of geothermal energy shall be evaluated diligently. This states a decision of the Committee of the Swiss Geothermal Association SVG at its meeting on January 17, 2007.

Geothermal heat offers a huge potential for future energy supply. It can contribute a considerable amount to sustainable electric power production. Geothermal heat is free of CO_2, renewable, always available, and it does not produce waste. In the light of a dooming electric power gap, geothermal energy has a particular role among the renewable energies.

The geothermal project in Basel, however, proves that there is still a substantial need for research. Hence GEOTHERMIE.CH demands that efforts are made fast and determined, in order to create the basis for a successful use of this energy resource. Because nature cannot be investigated in the laboratory or at the computer only, full-scale research plants need to be part of it. In consequence, a national research project "Geothermal Energy" is needed urgently.

Mass media, politics and society have high expectations towards deep geothermal energy. However, the use of deep geothermal energy for electric power production is hardly tested – other than the use of shallow geothermal energy for heating through borehole heat exchangers (100-300 m depth) and heat pumps. To develop the technology of power production with geothermal heat into industrial maturity, the construction of further pilot- and test-plants is required. Similar efforts were necessary in the past in order to develop nuclear energy technologies. Deep Heat Mining and the so-called Hot Fractured Rock process are only slightly tested on a world-wide scale, and little is known today about their possibilities and impact. The development of this technology is one of the big challenges for the future.

GÉOTHERMIE.CH

Schweizerische Vereinigung für Geothermie SVG
Société Suisse pour la Géothermie SSG

Two Energy Scenarios for the World in the year 2050 presented

1) World Energy Technology Outlook to 2050

The WETO-H2 study, presented on January 8, 2007, by the European Commission, has developed a reference projection of the world energy system and two variant scenarios, a carbon constraint case and a hydrogen case. These scenarios have been used to explore the options for technology and climate policies in the next half-century. All the projections to 2050 have been made with a world energy sector simulation model – the POLES model – that describes the development of the national and regional energy systems, and their interactions through international energy markets, under constraints on resources and climate policies.

In the reference case, world energy consumption doubles by 2050. Oil and gas supplies reach a plateau, i.e. neither a peak in oil, nor abundant and cheap oil and gas. Some of the key messages of the different WETO-H2 scenarios include:

- **For the 'business-as-usual' scenario:**
  - Total energy consumption in the world more than doubles from the current ten Gtoe (gigaton of oil equivalent) per year to 22 Gtoe in 2050. For Europe, the increase is more modest (from 1.9 Gtoe to 2.6 Gtoe per year in 2050)
  - fossil fuels will provide 70% of this total and non-fossil (mostly renewables and nuclear) 30%
  - prices will reach $110 per barrel for oil and $100 boe (barrels of oil equivalent) for gas
  - coal will return as an important source of electricity and reach a price of $110 per ton in 2050;
  - there will be more use of nuclear and renewables after 2020 ("massive after 2030")
  - resulting CO_2 emissions in this scenario will be between 900 to 1000 ppm (parts per million), around double that which is currently perceived by scientists as acceptable. For Europe, CO_2 emissions in 2050 will be 10% less than their present level.

- **For the 'carbon-constrained' scenario:**
  - This scenario accepts a level of CO_2 emissions close to 500 ppm for 2050
  - global energy demand will be three Gtoe lower than in the reference scenario; renewables (30%) and nuclear (40%) will have bigger shares of electricity production but coal consumption will stagnate despite carbon capture and storage technologies
  - global CO_2 emissions will be 25% higher than in 1990, but EU emissions will have been halved ("factor two" reduction)
  - in Europe, renewables will provide 22% of energy demand and nuclear 30%; the share of fossil fuels will be less than 50%, leading to enhanced energy self-sufficiency for Europe.

- **for the 'hydrogen' scenario:**
  - Total world energy demand will be 8% less than in the reference case; the share of fossil fuels by 2050 will be less than 60%; demand for coal drops considerably but nuclear and renewables increase
  - hydrogen will provide 13% of final energy consumption compared with 2% in the reference case; half of hydrogen production comes from renewables and 40% from nuclear; 90% of hydrogen will be used in transport
  - Europe will have the following energy mix: nuclear: 33%, oil, natural gas and renewables each 20% and coal 6%.

