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GTR-H - Geothermal Regulations in Europe, the Kistelek Process

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ABSTRACT

The IEEA, Altener funded GeoThermal Regulation – Heat (GTR-H (www.gtrh.eu)) project will review and establish the regulatory barriers and deficiencies for geothermal heat resources of four, unregulated EU target countries through a process of discussion and consultation with key target actors and stakeholders at a national level. The 'target' countries are Hungary, Ireland, Northern Ireland/UK and Poland. A review of the current best practice regulatory frameworks in three 'example' countries will be carried out. The regulated countries are France, Germany and Netherlands and expertise in these jurisdictions will provide a review of geothermal legislation and regulation currently in place through key, national stakeholder interviews and study tours to assess the effectiveness of the regulations. This review will be combined to provide national framework documents in the four target countries aimed at increasing overall sectoral investment in geothermal energy for the exploration and exploitation of heat across the EU.

Following from the national framework documents, guidelines for the establishment of geothermal regulation in other EU countries will be provided and disseminated to a broader international audience. The GTR-H project will build on previous EU projects such as K4RES-H in the renewable energy sector.

1. INTRODUCTION

The Irish based geoservices consultancy, the CSA Group together with 7 EU partners is currently co-ordinating the project funded through IEEA Altener programme to develop a framework of geothermal heat legislation/regulation specifically aimed at 4 target countries (Hungary, Ireland, Northern Ireland and Poland) which will be used to guide implementation of similar regulations across the EU. The GTR-H project runs over 36 months from November 2006.

Reviews of the 4 target countries together with 3 'example' countries which have current or recently implemented regulation (France, Germany and Netherlands) will provide an overview of the issues that need to be addressed and the types of regulation currently in place together with review of their success and suitability to address the issues identified. The project consortium for GTR-H comprises a range of government bodies, intuitions and associations, each representing an EU region with the exception of the European Geothermal Energy Council (EGEC) which represents the geothermal sector in Europe through affiliation of national geothermal associations throughout Europe.

IEEA Altener programme	
CSA Group (Coordinator – Ireland)	
Geological Survey of Northern Ireland (GSNI)	
European Geothermal Energy Council (EGEC)	
Hungarian Office for Mining and Geology (previously Hungarian Geological Survey)	
Polish Academy of Sciences	
Bureau de recherches geologiques et minieres	
Geothermischen Vereinigung e.V	
Stichting Platform Geothermie	

Table 3: GTR-H Partners

2. BACKGROUND

The GTR-H project follows on from the Kistelek Declaration which was announced in Hungary in April 2005 and did the initial work in identifying the key issues resulting from the absence or shortcomings of geothermal regulation in the EU and therefore the need for regulation. An initial compilation of regulations for several of the EU countries was made during the K4RES-H project and results of a preliminary review of these regulations indicated that any regulatory framework for geothermal energy must serve the following main purposes:

- Secure environmentally friendly use of geothermal energy, in particular concerning protection of underground drinking water resources, emissions, etc.

- Regulate competing uses and securing sustainable use of geothermal energy

- Grant an investor certain right to use geothermal energy in a given area and to a given extent, as the basis for business plans.

GTR-H aims to provide solutions and the implementation steps necessary to address these key issues identified in the form of a standardised transferable framework for geothermal regulation across the EU

Both from the K4RES-H project conclusions and initial results from the GTR-H project, it is apparent that the present lack of regulation for geothermal energy exploitation over most of the EU is inhibiting the effective exploitation of this underutilized resource. The process is planned to outline and encourage investment in geothermal energy by private and public sector partnerships.

3. AIMS AND OBJECTIVES OF THE PROJECT

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 exploitation to be used on a broader basis than just the target countries. Emphasis will also be placed on finding solutions for the improvement of existing regulation in parts of the EU, which is perceived as being ineffective in the promotion of geothermal energy thereby resulting in the stagnation of the sector. Current legislation regarding geothermal energy in Germany, France and The Netherlands has been identified as providing effective and forward looking and will provide a starting point for the development of a regulatory framework. Deficient and, in some cases, effectively absent geothermal regulations in Poland, Hungary, Ireland and the UK (Northern Ireland) has been reviewed since the beginning of the project and is being used identify the necessary solutions to the barriers in the sector not addressed by regulations and legislations.

EU wide applicability of the drafted regulatory template will be ensured by the experience and scope of the GTR-H team and through wide consultation with all involved in the geothermal sector. The key elements of international best practice will also be reviewed to place the framework in context and widespread dissemination of the information that will extend to the relevant authorities and key players in the EU-25 states to encourage its uptake as broadly as possible. This process will be achieved through a European Conference and an International Geothermal Energy Conference and through the network of the EGEC.

