



Report from expert exchange scheme

September, 2016

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Transnational Mobility and Training

D 6.3

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Executive summary

To run a traditional expert scheme was deemed to be unreasonable, but partners were encouraged to promote current exchange schemes, also by using the information on existing mobility and training programmes that were identified in previous reports of this work package.

Besides partner meetings where experts from the partnering countries were brought together, joint activities and workshops were organised with leading experts from Europe. Seven topics were selected to run as joint activities and three workshops conducted.

There are 12 European countries participating in the project and 25 experts from partner organizations involved in the project, thereof 12 leading experts. These experts, among others, participated in various activities and meetings during the lifespan of the network. There were a total of 20 activities that took place from May 2012 to May 2016, thereof 13 partner meetings and seven JA workshops and meetings.

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1 Introduction

1.1 About Geothermal ERA NET

The GEOTHERMAL ERA-NET is a network of Ministries and National Agencies from 12 European Countries, supported by the European Commission seeking to promote innovation and greater utilization of Geothermal Energy in Europe. The network will extend European cooperation on geothermal energy at national and administrative levels targeting improved integration of national RD&D programs and knowledge sharing. Iceland, the Netherlands, France, Switzerland, Germany, Italy, Hungary, Turkey, Slovakia, Portugal and Slovenia are working together in this ERA-NET to propel Geothermal Energy to a higher level in Europe. The project began in May 2012.

Table 1 Overview of partner organizations and lead experts

Partners	Country	Lead Expert
ORKUSTOFNUN (OS)	Iceland	Guðni A. Jóhannesson
MINISTERIE VAN ECONOMISCHE ZAKEN (RVO NL)	Netherlands	Paul Ramsak
FEDERAL DEPARTMENT FOR ENVIRONMENT TRANSPORTS ENERGY AND COMMUNICATION (SFOE)	Switzerland	Gunter Siddiqi
CONSIGLIO NAZIONALE DELLE RICERCHE (CNR)	Italy	Adele Manzella
FORSCHUNGSZENTRUM JUELICH GMBH (Jülich)	Germany	Stephan Schreiber
AGENCE DE L'ENVIRONNEMENT ET DE LA MAITRISE DE L'ENERGIE (ADEME)	France	Philippe Laglaige
THE ICELANDIC CENTRE FOR RESEARCH (Rannís)	Iceland	Sigurður Björnsson
TURKIYE BILIMSEL VE TEKNOLOJIK ARASTIRMA KURUMU (TUBITAK)	Turkey	Kaan Karaöz
Ministry of Education, Science, Research and Sport (MESRS)	Slovakia	Marta Cimbáková
MAGYAR FOLDTANI ES GEOFIZIKAI INTEZET (MFGI)	Hungary	Annamária Nador
GEOLOSKI ZAVOD SLOVENIJE (GeoZS)	Slovenia	Andrej Lapanje
EDA - ELECTRICIDADE DOS ACORES SA (EDA)	Portugal	Matilde Cunha

1.2 WP6 Transnational Mobility and Training

Geothermal research is largely based on geographical conditions and limitations. Work package 6 addresses transnational researcher's mobility and a common approach in training of research talent. In order to achieve the targets of geothermal research, adequate human

resources and human capacity have to be in place. A coordinated approach to research has to be supplemented by idea exchange and the development of a transnational approach to research training. This approach will likely take a bottom-up approach, i.e. from the national programmes already in place, and be account of European programmes and initiatives in human resources and development, in particular the EU Framework Programmes, future energy programmes and the various actions of the People programme. Work package 6 is divided into three tasks. Task 6.1 is on mapping of existing mobility and training programmes and Task 6.2 is on human resource identification of training needs and knowledge gaps. These reports have been published. This report is on Task 6.3 Expert exchange scheme.

1.3 Task 6.3 Expert Exchange Scheme

The purpose of the expert exchange scheme is to increase understanding about how research activities and policies have developed in those different circumstances by bringing together scientific experts and policy makers. Instead of organizing an expert scheme, that was deemed to be unreasonable to conduct, experts were brought together via joint activities and workshops, besides the committee meetings were experts from the partner countries met. The following report is an overview of activities during the lifespan of the network.

2 Activities

2.1 Partner meetings

There are 25 experts from partner organizations involved in the project, thereof 12 leading experts. These experts, among others, participated in various activities and meetings during the lifespan of the network. There were a total of 20 activities that took place from May 2012 to May 2016, thereof 13 partner meetings and seven JA workshops and meetings. 16 out of 25 experts from partner organizations participated in ≥ 7 meetings, thereof, 11 participated in ≥ 10 meetings. The rest participated in ≤ 6 meetings. The partner meetings were organized for experts to discuss progress, development, issues, priorities and next steps within the project as well as attending conferences and technical tours, such as by visiting geothermal sites.

2.1.1 1st Kick off meeting in Reykjavík, May 30th – 31st, 2012.