2) Energy (R)evolution: a sustainable world energy outlook

EREC and Greenpeace presented their joint report "Energy (R)evolution: a sustainable world energy outlook" on January 25, 2007.

Renewable energy sources have, in theory, the potential to provide our economies with more than enough clean energy. Every day more energy from sunlight reaches the earth than the world economy needs. And although only a small proportion of these renewable sources can be technically accessed, some scientists believe that this proportion is large enough to provide six times more power than the world currently requires.

Nevertheless, renewable energy only accounts for 13.1% of the global primary energy demand (figures IEA 2004). In the EU, the share of renewables is around 8%. But rising oil prices, concerns

about long-term demand-supply issues for non-renewable fossil fuels and the burning challenge of global warming have renewed politicians' interest in geothermal, solar, wind, biomass and hydro power.

The main messages of the EREC-Greenpeace report are:

- Huge energy efficiency measures in the transport and housing sector can reduce global primary energy demand from the current 435'000 PJ/a to 422'000 PJ/a by 2050. The IEA World Outlook 2004 foresees 810'000 PJ/a
- half of this reduced primary energy demand can be covered by renewables
- nuclear can be phased out completely and fossil fuels will only be used in the transport sector (the study is less optimistic than some governments on biofuels)
- by 2050, 70% of electricity will be produced from renewable resources; in the heat sector, the contribution of renewables will be 65%
- this energy [r]evolution will lead to huge reductions in greenhouse-gas emissions: from 23'000 million tonnes in 2003 to 11'500 million tonnes in 2050; annual per-capita emissions will go down from 4.0 t to 1.3 t
- contrary to the IEA reference scenario, energy costs can be stabilised under the EREC/Greenpeace scenario; in the IEA report these costs will quadruple.

In order to achieve this scenario, the report recommends the following political measures:

- Phase out all subsidies for fossil fuels and nuclear and internalise external costs
- establish worldwide legally binding targets for renewables
- provide stable returns for investors
- guarantee priority access to the grid for renewable power generators
- apply strict efficiency standards for all energy-consuming appliances, buildings and vehicles.

The Greenpeace report "energy [r]evolution" is available for download at: http://www.erec.org/publications/

EC carbon dioxide sequestration consultation open until April 16, 2007

The European Commission has invited the public to send in its views on the benefits and challenges of carbon capture and storage. A questionnaire may be filled in online http://ec.europa.eu/yourvoice/ipm/forms/dispatch?form=CCS

As EUREC mentioned: *The final question in the questionnaire asks how much extra households and businesses would be prepared to pay for electricity from "non-CO_2" emitting sources. This is very poor phrasing. "Non-CO_2"-emitting sources include nuclear electricity and renewable energy as well as fossil energy with carbon sequestration. The amount that consumers are willing to pay will depend on the primary source. Respondents considering the question should be aware that by 2020, support schemes for renewable energy should not exceed 5-10% of their total electricity bill. The bill for an average German household is about 50 € / month, the same (in real terms) as it was in 1998. Over this period, Germany has been the country that has done most to promote renewable electricity, using a highly successful form of market support scheme known as the 'feed-in tariff'. In 2020, the date by when the Commission believes "all new coal-fired power plants should be built with CCS", the scheme is not forecast to cost the German consumer more than 2.80 € per month, compared with 2.21 €/month at present.*

In 2020 all European consumers can expect to be buying electricity on a fully liberalised market, so perhaps a better question would have been, "Making the realistic assumption that the prices for fossil energy with carbon capture and storage and electricity from renewable energy sources will be equal 2020, which would you choose?"

Public consultation on the "European Strategic Energy Technology Plan (SET-Plan)"

The Communication *'Towards a European Strategic Energy Technology Plan' (SET-Plan)* (COM (2006)847 : http://ec.europa.eu/energy/energy_policy/index_en.htm) establishes the basis for the preparation of such a plan. The aim of the SET-Plan is to accelerate the market introduction and take up of low-carbon and efficient energy technologies. The strategic element of the plan will be to identify those technologies for which it is essential that the European Union as a whole works in an integrated manner, for instance working in result-oriented actions based on strong coalitions of Member States, or in public-private partnerships with the industry.