4. EXPECTED RESULTS AND BROADER IMPACTS

It is expected that as a result of the project, specific local barriers to geothermal energy exploitation will be addressed through the legislative solutions already in use to overcome specific local barriers based on other EU jurisdictions.

The project aims to strengthen the existing cooperative network for the exchange of the experience and legislative mechanisms as well as incentives for cross-border investment.

Potential solutions to the different socio-economic barriers encountered will be assessed and included in the framework.

Through consultation government level acceptance of the need to accommodate geothermal energy exploitation in national environmental, water and resource legislation, will be achieved.

It is expected that as a result of the GTR-H project penetration of geothermal energy in the renewable energy market will be encouraged and will stimulate investment in the sector.

On a broader basis it is envisaged that there will be transferability of the framework to the remaining EU-21 (27) countries to suitable legislative and regulatory schemes that facilitate geothermal energy exploitation

The framework will also assist in the creation of new market opportunities through increased private sector cross border investment in the geothermal sector.

The target five percent of Europe's 12% RES target has a very minor geothermal contribution at present. This project will help increase the geothermal contribution to this target by providing a more robust legislative and regulatory infrastructure in the EU, contributing to the security of investment, competitiveness and environmental protection in the EU by closing the gap between the front runner countries and other EU member states.

5. WORK PROGRAMME OVERVIEW AND PARTNER ROLES

GTR-H consists of 6 main project work packages and a final 7th work package for common dissemination activities. Co-ordination of the overall project will be the responsibility of the CSA Group who will also take the lead on work packages 1, 2, 4, 6 and 7, i.e Management, Deficient Regulations, Framework, Dissemination and Common Dissemination responsibilities (see Table 2).

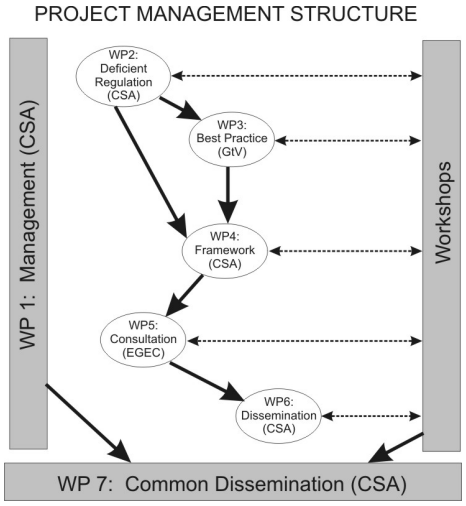

Table 2: GTR-H project structure

Each of the organizations involved has a number of specific roles in each workpackage. Tasks include providing stakeholder review and input on the need for regulation in the regulation deficient countries and feedback on the success and issues arising in areas that have a recently implemented or a perceived successful regulation.

The review of best practice and deficient regulations and consultation with the stakeholders and key target groups is one of the key elements providing the data necessary to allow the definition of a framework which can accommodate the legislative, environmental, energy, planning and financial considerations. The Geological Survey of Northern Ireland will review the situation in Northern Ireland where there is currently no regulation for geothermal energy and the market there is predominantly ground source pump

installation. The CSA Group will review the geothermal market in Ireland where the geothermal market is a little more developed but there is also currently no regulation.

The Hungarian Office for Mining and Geology previously the Geological Survey Hungary (Magar Geólogiai Szolgálat) and the Polish Academy of Sciences - Mineral and Energy Economy Research Institute will provide a review of the sectors in Hungary and Poland which both have various regulations which are hampering the development of the sector in these jurisdictions.

Bureau de Recherches Géologiques et Minières, Geothermischen Vereinigung e.V. and Stichting Platform Geothermie will provide the overview and input from the best practice countries for France, Germany and The Netherlands. The European Geothermal Energy Council based in Brussels has affiliations from all the Geothermal associations in Europe and will therefore provide an overview if the industry and necessary input from countries not represented by the partners.

Work package 3 (Best Practice) will be coordinated by Geothermische Vereinigung (GtV) and work package 5 (Consultation) will be coordinated by the European Geothermal Energy Council (EGEC). The five remaining EU partners will carry out detailed reviews of the national geothermal regulation in their country of operation and will provide feedback to the ongoing process of developing the geothermal regulation ensuring the provision of solutions for the deficiencies encountered in the deficient regulations reviewed.