Participants introduces themselves to each other, discussed the general review of the project, practical issues related to finances and reporting to the EC, admission of the new Hungarian partner HGGI and admission of new partners in general. Participants discussed the work ahead and the objectives of the Work Packages. Orkustofnun organized a technical tour, for the participants to see and experience great examples on how geothermal energy is utilized in different ways in Iceland. The meeting closed with meeting conclusion and final decisions on next steps.

Table 2 Participant list for the 1st kick off meeting in Reykjavík.

Participants	1st Kick off meeting, Reykjavik
Annamária Nador, MFGI, Hungary	x
Danica Hudáková, MESRS, Slovakia	x
Elísabet Andrésdóttir, Rannís, Iceland	x
Erich Naegele, EC?	x
Gerdi Breembroek, RVO, Netherlands	x
Guðni A Jóhannesson, OS, Iceland	x
Gunter Siddiqi, SFOE, Switzerland	x
Hallgrímur Jónasson, Rannís, Iceland	x
Hannes Arnórsson, OS, Iceland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Igor Kocis, MESRS, Slovakia	x
Jónas Ketilsson, OS, Iceland	x
Kaan Karaöz, Tubitak, Turkey	x
Lothar Wissing, Jülich (ptj), Germany	x
Paul Ramsak, RVO, Netherlands	x

Petra Steinunn Sveinsdóttir, Iceland	x
Philippe Laplaige, ADEME, France	x
Ziya Çetiner,	x
Þorvaldur Bragason, OS	x
Total	19

2.1.2 2nd working meeting in Pisa, September 13th - 15th, 2012.

There were presentations on Work Packages, potential partners were discussed and the draft version of the website was presented. Þorvaldur Bragason presented few thoughts on data collection followed by a discussion among participants. Björn Víkingur Ágústsson introduced the first draft of a questioner to collect information on mobility and training and practicalities regarding the questioner was discussed. Adele Manzelle presented a general overview of the geothermal situation in Italy with a specific introduction on the Italian geothermal databases and datasets. Work Packages 2 and 5 were discussed. Next meetings were scheduled and next steps were discussed and approved. CNR organized a very interesting technical tour to the Ladarello geothermal area and to other interesting geothermal sites in Tuscany.

Table 3 Participant list for the 2nd Working meeting in Pisa.

Participants	2nd Working meeting, Pisa
Adele Manzella, CNR-IGG, Italy	x
Björn Víkingur Ágústsson, Rannís, Iceland	x
Chiara Boschi	x
Eugenio Trumpy, CNR, Italy	x
Guðni A Jóhannesson, OS, Iceland	x
Gunter Siddiqi, SFOE, Switzerland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Jean-Jacques Serrano	x
Jónas Ketilsson, OS, Iceland	x
Kaan Karaöz, Tubitak, Turkey	x
Lothar Wissing, Jülich (ptj), Germany	x
Lubos Slovak, MESRS, Slovakia	x
Paul Ramsak, RVO, Netherlands	x
Philippe Calcagno, BRGM, France	x
Rudolf Minder, SFOE, Switzerland	x
Þorvaldur Bragason, OS	x
Total	16

2.1.3 3rd working meeting in Reykjavík, March 4th - 5th, 2013.

The first day participants discussed general overview of the project and support schemes for geothermal power, information exchange on national incentives and status of geothermal energy. Each partner (except Slovakia) presented a country presentation giving country overview/highlights based on the answers from the WP2 questionnaire and selected geothermal projects. The meeting ended with meeting conclusion and final decision on next steps and participants attended the Iceland Geothermal Conference. On the second day participants discussed the WP3 questionnaire, preliminary results, the envisaged European Geothermal Background and next steps. There were various presentations which provided an overview on the running activities and the status of data organization among the European countries.

Table 4 Participant list for the 3rd Working meeting in Reykjavík.

Participants	3rd Working meeting, Reykjavik
Adele Manzella, CNR-IGG, Italy	x
Annamária Nador, MFGI, Hungary	x
Eugenio Trumpy, CNR, Italy	x
Gerdi Breembroek, RVO, Netherlands	x
Guðni A Jóhannesson, OS, Iceland	x
Gunter Siddiqi, SFOE, Switzerland	x
Hannes Arnórsson, OS, Iceland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Jan Diederik vanWess, TNO, Netherlands	x (guest)
Jónas Ketilsson, OS, Iceland	x
Kaan Karaöz, Tubitak, Turkey	x
Kirsty Crocket, EC	x (guest)
Lothar Wissing, Jülich (ptj), Germany	x
Manuela Richter, Jülich (ptj), Germany	x
Martino Lacirignola, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Philippe Calcagno, BRGM, France	x
Philippe Dumas, EGEC	x (guest)
Robert Tomas, JRC EU	x (guest)
Rudolf Minder, SFOE, Switzerland	x
Sigurður Björnsson, Rannís, Iceland	x
Thorsten Agemar, LIAG - Geotis, Germany	x (guest)
Þorvaldur Bragason, OS	x
Total	23

2.1.4 1st EGIP Roundtable meeting in Pisa, June 3th, 2013.

