

26.04.2024

Final Conference, of the KeyGeothermal Project

The largest geothermal training project that has been held in Poland

16th April 2024 in Warsaw

Final Conference, of the KeyGeothermal" Project was held 16th April 2024 in Warsaw, that is the largest geothermal training project that has been held in Poland. The KeyGeothermal Project stands as a collaborative effort between the Mineral and Energy Economy Research Institute of the Polish Academy of Sciences (MEERI PAS) and the Icelandic National Energy Authority. The project is financed by the Financial Mechanism of the European Economic Area in the Environment, Energy and Climate Change Programme, 2014–2021, that is operated by the National Fund in Poland and Ministry of Environment in Poland.

Project objectives

At its core, the KeyGeothermal Project is driven by the imperative need for capacity building among key stakeholders in Poland's burgeoning geothermal sector. By providing comprehensive training activities, facilitating study visits to Iceland, conducting expert analyses, and disseminating information, the project aims to bridge knowledge gaps and empower stakeholders with practical insights into geothermal energy utilization. Moreover, the project seeks to catalyze cross-cultural collaborations and partnerships between Polish and Icelandic stakeholders, fostering an environment conducive to sustainable energy development. Another significant focus of the project is on district heating using renewable energy sources, aiming to increase energy security, efficiency, and reduce pollution and carbon dioxide emissions. This aspect is crucial in the ongoing battle against climate change. The project is scheduled to run from October 2020 to April 2024 (keygeothermal.pl).



Group of participants at the Final Conference (photo by M. Partyka)

The Conference

At the conference there were presentations, panels, and discussions, with participants from the Ministry for Climate and Environment in Poland, the National Fund in Poland, Icelandic Embassy in Poland, MEERI PAS, National Energy Authority, Geothermica, Institutions, Universities, Municipalities, companies, and others as well. The conference was opened by KeyGeothermal project leaders Beata Kępińska, Project manager, MEERI PAS and Baldur Petursson Project coordinator from National Energy Authority Iceland. They highlighted the good participation in the conference with over 100 registered and were looking forward to the presentation and contributions from various participants, lessons learned from the project, and future recommendation as well.

The program of the Conference combines topics summarizing the Project; information on the current state of geothermal investments financed with public support (including projects carried out by entities whose representatives participated in the Project); as well as the possibility of implementing further geothermal projects with public support and bilateral Polish-Icelandic cooperation whose representatives participated in the Project.

The challenges, experiences, and effects of the EEA MF Programme "Environment, Energy and Climate Change" for 2014–2021 in Poland were presented by Piotr Bogusz – Deputy Director of the Department of European Funds of the Ministry of Climate and Environment. He pointed out, m.in, that one of the 4 areas of this Programme was "Increasing the production of energy from renewable sources" (including geothermal energy), while among the 3 predefined projects of this Programme – KeyGeothermal.

The largest geothermal training project in Poland

It was an introduction to the discussion of the role of the EEA MF Funds and the KeyGeothermal Project in activities for the development of geothermal energy in Poland and bilateral cooperation within the EEA MF. These issues were presented by Prof. Krzysztof Galos – Chief National Geologist, Undersecretary of State at the Ministry of Climate and Environment. He pointed out, m.in, the framework assumptions and forms of financial support for the development of geothermal energy in Poland, as well as strategic projects in this area and the Multiannual Program for the Development of the Use of Geothermal Resources in Poland (2022).

He highlighted that to properly implement the tasks set out in these documents, it is necessary, to educate and train as well as to learn about good practices, conducted in various forms and for various groups of stakeholders, also with the participation of leading foreign institutions and specialists. An important role in this respect was played by the KeyGeothermal Project, so far, the largest geothermal training project in Poland addressed to key stakeholders.

Robert Gajda – Vice-President and Beata Kuś, Magdalena Misiurek and Monika Żółkowska from the National Fund for Environmental Protection and Water Management presented a summary of the current state of implementation of geothermal investment projects financed from national and international programs (including the EEA MF and NMF), as well as information on support programs in this area, available in 2024 and in subsequent years.