The project has adequately provided for dissemination of information and discussion and interaction between all partners at every stage of the project as this is seen as key to the success of a regulatory framework. This will be achieved through regular committee meetings with workshops to allow discussion of the issues raised and solutions to be found. Provision has been made for the observation of team partners in local workshops therefore giving opportunities for alternative country views to be included in the local discussion and a broader view of the potential solutions to be considered throughout the process. CSA will ensure that the project team works interactively in order to ensure the success of the project and to provide the best regulation framework possible in the scope of the project.

The membership of the consortium includes geothermal educational facilities and associations who will be motivated to engage with the project because their aim is keeping with the objective of the GTR-H project. They will be involved in the dissemination of the project results at a national level.

6. TARGET GROUPS AND KEY ACTORS

The project will consult broadly with the national geothermal sector through each partner. The key target groups identified as stakeholders in the geothermal sector are as follows:

A) Decision Makers at national government level

B) Government agencies (water, energy, environment and planning)

C) Trade and industry associations

D) Bank and financing institutions

E) Legal representatives

F) Geothermal educational facilities and associations

G) Geothermal exploration/resource assessment consultants

H) Geothermal end users

The decision makers at national and local government level will ultimately benefit from the framework delivered in the final report. During the course of the project government agencies in the water, energy, environment and planning will be involved through interviews and national forums and will receive the interim results of the analyses carried out project team through the reports project website.

Trade and industry associations will be in encouraged by the consortium to involve financing institutions and legal advisors in the national round table discussions because the results will benefit their members through the elimination of market barriers and opening of new opportunities.

Geothermal energy users will increase access to cost effective geothermal energy access which will increase their market sector.

7. RESULTS SO FAR; WORKPACKAGES 1 & 2

Roundtable discussions and stakeholder interviews have been concluded in each of Hungary, Ireland, Northern Ireland and Poland. Questionnaires to establish the significant barriers in each of the target countries have been circulated and compiled with the results presented in Tables 3, 4, 5 and 6.

Preliminary results of the first and second workpackages of GTR-H confirm that the lack of regulation or lack of clarity /inadequate regulation is seen as one of the most significant barriers to the geothermal sector development, thus confirming the conclusions of the Kistelek declaration and the requirement for regulation.

The lack of a specific law in relation to geothermal energy was indicated in Hungary and Ireland as a significant barrier to the development of the sector. This reflects the confusion resulting in jurisdictions where geothermal energy is legislated for under a number of different Acts which are implemented through different government departments. This is an important issue in relation to the development of a framework for geothermal energy since in its design a framework requires sufficient flexibility for appropriate accommodation of the framework in different jurisdictions.

Lack of incentives was indicated as one of the most significant issues particularly for Hungary and Poland. Discussion shows that in some cases these are perceived as tax and other capital or investment incentives in order to allow geothermal energy to compete on a level playing field with other energy sources. It is interesting to note that a grant for heat pump installation has been implemented in Ireland in the past year and this issue is not considered a significant in the results for Ireland and therefore demonstrates the effectiveness of an appropriate grant system.