Participants discussed WP3 topics, the envisaged European Geothermal Platform and the final outcome of the WP3 questionnaire including information from all consortium partners. Eugenio Trumpy presented the roadmap to achieve the next WP3 deliverable on EGIP feasibility study and the main features regarding EGIP both on the contents and functionalities. Þorvaldur Bragason provided an overview of Icelandic geothermal information system as an example of geothermal information organization. Participants discussed stakeholders, and the reason of the EGIP implementation and participated in working activities related to the feasibility that would be developed in distinct stages.

Table 5 Participant list for the 1st EGIP Roundtable meeting in Pisa.

Participants	1 st EGIP Roundtable, Pisa
Adele Manzella, CNR-IGG, Italy	x
Annamária Nador, MFGI, Hungary	x
Eugenio Trumpy, CNR, Italy	x
Guðni A Jóhannesson, OS, Iceland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Isabella Nardini	x
Lothar Wissing, Jülich (ptj), Germany	x
Martino Lacirignola, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Philippe Calcagno, BRGM, France	x
Sigurður Björnsson, Rannís, Iceland	x
Þorvaldur Bragason, OS	x
Total	12

2.1.5 IRENA meeting in Pisa, June 4th 2013.

It was the first expert meeting on geothermal energy, alongside the European Geothermal Congress in Pisa, June 3rd – 7th. The hosts were CNR and Enel Greenpower. There was a presentation and discussion on The Global Atlas – IRENA – project history and development, data infrastructure, interface and tools and analysis of existing database identified by IRENA. There were presentations on data collection, existing geothermal data collected by the IGA information committee, added-value of the Global Atlas initiative in the context of Geothermal energy, followed by discussion chaired by IGA. There was group work where the participants worked as a group to further discuss the scope of the Global Atlas, datasets and

tools the Atlas should make available and then each group reported. The meeting ended with summary and conclusions.

Table 6 Participant list for the IRENA meeting in Pisa.

Participants	IRENA Meeting, Pisa
Adele Manzella, CNR-IGG, Italy	x
Annamária Nador, MFGI, Hungary	x
Eugenio Trumpy, CNR, Italy	x
Guðni A Jóhannesson, OS, Iceland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Isabella Nardini	x
Lothar Wissing, Jülich (ptj), Germany	x
Martino Lacirignola, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Philippe Calcagno, BRGM, France	x
Sigurður Björnsson, Rannís, Iceland	x
Þorvaldur Bragason, OS	x
Total	12

2.1.6 3rd Geothermal ERA NET General Assembly meeting in Budapest, September 9th – 10th, 2013.

Participants discussed the current status of the ERA NET work and the involvement and participation of potential newcomers to the project. There was a presentation on issues related to periodic activity and management reports for the EC among common errors in cost claims and how to avoid them. There was discussion on the feasibility study for a European Geothermal Database, Work Packages were presented and discussed and Rudolf Minder led a discussion on the classification of stakeholder on European level and communication plan followed by discussion on next steps.

Table 7 Participant list for the 3rd GA meeting in Budapest.

Participants	3rd GA meeting, Budapest
Adele Manzella, CNR-IGG, Italy	x
Annamária Nador, MFGI, Hungary	x
Björn Víkingur Ágústsson, Rannís, Iceland	x
Eugenio Trumpy, CNR, Italy	x
Gerdi Breembroek, RVO, Netherlands	x
Guðni A Jóhannesson, OS, Iceland	x
Hannes Arnórsson, OS, Iceland	x

Jónas Ketilsson, OS, Iceland	x
Kaan Karaöz, Tubitak, Turkey	x
Lubos Slovak, MESRS, Slovakia	x
Manuela Richter, Jülich (ptj), Germany	x
Martino Lacirignola, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Rudolf Minder, SFOE, Switzerland	x
Sigurður Björnsson, Rannís, Iceland	x
Stephan Schreiber, ptj/Jülich, Germany	x
Total	16

2.1.7 6th Working meeting, in Gstaad, March 11th – 12th, 2014.

The first reporting period was discussed and financial status. Participants determined meeting plans and presented and discussed the Work Packages.

Table 8 Participant list for the 6th Working meeting in Gstaad.

Participants	6th Working meeting, Gstaad
Adele Manzella, CNR-IGG, Italy	x
Andrej Lapanje, GeoZS, Slovenia	x
Annamária Nador, MFGI, Hungary	x
Björn Víkingur Ágústsson, Rannís, Iceland	x
Eugenio Trumpy, CNR, Italy	x
Gerdi Breembroek, RVO, Netherlands	x
Guðni A Jóhannesson, OS, Iceland	x
Gunter Siddiqi, SFOE, Switzerland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Jónas Ketilsson, OS, Iceland	x
Kaan Karaöz, Tubitak, Turkey	x
Lubos Slovak, MESRS, Slovakia	x
Manuela Richter, Jülich (ptj), Germany	x
Martino Lacirignola, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Philippe Calcagno, BRGM, France	x
Rudolf Minder, SFOE, Switzerland	x
Sigurður Björnsson, Rannís, Iceland	x
Stephan Schreiber, ptj/Jülich, Germany	x
Total	19

2.1.8 7th Working meeting took place in Trieste, September 10th, 2014.