The Commission intends to put forward a first European Strategic Energy Technology Plan (SET-Plan) at the end of 2007. The closing date of this consultation is 13 May 2007.

Geysir Green Energy to Focus on Geothermal Projects Globally

Glitnir, FL Group and VGK Honnun Engineering have founded Geysir Green Energy, an investment company to invest globally in renewable energy projects having a basis of geothermal sources. The company aims to invest US$ 1 billion in sustainable energy projects.
Geysir Green Energy intends to seek market opportunities in the harnessing of geothermal energy, invest in the development and construction of geothermal plants, acquire geothermal plants currently owned by power utilities and participate in the privatization of energy companies all over the world.

ENGINE Mid-Term Conference

On January 9-10, 2007, the ENGINE project had its Mid-Term Conference at GFZ Potsdam, Germany (see photo). Learn more from this project on Enhanced Geothermal Systems from:
http://engine.brgm.fr

photo: GFZ Potsdam

R&D FUNDING

Deadline for DG TREN FP7 'Energy' research proposals postponed

DG TREN has decided to extend the deadline for its first call for research proposals under the 'Energy' theme of the 'Co-operation' programme in FP7. A deadline of 28 June 2007 replaces the deadline of 3 May 2007 that we reported on our last newsletter.
The Commission announced the extension at an FP7 'info day' in Brussels on 13 February. The deadline for DG RTD proposals remains unchanged at 3 May.

GEOTHERMAL ELECTRICITY : *AREA ENERGY.2.4: GEOTHERMAL*

Topic ENERGY.2007.2.4.1: *Understanding and Mitigation of Induced Seismicity Associated with Geothermal Field Development*
Open in call: FP7-ENERGY-2007-1-RTD
Deadline: 03 May 2007 at 17:00 (Brussels local time)

GEOTHERMAL HEATING & COOLING : *AREA ENERGY.4.3: GEOTHERMAL ENERGY*

Topic ENERGY.2007.4.3.1: *Improved ground source heat pumps*
Open in call: FP7-ENERGY-2007-2-TREN
Topic ENERGY.2007.4.3.2: *Improved underground systems*
Open in call: FP7-ENERGY-2007-2-TREN
Deadline: 28 June 2007 at 17:00 (Brussels local time)

The importance of the topic on induced seismicity described above was confirmed by nature: as in december 2006 and January 2007, minor earthquakes have occurred in Basel, Switzerland, which are considered to have been triggered by the frac process in the Swiss Deep Heat Mining project.
For more information on the calls, please visit:
http://cordis.europa.eu/fp7/ and http://ec.europa.eu/research/fp7/home_en.html

EUREKA programme calls for renewable energy projects

A EUREKA cluster, 'EUROGIA', is calling for renewable energy research proposals. Companies that are seeking to co-operate with at least one other company from a different European country in a research project are invited to apply. Their proposals must describe projects that will yield a commercialisable result. The conditions on EUROGIA's projects should be industry-co-ordinated and involve at least two industrial partners from two of EUROGIA's 16 participating countries. Industry partners are free to include research centres in their consortium as required. The call for proposals is published on www.eurogia.com.
Deadline : 7 May 2007

Funding for European intelligent energy projects: the 2007 call for proposals

The 2007 call for proposals - the first call under the new IEE II programme – is scheduled for publication in April 2007. The deadline for submitting proposals will be 28 September 2007. Approximately € 55 million will be made available to support promotional projects and so-called 'integrated initiatives'. The co-funding rate will be up to 75% of the eligible costs - up from 50% in previous years.

This year's work programme will cover three themes (energy efficiency, renewable energy sources and transport) and focus on five policy objectives (enabling policies, market transformation, behavioural change, access to capital, training). IEE projects catalyse innovation and change through transfer of experience, promotion of best practices, education and training, building institutional capacity, information dissemination and development of new European standards. "Hardware" type investment projects and technological research and development projects are therefore not funded under this programme.

