



Geothermal
ERA-NET

WP5 – Cooperation with stakeholders

Stakeholder Analysis on a National Level



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1 Introduction

1.1 Background

The focus of the Geothermal ERA-NET is on the utilization of geothermal energy applications that involve **direct heating** and **higher enthalpy** resources and reserves, and the corresponding uses. To ensure an appropriate linkage to related R&D activities (renewable heating and cooling via ground source heat pumps, power distribution and transmission) the interface with related ERA-NETs such as ERACOBUILD or SmartGrids will be maintained to avoid any unnecessary overlap. The Geothermal ERA-NET covers technical and non-technical issues as long they can be considered to be exclusively applied to the support of geothermal energy utilization.

Despite the fact that low-temperature geothermal concepts – such as ground-source heat pumps – are not in the focus of the ERA-NET the field of technologies is vast, including commercially proven as well as emerging technologies. The technology readiness of the different technologies is spread out over the full range of technology readiness levels (TRLs). Some applications are fully commercial (Power Plants in Italy and Iceland; aquifers in France) – others are in an early stage of development (EGS, use of magma resources). As a consequence, funding needs and requirements differ significantly from country to country, depending on the locally available geothermal resources, maturity of industry players and governmental approaches to supporting research, development and deployment.

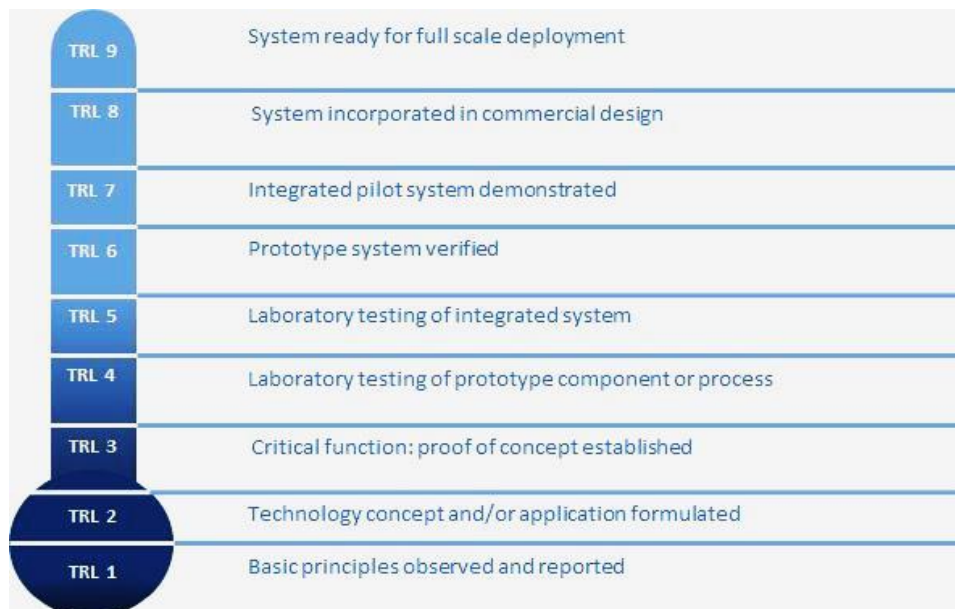


Figure 1: Definition of technology readiness levels TRL (Source: <http://www.innovationseeds.eu>)

Also, within the broader area of reservoir development there are relevant technology components such as drilling technologies where RD&D activities span many technology readiness levels (e.g. research dealing with minimization of drill string vibration may be at TRL 7 or 8, but research on hydrothermal spallation drilling is at

TRL 2 or 3). All areas, technology components and their subsets comprise a technology development funnel which – from the viewpoint of a funding agency, be it national or transnational – needs to be managed to ensure optimally deployed public support. An example is shown in the following figure 2 which refers to RD&D related to deep geothermal concepts.

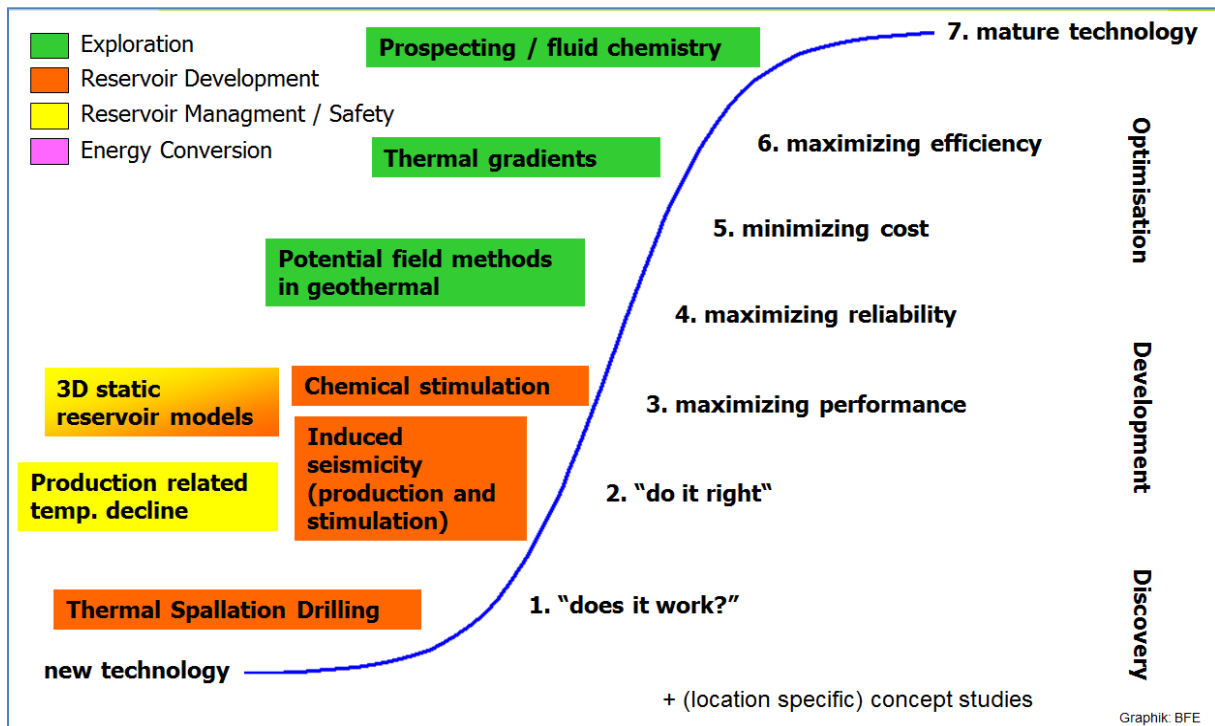


Figure 2: RD&D activities related to deep geothermal concepts presented as a “technology development funnel” (Source: Swiss Federal Office of Energy)

The interest of the different stakeholder groups for particular RD&D themes strongly depends on their core business. As an example academic research institutions by nature are mostly interested in the lower TRLs whereas power industry is interested in activities that lead to improved commercial viability. These facts have to be taken into account when analyzing the stakeholder data sets.

Finally, the report on the analysis of national stakeholders is biased towards the view of funding agencies and geothermal research program owners.

1.2 Scope of Work Package 5 (WP5)

The objectives of the work package 5 have been defined in the terms of reference as follows:

(1) To gain a clear understanding of the principal stakeholders including key industry players for a successful, Europe-wide coordination of publicly funded, national research, development, deployment and innovation programs.

(2) To engage and communicate with principal international stakeholders the need for, values and benefits of a Europe-wide coordination.

(3) To prepare the ground for the future formulation of a common European roadmap for geothermal energy technology research, development, deployment and innovation program.

(4) To communicate and compliment the ongoing work of platforms in geothermal energy e.g. ETP-RHC, TP-GEOELEC, EERA JPGE and others.

The detailed scope of work - comprises four tasks:

Task 5.1

Collecting data on principal stakeholders of the Research, Development, Deployment and Innovation (RDD&I) chain in national, regional and European arenas with a particular focus on stakeholders with a European and international dimension.

Classification of stakeholders and rank stakeholders according to their roles and responsibilities in strategy setting, implementation planning, execution, performance evaluation and review of networked, transnational geothermal energy RDD&I programs (output of WPs 2 and 4).

Task 5.2

Furnish national program/owners with messages on strengths and benefits of a coordinated European geothermal energy research agenda vis-à-vis the voting public, national parliaments, the European Commission and administration (output of WP 1).

Task 5.3

Utilize output of WPs 2 and 4 to engage with principal stakeholders with the ultimate purpose of mobilizing national and transnational funding agencies (public and private) for the RDD&I lifecycle.

Task 5.4

Utilize output of WP7 to engage with principal stakeholders in the run-up to the development of a strategic roadmap for geothermal energy technology RDD&I. Communicating and mobilising the ongoing platforms in geothermal energy with the aim to mitigate fragmentation of research efforts.

The deliverables are defined:

D 5.1 Report with the inventory of principal stakeholders and classification of stakeholder on a national level, (M12)

D 5.2 Classification of stakeholders on European level, (M18)

D 5.3 Communication plan with key messages to principal European and national stakeholders, (M30)

D 5.4 Comprehensive plan and its implementation to successfully engage stakeholders for the development of a strategic roadmap for geothermal energy RDD&I in Europe, and of ERA-NET (M42)

The present report represents deliverable D 5.1 and includes results obtained from task 5.1.

2 Stakeholder Analysis

2.1 Definition

The term stakeholder in the following is defined as **any person, group or organisation that can be positively or negatively impacted by, or cause an impact on, the actions or activities proposed.**

The **Stakeholder Analysis** aims at identifying and listing the main stakeholders and assessing their interest and attitude and how they are likely to impact / be impacted by the work of funding agencies and geothermal program owners..

It is important to be aware of the fact that the partners of the ERA-NET project (funding agencies, program owners and managers) also belong to the stakeholders, are affected by other national stakeholders and their international counterparts!

2.2 Procedure

The first step of WP5 encompasses the acquisition of data on national stakeholders. In view of national idiosyncrasies the data have been collected from the partners in a standardized manner with the aid of a spreadsheet template. The guiding principles in the identification of stakeholder groups include those groups who are central to the allocation of funds for publically sponsored research, development and deployment programs, groups that are directly affected by the availability of funds and research programs, other funding agencies and those stakeholders that are affected directly and indirectly from results obtained in publically sponsored research. Each stakeholder group has various characteristics and features that require a broad range of possible modes of interaction. .