Guðni A. Jóhannesson started with a short introduction to the Bráðarbunga volcanic eruption, welcomed new partners and gave an overview of the project status. There was an introduction

to the Project Review and presentation of the experts from the EC. Then participants discussed the status of the Work Packages. Adele Manzella gave an overview of what needs to be done on the implementation of joint activity. Subsequently Eugenio Trumpy presented the status and implementation of EGIP pilot, what problem should it solve and who should use it. Participants went over project review, discussion, summary and main findings of future policy. The meeting ended with summary and final remarks.

Table 9 Participant list for the 7th Working meeting in Trieste.

Participants	7th Working meeting, Trieste
Adele Manzella, CNR-IGG, Italy	x
Andrej Lapanje, GeoZS, Slovenia	x
Annamária Nador, MFGI, Hungary	x
Baldur Pétursson, OS, Iceland	x
Christian Boissavy, expert reviewer - EC, AFIG, France	x (guest)
Eugenio Trumpy, CNR, Italy	x
Gerdi Breembroek, RVO, Netherlands	x
Guðni A Jóhannesson, OS, Iceland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Isabella Nardini	x
Jaap 'T HOOFT, expert reviewer, EC	x (guest)
Kaan Karaöz, Tubitak, Turkey	x
Maria Matilde Cunha, EDA, Portugal	x
Paul Kaajk, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Philippe Calcagno, BRGM, France	x
Sigurður Björnsson, Rannís, Iceland	x
Stephan Schreiber, ptj/Jülich, Germany	x
Susanna Galloni, EC project officer for the geothermal ERA NET	x (guest)
Þorvaldur Bragason, OS	x
Total	20

2.1.9 PSB meeting (Supervisory Board Meeting) in Leiden, December 4th, 2014.

The technical review of the ERA NET was discussed thoroughly as well as the reaction of the coordinator. Three issues were discussed most: commitments of partners and amendments of GA, quality of reports and cooperation beyond the ERA NET. Decisions were made by participants regarding these issues. The proposed activities were discussed and decision taken on leaders and participants in the activities. Participants went over the time-plan and next steps and the development and prioritization of Joint Activities.

Table 10 Participant list for the PSB meeting in Leiden.

Participants	PSB Meeting, Leiden
Adele Manzella, CNR-IGG, Italy	x
Andrej Lapanje, GeoZS, Slovenia	x
Annamária Nador, MFGI, Hungary	x
Gerdi Breembroek, RVO, Netherlands	x
Guðni A Jóhannesson, OS, Iceland	x
Gunter Siddiqi, SFOE, Switzerland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Kaan Karaöz, Tubitak, Turkey	x
Lubos Slovak, MESRS, Slovakia	x
Maria Matilde Cunha, EDA, Portugal	x
Paul Kaajk, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Sigurður Björnsson, Rannís, Iceland	x
Stephan Schreiber, ptj/Jülich, Germany	x
Susanna Galloni, EC project officer for the geothermal ERA NET	x
Total	15

2.1.10 8th Working meeting in Offenburg, March 4th, 2015.

The theme of the meeting was discussion and decision on an action plan for the Joint Activities as well as reminding partners to deliver the pending deliverables. The meeting approved a plan for action and critical next steps were identified.

Table 11 Participants list for the 8th Working meeting in Offenburg.

Participants	8th Working meeting, Offenburg
Andrej Lapanje, GeoZS, Slovenia	x
Baldur Pétursson, OS, Iceland	x
Eugenio Trumpy, CNR, Italy	x
Florence Jaudin, BRGM, France	x
Gerdi Breembroek, RVO, Netherlands	x
Gregor Götze, GBA/BGR, Austria	x
Guðni A Jóhannesson, OS, Iceland	x
Gunter Siddiqi, SFOE, Switzerland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Kaan Karaöz, Tubitak, Turkey	x
Katharina Link, SFOE/DR. Roland Wyss GmbH, Switzerland	x
Lothar Wissing, Jülich (ptj), Germany	x
Manuela Richter, Jülich (ptj), Germany	x
Maria Matilde Cunha, EDA, Portugal	x

María Guðmundsdóttir, OS, Iceland	x
Martino Lacirignola, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Rudolf Minder, SFOE, Switzerland	x
Sigurður Björnsson, Rannís, Iceland	x
Stephan Schreiber, ptj/Jülich, Germany	x
Susanna Galloni, EC project officer for the geothermal ERA NET	x
Total	21

2.1.11 Annual Geothermal ERA NET meeting in Brussels, October 6th – 7th, 2015.

The theme of the meeting was discussion and decision on future development of Joint Activities and joint calls. As well as introducing the last periodic report and financial status. Stephan Schreiber gave an overview on the development of Joint Activities and the seven Joint Activities were presented by the JA leaders.