The IEEA will organise a European Info Day on 19 April 2007 in Brussels and a series national Info Days will also be organised in participating countries.
More details: http://ec.europa.eu/energy/intelligent/call_for_proposals/index_en.htm

NEWS FROM EGEC

New members:

We are pleased to announce that since our last newsletter in December 2006, 7 new partners joined us as EGEC members ; and we are glad that our 52 members now cover 21 countries !
ASA (Romania), Ground Source Heat Pump Association (UK), Hungarian Thermal Energy Society (Hungary), Leonardo Venablers (Spain), VITO (Belgium), Renovables Combinados (Spain).

Project GROUNDREACH

The Ground Source Heat Pump (GSHP) Best Practice Database (http://www.groundreach.eu) provides for you case studies from Germany, Greece, Spain. All stakeholders interested in presenting their successful ground source heat pump installation(s) to the public are invited to make direct online input on the website. Measurement of seasonal performance factor (SPF) over at least one heating period is required.

Two GROUNDREACH promotion events took place in the recent months:

- 24.01.2007: Workshop at Arsenal Research, Vienna, AT (presentation for EGEC by Burkhard Sanner)
- 08.02.2007: Conference at BRGM, Orleans, FR (presentation for EGEC by Christian Boissavy)

The documentation is available on the GROUNDREACH website. Upcoming events are also listed in this Newsletter.

The European Ground Source Heat Pump Committee, which had been created in 2006 within project GROUNDREACH, now is operational. The first meeting was held in Frankfurt, Germany, on March 7, 2007. The committee discussed its duties and started work on the harmonisation of definitions for geothermal energy for statistical purposes (more to be released later).

The committee has a mission statement, drafted by Dimitrios Mendrinos of CRES, Greece: *"The mission of the European Ground Source Heat Pump Committee is to effectively assist the penetration of ground source heat pumps into the European market by coordinating the efforts of EGEC and EHPA."* The committee is jointly co-ordinated by EHPA president Karl Ochsner and EGEC president Burkhard Sanner, with Martin Forsen, Axel Lehmann and Thomas Nowak as delegates for EHPA, and Robin Curtis, Walter Eugster and Olivier Griere for EGEC.

Project K4RES-H

8 Mtoe in 2020 of Geothermal Heating and Cooling : EGEC published at the European Policy Conference in Brussels – 29-31 January 2007 its Geothermal Heating & Cooling Action Plan for Europe.
All reports can be downloaded from the project website , see EGEC website > projects. Printed copies of the action plan are available through the EGEC office in Brussels.
The project and the Action Plan have been presented also at a dedicated RES-H workshop with the Slovak Biomass Forum in Bratislava on February 20, 2007.

Project GTR-H

The GTR-H project is designed to provide a framework document for the implementation of national legislation for the licensing and regulation of geothermal energy use in the four target countries of Ireland, Hungary, Poland, and Northern Ireland (UK). Deficient, and in some cases effectively absent, geothermal regulations in target countries is being reviewed by the local partners. The project team is analysing and identifying the necessary solutions to local deficiencies and barriers of the differing regulations and legislations.

Current legislation regarding geothermal energy in Germany, France and The Netherlands has been identified as providing effective and forward looking regulation in this sector. The legislation in these countries will be reviewed by local partners and the elements defining its success will be analysed through key target group and stakeholder interviews, as well as relevant study tours.

An adaptable and flexible draft template framework, with the potential to be accepted in other regions of Europe, including those with challenging issues will be prepared with the project partners.

EGEC will play a fundamental role in harmonising the framework to reflect socio-economic, environmental, legal and fiscal conditions during consultations to be conducted with the geothermal community in all EU member states. An EU-wide conference to be held in Brussels in April 2009 will be the culmination of this process, where the final draft framework will be presented. Another international conference on geothermal energy regulation will be held in Dublin in October 2009.

Current Status:

The key elements of the information gathering phase will be the review of deficient regulations, the identification of barriers to growth and development of the geothermal sector, to be discussed through consultation with the stakeholders, key target groups and international experts:

- Decision Makers at national government level
- Government agencies in water, energy, environment and planning
- Trade and industry associations
- Banking and financing institutions
- Legal representatives
- Geothermal educational facilities and associations
- Geothermal exploration and resource assessment consultants
- Geothermal end-users representing district heating, horticulture, aquaculture, spas, vertical and horizontal heat exchanger systems

Subsequent review of best practice will allow the definition of a framework for geothermal energy which can accommodate the legislative, environmental, energy, planning and financial considerations in the provision of geothermal energy regulation at national level in target countries.