Piotr Bogusz – Deputy Director of the Department of European Funds, Ministry of Climate & Environment (photo by M. Partyka)



Prof. Krzysztof Galos – Chief National Geologist, Undersecretary of State at the Ministry of Climate and Environment (photo by M. Partyka)

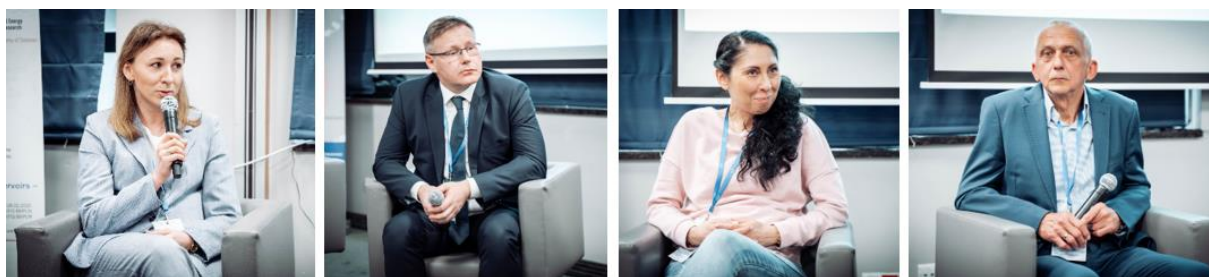


Jan Henrik, specialist at the Embassy of Iceland in Poland, represented the Ambassador, Hannes Heimisson (photo by M. Partyka)



Speeches by Project partners (photo by M. Partyka)

Jan Henrik, Specialist at the Embassy of Iceland in Poland, represented the Ambassador, Hannes Heimisson, as he could not attend. In a statement from the Ambassador he highlighted among others following, “*In today’s complex geopolitical landscape, addressing the challenges of energy security and climate change is crucial. Iceland, the world’s largest per capita producer of green energy, has a century-long history as a pioneer in the use of renewable energy. Its dialogue and knowledge sharing with Poland on these issues has proven to be beneficial for all parties involved.*” „*Geothermal district heating has the potential to replace a significant proportion of the European Union’s imported energy demand.*”

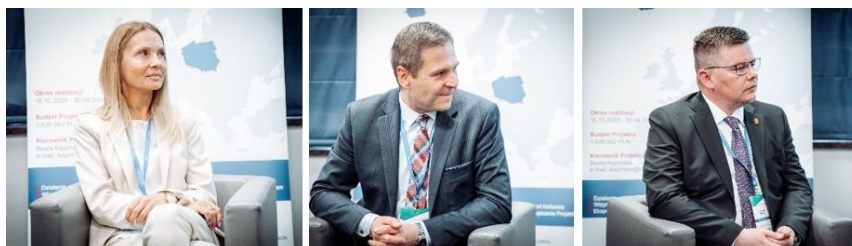


Participants of Study visits to Iceland – panel discussion on Project activities (photo by M. Partyka)

Then, the leaders of the IGSMiE PAS and NEA teams summarized the activities and results of the Project (presented in more detail later in the report). They also pointed to the contribution to the objectives of the EEA MF, Environment, Energy and Climate Change Programme, 2014-2021. A large part of the Conference was devoted to panel discussions, during which representatives of the addressees of the Project’s activities, its partners and contractors shared their observations, talked about benefits and usefulness of its actions. There was also a general discussion with the participants of the Project, during which ways of maintaining contacts and cooperation between the participants of the Project were proposed.

Views from participants

During the Conference, an overview of other geothermal projects co-financed by the EEA MF and NMF (2014-2021 edition) with the participation of teams from Polish and projects implemented by NEA was also presented.