Table 12 Participants list for the Annual meeting in Brussels.

Participants	Annual meeting, Brussels
Adele Manzella, CNR-IGG, Italy	x
Andrej Lapanje, GeoZS, Slovenia	x
Annamária Nador, MFGI, Hungary	x
Baldur Pétursson, OS, Iceland	x
Christian Minnig, swisstopo, Switzerland	x
Gerdi Breembroek, RVO, Netherlands	x
Guðni A Jóhannesson, OS, Iceland	x
Gunter Siddiqi, SFOE, Switzerland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Kaan Karaöz, Tubitak, Turkey	x
Luis Valentin	x
Manuela Richter, Jülich (ptj), Germany	x
Maria Matilde Cunha, EDA, Portugal	x
Martino Lacirignola, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Sigurður Björnsson, Rannís, Iceland	x
Stephan Schreiber, ptj/Jülich, Germany	x
Susanna Galloni, EC project officer for the geothermal ERA NET	x
Total	18

2.1.12 Geothermal ERA NET working meeting in Ankara, Turkey, February 29th - March 1st, 2016.

The meeting began with a short presentation on the status of the ERA NET. Progress and development of Joint Activities was presented and the seven JA were introduced with a special focus on the JA2 OpERA and EGIP. Kaan Karaöz gave a short presentation on Tubitaks involvement in Horizon 2020 projects and Dr. Siir Kilkis gave a comprehensive country overview of Turkey's involvement in geothermal and the latest developments. The remaining part of the meeting was devoted to the preparation of continued cooperation on geothermal through the GEOTHERMCIA Cofund action.

Table 13 Participants list for a working meeting in Ankara.

Participants	Ankara meeting
Andrej Lapanje, GeoZS, Slovenia	x
Birol Kilkis	x
Gerdi Breembroek, RVO, Netherlands	x
Guðni A Jóhannesson, OS, Iceland	x
Gunter Siddiqi, SFOE, Switzerland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Isabel Cabrita, athuga dgeg.pt	x
Kaan Karaöz, Tubitak, Turkey	x
Martino Lacirignola, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Sigurður Björnsson, Rannís, Iceland	x
Siir Kilkis	x
Stephan Schreiber, ptj/Jülich, Germany	x
Total	13

2.1.13 Geothermal ERA NET meeting in Hveragerði, Iceland, April 25th – 26th, 2016.

The meeting started, as usual, with a short presentation on the status of the ERA NET and information on updated deliverable deadlines and budget. Participants discussed progress and development of Joint Activities and project leaders gave presentations on the status and overview of each JA.

Table 14 Participants list for a meeting in Hveragerði.

Participants	Hveragerði Meeting, Iceland
Adele Manzella, CNR-IGG, Italy	x
Alicja Wiktoria Stoklosa, OS/Startup Energy Reykjavík, Iceland	x
Andrej Lapanje, GeoZS, Slovenia	x
Annamária Nador, MFGI, Hungary	x
Baldur Pétursson, OS, Iceland	x
Eugenio Trumpy, CNR, Italy	x
Guðni A Jóhannesson, OS, Iceland	x
Gunter Siddiqi, SFOE, Switzerland	x
Hanna Björg Konráðsdóttir, OS, Iceland	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Jón Ásgeir H. Þorvaldsson, OS, Iceland	x
Jón Ragnar Guðmundsson, OS, Iceland	x
Jónas Ketilsson, OS, Iceland	x
Kaan Karaöz, Tubitak, Turkey	x
María Guðmundsdóttir, OS, Iceland	x
Martino Lacirignola, ADEME, France	x
Paul Ramsak, RVO, Netherlands	x
Philippe Calcagno, BRGM, France	x
Sigurður Björnsson, Rannís, Iceland	x
Steinunn S. Jakobsdóttir, Rannís, Iceland	x
Stephan Schreiber, ptj/Jülich, Germany	x
Susanna Galloni, EC project officer for the geothermal ERA NET	x
Þorvaldur Bragason, OS	x
Total	23

2.2 Joint Activities

A key strategy of the GEOTHERMAL ERA-NET is the development of Joint Activities to enhance transnational information exchange and knowledge development in order to tackle key challenges and opportunities. The purpose of Joint Activities is to analyze common practices and opportunities. Seven topics were selected and developed further within the steering committees of the individual JA Working Groups. The topics selected were: New Concepts, EGIP (European Geothermal Information Platform, New Ways of Working, GeoStat (International Collection of Geothermal Energy Statistics), OPERA (Operational

Issues of Geothermal Installations), PRGEO (Public Relations for Geothermal Energy) and ReSus (Specific Geothermal Properties in Reservoir Sustainability). There were four JA meetings organized, where partners and other experts discussed the progress and development of the Joint Activities. There were three JA workshops where speakers presented the status of Joint Activities followed by a roundtable discussion among invited experts. These three workshops constitute the main activities in terms of expert exchange outside of the partner group.

