

## Report

### **Background Information:**

In the framework of the Renewable Energy Program with the financial support of the European Economic Area Financial Mechanism 2009-2014 (EEA Grants) 27 participants of 10 Hungarian local governments had the opportunity to take part in a 3-day-long professional workshop in Iceland about the current and topical questions of geothermal energy. The decision makers, as well as engineers and official managers attended the workshop of which the goal was to provide forum for exchange of knowledge and best practices on utilization, development, and use of geothermal resource. The practice-oriented workshop also created a platform for establishing network connections and cooperation along with long-term partnerships in order to facilitate geothermal developments in Hungary. The Ministry of National Development (MoND) as Program Operator and the National Energy Authority of Iceland (ORKUSTOFNUN) as a Donor Partner participated in the implementation of the training. The implementation was supported by the EGT Fund's Renewable Energy Program (HU03) Fund for Bilateral Relations with Euro 134,900 and 100% support intensity.

Local governments with local district heating networks and geothermal potentials, which are committed to the use of geothermal resources as renewable energy sources, could apply for the open call for proposals HU03-Bilat-A-2017 published by the MoND in order to enhance the bilateral relations.

The scope of Renewable Energy Program (HU03) of EEA MoND 2009-2014 has set the objectives of promoting the use, the knowledge and information transfer, as well as the awareness-raising of renewable energy. In addition to the strengthening of bilateral professional co-operations, 4 projects have been realized with the allocation of HUF 610 million financial support with the total value of approx. HUF 1.5 billion.

As a leader of utilizing geothermal energy in Hungary Miskolc City of County Rank submitted an application to the announced call. As a successful applicant, three officials from the city were given the opportunity to attend the official program:

- Mr. Péter Pfliegler, Deputy Mayor, Miskolc City;
- Mr. László Nyíri, Managing Director, Miskolc District Heating Ltd. (Miskolci Hőszolgáltató Kft. -MIHŐ);
- Mr. Tamás Kovács, Technical Director, Miskolc District Heating Ltd. (Miskolci Hőszolgáltató Kft. -MIHŐ).

The workshop in Reykjavik in Iceland at the Office Building of the National Energy Authority consisted of a 2-day-long presentation series and a 1.5-day-long study tour in the countryside.

### **Topics of the Presentations:**

- historical background of the utilization of geothermal energy in Iceland with theoretical elements, achieved results, future plans as well as European experiences;
- opportunities of utilizing the unique geothermal treasure in Iceland and the practical examples of the secondary utilization;
- the Icelandic practice of geothermal energy utilization regulations against the Hungarian practice believed to be bureaucratic in Iceland;
- financing geothermal energy utilization investments by the need of governmental support, financing mechanisms, opportunities to apply for resources of financial credit institutions, as well as costs, structures, and competitiveness of projects;
- business model and operational experiences of geothermal district heating.

Our hosts referred to the fact many times during the lectures and presentations that 95% of the population of Reykjavik uses district heating and this ratio is very high in the whole of Iceland.

The facts that while 52% of the energy consumption was oil and other fossil fuels in the 50s in Iceland, nowadays renewable energy covers 100% of the energy consumption, of which 66% is geothermal energy, are remarkable. More than 90% of the flats have district heating supplied by geothermal energy. Overall, the information of the workshop was very fascinating because it highlighted the approach how Iceland with the uniquely rich resources of geothermal energy utilizes its capabilities in renewable energies as much as possible.

The Icelandic environmental consciousness, their commitment to the use of green energy, and the results of the awareness-raising are exemplary, indeed. However the acquisition of the approach is indispensable for us, we should not forget about the different circumstances. Full implementation of the Icelandic best practices cannot be applied. Optimal solutions i.e. support system and regulations, district heating networks should be found locally.

### **Business Partnership Building:**

After the workshop with deep insights of the theory and the practice of the utilization of geothermal energy at the National Energy Authority business meetings were organized by our hosts. Reykjavik's design, consulting and professional expert companies introduced their activities and references. Furthermore, they offered their capacity of cooperation and professional approach to help the easier feasibility of geothermal projects in Hungary.

The following companies were introduced:

- ISOR - geological professional expert company;
- EFLA - a major Icelandic geothermal project design company;
- VERKIS – a design company;
- MANNVIT – a consulting and engineering company with a Budapest office.

### **Visiting Geothermal Projects:**

As a final phase of the workshop program we were given the opportunity to visit some completed projects based on geothermal energy such as the Helliheidi Power Plant, the Greenhouses of the Icelandic Agricultural University, the Blue Lagoon touristic attraction, which is known as a good sample of secondary utilization, and the geothermal spring of Gróttá's district heating plant, as well as an ongoing project of a drilling of a geothermal well.

We are thankful to the organizers for the preparation and the smooth operation of the program.

Miskolc, 10 October, 2017

Miskolc City of County Rank



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