Panel discussion on Project activities – participants (photo by M. Partyka)

The prospects for further geothermal projects in the next edition of these Funds were discussed, and the possibilities of further Polish-Icelandic cooperation in the field of geothermal energy were outlined,

m.in as part of an international initiative Geothermica. There was also time for direct talks between the participants, a group photo, and an expression of conviction that there will be other similar projects, such as KeyGeothermal, which is coming to an end.

The level and significance of the Project are evidenced by the statements of the participants of the Final Conference. Here are some of them:

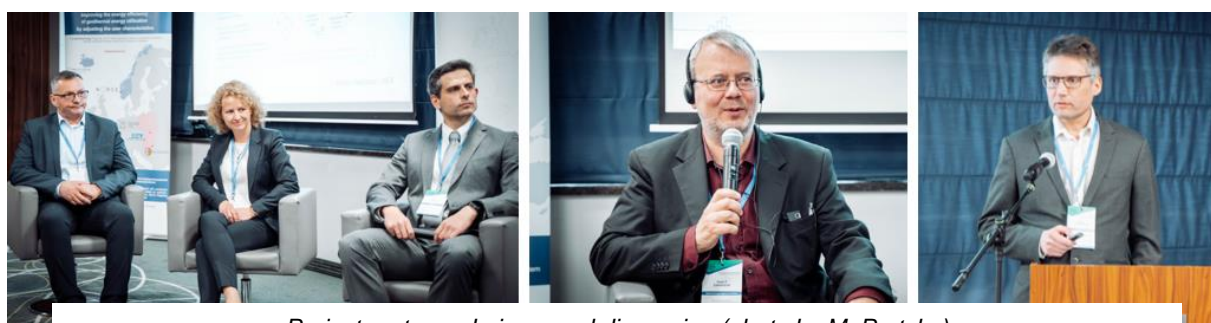
- *This project is a huge base of valuable knowledge, an opportunity to get to know many key parties from the industry – people from institutions, other beneficiaries,*
- *There is a need for education in municipalities, among ordinary citizens. The knowledge gained by the representatives of the municipalities thanks to the study visits should be disseminated among the residents,*
- *Both the conference, study visits and materials throughout the training cycle were very well prepared. One of the best trainings I've ever participated in – high level,*
- *I'm looking forward to the next edition to be able to continue gaining knowledge about geothermal energy in Poland and around the world. So far, the training and the visit have been very helpful and allowed us to implement the acquired knowledge at work,*
- *We are counting on further activities aimed at promoting geothermal heating in Poland.*
- *Please launch the project "Follow up KeyGeothermal.*

Important feedback was also expressed by Icelandic side and by participants of the [Icelandic-Polish Seminar](#) Geothermal Energy, Energy Transition and Carbon Capture and Storage that was held in Warsaw on June 14th, 2023, and showcased the growing interest in Icelandic–Polish cooperation concerning geothermal energy, renewable energy sources, energy security, carbon disposal, and storage.



Speeches by Project partners, lecturer and invited speaker (photo by M. Partyka)

In a press release from Green by Iceland after the Seminar the highlights were on the increasing cooperation between Poland and Iceland, around geothermal and renewable energy in past years, stating among others following: *“Recent years have witnessed a remarkable growth in cooperation between Poland and Iceland in the domains of geothermal and renewable energy, as well as environmental and climate initiatives. These collaborations have been facilitated through various programs and projects under the EEA Grant Agreement. The initiatives have encompassed bilateral projects and market participation calls, seeking to stimulate further engagement between the two nations. Notable among these projects are pre-feasibility studies conducted for several localities, undertaken in collaboration between the National Energy Authority, MEERI PAS, and additional experts from Poland.”*



Project partners during panel discussion (photo by M. Partyka)

The Key Geothermal Project - Facts, Figures, Achievements

Key activities of the program were as follows:

- Training activities in Poland (in 2022–2023 but initially planned for 2021–2023),
- Study Visits to Iceland (in 2022–2023 but initially planned for 2021–2023),
- Expert Study Visits to selected localities in Poland, prospective for the geothermal development (2022 and 2023),
- Report on the Expert Study Visits concerning the potential use of geothermal energy in selected localities in Poland (2022–2023),
- Information and communication (2020–2024),
- Final report (2024),
- Project management (2020–2024).