2.2.1 JA GeoStat meeting in Melbourne, April, 2015.

This involved informal meetings with several people who report geothermal statistics to IGA to introduce them to GeoStat, the structure and implementation of the project, and ask for their cooperation and input. Their response was overall positive and the conversations conveyed several issues and topics that had not been previously considered. The purpose of the GeoStat Joint Activity is to propose a solution to official energy statistics comparison where Geothermal is sometimes overlooked. GeoStat will facilitate by aiming at identifying the source of error in each case with dissemination and discussion on terminology and definition and direct comparison of statistics for each nation. The final goal is to reduce discrepancies and facilitate harmonization of geothermal energy statistics. No meeting list exists.

Table 15 Participants list of the GeoStat meeting, Melbourne

Participants	JA GeoStat meeting
Kirsti Midttømme, Norway	x
Nikolaos Andritsos, Greece	x
Victor Van Heekeren, Netherlands	x
Beata Kepinska, Poland	x
João Carlos Nunes (and others), Portugal	x
Marian Fendek, Slovakia	x
Orhan Mertoglu, Turkey	x
Signhild Gehlin, Sweden	x
Josef Weber, Germany	x
Total	9

2.2.2 JA OpERA Workshop in Vaals, 1st - 2nd October, 2015.

The OpERA Joint Activity is led by Netherlands and Germany. The OpERA working group brought together the national experts (Plant owners, project developers, researchers) to provide an overview of potential solutions like adapted materials in the geothermal

installation, the use of inhibitors or optimized pipe geometries or well design. OpERA intends to provide a platform for technical knowledge exchange to solve Operational issues on a European base.

As a first step towards the European knowledge exchange, OpERA organized a workshop on operational issues called “Operational Issues of Geothermal Installations in Europe”. The workshop included a country overview on operational issues and specific sessions on “Scaling”, “Corrosion”, “Gas content” and Reinjection issues”. Experts brought together expertise on both practical and theoretical issues of operating geothermal wells from all over Europe and discussed solved and unsolved issues, in sessions moderated by a renowned expert from the oil and gas industry and consider ways to enhance European progress.

Table 16 Participants list for the JA OpERA meeting in Vaals.

Participants	JA OpERA Working Meeting, Vaals
Adele Manzella, CNR-IGG, Italy	x
Ana Vallejo Vitaller, ETH Zurich, Switzerland	x
Andreas Raunch, gec-co Global Engineering & Consulting - Company GmbH, Germany	x
Andrej Lapanje, GeoZS, Slovenia	x
Annamária Nador, MFGI, Hungary	x
Ben Laenen, VITO, Belgium	x
Bernd Frieg, Nagra, Switzerland	x
Bjarni Már júlíusson, Reykjavík Energy, Iceland	x
Christian Boissavy, expert reviewer - EC, AFIG, France	x
Dario Frigo, Pilnius Chemical Consult, Tenerife	x
Dorothea Reyer, GeoThermal Engineering GmbH, Germany	x
Evgen Torhac, Petrol Geoterm d.o.o, Slovenia	x
Florian Eichinger, Hydroisotop GmbH, Germany	x
Frank Schoof, FPP Management B.V., Netherlands	x
Gerdi Breembroek, RVO, Netherlands	x
Giordano Montegrossi, CNR, Italy	x
Gregor Bussmann, GZB - INTERNATIONAL GEOTHERMAL CENTRE, Bochum, Germany	x
Gregor Götze, GBA/BGR, Austria	x
Hanneke Kal, Ministry of Economic Affairs Netherlands, Netherlands	x
Hans Veldkamp, TNO, Netherlands	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Ingólfur Örn Þorbjörnsson, ISOR, Iceland	x
Janos Szanyi, University of Szeged, Hungary	x

Jean-Pierre Posselt, Danish Energy Agency, Denmark	x
Jolanda Mourits, Ministry of Economic Affairs Netherlands, Netherlands	x
Manuela Richter, Jülich (ptj), Germany	x
Marion Schinler, BESTEC GmbH, Germany	x
Martin van der Hout, DAGO, Netherlands	x
Miklós Hlatki, GW Technology Consulting Ltd., Hungary	x
Niels Hartog, KWR Watercycle Research Institute, Netherlands	x
Paul Ramsak, RVO, Netherlands	x
Radboud Vorage, Aardwarmtecluster 1 KKP BV, Netherlands	x
Simona Regenspurg, GFZ, Germany	x
Stephan Schreiber, ptj/Jülich, Germany	x
Søren Berg Lorenzen, DGDH, Denmark	x
Thorsten Weimann, gec-co Global Engineering & Consulting - Company GmbH, Germany	x
Wart van Zonnefeld, Floricultura, Netherlands	x
Total	37