Stakeholder Groups	Stakeholder name	Interest or role in geothermal R&D	Characterisation of stakeholder	Attitude	Importance/Influence on geothermal RD&D	Extent of activity in geothermal R&D	Actions required
Political Stakeholders							
Gov't appointed advisory committees							
Academia							
Public Funding Agencies							
Private grant giving institutions / funding agencies							
Other federal administrative units							
Power Industry							
Industry							
Public Stakeholders							

Table 1: Stakeholder data collection template

The templates have been completed by all participating partners and returned to the WP leader. A first review of the obtained data revealed significant inhomogeneity with respect to the role of funding agencies and program owners, assessments of stakeholders and country-specific modes of discourse among national stakeholders (e.g. the implementation of an agreed national research agenda versus highly competitive project-specific funding schemes).

Sensitivities around stakeholder interactions and impartiality were managed by agreeing on broad stakeholder groups and describing their characteristics and features in a generalized manner. The detailed national stakeholder tables are shown in the annex to this report.

3 Results

3.1 Results of group analysis

3.1.1 Overview

Despite the substantial differences between the national stakeholder listings, the main stakeholders can be represented in a common picture, as shown graphically in figure 3. This figure shows the hierarchy of the various SH groups but not the interactions between the different stakeholders.

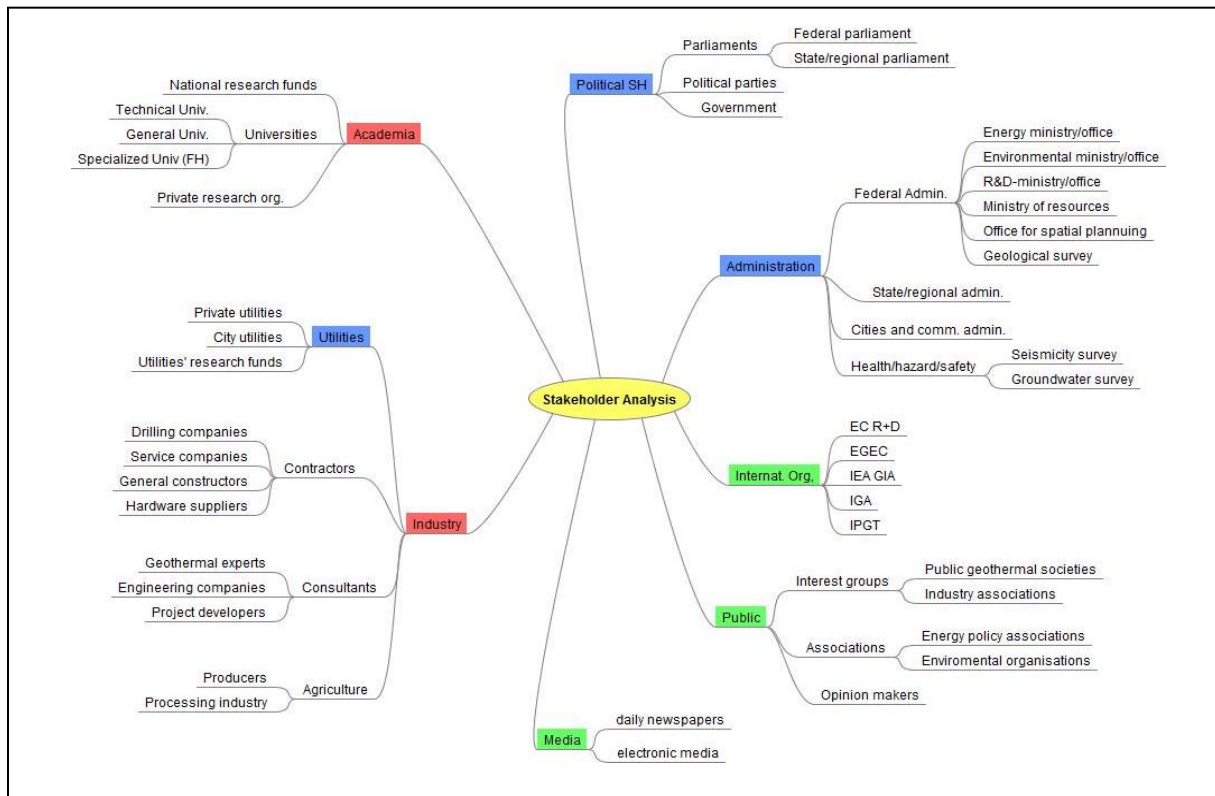


Figure 3: General structure of principal stakeholders

3.1.2 Stakeholder group characteristics

Comparing the individual national stakeholder tables some common and unsurprising conclusions with respect to stakeholder (SH) groups can be drawn:

- Government Institutions are important SH in all countries;
- Academic Institutions are important SH in all countries;
- Power Industry is important in some countries, where high-enthalpy resources are already exploited or where a high potential is expected;
- Industry, private companies are of moderate importance, depending on partner country:
- Public SH are not very prominently listed – this should be checked periodically as the importance of media on the deployment of geothermal energy is significant, but less so in terms of research and development.

In the following, some specific findings for the individual stakeholder groups are presented.

3.1.4 Political Stakeholders

- The level of interest by political stakeholders varies according to country and political system, but at least one of federal, regional or local government has been interested.
- Unsurprisingly, political stakeholders feature high because they approve and allocate RD&D budgets
- Geothermal energy is on the agenda because of its long term potential and/or due to current project development and operations.
- Geothermal energy has “champions” (e.g. members of parliament) who put geothermal energy on the agenda.
- The more geothermal energy projects are deployed, the more interest there is in project specific features, particularly if project’s visibility or impact is high.
- In some countries, national committees exist and feature importantly (e.g. IT, FR, CH, NL, and TR).
- In general, there is need for high quality information regarding geothermal energy (status, development potential, achievements, strengths, weaknesses, opportunities and threats, in cases also highly specific information on individual projects).

3.1.5 Governmentally appointed advisory committees

This group is only present in some countries (NL, IT, FR, CH, TR, SK). In these countries the importance of this group is mostly considered as to be high as they comprise influential stakeholders – often with strong personal interest in geothermal energy research, development and deployment. National committees are highly integrative (R&D, industry and policy makers) and thus can move rapidly to adjust boundary conditions for geothermal RD&D. Unless very large, these committees appear to be highly effective.

3.1.6 Academia (including National Centers of Geothermal Competence, e.g. geological surveys)

- Level of interest is very high in established areas of geothermal energy research.
- Some overlap with other public stakeholders such as geological surveys.
- Each country has both, state agencies and academia pursuing RD&D.
- Cover the entire value chain and Technology Readiness Levels (countries such as e.g. TR, SV have bias towards industrial application oriented RD&D).
- Highly vigorous programs, groups and entities across Europe.
- Trend: academia is “staffing up” to be able to deal with RD&D needs (FR, NL, CH, IT).

3.1.7 Public Funding Agencies (including the organizations of the ERA-NET partners!)

- Very keen interest in most cases, in some cases expressedly neutral.
- Most funding agencies need information on R&D needs from fundamental research to industrial, market-driven applications (across all TRLs) to identify path to commerciality without subsidies.
- User-driven needs for setting the R&D agenda can be strong.
- Overview of national geothermal (particularly strong need in federally organized countries) and EU geothermal R&D activities.
- Interestingly, hardly any undifferentiated claim/need for “higher” budgets. It is not clear whether this means “we have enough” or “we don’t know how much we need”.

3.1.8 Private grant giving institutions / funding agencies

- Information is limited to only a few countries, but the stakeholder group “Power Industry” is in general very active with a very high interest.
- Especially stakeholder group “Power Industry” seems to be spending on R&D or is interested in doing so.
- Focus on project-specific and very much applied R&D questions.
- In some cases the stakeholder group would like to see the link to technology roadmaps.
- Geothermal R&D appears to be detached from or independent to publically funded R&D even for technologies where technology readiness levels (TRLs) are high.

3.1.9 Other federal administrative units

This stakeholder group is only present in some countries. Depending on the organizational structure of the government, important stakeholders can be present in various ministries or governmental agencies, particularly on topics such as the environment, geology, seismology, and spatial planning.

3.1.10 Power Industry

This stakeholder group is important in countries with existing geothermal power plants or with attractive resources

3.1.11 Industry

This stakeholder group includes industrial firms involved in realizing geothermal projects (drilling, service and consulting companies) as well as industry related to the

use of the energy (district heating, agriculture, utilities). The interest in most cases is modest but growing.

3.1.12 Public Stakeholders

- This stakeholder group comprises non-governmental organizations, the service industry, and the public at large. NGOs need to know about the status of geothermal energy utilization the R&D situation -- but in general terms
- Some interest in R&D that has high-impact and is relevant to public sentiment (hydraulic stimulation, induced seismicity, GHG emissions, high/low funding levels).
- Specific user groups (agriculture) have a very keen interest in R&D particularly rehabilitation of existing facilities.
- Service Industry has an active interest.

3.2 Proposed and required actions

3.2.1 Main actions proposed – all stakeholder groups

- Information, dissemination of knowledge (on various levels).
- In need of explanation: “how does geothermal R&D help realize potentials and cost reduction”.
- In need of explanation: “how is R&D coordinated on both national and international levels”.
- Increase or maintain funding level of R&D. However, more funding required for pilot and demonstration projects.
- Promote international cooperation.

Some partners propose only few or no actions – need to follow up on national findings to identify actions that can or should be taken by funding agencies or program owners.

3.2.2 Political Stakeholders require

- Information systems that enable digging deep (access to project specifics).
- Ability to compare country-to-country systems and extract learning on what works best in terms of R&D.

- Consistent “global” messages, yet understanding when “local” messages differ from one country to next (e.g. importance of geothermal heat in one country vis-à-vis next).
- Ability to demonstrate that local R&D budgets are spent well and leveraged across Europe (in some cases provincial/local governments are very important and may not be aware of the European dimension).
- A clear theme: Ensure that R&D learnings flow in to the regulatory oversight activities of governments (regulators are listed as “governmental committees”).

3.2.3 Gov't appointed advisory committees

This group is only present in some countries (NL, IT, FR, CH, TR, SK). In these countries the importance of this group is mostly considered as to be high. Proposed actions are essentially congruent with the group political stakeholders.

3.2.4 Academia (including National Centers of Geothermal Competence, e.g. geological surveys)

- Provide a good overview of R&D activities at various TRLs.
- Improve communication and integration with industry and to some degree with public agencies to identify R&D needs (e.g. technology roadmaps).
- Need for “Formulation and coordination of geothermal programs, good understanding of application driven research, communication on economic and commercial realities” (as summed up by Germany).
- Increase project funding.