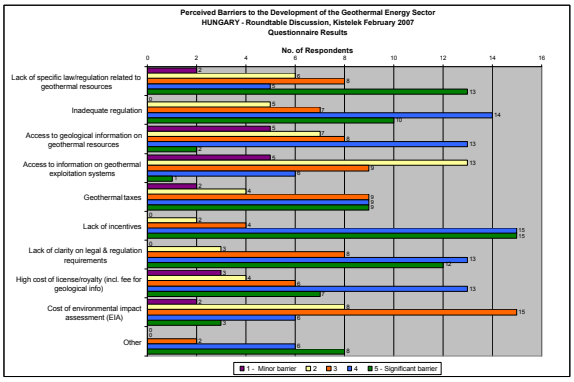

Table 3: Perceived barriers to GT - Hungary

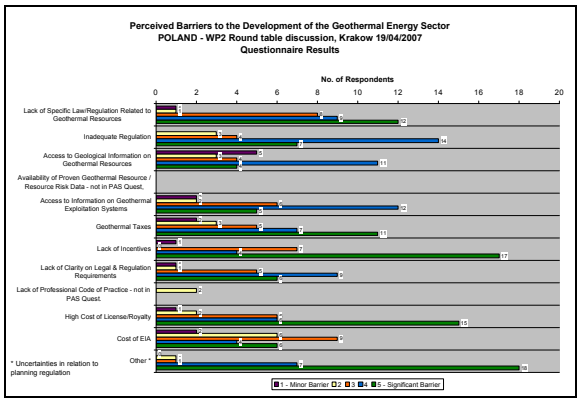

Table 4: Perceived barriers to GT - Poland

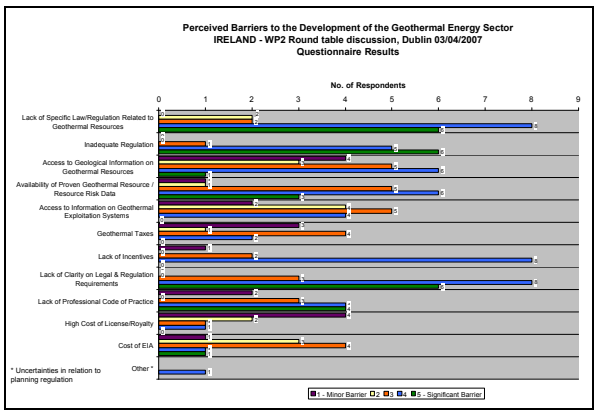

Table 5: Perceived barriers to GT – Ireland

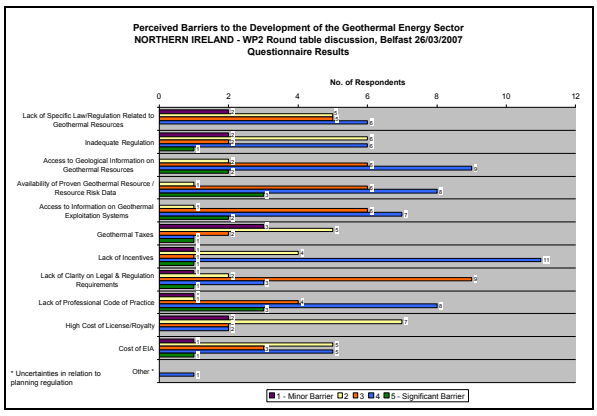

Table 6: Perceived barriers to GT – Northern Ireland

Analysis of the attendees at the roundtable discussions in the 'target' countries is presentation Table 7 and shows a good distribution from all the stakeholder groups reflecting interest at most levels in the sector. It is evident also in the results from Poland and Hungary that there is more participation from the industry sector where the sector is more advanced.

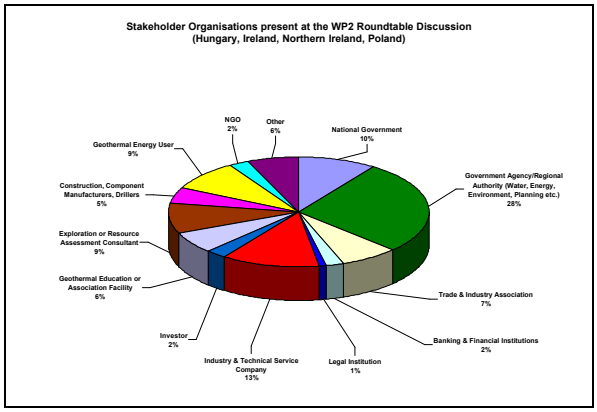

Table 7: Roundtable attendees – WP 2

Discussion of the investment case for geothermal energy exploration in areas with low enthalpy resources, indicated the need for more information to prove up resources before the sector would become attractive for private investment in Ireland in particular – however this is a classic chicken and egg problem. It was also noted that the EU 20% targets for renewables has generated a moderate investment and incentive climate.

Ownership issues in relation to geothermal energy were discussed with reference to the differences between inclusion under water or minerals Acts in the unregulated countries (in particular in Northern Ireland/UK and Ireland)

The definition of geothermal energy in any implemented regulation requires careful consideration in each jurisdiction depending on the existing legislation.

Other issues in relation to exact licensing procedures, costs, national resource assessments as well as certification and standards within the industry were also discussed in all four target countries and will be included where relevant in the recommendations for the framework as it develops.

8. CONCLUSIONS

Preliminary indications from roundtable events and interviews so far show broad acknowledgement of the need for regulation for geothermal energy to ensure the successful development of the sector. Furthermore lack of clarity or inadequate regulation can be as restrictive as no regulation. Discussion at the roundtable events also emphasized the need for better access to information and dissemination of information. The availability of resource data and in some cases the cost associated with purchasing this has shown to be inhibiting investment and growth in the sector. This is seen as key to the development of the sector through private sector investment.

9.ACKNOWLEDGEMENTS

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