The first round table within project GTR-H did take place in Kistelek, Hungary, on February 7, 2007, following the 3rd Kistelek Geothermal Seminar. The next round table is scheduled for April 3, 2007, in Dublin.

NEWS FROM EGEC MEMBERS

Realisation of Thermal Energy Storage Projects in Flanders, Belgium

The story of UTES began in 1995 with the first introduction of ATES in Belgium. At first, the geological situation of the underground was examined and some feasibility studies were made. In 1998 the first ATES installation went in operation at Leuven. Today, more than ten, all large, ATES systems (> 500 kW cooling), most of them located in the Campine/Kempen region, are installed, in operation and monitored over a period of 3 years. Due to the hydrogeological limitations, the most interesting regions and cities of Belgium are not suitable for ATES technology. It became necessary to find alternative solutions for these regions, this is provided by borehole thermal energy storage (BTES).

In recent years VITO carried out several feasibility studies in health and commercial building sector on ground source heat pumps (GSHP) in combination with vertical borehole heat exchangers (BHEs). This has recently resulted in a number of BTES projects in Belgium. A high temperature (> 50°C) BTES with 144 BHEs (depth 30 m) is in operation and demonstrated at the site of VITO (Belgium) and is monitored in a 5th European framework research project TESSAS. The TESSAS system consists of a high temperature waste heat storage system with direct use of the heat during winter time. Another demonstration project regards a social housing system with a BTES/Heat Pump system and a solar road collector (Central Solar Heating Plant with Seasonal Storage – CSHPSS).

photos: VITO

EANDIS office building with large BTES field

In the new office building (15.000 m² surface) of EANDIS at Gent (Belgium) a borehole thermal energy storage system (BTES) with 90 heat exchangers is combined with a water/water heat pump for heating and cooling. More then 75% of the total heat demand of the office building is covered by the heat pump and more then 50% of free cooling potential is available. Research on the feasibility was conducted by VITO in 2005. A thermal response test was made with a measuring trailer by VITO in February 2006 leading to the appropriate design specifications and conditions.
The drillings has started in december 2006 and are conducted by GMC and drilling company Johan Verheyden and the whole geothermal project is overseen by VITO with its design team.

New rest home project De Notelaer

For a new energy-efficient rest home with 150 beds a feasibility study (June 2006) was made for the construction of a BTES system in combination with a water/water heat pump for heating and cooling.
A thermal response test was conducted by VITO in January 2007. Around 40 heat exchangers are necessary in this project. Positive signs on the effective realization are received but are still to be approved by the council.

Other projects

The number of feasibility studies and contacts indicates that the use of underground thermal energy storage in Belgium will inspire a larger group of building owners.
Further development in UTES applications will be the dissemination of the results of ATES and BTES projects, the development of guidelines and best practices, etc. The potential for further market growth is expected to be very high in both applications but it still needs an extra effort to finally launch them.

First thermal water well drilled successfully at Neuruppin (Germany)

A geothermal heated hotel and leisure complex is under construction at Neuruppin / Federal Land of Brandenburg. On 9 January 2007, the work at the production well of the future geothermal plant was completed with a productivity test and deep water sampling. The well develops the Aalenian at a depth of approx. 1650 m and can, as expected, produce thermal water with a temperature of 60 °C and a flow rate of 50 m³/h. Thus, the prognosticated parameters could be achieved, and an important stage of the development of the overall project could be completed. Subsequently, the injection well shall be drilled.

Since the hotel and leisure complex will be equipped with low-temperature heating networks, a major share of heat can be supplied by the 60 °C hot thermal water in direct heat exchange. Based on the prognosticated outstanding characteristics of the thermal brine, it is intended to use it for balneological purposes in a brine spa.

GTN - Geothermie Neubrandenburg GmbH was charged with the planning of the thermal water loop (including the wells), the heat production and supply of brine by the S.I.N. Seetorinvest GmbH Neuruppin. The newly founded valendis GmbH (www.valendis.de) will apply the Neuruppin brine as active substance for the production of natural cosmetics.

