Iceland Liechtenstein Norway grants

”Geothermal energy: a basis for low-emission heating, improving living conditions and sustainable development – pre-feasibility studies for selected areas in Poland”:

the EEA Project overview

Beata Kępińska, Dr. Sc.

Mineral & Energy Economy Research Institute
Polish Academy of Sciences (MEERI PAS)

Study Visit to Norway – Seminar, Bergen, 10.10.2017

Project proposal – basic information

- Project Beneficiary - Poland:

  - Mineral & Energy Economy Research Institute, PAS (leader)
    in consortium with:
    AGH-University of Science & Technology, Wrocław University of Technology

- Project Partners - Donor countries:

  - Christian Michelsen Research – Norway
    (and: Sveco Norge AS, Norwegian University of Science & Technology)
  - National Energy Authority, NEA – Iceland

- Project Partner: European Geothermal Energy Council

  All Project Partners – main bodies in geothermal activities in their countries

- Towns representative for selected areas in Poland:

  Konstantynów Łódzki, Poddębice, Sochaczew, Lądek Zdrój

Project proposal – basic information

- Project duration: 7 July – 31 October
- Project budget: 3 003 509.42 PLN (716 706.29 Euro)

The Project paves the way for long-awaited Polish – Norwegian – Icelandic cooperation in geothermal sector in the framework of the EEA/NG mechanism in the coming years

Project objectives

- Exchange, transfer of knowledge, experiences /best practices of geothermal energy (RES) use for heating the buildings, energy saving and efficiency from Norway and Iceland to Poland

- Contribution to an early stage development, capacity building, networking, awareness of geothermal (RES), energy saving, low-carbon economy in Poland. This will be achieved on a basis of comprehensive studies for 4 towns representative for selected areas in Poland (Central Poland, Sudetes region)

- The Project meets perfectly the criteria of Bilateral Cooperation Fund, Operational Programme PL04 '*Saving energy and promoting renewable energy sources'*

- PL04 offers an unique opportunity for 'geothermal' cooperation among Norway, Iceland and Poland

Main Project Tasks

1. Study Visit to Poland					
2. Study Visit to Norway					
3. Study Visit to Iceland					
4. Technical reports from Study Visits					
5. Study Visits' Report					
6. Dissemination					
7. Project management and promotion					

