



**Geothermal**  
ERA-NET

# Project website



D1.1

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## Project website

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**Number D1.1**



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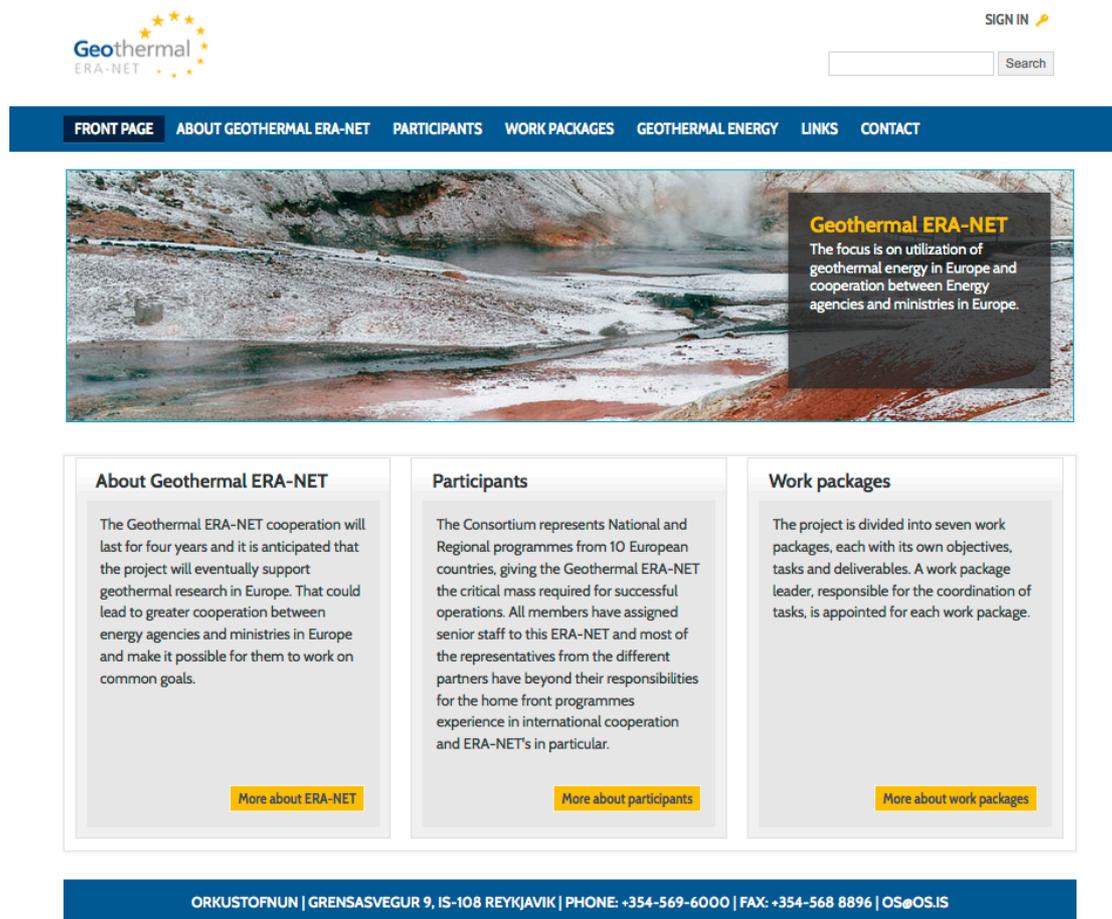
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**Abstract:**  
Description of the Website for Geothermal ERA-NET

<b>Keywords:</b>	<b>Signature</b>
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The website for Geothermal ERA-NET was opened on September 14, 2012. The website is written in a system called Eplica.

On the front page of the website: [www.geothermaleranet.is](http://www.geothermaleranet.is), there are general information about the ERA-NET, participants and work packages. There is a sign in button where you can sign into a SharePoint website that is only open to the participants of the projects. On the SharePoint website the participants can share documents and work together.



On the bottom of the page there is information about the coordinator, the address, phone, and email.

On the front page there are six main buttons: About Geothermal ERA-NET, Participants, Work packages, Geothermal Energy, links and contact.

**About Geothermal ERA-NET:** General information about the project such as the time frame, focus and objectives.

**Geothermal ERA-NET**

The Geothermal ERA-NET cooperation will last for four years and it is anticipated that the project will eventually support geothermal research in Europe. That could lead to greater cooperation between energy agencies and ministries in Europe and make it possible for them to work on common goals.

Geothermal ERA-NET is different from other conventional research projects since in this case the grant is for cooperation and coordination of the research plan of the countries involved but not for direct research. The Geothermal ERA-NET is the first step towards a coordinated research in the EU through the so-called SET-plan (European Strategic Energy Technology Plan).

The Geothermal ERA-NET aims to interact with international programs that foster cooperation in the areas of geothermal energy. In particular, some of the principal actors of the Geothermal ERA-NET (Iceland, France, Germany, and Switzerland) represent their countries in the International Energy Agency's Geothermal Implementing Agreement (IEA GIA) comprising 24 member countries and sponsors. The IEA GIA provides a platform to raise awareness and share knowledge on a wide range of activities related to the utilization of medium to high enthalpy geothermal resources. A more project oriented and focussed on Enhanced Geothermal Systems is the International Partnership on Geothermal Technology (IPGT) comprising the USA, Australia, Iceland and Switzerland. Like the IEA GIA, a few Geothermal ERA-NET actors (Iceland and Switzerland) are the government representatives in the IPGT's steering committee whose aims it is to coordinate RD&D activities in the IPGT countries.