3.2.5 Public Funding Agencies (yes, this is us and our colleagues)

- Need to know where R&D funds go in terms of TRLs and path to commerciality.
- Provide technology roadmaps to manage/evaluate R&D funds.
- Coordinated R&D programs to gain overview, leverage funds and encompass the long term.
- Coordination of national programs with European programs.

3.2.6 Private grant giving institutions / funding agencies

- Need to know where R&D funds go in terms of TRLs and path to commerciality.
- Improve level of information between public and private R&D grant-giving organizations.
- Provide technology roadmaps to manage R&D funds.

- Identify where opportunities exist to match more fundamental R&D with industry needs.
- Opportunity to leverage public funds.

3.2.7 Other federal administrative units

Key issues are dissemination of information and cooperation with other units (in order to avoid conflicts of interest (which as an example could arise between a governmental agency for environmental protection and a governmental agency for energy)).

3.2.8 Power Industry

Important issues for this group are favorable and consistent regulations, incentives (e.g. Feed-In-Tariffs) and international cooperation.

3.2.9 Industry

- Exchange of information.
- Improve international cooperation.
- Improve cooperation between industry and academia.

3.2.10 Public Stakeholders

- Need to know about R&D activities in a general manner.
- Need to know how to gain access to specialist knowledge.
- Sensitive R&D topics (budgets, “hot topics” such as seismicity, fracking) need a more detailed picture.
- In general reactive responses on R&D appear as the preferred method of messaging, less proactive messaging.

4 Conclusions and next steps

The collection of data of national stakeholders and the related analysis can be summarized as follows:

- The stakeholder lists and analysis differ strongly between countries. This is mostly related to the local availability of resources and energy demand.
- Depending on the local situation, the national RD&D landscape has developed in different directions (e.g. NL focuses on heat use, CH on electric power).
- Concerning the proposed actions there are some general findings which are valid for all partner countries:

- | |
|---|
| <ul style="list-style-type: none">– <i>Information, dissemination of knowledge (on various levels)</i>– <i>Inform on how geothermal R&D can help to realize potentials and cost reduction</i>– <i>Inform on how R&D is coordinated on both national and international levels</i>– <i>Increase funding of R&D and pilot projects</i>– <i>Promote international cooperation.</i> |
|---|

The next step will be to extend the stakeholder listing and analysis to regional and European level. A similar approach will be used and the results will be compiled in the deliverable D5.2 report.

5 Annex: Stakeholder maps on a national level

The stakeholder data collection of the individual countries is listed in this annex in the following order:

5.1 Iceland

5.2 The Netherlands

5.3 Switzerland

5.4 Italy

5.5 Germany

5.6 France

5.7 Turkey

5.8 Slovakia

5.9 Hungary

Geothermal ERANET - WP5 - Cooperation with Stakeholders								
Stakeholder List		Country:	Iceland		Date:	16. Aug 13		
Stakeholder Groups	Stakeholder name	Interest or role in geothermal R&D	Characterisation of stakeholder	Attitude	Importance/Influence on geothermal RD&D	Extent of activity in geothermal R&D	Actions required	Link
Comments to column titles		E.g. providing R&D services, using results of public funded R&D, energy planning ...	Any Information relevant for evaluation of SH's role/function in geothermal R&D		Including competences/tasks imposed by laws and regulations, strategic decisions in R&D, funding volume, investment volume	E.g. number of persons/jobs or annual turnover in geothermal R&D, other figures indicating size of activity		
Political Stakeholders								
	The Parliament of Iceland	In general very high interest, all MP's know the importance of Geothermal for Iceland as a Nation, pass or refuse parliamentary motions regarding geothermal	The members of parliament have different opinions on how to utilize the geothermal resource. Some emphasis on environmental protection as other emphasis on utilization	In general very positive but some individual geothermal project can be very debatable	Sets the law of the country, that can influence the geothermal industry		Keep them informed and stimulate constructive discussions	http://www.althingi.is/vefur/upplens.html
	Ministry of Education, Science and Culture	High interest in geothermal. The role of the ministry is to develop and update the strategy on education and are owners of public R&D funds.	The Ministry of Education, Science and Culture is divided into three Departments, Department of Education, Department of Science and Department for Cultural Affairs and four Offices, Office of Information and Service, Office of Financial Affairs, Office of Evaluation and Analysis and Office of Legal Affairs. The Departments and Offices are managed by Directors.	In general very positive but some individual geothermal project can be very debatable	High influence. The Department of Science and Higher Education handles higher educational issues and is responsible for the general administration in the fields of science, research and innovation affairs. The Department prepares the policy formulation of higher educational issues and supervises its implementation. It prepares and advises on scientific and research policy under the auspices of the Council for Science and Technology. The Department supervises the affairs of the Council for Science and Technology and the Scientific Committee and co-ordinates the Ministry's various projects in the fields of science, research and innovation and their integration with the formulation and implementation of the educational policy.		Keep them informed and stimulate constructive discussions	http://eng.menntamalaraduneyti.is/media/MRN-PDF-Altjodlegt/Facts_4_2009.pdf
	Ministry for the Environment and Natural Resources	High interest in geothermal.	The Icelandic Ministry for the Environment and Natural Resources formulates and enforces the Icelandic government policy for environmental affairs. The ministry supervises the affairs pertaining to nature in Iceland, conservation and outdoor recreation, the protection of animals, wild-life management, pollution prevention, hygiene, planning and building matters, fire prevention, weather forecasting and avalanche-protection, surveying and cartography, forestry and soil conservation, environmental monitoring and surveillance.	In general very positive but some individual geothermal project can be very debatable	High influence as the Ministry auspices the following agencies related to geothermal: The Environment Agency of Iceland; Iceland Geosurvey; Lake Myvatn Research Station; Planning Agency		Keep them informed and stimulate constructive discussions	http://eng.umhverfisraduneyti.is/
	Ministry of Industries and Innovation	High interest in geothermal.	The Ministry of Industries and Innovation (MII) covers all sectors of ordinary business and economic activity. It opened on 1 September 2012 following the amalgamation of the Ministry of Fisheries and Agriculture, the Ministry of Industry, Energy and Tourism and part of the Ministry of Economic Affairs.	In general very positive but some individual geothermal project can be very debatable	High importance. The ministry is owner of R&D funds and auspices agencies related to geothermal, such as Orkustofnun, Innovation Centre Iceland and others.		Keep them informed and stimulate constructive discussions	http://eng.atvinnuvegaraduneyti.is
	Municipalities	Generally high, especially those with high geothermal resources.	Has planning authority within the municipality. Issues operating licenses.	In general very positive but some individual geothermal project can be very debatable	Has planning authority within the municipality. Issues operating licenses.		Keep them informed and stimulate constructive discussions	
Gov't appointed advisory committees								
Academia								
	University of Iceland	Offers a line in graduate studies in renewable energy. Special emphasis on geothermal energy and geothermal resources.	University of Iceland a state owned university. It is the largest in Iceland	Positive	Very important, with high influence.			http://english.hi.is/er
	Reykjavik University through REYST	REYST offers an international graduate program characterised by its focus on sustainable energy use, interdisciplinary approach, practical experience and fieldwork.	Reykjavik University (RU), Iceland's largest private university, is a dynamic international university with over 3000 students offering a first rate education in one of the most unique countries in the world. The University is committed to academic excellence and is renowned for its outstanding teaching and unique relations with Icelandic	Positive	Very important, with high influence.			http://en.ru.is/reyst/
	UNU Geothermal Training Program	Postgraduate training programme, aiming at assisting developing countries in capacity building within geothermal exploration and development. The programme consists of six months annual training for practicing professionals from developing and transitional countries with significant geothermal potential. Priority is given to countries where geothermal development is under way, in order to maximize technology transfer.	Traninging programme operated by the united nation university	Very Positive of course	Very important, with high influence.			http://www.unugtp.is/

	Keilir, Atlantic Center of Excellence	The School of Energy and Technology is dedicated to excellence in education at the undergraduate level in the fields of energy and related technologies. The school offers two multidisciplinary B.Sc. programs in cooperation with the University of Iceland, one in green energy technology and the other in mechatronics. It offers courses in english on Geothermal Power Plant Technics and summer courses on Renewable Energy in Iceland		Positive	High, importance. Offers a bridge between technical colleges and universities.			http://en.keilir.net/kit/kit/education
	Technical College Reykjavik	Educates technicians for the power industry, engineers, electricians and mechanics.	The ideology by which the Technical College Reykjavik is operated is very different from other upper secondary schools in Iceland. The main difference is that the college consists of eleven schools, each one with its own principal as well as educational independence. The schools have councils of specialists which are comprised of representatives of Icelandic businesses; employers and workers, as well as teachers with expertise in each trade	Positive	High,			http://en.tskoli.is/about-us/
Public Funding Agencies								
	Orkusjóður	Offers support and loans to increase use of geothermal resources in Iceland	Step one Financial support for geological/geothermal research and drilling for geothermal heat/hot water. Support offered to: Individuals, (e.g. farmers), firms/companies or Municipalities. Support 50% of estimated cost in each case, though within limits decided by the Ministry. Step two Special loans offered from the National Energy Fund for exploration of geothermal heat in cases where it could reduce the public's cost of house heating, based on results and/or indications from step one. „One-time payment“ Approximately 90% of homes in Iceland are heated by direct use/utilization of geothermal heat. Heating with electricity is more expensive. Therefore the state/government offers subsidies to home owners using electricity for heating. The state/government therefore saves money as well as a home owner that manages to reduce his use of electricity. A home owner who reduces his use of electricity by installing/taking in use, some (other) sustainable heating method e.g. heat pump, gets a special offer from the state/government. Less use of electricity lowers the subsidies from the state. The „one-time payment“ offered equals to the calculated subsidy for a period of 12 years.	Positive	Very important and has had high influence of geothermal development in Iceland, Especially in the beginning			
	Rannis	Rannis administers the main public competitive funds in the field of research and innovation in Iceland, including the Research Fund, the Technical Development Fund, the Graduate Students' Fund and the Innovation Fund for Students.		Neutral	High importance. E.g. Rannis funds the research cluster cooperation GEROG and runs the main competitive funds in Iceland			http://rannis.is/english/
	Landsvirkjun Research Fund	The Energy Research Fund's goal is to strengthen research in the fields of environmental and energy affairs and to award grants to students, university research projects, institutions, companies and individuals researching these areas.	The fund is owned and operated by the largest power company in Iceland.	Positive	High importance. The fund has supported many important projects in the field of geothermal research and utilisation.			http://www.landsvirkjun.com/ResearchDevelopment/EnergyResearchFund/
	Orkuveitan Research Fund	The objective of the Environmental and Energy Research fund of OR is to provide grants to university research and innovation in the field of environment and energy and strengthen cooperation with Energy experts and scientists who conduct research in the field.	The fund is owned and operated by one of the largest geothermal power companies in Iceland.	Very Positive	High importance. The fund has supported many important projects in the field of geothermal research and utilisation.			http://www.or.is/UmOR/Styrkir/UOOR/
Private grant giving institutions / funding agencies								
Other federal administrative units								
	Orkustofnun (National Energy Authority)		Orkustofnun is a government agency under the Ministry of Industries and Innovation. Its main responsibilities is to advise the Government of Iceland on energy issues and related topics, promote energy research and administrate development and exploitation of the energy resources					http://www.nea.is/the-national-energy-authority/
	Umhvernistofnun (Environment Agency)	The Environment Agency operates under the direction of the Ministry for the Environment. It's role is to promote the protection as well as sustainable use of Iceland's natural resources, as well as public welfare by helping to ensure a healthy environment, and safe consumer goods			The Environment Agency operates under the direction of the Ministry for the Environment. It's role is to promote the protection as well as sustainable use of Iceland's natural resources, as well as public welfare by helping to ensure a healthy environment, and safe consumer goods			http://www.ust.is/the-environment-agency-of-iceland/
	Skipulagsstofnun (National Planning Agency)	The Icelandic National Planning Agency is a state authority responsible for the administration, monitoring and implementation of the Planning and Building Act (in Icelandic), the Environmental Impact Assessment Act (EIA) and the Strategic Environmental Assessment Act (SEA) in Icelandic.			The Icelandic National Planning Agency is a state authority responsible for the administration, monitoring and implementation of the Planning and Building Act (in Icelandic), the Environmental Impact Assessment Act (EIA) and the Strategic Environmental Assessment Act (SEA) in Icelandic.			http://www.skipulagsstofnun.is/english
Power Industry								