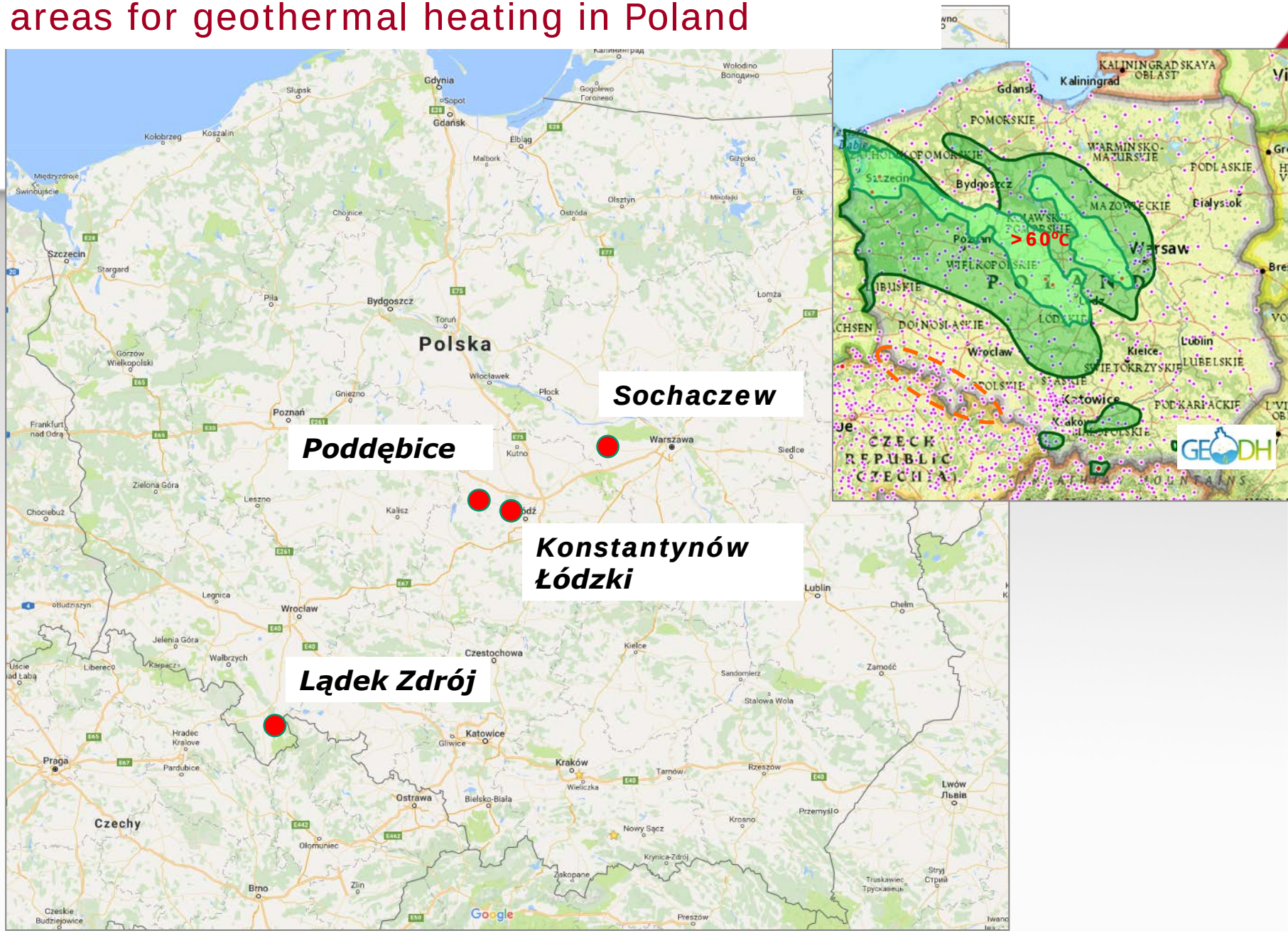
Main Project outcome

- **Study Visits' Report** – based on comprehensive works and analyses covering a wide range of geological, reservoir, thermal, exploitation, energetic, economic, ecologic aspects for 4 towns representative for study areas – pre-feasibility studies of geothermal energy uses (RES) for low-emission heating, increased energy saving, efficiency, etc.

- Study Visits Report will contain proposals of pilot projects of optimal geothermal uses for low-emission space heating, other applications combined with energy efficient local development in Poland thanks also to implementation of Norwegian and Icelandic best practices solutions - to be considered for next EEA/NF funding period dedicated to Poland.

This Report (as all other tasks) will be jointly developed
by all Project Partners – both from Beneficiary and from Donor states

Selected towns and map of most prospective areas for geothermal heating in Poland



Poddębice:

Prospects / plans for geothermal district heating in whole town and several other uses.

Need for: increase energy saving/efficiency (wider uses, heat pumps, optimisation of heating systems, etc.)

Photo: Poddebice Town Council

Konstantynów Łódzki:

Prospective reservoir parameters.

Geothermal energy planned to supply heat to this town, part of nearby Łódź agglomeration (warm tap water), heat pumps' usage, etc. Awaiting decision for funding geothermal exploration well

Photo: Konstantynów Town Council

Sochaczew:

Prospective reservoir parameters.

Geothermal energy planned to supply district heating in the town, several other uses, other RES.

Decision for funding geothermal exploration well – Sept'17

ATES / UTES systems to be analysed (energy storage, saving, efficiency)

Photo: Sochaczew Town Council

Lądek Zdrój:

The oldest health resort in Poland (13th century)

Prospective reservoir parameters – geothermal exploration well approved for fnding, Sept 2017.

Geothermal energy planned for heating systems in the town /ecology!!! – replace old coal systems/, several other uses also with other RES). Energy cluster.

Important: stable geothermal aquifer exploitation for spa, heating the buildings, other uses

Photo: Lądek Zdrój Town Council

Bilateral aspects of the Project

- **Norway:** among European top states in heat pumps development (incl.geothermal HPs Great experience in that field. Pioneering also the ATES/UTES technologies. Using Norwegian expertise is essential to elaborate topics planned in the Project.
- **Iceland:** European/world leader in geothermal uses for heating (other uses) and in related activities (eg. drilling, reservoir, energetic, ecologic, etc. aspects) Great experience in that fields - essential to elaborate topics planned in Project.

  Results in Norway and Iceland: low-emission heating, high quality of life, energy saving, effective energy management, sustainable local development
- **Poland:** prospective potential but geothermal heating is at early stage – hence the need to make use of Norwegian and Icelandic experience and succesfull examples to enhance introduction of geothermal heat and energy efficiency measures into the buildings.

Bilateral aspects of the Project, cont.

- **Polish beneficiary** will obtain a valuable opportunity to work with partners from Norway and Iceland - leaders in the use of the Earth's heat applying various innovative technologies, energy efficiency and low-carbon heating
- **Norwegian and Icelandic partners** will benefit from the Project by, inter alia, gaining common knowledge, experience on geothermal and heating conditions and technologies in Poland / Central Europe what will strenghteen their position in further projects in that countries, etc.
- **Project acts as a platform to strenghteen bilateral relations** for cooperation and next geothermally-oriented projects with implementation of best Norwegian, Icelandic and Polish solutions.

Bilateral aspects – roles of the Donor Partners

- **Norwegian and Icelandic Partners** cooperate with other Partners and **participate each Project task / many subtasks** giving essential inputs, eg.:

  - organisation and participation of Study visits,
  - developing a number of topics and analyses applying examples of technologies and solutions relevant for Poland,
  - analyses for selected towns, and proposals for pilot installations in the future,
  - elaboration of Study Visits' Report (main Project outcome),
  - promotion and dissemination activities (eg. participation the conferences, common article, etc.),
  - project management

  The cooperation is a key for successful Project realisation

Prospects for Polish – Norwegian – Icelandic cooperation in framework of EEA/NFM funds

In the Partners' countries

the-so-far geothermal uses have resulted in positive energetic,

environmental, social and other effects.

Even though Polish energy sector is based on traditional energy resources

there are many opportunities for geothermal development

and

for cooperation with Norway and Iceland

specially in the framework of the EEA / NFM

The proposed Project paves the way for such long-awaited cooperation

MANY THANKS FOR KIND ATTENTION !

AGH

ORKUSTOFNUN
National Energy Authority

EGEC
GEOTHERMAL