**Participants:** General information about the participants with a list of countries. When clicking on a country each partner is introduced with a description of each agency.

**Partners**

**ERA NET PARTNERS**

The Consortium represents National and Regional programmes from 10 European countries, giving the Geothermal ERA-NET the critical mass required for successful operations. All members have assigned senior staff to this ERA-NET and most of the representatives from the different partners have beyond their responsibilities for the home front programmes experience in international cooperation and ERA-NET's in particular.

The geographical balance of the Geothermal ERA NET is quite good, stretching from the far North-West of Iceland down to the far South East of Turkey. It would however improve the impact of this ERA-NET if more National and Regional programmes would join it. Hence, expanding the consortium is an important task. Within WPI and with the assistance of the Project Supervisory Board the outreach strategy will be designed and we expect at least 2-3 extra programmes to join within the first year.

List of partners:

- Iceland - OS (Orkustofnun) (Coordinator)
- The Netherlands - Agenschap NL
- Switzerland - SFOE (Swiss Federal Office of Energy)
- Italy - CNR (The National Research Council of Italy)
- Germany - Jülich (Project Management Jülich)
- France - ADEME (French Agency for Environment and Energy Management), BRGM as third party of ADEME
- Iceland - RANNIS (Icelandic Centre for Research)
- Turkey - TUBITAK (Scientific and Technological Research Council of Turkey)
- Slovakia - MESRS (Ministry of Education, Science, Research and Sport of the Slovak Republic)
- Hungary - HGGI (The Energy Efficiency, Environment and Energy Information Agency)

**Work packages:** The work packages are introduced and explained with a picture. On the side there are buttons with each work package with further information.

**Work packages**

The project is divided into seven work packages, each with its own objectives, tasks and deliverables. A work package leader, responsible for the coordination of tasks, is appointed for each work package.

The work package leader, together with the project coordinator, is responsible for the activities of the relevant work package. The leader will report to the coordinator and the strategic management group about the work being performed and results of different activities. Work package leaders will be assisted in their roles by the secretariat.

**WP1 – ICELAND**  
Coordination, Management & Dissemination

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

**WP3 – ITALY**  
Towards a European Geothermal Database

**WP4 – GERMANY**  
Development of joint activities

**WP5 – SWITZERLAND**  
Engaging with stakeholders

**WP6 – ICELAND**  
Transnational Mobility & Training

**WP7 – ITALY**  
Implementation of joint activities

ERA NET+  
or other  
SET PLAN  
input

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**Geothermal Energy:** Information about Geothermal Energy and the potential in Europe.

**Geothermal Energy**

Geothermal energy is a renewable, clean and cost effective alternative to conventional fuels for heat and power generation. The source of the geothermal energy is the Earth's internal heat.

Geothermal energy is a renewable, clean and cost effective alternative to conventional fuels for heat and power generation. The source of the geothermal energy is the Earth's internal heat. Its constant reproduction of heat is caused by radioactive decay of minerals such as uranium, thorium and potassium in the Earth's crust and mantle. It emerges on the Earth's surface as flow of hot water and steam, naturally in hot springs and geysers or through man-made boreholes. According to the World Energy Assessment (2000), geothermal energy has the highest potential of technically harnessable renewables, estimated to be up to 5.000 EJ/year, compared to 1.575EJ/year for solar- and 540EJ/year for wind energy.

Geothermal energy can be used directly for heating and cooling purposes as well as power production. There are countless opportunities for using direct heat (20°C-150°C) originated from geothermal energy, such as heating homes, offices, and greenhouses, in aquaculture and food processing plants, and a variety of other applications. Iceland is well known to be a world leader in the use of geothermal district heating. After the Second World War, Orkustofnun carried out research and development, which has led to the use of geothermal resources for heating of households. Today, almost 90% of Iceland's houses and buildings are heated by natural hot water.

**Geothermal Energy in Europe**

There is a huge potential in Europe for direct use of geothermal energy, especially low enthalpy ones. According to data presented, by John W. Lund, at World Geothermal Congress 2010, Europe is the world leader in geothermal direct use. Geothermal energy is directly used in 32 European countries, accounting for over 40% of world's direct utilisation.

In addition to the low enthalpy potential several locations also contain high-temperature areas with steam fields where an underground temperature reaches 250°C within 1.000 m depth. These areas are often directly linked to the active volcanic systems. The rocks are geologically very young and permeable. As a result of the topography and high bedrock permeability, the groundwater table in the high-temperature areas is generally deep, and surface manifestations are largely steam vents. Hydrogen sulphide present in the steam tends to be oxidised at the surface by atmospheric oxygen, either into elemental sulphur, which is deposited around the vents, or into sulphuric acid, which leads to acid waters altering the soil and bedrock.

Temperatures in active, high-temperature systems generally follow the boiling point curve. The highest recorded downhole temperature is 386°C. Hydrological considerations and permeability data imply that the groundwater in the reservoir is undergoing a density driven vertical circulation. This groundwater is in most cases of meteoric origin. However, in some areas it is partly or solely ocean water.

**Links:** The links are categorized to make it easier to find relevant links.

**Contact:** Possible to contact the coordinator via the website.

**Login:** SharePoint website that is only open for the participants of the projects. A work space and place to share documents.

