Cooperation between European countries through the

Geothermal ERA NET

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Meeting Location: Moravske Toplice,
VENUE: Hotel Livada Prestige

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Budget of the Geothermal ERA NET: € 2.2 mln (2012-2016)
Geothermal ERA-NET Consortium

Lead partner is Orkustofnun operating the Geothermal ERA NET Coordination Office

Good geographical balance (North-West to South-East Europe) Partner countries chosen a.o. on basis of their 2020/2050 geothermal ambitions

IS Orkustofnun (National Energy Authority, Iceland)
NL Rijksdienst voor Ondernemend Nederland
CH Swiss Federal Office of Energy (SFOE)
I National Research Council of Italy (CNR)
D Jülich (PTJ)
F ADEME (BRGM as third party)
IS Icelandic Centre for Research (RANNÍS)
TR TÜBITAK (Scientific and Technological Research Council of Turkey)
SVK Slovak Ministry of Education, Science, Research and Sport
MFIG Hungarian Geological and Geophysical Institute
SED Slovenian Energy Directorate
EAD Electricidade dos Acores
Three important EU pillars to strengthen the geothermal sector in Europe

Industry

Public authority

Research
Objectives

- Recognize barriers and recommend practical solutions
- Exchange information “Infex”
- European Geothermal Information Platform “EGIP”

Recommend measures

Prepare the ground for the formulation of a common European action plan for geothermal energy technology research, development, deployment and innovation supported by member states

Prepare and implement Joint Activities (e.g. transnational funding activities)

Communicate with principal stakeholders and enhance public awareness
The Main Geothermal Problems

Factors deemed of high importance as contributors to a lack of human resources within the geothermal sector. Educational factors are coloured green, policy/sectorial factors red and industry factors purple.

Unclear vision on geothermal issues at the European level - 33% Important
Lack of commitment to the geothermal sector by national government - 31% Important
Lack of collaboration and coordination between stakeholders (e.g. industry, academia) - 18% Important
Lack of continuous education within the sector - 13% Important
Too few geothermal training opportunities - 12% Important
Unappealing operational environments for companies within the geothermal sector - 11% Important
Lack of appropriate trainers - 11% Important
Lack of national collaboration and coordination between educational and training... - 10% Important
Lack of training opportunities for individuals within similar sectors that want to relocate... - 10% Important
Unappealing image of the geothermal sector - 9% Important
Too few geothermal courses at the tertiary level - 9% Important
Unappealing working conditions of employees within the geothermal sector - 9% Important
Lack of staff mobility opportunities - 8% Important
Lack of international collaboration and coordination between educational and training... - 8% Important
Little variety of geothermal courses at the tertiary level - 4% Important
Lack of student mobility opportunities - 4% Important
Little variety when it comes to geothermal training opportunities - 4% Important

Unclear vision and lack of cooperation is one of the biggest problem for the geothermal sector - including regarding financing.
Objective and Task – Preparing Next Steps

Analysis -> Assessments -> Joint Activities -> Implementation -> Future Policy

WP1 – ICELAND
Coordination, Management & Dissemination

WP2 – NETHERLANDS
Information exchange on national incentives and status of geothermal energy

WP3 – ITALY
Towards a EU Geothermal Database

WP4 – GERMANY
Development of joint activities

WP5 – SWITZERLAND
Engaging with stakeholders

WP6 – ICELAND
Transnational Mobility & Training

WP7-ITALY
Implementation of joint activities

Evaluation, Assessment, Coordination

Policy Formulation and Proposal

ERA NET Cofund

SET PLAN input
2012-2013
Information gathering and exchange
• D 2.1: Geothermal Energy status and policy review
  D 2.2: Inventory of RD&D project highlights
• D 3.1: Report on the state of the art and needs in regarding geothermal data and existing tools to manage them
• D 5.1: Report with the inventory of principal stakeholders & classification of stakeholders on national level
• D 5.2: Report including the inventory and classification of stakeholders on European level
• D 6.1: Report with an inventory of existing mobility and training programmes

2013-2014
Information Analysis
• D 2.3: Technical and non technical barriers & opportunities
• D 2.4: RD&D needs
• D 3.2: Feasibility study for EGIP
• D 5.3: Communication plan with key messages to principal European and national stakeholders

2014-2015
Development of Joint Activities
• D 2.5: Actions to bridge gaps, overcome barriers and promote the use of geothermal energy in Europe
• D 4.1: Report on possible schemes and barriers for the joint activities
• D 4.2: Report on common interests & Action plan for joint activities

2015-2016
Implementation of Joint Activities
• D 3.3: Report on the implementation of the EGIP
• D 7.1: Report on developed tools for joint activites
• D 7.2: Proposals for transnational activities
• D 7.3: Analysis report with proposals on future programme collaboration (incl. stakeholder collaboration)
Joint Activities – Several Actions are in the process of implementation

As a result 7 Joint Activities (JA) on different topics were proposed:

- **NWW** – New ways of working: Financial Instruments and Funding of RD&D and Geothermal Projects
- **OpERA** – RD&D Knowledge Exchange on operational issues of geothermal installations in Europe
- **PRGeo** - RD&D Knowledge Exchange on public relations for geothermal energy
- **New Concepts** for geothermal energy production and usage
- **ReSus** - RD&D Knowledge Exchange on reservoir sustainability
- **Tuning EGIP** (European Geothermal Information Platform) for target users, EGIP expert group.
- **Geostat** - Towards Consistency of geothermal data
All Deliverables and Joint Activity Reports are published at: www.geothermaleranet.eu
Follow-up: GEOTHERMICA ERA-NET Co-fund

• ERA-NET Cofund Action GEOTHERMICA (2017-2021)
• 16 «Research Program Owners and Managers» from 13 European countries
• Targeted funds for 1st Call: € 25-30 million (33% EU contribution, 67% input from partners)

• «Transnational Call» for Pilot- and Demonstration Projects with very strong industry participation
• Target «Direct use & power generation embedded in an energy system» - more specified during the Call
• Decision of the European Commission expected for Q4-2016
• 1st Call (to be launched and evaluated by GEOTHERMICA): Q2-2017 (two-stage process: 1) project concept, 2) full proposals; award of contracts mid-2018)
GEOTHERMICA – Geothermal ERA NET Cofund

National commitment ~22M€

EC contribution “top up” ~8M€

Estimated industry contribution ~30M€
GEOTHERMICA contribution to Energy Union and the SET Plan Integrated Roadmap

SET Plan Integrated Roadmap (13 themes)
- T10: Development of renewables
- T8: System flexibility
- T1: Engaging consumers
- T2: Smart technologies for consumers
- T6: Modernising the electricity grid
- T7: Energy storage
- T8: System flexibility
- T9: Smart cities & communities
- T3: Energy efficiency in buildings
- T4: Energy efficiency in heating & cooling
- T5: Energy efficiency in industry & services
- T7: Energy storage
- T13: Biofuels, fuel cells & hydrogen, alternative fuels
- T11: Carbon capture storage/use
- T12: Nuclear energy
- 9. CCS/U
- 10. Nuclear Safety

ENERGY UNION R&D & Competitiveness priorities
- N°1 in Renewables

SET Plan (10 key actions)
1. Performant renewable technologies integrated in the system
2. Reduce costs of technologies
3. New technologies & services for consumers
4. Resilience & security of energy systems
5. New materials & technologies for buildings
6. Energy efficiency for industry
7. Competitive in global battery sector (e-mobility)
8. Renewable fuels
Giving the Geothermal Sector in Europe the tools and support it needs to grow and prosper...

Let’s take off …

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