Success announced from Unterhaching (Germany)

The Unterhaching (Free State of Bavaria) geothermal project took an important step towards its objective of geothermal electricity generation. On 18 January 2007, the GTN specialists could announce the breakthrough in the testing of the second deep well to the Managing Board of the Geothermie Unterhaching GmbH & Co. KG. As the productivity and the temperature of the well Gt Unterhaching 2 even surpass the very good parameters of the first well, the geothermal doublet and, thus, the operation of the geothermal plant are ensured.


photo Gemeinde Unterhaching

Still in December 2006, disillusioning test results did not indicate in any way the final success. At the depth of 3595 m, the productivity of the second well was insufficient. Only after further drilling down to 3864 m and more massive stimulation, this success was achieved.

Same as in the case of the first deep well, GTN Geothermie Neubrandenburg GmbH was responsible for well and test design, site management and test servicing of the second well. In addition, GTN was charged with the geological servicing of the drilling. The results are quite impressive: Unterhaching has two of the most productive geothermal wells in Germany.

EVENTS

Invitation to RENEXPO Budapest 2007 online

EGEC is co-organising, together with REECO Hungary kft., a geothermal event during the conference alongside RENEXPO Budapest, on April 20, 2007. Details of the exhibiton and the conference can be found on the next page or at http://www.renexpo-budapest.com/ .

EGEC members are eligible to a reduced participation fee of 70 Euro. This applies to direct members of EGEC, and not to members of EGEC member associations (only the regular dedicated EGEC delegates of member associations are eligible). Please have a look at the geothermal conference program directly at the next page, or on the website, and consider your participation.

Geothermal companies are also invited to exhibit their products and services at RENEXPO Budapest 2007, please see the website stated above.

European Geothermal Congress 2007 : 30.05-01.06.2007 in Unterhaching (Germany)

Visit http://www.egc2007.de and find the full programme in the 3rd announcement, with all information on the congress, excursion, exhibition, etc.

For our member companies: Call for sponsoring of EGC 2007 is now online ! Find out how you can support the conference, while making your name visible to the geothermal community.

Date	Place	Content
18.04.2007	Bern, CH	Strom aus Geothermie / Géothermie et production d´electricité, Geothermie.CH
19.04.2007	Freiburg, DE	3rd International Geothermal Power Conference
20.04.2007	Budapest, HU	International Conference 'Geothermal Energy in Eastern Europe', at RENEXPO Budapest (REECO and EGEC)
23.04.2007	Sofia, BG	Groundreach: Promotion of GSHP in Bulgaria
10.05.2007	Warsaw, PL	Groundreach: Promotion of GSHP in Poland, 'Thermo Modernization Forum'
21.05.2007	Setubal, PT	Groundreach: Promotion of GSHP in Portugal
23.05.2007	Utrecht, NL	Groundreach: Market barriers towards market penetration of Ground Source Heat Pumps
25.05.2007	Rome, IT	K4RES-H: Regional Conference 'The role of RES-H in the European energy supply'
30.05-01.06.2007	Unterhaching, DE	European Geothermal Congress 2007 (IGA-ERB, EGEC, GtV-BV, Geothermie.CH, GEAS, MAGA)