	Landsvirkjun	Landsvirkjun operates a geothermal power plant in north Iceland (Krafla) and has plans to increase the operation there.	Landsvirkjun is owned by the Icelandic state and processes 75% of all electricity used in Iceland. Landsvirkjun are the country's largest electricity generator and one of the ten largest producers of renewable energy in Europe.	In general very positive but some individual geothermal project can be very debatable	High importance and high influence. Landsvirkjun operates a special research fund where geothermal energy plays an important role and takes an active role in financing and performing R&D on geothermal			http://www.landsvirkjun.com/Company/
	Orkuveita Reykjavíkur	Orkuveita Reykjavíkur is a public utility company providing electricity, geothermal water for heating, and cold water for consumption and fire fighting. The service area extends to 20 communities, covering 67% of the Icelandic population.	A "geothermal oriented" power company owned by the city of Reykjavik and few nearby municipalities.	In general very positive but some individual geothermal project can be very debatable	High importance and high influence. Orkuveitan operates a special research fund where geothermal energy plays an important role and takes an active role in financing and performing R&D on geothermal			http://www.or.is/English/
	HS Orka	HS Orka hf owns and runs two power plants which produce electrical energy, heating district water and distilled water with subterranean steam		In general very positive but some individual geothermal project can be very debatable	High importance and high influence. HS Orka takes an active role in financing and performing R&D on geothermal			http://hsorka.is/english/default.aspx
	Energy distribution companies	Distribute electricity and hotwater from power plants (geothermal fields) to users.		In general very positive but some individual geothermal project can be very debatable				
	Norðurorka	The main role of Norðurorka is to handle energy demands of households and businesses in its area by: The processing and utilization of geothermal energy, hydropower, water and other resources. The distribution and sale of energy, water and other yields of the company. The operation of or participation in any other activities that can utilize research, knowledge or equipment which the company has at its disposal.		In general very positive but some individual geothermal project can be very debatable				http://www.no.is/um-no/english
	Orkuveita Húsavíkur	Húsavík Energy is an Icelandic company engaged in the production of electricity and the acquisition of hot and cold water, all of which the company sells and distributes to its customers. In addition Húsavík Energy is an active participant in miscellaneous projects and innovational ventures, solely or in collaboration with other entities. One of the more promising of these projects is the production of electricity achieved by cooling 120°C geothermal water to 80°C. The "by-product" of this process, namely the 80°C hot water, is subsequently used for district heating, snowmelting, industrial processes and food processing.		In general very positive but some individual geothermal project can be very debatable				http://www.oh.is/page/information_in_english
	Orka Energy	Orka Energy is a geothermal development company specialized in harnessing geothermal resources for electricity production and district heating. With operations in Singapore, China, Philippines and Iceland, Orka Energy is founded on Iceland's long history of geothermal utilization, advanced technologies and operational know-how. Iceland is the world leader in geothermal utilization where almost all primary energy consumption is served with clean, sustainable energy sources. Orka Energy's primary focus is to develop and operate geothermal assets in Asia based on the experience Iceland has had in geothermal utilization for over 100 years.		Very positive as their business evolve around geothermal utilization.	Very important for increasing export and trade of Icelandic companies related to geothermal industry			http://www.orkaenergy.com/
	Green Energy Group	GEG was founded in early 2008 and is headquarter in Oslo, Norway with its engineering and technical team based in Reykjavik, Iceland. The highly experienced executive team at GEG has assembled a team commanding a wealth of experience within the design, engineering, project management and operation of geothermal plants and is supported by a Board of Directors drawn from both investment banking and the engineering sector. The company is focused on delivering turnkey 3.2 MW to 6.4 MW flash type modular power plants.		Very positive as their business evolve around geothermal utilization.	Very important for increasing export and trade of Icelandic companies related to geothermal industry			http://geg.no/
	Reykjavik Geothermal	Reykjavik Geothermal Limited is a geothermal development company founded in 2008. The Company is focused on the development of high enthalpy geothermal resources for utility scale power production. RG specifically identifies and targets locations where quality geothermal resources can be efficiently harnessed to meet the local demand for power and clean dependable energy.		Very positive as their business evolve around geothermal utilization.	Very important for increasing export and trade of Icelandic companies related to geothermal industry			http://www.reykjavikgeothermal.com/
Industry								

	Engineering and consultancy firms	Several engineering firms and consultancies are working in Iceland. They play an important role in desing and construction phase of geothermal power plants as well as other geothermal industry development. Some of the also have important skills in numerical modelling of geothermal reservoirs.	All these engineering firms mentuned here (see link) are privetly owned and operated.	Postitive	Very important with high influence. Take part in R&D projects with valuagle experties and resources.			http://www.mannvit.com/GeothermalEnergy/ http://www.verkis.com/business-segments/geothermal-energy/nr/1304 http://www.efla-engineers.com/energy/geothermal-energy-and-utilities- http://vatnaskil.is/aboutvatnaskil http://vso.is/english2/2-2-power-companys-energy-industries.html
	Jarðboranir (Iceland Drilling)	Iceland Drilling Ltd. is a leading high technical company in the field of high temperature geothermal drilling and has many decades of experience in both high and low temperature drilling. The company possesses a fleet of new hydraulic rigs and modern drilling equipment that can be transferred swiftly from one part of the world to another.	is privetly owned and operates both nationally and internationally.	Very positive as their business evolve around geothermal drilling.	Very important and crucial for geothermal utlization in Iceland.			http://www.iceland-drilling.com/?pageid=349
	Greenhouse/aquaculture/bioengineering and other divers utilization.	In Iceland there exists an interesting and thriving industry around divers usages of geothermal heat, -electricity and -chemicals.	What unites these type of stakeholder is that embitions is to increase value of geothermal discharge and exhaust of gethermal power plants as well as from direct use of low enthalpy resources.	Very positive as their business evolve around geothermal utilization.	Very important			
	Maintenance facilities and workshops	Interested in increaseing their share in maintaining the Icelandi geothermal power plants and take more direct part in improveing and developing of equipment related to geothermal utilization.	Privatly owned and operated businesses with 10-300 employees. Their main business till now has been on servinges the power intensive industry in Iceland and the fishing industry.	Positive, would like to take more active part.	very important. Constructive cooperation with them can reduce the maintaince and operation cost.			http://matorka.is/
	Blue Lagoon	Blue Lagoon is a unique experience – an unforgettable opportunity to energize with the forces of nature. Set in the pure heart of the Icelandic landscape, Blue Lagoon is a truly special world.	Privatly owned spa	Very positive as their business evolve around geothermal utilization.	Blue Lagoon is a unique experience – an unforgettable opportunity to energize with the forces of nature. Set in the pure heart of the Icelandic landscape, Blue Lagoon is a truly special world.			http://bluelagoon.com
	Fontana	Laugarvatn Fontana is a place where you come to relax and experience authentic Icelandic nature while relaxing in the warm geothermal pools and natural steam rooms. The baths vary in depth, size and temperature and the steam rooms that have been built over natural hot springs that has been used in this purpose since 1929. Fontana is situated by a beautiful lake Laugarvatn and you can enjoy the spectacular views from the sauna or the pools.	Privatly owned spa	Very positive as their business evolve around geothermal utilization.	Laugarvatn Fontana is a place where you come to relax and experience authentic Icelandic nature while relaxing in the warm geothermal pools and natural steam rooms. The baths vary in depth, size and temperature and the steam rooms that have been built over natural hot springs that has been used in this purpose since 1929. Fontana is situated by a beautiful lake Laugarvatn and you can enjoy the spectacular views from the sauna or the pools.			http://www.fontana.is/en/about
	GeoGreenhouse	Largescale greenhouses using the heat, electricity and CO2 from the geothermal power plants.	Project under development	Very positive as their business evolve around geothermal utilization.	Largescale greenhouses using the heat, electricity and CO2 from the geothermal power plants.			http://geogreenhouse.is/?p=316
Public Stakeholders								
	ISOR	Iceland GeoSurvey is a leading provider of scientific and technical expertise to the geothermal industry in Iceland and abroad. We offer consulting services worldwide on most aspects of geothermal exploration and development.		Very positive as their business evolve around geothermal utilization.	Important link in exploring and utilizing geothermal energy			http://www.geothermal.is/
	Nýsköpunarmiðstöð	Innovation Center Iceland encourages innovation and promotes the advancement of new ideas in Icelandic economy by providing active participation and support to entrepreneurs and businesses. Innovation is a prerequisite for diversity in the Icelandic economy and the basis of a strong competitive position of the economy. Innovation Center Iceland belongs to the Ministry of Industry, Energy and Tourism and operates according to the Act on Government Support for Technology, Research, Innovation and Industry (no. 75/2007).		Positive	Important link in stimulating innovatuion and added value in connection to geothermal energy.			http://www.nmi.is/about-us/
	NGO's on enviomental protection			In general positive towards renewable energy but individual geothermal project can be very debatable.				e.g. Www. http://nature.is/frettir/sida1/ http://landvernd.is/en http://www.framtidarlandid.is/natturukortid/