2.2.3 JA NWW (New Ways of Working) Workshop, Brussels, October 5th, 2015

The theme of this workshop was “Financial Instruments and Funding of RD&D and Geothermal Projects – Barriers and Opportunities and Policy Recommendation”. The first session was on R&D activities in the ERA-NET countries, national research funding needs, barriers, opportunities and policy recommendation. The second session was on projects in the ERA-NET countries, national project funding needs, barriers, opportunities and policy recommendation. Speakers gave presentation and after each session discussions among speakers and participants followed about priorities and next steps. The overall objective of Joint Activity “New Ways of Working” is to improve the synergies between different players in the field of geothermal utilization and improved funding in R&D and project financing across national borders. It is also to strengthen European geothermal development for economic opportunities, energy security and mitigate climate change.

Table 17 Participants list for the JA NWW workshop.

Participants	JA NWW Workshop, Brussels
Adele Manzella, CNR-IGG, Italy	x
Adonai Herrera - Martínez, EBRD	x
Antonio Aguiló	x
Baldur Pétursson, OS, Iceland	x
Filippo Gagliardi	x
Guðni A Jóhannesson, OS, Iceland	x

Lilja S. Jónsdóttir, Rannís, Iceland	x
Maud Skaringer, EC	x
Philippe Dumas, EGEC	x
Sigurður Björnsson, Rannís, Iceland	x
Susanna Galloni, EC project officer for the geothermal ERA NET	x
Viðar Helgason, Iceland Geothermal Cluster Initiative	x
Kaan Karaöz Muzaffer, TUBITAK, turkey	x
Gerdina Breembroek, RVO, the Netherlands	x
Matilde Cunha, EDA Portugal	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Andrej Lapanje, GEOZS, Slovenia	x
Paul Ramsak, RVO, the Netherlands	x
Gunter Siddiqi, SFOE, Switzerland	x
Manuela Richter, Julich Germany	x
Stephan Kai Schreiber, Julich, Germany	x
Total	21

2.2.4 JA New Concepts Workshop, Geneva, October 30th, 2015

The New Concept Joint Activity is a working group of the Geothermal ERA-NET on a mission to stimulate creative concepts for European innovators in geothermal utilization and technology. The group is looking at opportunities in direct utilization of low enthalpy geothermal energy such as geothermal heat and cool for smart cities, food production, and cosmetics. The theme of this workshop was “New and Innovative Applications of Geothermal Energy” and included overview on GEO innovative opportunities and pilot projects enhancing possibilities from small innovative ideas to large industry in Geothermal.

There were 4 sessions where speakers from participating countries presented their topics, followed by discussion among participants at the end of each session. Participants got an introduction to Geo Innovative Opportunities (IEA Geothermal and Geothermal ERA-NET + New Concepts), EGS projects and direct use applications (new concepts – built environment and new concepts – other sectors) and innovative applications of geothermal direct use worldwide. After the four sessions there was a visionary panel discussion, conclusion and next steps followed by networking reception.

Table 18 Participants list for the JA New Concepts Workshop.

Participants	JA New Concepts Workshop, Geneva
Adele Manzella, CNR-IGG, Italy	x
Alicja Wiktorja Stoklosa, OS/Startup Energy Reykjavík, Iceland	x

Andrej Lapanje, GeoZS, Slovenia	x
Ádám László, Mannvit, Hungary	x
Betina Bendall, DIMITRE, Australia	x
Brian Carey, GNS Science, New Zealand	x
Chris Bromley, GNS Science, New Zealand	x
Christian Hecht, Stadwerke Munchen SWM, Germany	x
Florence Jaudin, BRGM, France	x
Gerdi Breembroek, RVO, Netherlands	x
Gunter Siddiqi, SFOE, Switzerland	x
Henk de Beijer, SolabCool, Netherlands	x
Hermann Eijndems, Mijwater B.V, Netherlands	x
Hjalti Páll Ingólfsson, OS, Iceland	x
Hylke J. Glass, Camborne School of Mines, University of Exeter, UK	x
Jiri Muller, Institute for Energy Technology, Norway	x
Jonathan Busby, British Geological Survey, UK	x
Josef Weber, LIAG, Germany	x
Kasumi Yasukawa, AIST, Japan	x
Katharina Link, SFOE/DR. Roland Wyss GmbH, Switzerland	x
Kristín Vala Matthíasdóttir, HS Orka, Iceland	x
Lothar Wissing, Jülich (ptj), Germany	x
Manuela Richter, Jülich (ptj), Germany	x
Maria Matilde Cunha, EDA, Portugal	x
Martino Lacirignola, ADEME, France	x
Matthias Kolb, Amstein + Walthert AG, Switzerland	x
Michel Meyer, SIG, Switzerland	x
Paul Ramsak, RVO, Netherlands	x
Peter Meier, Geo-Energie Suisse AG, Switzerland	x
Philip Kingler, Gruner AG, Switzerland	x
Rita Kobler, SFOE, Switzerland	x
Roy Baria, EGS Energy, UK	x
Rudolf Minder, SFOE, Switzerland	x
Ruggero Bertani, Enel Green Power, Italy	x
Yoonho Song, KIGAM, Republic of Korea	x
Þóra Margrét Þorgeirsdóttir, Iceland	x
Total	36