RENEXPO® CENTRAL & SOUTH-EAST EUROPE

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REECO

more info and online registration: http://www.renexpo-budapest.com

Friday, April 20, 2007

1st INTERNATIONAL CONFERENCE: GEOTHERMAL ENERGY IN EASTERN EUROPE

13.30	**Registration at the Conference Center**
14.00	**Welcome Address** REECO Group
14.05	**Overview: Geothermal Energy in Europe** Dr. Burkhard Sanner, European Geothermal Energy Council – EGEC
GEOTHERMAL ENERGY IN HUNGARY	
14.30	**Geothermal Energy Use in Hungary** Gábor Szita, Hungarian Geothermal Association
14.50	**Legal Framework and Future Developments** Gábor Szabados, Hungarian Office for Mining and Geology
15.10	**Geothermal Energy Benchmark Study: Economic, Administrative and Legal Aspects of Hungary** Christian Schönwiesner-Bozkurt, Rödl & Partner GbR
15.30	**Geothermal Power Projects in Hungary** Atilla Kujbus, MOL Rt.
15.50	**Coffeebreak**
GEOTHERMAL ENERGY IN SOUTH-EAST EUROPE	
16.10	**Environmental Aspects of Geothermal Energy Use** Prof. Dr. György Patzay, Hungarian Thermal Energy Society
16.30	**Geothermal Energy for Greenhouses** Prof. Dr. Kiril Popovski, Bitola University
16.50	**Enhanced Geothermal Systems** Prof. Dr. Ladislaus Rybach, Geowatt AG
17.10	**Geothermal Energy Use in Romania** Marcel G. Rosca, University of Oradea
17.30	**Ground Source Heat Pumps** Dr. Burkhard Sanner, European Geothermal Energy Council – EGEC
17.50	**Questions and Discussion**
18.00	**End**

Moderation: Dr. Burkhard Sanner, European Geothermal Energy Council – EGEC

Target Groups: Engineers, Communities, Industry, Investors, Project Developers, Energy Suppliers

Languages: English, Hungarian – simultaneous translation

Organiser: REECO Hungary Kft.
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hungary@energie-server.de

REECO

Partner: European Geothermal Energy Council - EGEC

EGEC

Fees: 90 EUR; 70 EUR for EGEC Members;
30 EUR Student with Identification
Incl. coffee break, lunch not included, incl. entry to trade fair.

Prior registration required.

Registration: Registration Form

Péntek, 2007. április 20.

1. NEMZETKÖZI KONFERENCIA: GEOTERMIKUS ENERGIA KELET-EURÓPÁBAN

13.30	**Regisztráció a Konferencia Központban**
14.00	**Köszöntés** REECO Csoport
14.05	**Áttekintés az európai geotermikus energiáról** Dr. Burkhard Sanner, Európai Geotermikus Energia Tanács – EGEC
GEOTERMIKUS ENERGIA MAGYARORSZÁGON	
14.30	**A geotermikus energia hasznosítása Magyarországon** Szita Gábor, Hungarian Geothermal Association
14.50	**Jogi szabályozás és a jövobeni fejodések áttekintése** Szabados Gábor, Magyar Bányászati és Földtani Hivatal
15.10	**Geotermikus energia tanulmány: Gazdasági, igazgatási és jogi aspektusai Magyarországon** Christian Schönwiesner-Bozkurt, Rödl & Partner GbR
15.30	**Geotermikus létesítmények projektjei Magyarországon** Kujbus Attila, MOL Rt.
15.50	**Kávészünet**
GEOTERMIKUS ENERGIA DÉLKELET-EURÓPÁBAN	
16.10	**A geotermikus energia hasznosításának környezeti aspektusai** Prof. Dr. Patzay György, Magyar Termálenergia Társaság
16.30	**A geotermikus energia üvegházakban történo hasznosítása** Prof. Dr. Kiril Popovski, Bitola University
16.50	**Növelt hatékonyságú geotermikus rendszerek** Prof. Dr. Rybach László, Geowatt AG
17.10	**Geotermikus energia hasznosítása Romániában** Prof. Dr. Marcel G. Rosca, University of Oradea
17.30	**Geotermikus hoszivattyúk** Dr. Burkhard Sanner, Európai Geotermikus Energia Tanács – EGEC
17.50	**Kérdések és válaszok**
18.00	**End**

Moderátor: Dr. Burkhard Sanner, Európai Geotermikus Energia Tanács – EGEC

Célcsoportok: Mérnökök, települések, ipar szereploi, befektetok, project fejlesztok, energiaellátásban résztvevok

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REECO

Partner: Európai Geotermikus Energia Tanács – EGEC

EGEC

Részvételi díjak: 90 EUR; 70 EUR EGEC-tagoknak;
30 EUR Diákoknak diákigazolvánnyal
Az ár tartalmazza az üdítoital- és kávéfogyasztást, valamint belépot a kiállításra.

Elozetes jelentkezés szükséges!

Regisztráció: Regisztrációs formanyomtatvány

See you in Budapest in April - and in Unterhaching in May !