Geothermal ERANET - WP5 - Cooperation with Stakeholders							
Stakeholder List		Country:	Netherlands	Date:	13.04.2013	draft	
Stakeholder Groups	Stakeholder name	Role in geothermal RDD&I	Characterisation of stakeholder	Attitude	Importance/Influence on geothermal RDD&I	Extent of activity in geothermal RDD&I	Actions required
Comments to column titles		E.g. providing R&D services, using results of public funded R&D, energy planning ...	Any Information relevant for evaluation of SH's role/function in geothermal R&D		Including competences/tasks imposed by laws and regulations, strategic decisions in R&D, funding volume, investment volume	E.g. number of persons/jobs or annual turnover in geothermal R&D, other figures indicating size of activity	
Political Stakeholders							
	Ministry of Economic Affairs	Oversees a.o. energy and the agricultural sector. Permits for subsurface use incl. geothermal according to NL mining law		Stimulates geothermal energy as one of the renewable energy options		Issued the "Action plan geothermal energy" - will be guided by this. Involved are both "Energy and sustainability" and the "Energy in agriculture". Scope is expanding towards deeper reservoirs.	
	Ministry of Infrastructure and the Environment	"Spatial planning" of subsurface.		n.a.		n.a.	
	Tweede kamer (Parliament)	Approves new laws on (geothermal) energy. Can put forward own suggestions (Motion).		In general very positive across the party political spectrum		Evidently oversees everything that is going on in the Netherlands, but has, in 2010, accepted a motion to formulate an action plan on geothermal energy.	
	Eerste kamer ("House of Lords")	Approves new laws on (geothermal) energy.		In general very positive across the party political spectrum		Oversees all developments in the Netherlands	
	Commissions in Parliament: Commission on Economic Affairs Commission on Education, Culture and Research Commission on Infrastructure and Environment					n.a.	
	Provinces (12)	Can develop regional policy plans for geothermal and/or facilitate/initiate geothermal development - a few offer financial support for implementation.		Some are positive and actively stimulate implementation of geothermal energy		Some are actively involved, even filing for geothermal concessions, others have no active involvement	
	Communities (408)	Can facilitate/initiate geothermal projects - also permitting role (WABO procedure)		Some are positive and actively stimulate implementation of geothermal energy		Some are positive and actively stimulate implementation of geothermal energy. Heerlen and Den Haag have initiated the first geothermal DH projects in NL	
Gov't appointed advisory committees							
	Topteam Energie	Topteam Energie chooses directions in energy innovation. Policy makers, industry and researchers collaborate in 7 themes.		In next few years, we hope to see a better positioning of geothermal energy in Topsector Energie		At the moment, activities on geothermal energy are scattered over the various "innovation tables".	Get geothermal energy properly embedded in this energy innovation "steering committee"

	Programme "Kas als Energiebron" ("greenhouse as source of energy")	"Kas als energiebron" brings together Ministry and horticulturists. They determine an innovation and implementation programme for minimisation of fossil energy use in greenhouses.		Geothermal energy is a separate transition path - mainly aiming at direct use, but expanding		Actively involved to stimulate implementation; Has a budget for commissioning studies addressing teething problems.	
Academia							
	TNO	Research		Supportive, also exploring possibilities for power generation		TNO participates in many European research projects on geothermal energy and EGS	
	Delft University of Technology, Utrecht University, Amsterdam University, VU Amsterdam	Main universities for geological academic education. Delft UT will host the first chair on geothermal energy in the Netherlands.		Activities/Interest in geothermal still limited, but growing		TU Delft will host the first chair for geothermal energy in the Netherlands	
	Universities of applied sciences	Education and development in various geothermal energy-related topics		Some universities for applied sciences are active in relation to specific projects		Zuyd University in Heerlen is working on new/integrated concepts, also in relation to the minewater geothermal project; but activities of many are unknown	Looking for new and integrated concepts for the whole Built Environment (in connection with Industry and Agriculture) to make a sustainable transition possible
Public Funding Agencies							
	NL Agency (Department of Ministry of Economic Affairs)	Stimulating development of geothermal energy use through knowledge sharing, removing barriers, financial support		Positive and constructive; has been one of the central players to get geothermal from the ground in NL in the last decade.		Central intermediate role in the NL geothermal community. Stimulating and facilitating the market and innovation. advice to policy department of Ministry. Involvement and activities growing.	Looking for new and integrated concepts for the whole Built Environment in connection with Industry and Agriculture to make a sustainable transition possible
Private grant giving institutions / funding agencies							
	none						
Other federal administrative units							
	State Supervision of Mines	Advises on HSE		n.a.		n.a.	
	Royal Netherlands Meteorological Institute	Monitors seismicity		n.a.		n.a.	
(Industrial) Project Developers							
	(larger) Utilities	Active in district heating. Could consider combinations of power production and heat utilisation.		Some utilities participate in geothermal district heating projects, most are not active		Varying across utilities, not yet major activity	
	Communities & housing cooperations	Developing geothermal DH projects in their own community		Only a few pioneers, interest growing with others.		Heerlen and Den Haag pioneered the first geothermal DH projects.	Looking for new and integrated concepts for the whole Built Environment (in connection with Industry and Agriculture) to make a sustainable transition possible
	Horticulturists	Developing geothermal projects for (their own) green houses		Large interest, pioneers in geothermal development in NL		Activities and involvement still growing	

	'Independent' geothermal developers	Aim to develop geothermal projects (for direct use and/or geothermal electricity generation) in The Netherlands		Very positive		Number and activities growing	
	Industrial sectors e.g. paper and pulp	Potential large-scale application of geothermal energy (heat and possibly electricity)		Some positive and ready for a demonstration project, others not interested		Level of involvement also related to typical process temperatures	
Industry (equipment & service providers)							
	Service companies (e.g. drilling management)	Planning and overseeing drilling process - remediation		Positive		Involvement growing with growing market	
	Consultants (geological, drilling, etc.)	Geological Assessment, planning wells - remediation, etc.		Positive		Involvement growing with growing market	
	Hardware providers, for district heating etc.	Supplying hardware, but also in some cases participation in district/greenhouse cluster heating projects		Positive		Involvement growing with growing market	
	Oil & gas-related companies	Relevant expertise for geothermal energy (drilling, geology, degassing etc)				Involvement growing with growing market	
Public Stakeholders							
	Productschap Tuinbouw	Productschap Tuinbouw (PT) represents all horticulturists, and it also implements selected policies. All horticulturists are obliged to contribute financially. PT supports geothermal energy - mainly through knowledge sharing.		Positive and constructive		n.a.	Organisation will be dismantled this year. Make sure there is a successor in their role.
	Platform Geothermie (Foundation Platform Geothermie - Geothermal Energy Association)	Promoting the application of geothermal energy in the Netherlands. Member of IGA.		Very positive (raison d'être)		Secretariat limited, but 65 contributing organisations	
	Warmtenetwerk (Dutch "network on heat")	Broad organisation, that aims to reduce greenhouse gas emissions by promoting district heating and cooling networks.		Mostly focuses on waste heat utilisation, but attention for geothermal is growing		Secretariat limited, but 174 contributing organisations	
	Media and other opinion makers	Inform the public about geothermal energy		Subsidence and increasing seismicity are presently sensitive issues. It recently became apparent that both will be inevitable in Groningen (gas production) - and this has caused much public agitation. Also, little public support for shale gas production			
Other...feel free to add other groups							
	new kids on the block & cross-over players	looking for new concepts, opportunities, products, etc.		open-minded, open for innovation and new directions; taking a new angle		trigger innovation, new concepts, holistic approach; adjusting existing knowledge for a new market	
	"ancien regime"	Have specific knowledge, but not applying it to geothermal (yet)		Still sticking to existing markets; could become nervous at some point or decide to cross-over		could bring in existing knowledge for a new market	

WP5 Stakeholder List		Switzerland			2013-01-07
Stakeholder Groups	Stakeholder name	Interest in geothermal R&D	Attitude	Importance/Influence on geothermal RD&D	Actions required
Political Stakeholders					
	Nationalrat NR (Lower House)	Generally low, except a few Members of Parliament who champion Geothermal	In general very positive across the party political spectrum	Very high (allocate R&D budgets, pass or refuse parliamentary motions regarding geothermal)	High grade, objective, impartial information
	Ständerat SR (Upper House)	Generally low, except a few Members of Parliament who champion Geothermal	In general very positive across the party political spectrum	Very high (allocate R&D budgets, pass or refuse parliamentary motions regarding geothermal)	High grade, objective, impartial information
	UREK Kommission für Umwelt Raumplanung und Energie - je 1 für NR und SR	Medium (Geothermal is long term option, expected to supply 5-10% power and heat by 2050)	Very positive	Very high; commission makes recommendations to parliament	High grade, objective, impartial information, occasional geothermal events (field trips) and reports on geothermal
	WBK Kommission für Wissenschaft, Bildung und Kultur - je 1 für NR und SR	Medium (geothermal R&D is part of energy R&D and a 2012 special dispatch to parliament)	Very positive	Very high; commission makes recommendations to parliament, and sets budgets for R&D	Geothermal R&D plans serve as input to overall energy R&D plans. International collaboration central (e.g. IPGT is mentioned in special dispatchs)
	Cantonal and communal parliaments	Generally low, except when local geothermal projects are planned	Very positive	High; parliaments approve large budgets of utility companies that are generally owned by cantons and communities	From geothermal R&D little information required (mostly cost evaluation data and time to market for new technologies)
	Federal Government (7 ministers)	Responsible minister very high; other government ministers limited	Very positive; perceives geothermal as an R&D energy play, long term and in need for funds	Very high; drives administrative efforts to address needs for geothermal R&D and market deployment	Information, access to minister, short, concise reports on R&D needs, input in speeches, letters to public, answers to parliamentary motions
	Cantonal and City governments (26 cantons and about 15 major cities)	Generally low, except when government is interested in a local project (usually no interest in R&D - it's a federal matter)	Very positive, when interested; some fears regarding HSE (induced seismicity)	Medium	Information when asked for
Gov't appointed advisory committees					
	CORE (Swiss Federal Commission on Energy Research)	Very high	in general positive (some territorial issues)	Very high, approves research strategies for geothermal	Very close communication with the commission
	EGK (Swiss Federal Geological Commission)	High	Very positive	Low	Information on geothermal R&D needs
Academia					
	ETH-Domain (ETH Zurich, EPF Lausanne, Paul Scherrer Institute), others are less prominent (empa, EAWAG, WSL)	Very high interest (coordination of R&D programs, R&D governance, desire for funding)	Positive, issues revolve around governance of R&D funds and funding aspirations	Very high (academic researchers need to be enthusiastic about geothermal R&D)	Formulation and coordination of geothermal R&D programs, good understanding of application driven research, communication on economic and commercial realities
	Universities (in Switzerland funded mostly by cantons)	High interest if geothermal is part of the university curriculum (e.g. University of Neuchâtel), else unis focus on fundamental research	Positive, no major issues	High, but influence limited	Formulation and coordination of geothermal R&D programs, good understanding of application driven research, communication on economic and commercial realities
	Technical Univ. (don't exist in Switzerland, role is carried by ETH and EPF)	NA	NA	NA	NA
	Universities of Applied Sciences (German: FH or Fachhochschule)	Low/limited interest (mostly shallow, very low enthalpy geothermal)	Neutral	Low	Encourage R&D in industrial applications
	Private research org. / private researchers	Low	Neutral	Low	None
Public Funding Agencies					
	DETEC (Fed. Dept of the Env., Transport, Energy and Communication) - Swiss Federal Office of Energy	NA	NA	NA	NA
	EAER (Fed. Dept of Econ. Affairs, Education and Research) - CTI - Commission for Technology and Innovation (market/industry driven research)	High, if funding request (50/50 academia/private enterprise) features geothermal - bottom-up approach	Positive (geothermal is sometimes funded)	High (available funds to geothermal are about 10-30% of SFOE annual budgets)	Information on geothermal path to commerciality
	EAER - SERI - State Secretariat for Education, Research and Innovation (Programs: NSF National Science Foundation, Sinergia, NRP National Research Programs, NCCR National Competence Centers for Reserach;	High, if fundamental R&D requests cover geothermal - generally bottom-up approach	Very positive, but highly competitive	High/ Influence limited via evaluation of proposals	Information on geothermal R&D needs (fundamental, research infrastructure, international joint programs, not only EU)
	DETEC - Federal Office of the Environment	High (FOEN addresses environmental issues, e.g. groundwater)	Very positive	Low on geothermal R&D / High on regulations	Information exchange on advances in geothermal R&D