MEERI PAS team (photo by M. Partyka)

Training activities in Poland

A total of 127 participants took part in the Training Activities in Poland in 2022 and 2023, as well as several people as free listeners. On the other hand, there were many more people interested in the possibility of participation. Each round included **2 days of workshops** in Warsaw and **1 day of technical visits** to several geothermal installations and plants around the capital (in Mszczonów and Wręcza). The classes were conducted by **20 lecturers** – from the National Energy Agency of Iceland, IGSMiE PAN, external experts, as well as several specialists from the Ministry of Climate and Environment, the National Fund for Environmental Protection and Water Management and the Ministry of Foreign Affairs.



Panel discussion on Project activities – participants (photo by M. Partyka)

Among the invited speakers was the Ambassador of Iceland to Poland and representatives of the management of the Ministry of Climate and Environment and the National Fund for Environmental Protection and Water Management. During the technical visits, the participants met with several local specialists and representatives of local governments.

The Programme of Training activities has been prepared taking into account the knowledge gaps that have been previously identified by the Project partners, as well as the needs and proposals provided by the addressees of these Activities. Summaries **of lectures, information materials**, and on their basis a comprehensive **manual** (published in the form of a book in the Polish language version) were prepared.

The training activities were evaluated by the participants in the form of anonymous surveys. The evaluation concerned the basic elements of their organizational and substantive side, their importance for expanding knowledge about geothermal



heating, EEA Funds, their objectives, impact, and the role of Donor States. During the organisation of the 2023 Activities, some of the feedback and proposals provided by the participants in 2022 were used. We are glad that all participants highly rated both the organization and the substantive level of the Activities.

Study visits to Iceland

A total of 51 participants from Polish **took part in the Study visits to Iceland in 2022 and 2023** (although the demand was much greater). The programme included **workshops, networking meetings with a total of about 120 people from Polish and Iceland** (first day), followed by **visits to geothermal heating installations in Reykjavik and southern Iceland** (two days). The large participation of participants from Iceland in the events of the 1st day of the Visits proves that there is a great interest in establishing cooperation in the field of geothermal energy.

The significance of these events was confirmed by the fact that six people from the management of the Ministry of Energy, Climate and Environment and the Ministry of Foreign Affairs of Iceland, as well as HE the Polish Ambassador to Iceland, also spoke during them. The participants of the Visits learned about the functioning of about 15 geothermal installations focused on district heating (with parameters like the conditions we have in Poland), as well as working for other needs. The participants of the Visits were provided with information materials, as well as a set of presentations prepared by the Polish and Icelandic parties for seminars, workshops, and networking meetings.

Like the Training Activities, the Study Visits were also evaluated by their participants in the form of surveys. All of them highly appreciated both their organization and the substantive level. The legitimacy of this visit, as well as similar visits in the future, has been confirmed.

Expert study visits to selected localities in Poland

Expert study visits with the participation of experts from the NEA and IGSMiE PAS teams were organized to **4 localities** in Poland: Konin and Chochołów (in 2022) and Koluszki and Koło (in 2023). In each of these towns, the visits lasted 2 days. Their aim was to gain knowledge regarding geothermal conditions of the visited towns, to understand the ongoing or planned geothermal energy management projects, and to gather information for the preparation of assessment and recommendation in the form of a Report.

The selection of the localities was based on the analysis of their geothermal conditions, the possibility of effective access to and use of geothermal energy, the advancement of activities in this area, energy, ecological and other aspects. The willingness to cooperate with the Project's partners and to use the results of the research and recommendations contained in the detailed Report was also important. The programmes were developed together with the hosts of the Visits in each of the towns.