2.2.5 JA PRGeo, Essen, November 11th, 2015

Geothermal energy is an important component of the future energy supply in Europe, offering a wide range of possible applications and having a great potential of development in many European countries. However, the advantages of using geothermal energy are little known, and media reports often spread information on its disadvantages making headlines. The lack of public acceptance for geothermal energy installations hampers the further development of geothermal energy in many countries. The origin of the skeptical view on geothermal energy

varies from the lack of information on the technology to wrong conflict management from project owners e.g. in the case of induced earthquakes. As a result, political decision makers and potential investors have concerns about possible risks in implementing geothermal projects, and social resistance often results in significant slowdowns of projects.

To make sure that geothermal energy can play its optimal role in Europe's future energy supply, it is essential to address strategic groups of political decision makers, potential investors and the public to mitigate the possible concerns that may block an increased use of geothermal technologies.

The basic task of public relations is to establish, strengthen or expand the contact between a client or employer and a defined stakeholder group. For this purpose, there are a number of communication tools available, among others, these are:

- Press and media work: writing and distributing press releases, feature stories for various media, user reports, speeches, biographies, topic planning through press conferences and roundtables, editorial visits with customers, responding to press inquiries, conducting journalist trips and interviews, press conferences, press invitations, Internet Services, providing photographic material.
- Media Monitoring: Media monitoring presence and evaluation and analysis of reporting, for example by creating press reviews and quantitative and qualitative media impact analysis.
- Communication controlling: About the Media Monitoring beyond measurability and evaluation of PR activities. Measurement of the PR to the success and appreciation of a company's contribution.
- Media Design: creating business reports, brochures, flyers, ads, newsletters, consumer magazines, Internet pages, and advertorials.
- Event management: planning and implementation of conferences, seminars, festivals, consumer events, trade fairs and other events such as Meet and Greet
- Internal Communications: Development of employee magazines, newsletters, planning and execution of events for employees, employee training, Intranet Services, Wording
- Online PR: Improve classic PR tools by additional services (e.g., online newsroom), develop custom tools and strategies (e.g. corporate websites, theme websites, corporate blogs, online magazines, online campaigning)
- Training: media training, training, writing training Workshop Background

- In order to address the challenges and potential in a better and increased communication related to geothermal energy and an overarching European cooperation, a workshop was held on November 4th 2015. The following speakers were invited.

Table 19 Speakers at JA PRGeo, Essen

Speakers	JA PRGeo Essen, Germany
Burkhard Sanner, European Geothermal Energy Council, Brussels	x
Anna Pellizzone, Università degli Studi di Milano, Italy	x
Albert Genter, ES Géothermie, France	x
Anna-Lena Köng, Risk Dialogue Foundation, Switzerland	x
Hubert Hegele, gec-co GmbH, Germany	x
Burkhard Sanner, European Geothermal Energy Council, Brussels	x
Total	6

2.2.6 JA EGIP Expert Group work

Following a comprehensive work towards European Geothermal Information Platform called EGIP the Geothermal ERA NET consortium decided to form a special EGIP Expert group to recommend measures for implementation of EGIP with specific consider towards the INSPIRE directive. The group consists of five experts with extensive experience in handling and analysis data as well as being familiar to the work that has already taken place on EGIP within the Geothermal ERA NET.

Already eleven teleconference meetings have taken place within the JA EGIP Expert Group and the Group will publish a report on its recommendations and considerations before the end of the ERA NET.

Table 20 The Expert Group members

Experts	JA EGIP Expert Group
Philippe Calcagno (BRGM, France) - lead of expert group	x
Thorvaldur Bragason (OS, Iceland) – INSPIRE expertise	x
Christian Minnig (swisstopo, Switzerland) – geothermal expertise	x
Laszlo Sores (MFGI, Hungary) – INSPIRE expertise	x
Eugenio Trumpy (CNR, Italy) – EGIP pilot expertise	x
Total	5

3 Conclusions

To run a traditional expert scheme was deemed to be unreasonable, but partners were encouraged to promote current exchange schemes, also by using the information on existing mobility and training programmes that were identified in previous reports of this work package.

Besides partner meetings where experts from the partnering countries were brought together, joint activities and workshops were organised with leading experts from Europe. Seven topics were selected to run as joint activities and three workshops conducted.

In fact, the network has given experts in the field of geothermal to meet and to exchange views. Even though a mobility scheme was not established this exchange of views between experts have led to a much more visibility of the geothermal sector in Europe.



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