	ETH Domain (CCEM, CCES)	Very high	Very positive	High / Influence limited, funds are re-distributed internally, evaluation panels tend to be academics	Formulation and coordination of geothermal R&D programs, good understanding of application driven research, communication on economic and commercial realities
	Cantonal funding opportunities (mostly through cantonal administration) and large city administrations	Very high interest (cantonal funds are usually matched/supplemented by federal R&D funds)	Very positive in Cantons with geothermal potential	Very high especially for local projects	Information on geothermal R&D needs
Private grant giving institutions / funding agencies					
	swisselectric research	Very high, bottom-up approach; seek close alignment/matching with SFOE funding	Positive, but project often removed from core remit, desired d risk profile and proximity to market	Medium	Information on geothermal R&D needs
	Axpo Naturstromfonds, BKW Oekofonds, ewz, Services Industriels de Genève Fonds	Limited in deep geothermal; company has geothermal business unit	Unknown	Low	None
Other federal administrative units					
	DDPS (Fed. Dept of Defence, Civil Protection and Sports) - Federal Office of Topography (includes Swiss Geological Survey)	Very high (subsurface data management and characterisation is remit of swisstopo, the fed. comp. center for geoinformation)	Very positive, R&D jointly executed (e.g. GeoMol)	High (swisstopo matches funds and internal resources according to geothermal needs)	Information on geothermal R&D needs (esp. Geoscience domain)
	DETEC - Federal Office for Spatial Development	Medium (geothermal is part of subsurface spatial planning and development)	Positive and constructive	Low on geothermal R&D (except FOSD is owner of Alpine Space Program - GeoMol), Medium on general geothermal issues (FOSD sets boundary conditions, but implementation at cantonal level)	Information on geothermal R&D - but at general level
	Swiss Seismological Service (SED)	Very high particularly on R&D related to minimizing seismic risk; recipient of funding	Very positive	Very high, SED is the regulatory body for seismological issues	Information on geothermal R&D needs (esp. Geoscience/HSE/hazards)
Power Industry					
	Utilities	Generally very high, particularly for project related R&D and Pilot- and Demo. funding; also desired partners for academics to access projects and data for R&D	Very positive, and single-minded ("my project is best and deserves all funding")	High, because their needs influence geothermal R&D and more so Piloting and Demonstration	Require close alignment to define and implement geothermal RD&D plans
	Independent, generally small geothermal developers (e.g. focus on Exploration)	Generally very high, particularly for project related R&D and Pilot- and Demo. funding	Positive	Low	None
Industry					
	Drilling companies (e.g. Foralith Holding/Bauer Resources GmbH,)	Limited (focus on established technologies)	Neutral	Low	None
	Service companies (RBR Geophysics GmbH,	Medium, but not well established; seek funding for R&D projects	If known, positive	Low	Better information dissemination
	EPC (e.g. Gruneko)	Limited (focus on established technologies)	Positive	Low	Information on geothermal R&D - but at general level
	Hardware suppliers (e.g. Alstom, Sulzer, MAN, ABB)	Medium in case of R&D projects (mostly power plant related)	Positive	Medium (help define downstream R&D needs for geothermal)	Dialogue and Information on geothermal R&D need
	Geothermal consultants	High, because desire for funding	In general positive	Low	Information on geothermal R&D - but at general level
Public Stakeholders					
	EAER - SERI - Swiss Academy of Sciences (think-tank on natural sciences)	Very high	very positive	low	Information on geothermal R&D - but at general level
	NGOs (e.g. AEE, Energietriolog, Swisscleantech, WWF, Greenpeace)	High	Very positive (some issues on environmental impact - induced seismicity)	Low	Information on geothermal R&D - but at general level
	National professional organisation (geothermie.ch)	Very high	Very positive (raison d'être)	High	Require close alignment to define and implement geothermal RD&D plans
	Cantonal advocacy groups (e.g. VGK AG)	Medium (more interested in geothermal project development)	Positive	Low	Information on geothermal R&D - but at general level
	Media and other opinion makers	Low on research (but very high on geothermal issues in general)	In general positive (want big bang stories on topics like induced seismicity)	Low	Information on geothermal R&D - but at general level

Geothermal ERANET - WP5 - Cooperation with Stakeholders

Stakeholder List		Country: ITALY		Date: 09.04.2013			
Stakeholder Groups	Stakeholder name	Interest or role in geothermal R&D	Characterisation of stakeholder	Attitude	Importance/Influence on geothermal RD&D	Extent of activity in geothermal R&D	Actions required
Comments to column titles		E.g. providing R&D services, using results of public funded R&D, energy planning ...	Any Information relevant for evaluation of SH's role/function in geothermal R&D		Including competences/tasks imposed by laws and regulations, strategic decisions in R&D, funding volume, investment volume	E.g. number of persons/jobs or annual turnover in geothermal R&D, other figures indicating size of activity	
Political Stakeholders	MIUR (Ministry of Education, University and Research)	Generally low	Very relevant role, allocates R&D budgets	Positive when interested	Very high, allocates R&D budgets, passes or refuses parliamentary motions regarding geothermal	to be defined	High grade, objective, impartial information
Political Stakeholders	MATTM (Ministry of Environment and Protection of Land and Sea)	Medium	Very relevant role, allocates R&D budgets	Positive when interested	Very high, allocates R&D budgets, passes or refuses parliamentary motions regarding geothermal	to be defined	High grade, objective, impartial information
Political Stakeholders	MISE (Ministry of Economic Development)	Medium	Very relevant role, allocates R&D budgets	Positive when interested	Very high, allocates R&D budgets, passes or refuses parliamentary motions regarding geothermal	to be defined	Geothermal R&D plans serve as input to overall energy R&D plans
Political Stakeholders	Ministry of Health	Low	Very relevant role in geothermal R&D	Neutral	High in geothermal R&D and on regulation	to be defined	High grade, objective, impartial information
Political Stakeholders	Ministry of Tourism	Low	Not relevant role in geothermal R&D	Not focussed on geothermal	Low in geothermal R&D, high on regulation	to be defined	Need to be more aware of the geothermal relevance, and need high grade, objective, impartial information
Political Stakeholders	GSE (Energy Service Management)	Generally low	Very relevant role in geothermal R&D	Positive but not well-focussed on geothermal (both power and direct uses) with respect to other renewables	Very high both on geothermal R&D and on regulation, incentives	to be defined	High grade, objective, impartial information and coordinated action with Government and Industry
Political Stakeholders	Regional Governments (particularly focussed on geothermal: Tuscan, Lombardy, Sicily, Veneto, Lazio, Campania, Sardinia, Umbria, Piedmont, Friuli Venezia-Giulia)	Responsible Department high; others limited	Very relevant role in geothermal R&D	Very positive and highly operative in particular in Tuscany, Lombardy, Emilia Romagna, Veneto, perceive geothermal as an R&D energy play, long term and in need for funds	Very high; drive administrative efforts to address needs for geothermal R&D and market deployment	to be defined	Information, access to ministry, short, concise reports on R&D needs, input in speeches, letters to public, answers to parliamentary motions
Political Stakeholders	Provinces and City Governments	Generally low, except when government is interested in a local project (usually no interest in R&D - it's a regional or national matter)	Very relevant role in shallow geothermal R&D	Positive when interested	High for shallow geothermal	to be defined	Need to be more aware about the geothermal importance at local level, also need information when required
Gov't appointed advisory committees	ATI _Italian Technological Platform for Geothermal Energy	Very high	Very relevant role in geothermal R&D	Very positive	High on geothermal R&D, it is willing to coordinates actions between Industry , Research Intstitutions and Ministries	95 Italian partners (Academia, Research Institutions, Industries)	Information, access to MIUR, concise reports on R&D needs
Academia	Universities	High	Potential influence in geothermal R&D	Very positive and in recent years a good cooperation between Research Institutions and Academia is growing	High importance, but limited influence	50 persons working on geothermal	Input from Industry and public/private fundings allowing to work synergically according to the market needs
Academia	Politecniques (Turin, Milan and Bari)	High	Potential influence in geothermal R&D	Very positive and in recent years a good cooperation between Research Institutions and Academia is growing	High importance, but limited influence	15 persons working on geothermal	Input from Industry and public/private fundings allowing to work synergically according to the market needs
Academia	Scuola Superiore S. Anna	High	Potential influence in geothermal R&D	Very positive and in recent years a good cooperation between Research Institutions and Academia is growing	High importance, but limited influence	3 persons working on geothermal	Input from Industry and public/private fundings allowing to work synergically according to the market needs
Public Funding Agencies	CNR (National Resources Council)	Very high interest, geothermal is relevant part of CNR curriculum (coordination of National Research Programs)	Potential influence in geothermal R&D	Very positive, geothermal is a major issue	High importance, but limited influence	50 persons working on geothermal	Formulation and coordination of geothermal R&D programs, good understanding of application driven research, communication on economic and commercial realities