They include familiarization with both the heating management and the municipal economy, plans for its development and modernization, and sustainable development strategies. Various areas of business activity that may be promising for the use of geothermal energy were also discussed. An important addition to the technical programs of the Visits was a brief introduction to the history, cultural and spiritual heritage of the visited towns and their surroundings. These aspects were also an element of building cooperation and getting to know each other's home countries of the Project partners.



*Group of Project stakeholders, operators and partners
(photo by M. Partyka)*

A total of about 30 people were involved in the visits to individual towns – representatives of local authorities, local specialists, operators of heating installations, beneficiaries of support programs for the

development of the use of geothermal energy in heating. A total of **10 geothermal installations and facilities in various phases of implementation were examined**. (and 8 other municipal installations and facilities).

Report on Expert Study visits to selected localities in Poland

The report on the Expert study visits on the possibility of using geothermal energy in selected localities in Poland was prepared in 2022–2023 for **the 4 localities** where these visits took place. Contains **4 parts**: Part A. Konin; Part B. Chochołów; Part C. Koluszki; Part D. Circle.

Each part of the Report contains the results of analyses and research as well as proposals for the optimal use of geothermal energy in heating, as well as for other purposes, increasing energy efficiency, innovative solutions, pilot projects, results of sociological and economic analyses, conclusions, and recommendations for a particular locality. The study takes into account the knowledge, methods, experience, technologies used by the Icelandic partners, as well as the experience and proposals of the Polish side. They are presented from the perspective of the Project partners – the authors of these studies, who proposed to consider them and introduce them into practice, as complementing or extending the already existing solutions and completed projects.

The main results, conclusions and recommendations contained in the 4 Reports were presented and discussed during meetings of the IGSMiE PAS and NEA teams with representatives of the above-mentioned entities. The 4 reports contain a total of about **300 pages**, which consists of texts (including summaries, conclusions, recommendations for each locality), figures and tables. The reports were forwarded to the entities for which it was prepared.

In the opinion of the representatives of all the localities for which the Report was prepared, it is very useful both for the geothermal projects already underway, as well as for further planned works and the possibility of extensive use of geothermal energy and waters.

Information & communication

Information and communication activities included e.g. press releases, leaflets, roll-ups, a website, dissemination during conferences and other national and international events, publication of articles in popular science and scientific journals. **3 events were organized for the inauguration and summary of the Project (2021, 2024)**. Information about the Project and the role of the EEA MF in supporting the development of geothermal energy was presented at **20 conferences, congresses, other national and international events** – including m.in Geothermal Congresses: World (2023), European (2022), National (2021, 2023), Geothermal Round Table – an international event organized by the Geothermica initiative (2023), as well as the World Summit on the Role of Geothermal (2024). About **30 presentations and posters** on the Project were presented. Nearly **40 articles, abstracts and press reports** have been published. By the end of 2023, about **2200 visits to the Project's website** had been recorded.

Reports

Several reports and other materials have been elaborated during the Project:

- Manual (250 pages), Information materials for Training Activities in Poland
- Reports from Expert Study Visits in Poland:
 - Part A. Konin (2022)
 - Part B. Chochołów (2022)
 - Part C. Koluszki (2023)
 - Part D. Koło (2023)
- Final Conference materials - Project Summary
- Final report

These reports can be found here:

[English versions here](#)

[Polish versions here](#)

Contribution of the Project and the EEA MF to supporting the use of geothermal energy in Poland and the development of Polish-Icelandic cooperation

The KeyGeothermal project was a joint effort of its partners, addressees, many people, and entities involved. It brought many results, made it possible to deepen knowledge in the field of geothermal energy and knowledge of practical examples, technologies, facilitated the flow of information and experience, joint research and analysis, better understanding of the specifics of geothermal sectors in Poland and Iceland, approach to research and investment. It has convinced many people to use geothermal energy and strengthened their motivation to undertake projects in this area. It also contributed to further progress in the development of cooperation between specialists and institutions from both countries.