Public Funding Agencies	INGV (National Institute of Geophysics and Volcanology)	High	Potential influence in geothermal R&D	Positive	High importance, but limited influence	30 persons working on geothermal	Formulation and coordination of geothermal R&D programs, good understanding of application driven research, communication on economic and commercial realities
Public Funding Agencies	ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development)	Interest is growing again	Very relevant role in geothermal R&D	Positive	High importance, high influence	6 persons working on geothermal	R&D funds
Public Funding Agencies	ISPRA (Institute for Environmental Protection and Research)	Low	Not relevant role in geothermal R&D	Neutral	Low	to be defined	None
Public Funding Agencies	OGS (National Institute of Oceanography and Experimental Geophysics)	High	Not relevant role in geothermal R&D	Positive	Low importance and limited influence	5 persons working on geothermal	R&D funds
Public Funding Agencies	RSE	Interest is growing	Very relevant role in geothermal R&D	Positive	High importance, high influence	to be defined	High grade, objective, impartial information
Private grant giving institutions / funding agencies							
Other federal administrative units	COSVIG (Consortium for the Development of Geothermal Areas)	Very high, bottom-up approach according to local needs	High influence at regional and local level	Highly positive	High at regional and local level	9 persons working on geothermal	Better information dissemination and geothermal utilizations, which helps to promote geothermal tuscan territory
Power Industry	ENEL GREEN POWER	Very high	Very relevant role in geothermal R&D	Highly positive	High on R&D geothermal	to be defined	Favourable regulation and incentives
Power Industry	MAGMAENERGY ITALIA	Very high	Very relevant role in geothermal R&D	Highly positive	High on R&D geothermal	to be defined	Favourable regulation and incentives
Power Industry	SORGENIA	Very high	Very relevant role in geothermal R&D	Highly positive	High on R&D geothermal	7 persons working on geothermal	Favourable regulation and incentives
Power Industry	SAIPEM	Low in Italy	Very relevant role in geothermal R&D	Positive	High on R&D geothermal	to be defined	Favourable regulation and incentives
Power Industry	GESTO	Very high	Very relevant role in geothermal R&D	Highly positive	High on R&D geothermal	to be defined	Favourable regulation and incentives
Industry	SME for geothermal exploration	Very high	Very relevant role in geothermal R&D	Highly positive	High on R&D geothermal	to be defined	R&D and incentives
Industry	SME for technology innovations	Very high	Very relevant role in geothermal R&D	Highly positive	High on R&D geothermal	to be defined	R&D and incentives
Public Stakeholders	UGI (Italian Geothermal Union)	Very high	Potential influence in geothermal R&D	Highly positive	Medium but with high potential, its role should be officially stated	120 associates working on geothermal	A recognized institutional role. High grade, objective, impartial information
Public Stakeholders	AIREN (Italian Alliance for Energy Research)	High	Not relevant role	Positive	Low	5 persons (1 representatives each participant Institution)	Better information dissemination
Public Stakeholders	AIRU (Italian Association for Urban Heating)	High	Potential high influence at regional level	Positive	High at regional level	to be defined	Better information dissemination
Public Stakeholders	Professional Associations (geologists, engineers, architects)	Medium but growing	Potential influence in shallow geothermal R&D	Positive for shallow geothermal	Medium but potentially higher	to be defined	Better information dissemination

WP5	Stakeholder List	Country:	Germany	Date: 2013-02-15	
Stakeholder Groups	Stakeholder name	Interest in geothermal R&D	Attitude	Importance/Influence on geothermal RD&D	Actions required
Political Stakeholders					
	Federal Government	Responsible minister & Federal Chancellor very high; other government ministers limited	Very positive; perceives geothermal as an R&D energy play, long term and in need for funds	Very high; drives administrative efforts to present the geothermal issues positively; visits of geothermal plants	Information, access to minister, short, concise reports, input in speeches, letters to public
	Federal state Government (16)	Generally low, except a few Members (Minister of Saxony) of Government who champion Geothermal	In general very positive across the party political spectrum	Very high	High grade, objective, impartial information
Gov't appointed advisory committees					
Academia					
	Universities	High interest if geothermal is part of the university curriculum (e.g. University of Neuchâtel), else unis focus on fundamental research	Positive, no major issues	High, but influence limited	Formulation and coordination of geothermal programs, good understanding of application driven research, communication on economic and commercial realities
	Universities of Applied Sciences (German: FH or Fachhochschule)	Low/limited interest (mostly shallow, very low enthalpy geothermal)	Neutral	Low	Encourage geothermal in industrial applications
	Helmholtz-Zentren, Fraunhofer-Gesellschaften, KIT	Very high interest (coordination of R&D programs, R&D governance, desire for funding)	Positive, issues revolve around governance of R&D funds and funding aspirations	Very high (academic researchers need to be enthusiastic about geothermal R&D)	Formulation and coordination of geothermal R&D programs, good understanding of application driven research, communication on economic and commercial realities
Public Funding Agencies					
	BMU- ministry for Environment	High	Positive	High	Information and actions on geothermal path to commerciality
	BMW I - Ministry for Education, Research and Innovation (energy research programm)	High, if fundamental R&D requests cover geothermal - generally bottom-up approach	Very positive, but highly competitive	High/ Influence limited via evaluation of proposals	Information on geothermal R&D needs (fundamental, research infrastructure, international joint programs, not only EU)
Private grant giving institutions / funding agencies					
Other federal administrative units					
Power Industry					
	geothermal power plants (e.g. Bruchsal, Pullach, Unterhaching, Landau...)	High	very positive	High	research, innovations, tests
Industry					
	Drilling companies (e.g. Herrenknecht/Schlumberger)	Limited (focus on established technologies)	Neutral	Low	None
	Service companies (e.g. BWG, GTN,...)	Medium, but not well established; seek funding for geothermal projects	If known, positive	Low	Better information dissemination
Public Stakeholders					
	NGOs (e.g. WWF, Greenpeace)	High	Very positive (some issues on environmental impact - induced seismicity)	Low	Information on geothermal - but at general level
	Media and other opinion makers	Low on research (but very high on geothermal issues in general)	In general positive (want big bang stories on topics like induced seismicity)	Low	Information on geothermal - but at general level

WP5 Stakeholder List		France				2013-04-26	
Stakeholder Groups	Stakeholder name	Interest or role in geothermal R&D	Characterisation of stakeholder (Any information relevant for evaluation of SH's role/function in geothermal R&D)	Attitude	Importance/Influence on geothermal RD&D	Extent of activity in geothermal R&D (E.g. number of persons/jobs or annual turnover in geothermal R&D, other figures indicating size of activity)	Actions required
Political Stakeholders							
	Parliament (National Assembly & Senate)	Generally low, except a few Members of Parliament	In charge of laws (environment, energy, research...)	Neutral	High (general policy on renewable energy and research, pass or refuse parliamentary motions regarding stimulation or fracking)	Global R&D funding	High grade, objective, impartial information
	Government (several ministries: Energy, Environment, Research, Industry, Overseas Departments, Foreign Affairs, ...)	Generally low, except a few people in the various ministries	In charge of the preparation of laws and of their implementation	Positive	Very high (deliver permits for high temperature geothermal energy, prepares the policy on renewable energy, research...)	Global R&D funding	High grade, objective, impartial information
	Regional Councils	Generally low, with some regions quite involved in geothermal energy (Centre, Ile de France, Alsace, Aquitaine, Auvergne)	Thanks to decentralization, more and more active in terms of support to R&D, renewable energies...	Neutral or positive	High (determination of regional objectives for renewable energies and regional policy to reach them, financial support to R&D)	Can fund more specifically R&D on geothermal energy	General information for regions where geothermal remains quite unknown High grade, objective, impartial information for others
	Local Councils (departments, city...)	Generally low	In charge of local policies and of a real estate	Neutral	Medium (local policy on renewable energy)	Mainly indirect impact on geothermal energy	General information to raise awareness
Gov't appointed advisory committees							
	National Committee for Geothermal Energy (CNG)	High (even if its main focus is on public policy)	A place of discussion between various stakeholders (state representatives, local authorities, industrial partners, associations, unions, experts) to try to produce a consensus	Very positive	High (the committee makes suggestions to the government to put in place a consistent policy in favour of geothermal energy)	More focused on adapting the public policy than on defining R&D priorities	High grade, objective, impartial information Technology roadmap
	Strategic Committee for Eco-Industries (COSEI)	Low (out of 5 working groups, one is dedicated to the production of renewable energies)	A place of discussion between industry and public authorities to try to produce a consensus	Positive	Medium (discussions between the private sector and the national ministries that leads to common decisions and actions to support industry)	Global recommendations on eco-industries and renewable energies.	High grade, objective, impartial information Technology roadmap
Academia							
	BRGM (French geological survey)	Very high (dedicated department to geothermal energy)	Carry out R&D projects on geothermal energy and also some commercial and/or international activities	Very positive	High (Public expertise, R&D and international cooperation activities that lead BRGM to be in various networks)	Turnover for geothermal energy : 7 M€ 35 people (full time equivalents) in the dedicated department and specialists elsewhere in BRGM (geophysicists, ...)	-
	LABEL G-Eau-Thermie Profonde	Dedicated	Carry out R&D projects and training on geothermal energy	Very positive	High (dedicated public funding to geothermal energy)	A total 3 M€ subsidy until 2020 to support R&D activity exclusively on geothermal energy	-
	IEED GeodEnergies	High (also covers underground carbon and energy storage)	Carry out R&D projects on geotechnologies for geothermal energy, CCS, energy storage	Very positive	Medium (still to be created)	If funded, a total 15,9 M€ subsidy to build an institute and a team working on geothermal energy, CCS and energy storage.	-
	Universities & CNRS (Antilles-Guyane, Strasbourg, Poitiers, Nice, Montpellier...)	Low, except a few researchers that are quite involved	Carry out R&D on various subjects	Positive	Medium (covers all the scientific domains)	Difficult to measure precisely	Technology roadmap to raise awareness
	National Alliance coordinating Research on Energy (ANCRE)	Low (out of 10 working groups one is covering fossil and geothermal energy)	Help ministries and funding agencies to define R&D priorities in the domain of energy.	Positive	High (plays an advisory role for ministries, agencies...)	Global impact on R&D energy policy	High grade, objective, impartial information Technology roadmap Lobbying to get a seat comparable to other energies
Public Funding Agencies							
	CGI (management of the 'Investments for the future' program)	Medium (coverage of very various domains)	Funds RD&D on various domains.	Neutral	Very high (management of significant funding for renewable energies)	Could fund RD&D projects (including on geothermal energy) with several tenths of millions of euros	High grade, objective, impartial information Technology roadmap Lobbying from the industrial sector
	Inter-Ministry Single Fund (FUI)	Medium (coverage of very various domains)	Funds RD&D on various domains.	Neutral	Medium (can fund a few R&D projects on geothermal energy per year)	Funds RD&D projects (including on geothermal energy) of about one million euros each.	High grade, objective, impartial information Technology roadmap
	DGT (international cooperation funding of studies)	Medium (coverage of very various domains)	Funds studies abroad, on various domains.	Neutral	High (the funded studies on geothermal energy are a first step to develop international projects)	Funds studies (including on geothermal energy, typically feasibility), not really R&D.	High grade, objective, impartial information Technology roadmap
	AFD (international cooperation funding of projects)	Medium (coverage of very various domains)	Funds projects abroad, on various domains.	Neutral	Very high (the financial aid gives an opportunity to develop international projects)	Funds projects (including on geothermal energy), not directly R&D.	High grade, objective, impartial information Technology roadmap
Private grant giving institutions / funding agencies							
	French Agency for Environment and Energy (ADEME)	Very High	Participates to the definition of the objectives of the energy policy and its implementation, notably by funding R&D, projects...	Very positive	Very high (has supported the geothermal sector for decades)	6 permanent position in the headquarter + at least 1 per each of the 26 regional branches working on geothermal energy. Yearly budget on geothermal energy of several hundreds k€ per year (variable).	Lobbying from industrial sector
	French Agency for Research	Low (no research programmes covering geothermal energy)	Funds R&D projects on various topics	Negative	High (has significant funds even if it covers various topics)	No dedicated R&D programme on geothermal energy	Technology roadmap Lobbying from research and industrial sector
Other federal administrative units							
	None						