Partners and experts emphasized that thanks to the Project they were able to share their knowledge and experience with people who need them and will benefit from them. The Icelandic partners were presented with a reliable picture of the energy sector, including district heating, in Poland, as well as many actions taken at various levels to reduce its emissions and introduce renewable energy sources, including geothermal energy. They also learned about modern solutions in the field of municipal management, innovative projects for the development of the power industry.

The achievements of the Project deserve attention even more because it was implemented mostly during the covid-19 pandemic, with all the restrictions and difficulties of this period, inflation, and other accompanying circumstances. Despite this, thanks to a lot of efforts, great commitment of partners, the Programme operator and the supporting institution, many people, entities, and decisions of the Office of the EEA MF and NMF – it was implemented. It should be added that some of its effects even exceeded the assumed level and indicators.

The beginnings of Polish-Icelandic cooperation in the field of geothermal energy

At this point, it is worth pointing out the beginnings of cooperation between the two countries in geothermal projects financed by the EEA MF and NMF: they date back to 2016–2017, when the first three predefined projects were implemented with the participation of teams from Iceland and Polish (in one of them partners from Norway and the European Geothermal Energy Council also participated); www.eeagrants.agh.edu.pl, www.pgi.gov.pl/geothermal4pl. In addition the projects [Geothermal Energy Utilisation Potential in Poland – town Poddebice : Study Visits' Report](#) and [Geothermal energy – a basis for low-emission space heating, improving living conditions and sustainable development – preliminary studies for selected areas in Poland : Study Visit's Report](#) were conducted. These projects paved the way for geothermal energy in the bilateral and regional programmes of the third edition of the EEA and NMF MF, 2014-2021. Among them was the predefined KeyGeothermal Project – an important element in supporting government programs intended for investments aimed at increasing the use of geothermal energy in heating in Poland.

Conclusion: *"Please run the project "Follow up KeyGeothermal"*

Thanks to the Project, the largest training activities in the field of geothermal energy to date in Poland, have been carried out for people representing a wide range of stakeholders in Poland – at an important moment for the industry, as it is at the beginning of its wider development thanks to the support available from the largest national and international programs to date.

Moreover, also in the face of significant challenges to local energy security, maintaining socially acceptable energy prices, etc. A large number of participants of training courses in Poland and participants of study visits to Iceland, expert visits and specialist reports, a manual, information materials, other measurable and non-measurable effects – this is an indisputable confirmation of the importance and legitimacy of the implementation of the Project. In this way, it has also made an important contribution to the achievement of the objectives of the EEA MF 2014-2021, the Environment, Energy and Climate Change Programme.

We hope that the knowledge and experience gained thanks to the Project will contribute to the successful implementation of geothermal projects in Polish towns and municipalities, as well as to the

growth of knowledge and acceptance. We are glad that the Project has facilitated closer cooperation between municipalities, towns, and companies from Polish and Iceland.

This indicates the need for further similar projects, even more so because geothermal energy should be one of the main areas of cooperation between Polish and Iceland both within the EEA MF and NMF, as well as under other programs and initiatives. This is very aptly expressed by one of the participants in the final conference: *"I would like to ask you to launch the project "Follow up KeyGeothermal"*.

Beata Kępińska, Aleksandra Kasztelewicz, Magdalena Tyszer and team (Institute of Mineral and Energy Management, Polish Academy of Sciences), Baldur Pétursson and team (National Energy Agency of Iceland)

The text presents the project "Capacity building of key stakeholders in the field of geothermal energy". The project is financed by the European Economic Area Financial Mechanism under the Environment, Energy and Climate Change Programme for 2014-2021, in the Energy programme area. Project Agreement Number: 2023/2020/WN10/OA-XN-12-pp/D of 21/12/2020 and Annex No. 1 to Agreement 2023/2020/Wn10/OA-XN-12-pp/D-01

For more information about the Project please visit: keygeothermal.pl