Power Industry						
Diversified utilities	Generally low (focused on other energies)	Develops projects using various energy sources	Neutral (will do if it is very profitable)	Low because of their other strategic priorities	Can fund focused R&D projects. More often, partner in R&D consortiums.	Technology roadmap Financial evaluations
"Pure-player on geothermal energy" utilities	Very high	Develops geothermal projects	Very positive	Medium (they want to but, as they are small, they are not always visible)	Generally, a partner in R&D consortiums.	-
Industry						
Technology clusters ('pôles de compétitivité') : AVENIA, S2E2, Synergie...)	Very high for those covering geothermal energy	Generates collaborative R&D projects.	Positive for those covering geothermal energy	Medium because of their local influence only (gathering of industrial and academic players around projects)	Gives a label to recognize the quality of some R&D projects and to enhance their chance to be funded.	Dialogue and Information on geothermal R&D need
Drilling companies (e.g. Cofor, SMP)	Medium	Drill wells including geothermal wells.	Positive	Low	Try to develop innovation but have low margins to do it; interested to test or implement technology developments.	Dialogue and Information on geothermal R&D need
Engineering companies (e.g. CFG Services, GPC IP, ESG...)	Very high	Design, project management and maintenance	Very positive	High (limited by their capacity to invest)	Try to develop innovation but have low margins to do it; interested to test or implement technology developments.	Dialogue and Information on geothermal R&D need
Service companies	Medium	Servicing notably in wells.	Neutral (working a lot for oil & gas)	Low	Mainly adaptation of oil & gas technologies to geothermal energy.	Dialogue and Information on geothermal R&D need
EPC	Low (focus on established technologies)	Engineering, procurement and construction	Neutral (working a lot for oil & gas)	Low	Can be interested to test or implement technology developments.	Dialogue and Information on geothermal R&D need
Hardware suppliers (e.g. Alstom, Cryostar, GE...)	Medium	Builds some components of the plant.	Neutral	Medium (help define downstream R&D needs for geothermal)	Can develop new or enhanced components if the market is big enough.	Dialogue and Information on geothermal R&D need
Geothermal consultants	High, because desire for funding	Consulting mainly.	Positive	Low	Commonly, in charge of the evaluation of R&D projects	Dialogue and Information on geothermal R&D need
Public Stakeholders						
French Geothermal Professional Association (AFPG)	Very high	3 sectors are identified : very low, low and high temperature geothermal energy	Very positive	High	93 members (in deep and shallow geothermal energy) - publish several studies and organises events.	Dialogue and Information on geothermal R&D need
French Renewable Energy Council (SER)	High	A commission is dedicated to geothermal energy.	Positive	Very high	Lobby and publish a directory of all geothermal professionals	Lobbying from industrial players
NGOs (e.g. France Nature Environment)	Medium	No dedicated association on geothermal energy; some are relatively focused on energy and climate change	Positive (very positive for renewable energy, negative for stimulation)	Medium	N/A	Information on geothermal R&D - but at general level!
Media and other opinion makers	Low on research (but very high on geothermal issues in general)	Not very aware but interested in geothermal energy.	In general positive	Low	N/A	Information on geothermal R&D - but at general level!

WP5	Stakeholder List	Turkey	2013-02-26		
Stakeholder Groups	Stakeholder name	Interest in geothermal R&D	Attitude	Importance/Influence on geothermal RD&D	Actions required
Political Stakeholders	Republic of Turkey Ministry of Energy and Natural Resources	High.	Positive.	High (responsible of implementations of the legislations about geothermal energy)	High grade, objective, impartial information
Gov't appointed advisory committees	Republic of Turkey Energy Market Regulatory Authority	At the moment, low; on the other hand in long term geothermal projects may be inserted in the scope of the authority with respect to the regulations to be legislated in order to balance geothermal energy market.	Positive.	Indirectly, in long term may be high; however, at the moment medium.	High grade, objective, impartial information
Academia	Universities	High interest if geothermal is part of the university curriculum (e.g. University of Hacettepe), however, generally fundamental researches are focused.	Positive.	High.	Participation of geothermal R&D projects private firms oriented as a subcontractor, applications of geothermal energy from the side of theory but also fundamental research at laboratory scale.
Public Funding Agencies	The Scientific and Technological Research Council of Turkey	Very high.	Very positive.	Very high. Large companies and SMEs can apply to TUBITAK. Universities and research institutes can only be funded by subcontracting. SMEs can receive funds as 75% of all eligible R&TD costs and large companies receive funds as 60 % of all eligible R&TD costs.	300.000 – 500.000 € is the average budget per project for granting, especially for geothermal energy projects.
Power Industry	Utilities	Very high, searching international partners in order to present projects within the frame of joint calls.	Very positive, and objective.	High, geothermal R&D plays a vital role for having a sustainable development for the utilities.	Require having contacted with international partners.
Industry	Firms (using geothermal energy as an instrument for implementation of projects)	Very high, searching international partners in order to present projects within the frame of joint calls.	Very positive, and objective.	High, geothermal R&D plays a vital role for having a sustainable development for the utilities.	Require having contacted with international partners.
Public Stakeholders	NGOs	High	Positive.	Medium.	Information on geothermal R&D - but at general level

Geothermal ERANET - WP5 - Cooperation with Stakeholders

Stakeholder List		Country: Slovakia		Date: 26.03.2013			
Stakeholder Groups	Stakeholder name	Interest or role in geothermal R&D	Characterisation of stakeholder	Attitude	Importance/Influence on geothermal RD&D	Extent of activity in geothermal R&D	Actions required
Comments to column titles		E.g. providing R&D services, using results of public funded R&D, energy planning ...	Any information relevant for evaluation of SH's role/function in geothermal R&D		Including competences/tasks imposed by laws and regulations, strategic decisions in R&D, funding volume, investment volume	E.g. number of persons/jobs or annual turnover in geothermal R&D, other figures indicating size of activity	
Political Stakeholders	National Council	Approval and changes of legislation	The National Council is the sole constitutional and legislative body of the Slovak Republic.	Neutral	High		High grade, objective, impartial information
	Ministry of Economy	Creation of legislation	A central body of state administration of the Slovak Republic for power engineering inclusive nuclear fuel management and storage of nuclear waste and power effectiveness, heat and gas manufacture, exploitation and treatment of solid fuels, exploitation of oil and natural gas, exploitation of ore and non-metallic resources and searching, etc.	Positive but without any particular support	Very high; drives administrative efforts to address needs for geothermal R&D and market deployment		Information, access to minister, short, concise reports on R&D needs, input in speeches, letters to public, answers to parliamentary motions
	Ministry of environment	Creation of legislation	A state administrative authority in environmental affairs including nature and landscape protection, environmental aspects of planning, assessment of environmental impacts, geological research and exploration, etc.	Very positive; perceives geothermal as an R&D energy play	Medium		Information, access to minister, short, concise reports on R&D needs, input in speeches, letters to public, answers to parliamentary motions
	Higher Territorial Units	Permissions providing	The highest autonomous territorial unit in Slovakia. Its territory is now identical to the region.	Neutral	Medium		High grade, objective, impartial information
	Communal parliaments	Permissions providing	Municipalities have communal parliaments elected by citizens. The head of the parliament is mayor similarly as in other countries.	Very positive	High		From geothermal R&D little information required
Gov't appointed advisory committees	Regulatory Office for Network Industries	Regulation on electricity and district heating providers	It has an unpopular role of being an arbiter of two mutually contrary interests in network industries, and thus energy producers and suppliers on one side and consumers on the other side, out of which, of course, each has its own idea about the final prices.	Neutral	Medium		Information on geothermal R&D needs
Academia	Slovak Academy of Sciences	Providing R&D services	The largest scientific organisation in the country	Positive	Medium		Encourage R&D in industrial applications
	Slovak University of Technology	Providing R&D services	The largest and the oldest technical university in Slovakia	Neutral	Low		Encourage R&D in industrial applications
	University of Zilina	Providing R&D services	University focused on mechatronics and transport	Neutral	Low		Encourage R&D in industrial applications
	Technical University in Kosice	Providing R&D services	University focused on power engineering and metallurgy	Positive	Low		Encourage R&D in industrial applications
	State Geological Institute of Dionýz Stúr	Providing R&D services	National Geological Survey	Very positive	Medium		Formulation and coordination of geothermal R&D programs, good understanding of application driven research
Public Funding Agencies	Slovak Research and Development Agency	Funding of R&D projects	National Grant Agency	Neutral	up to €250k		Information exchange on advances in geothermal R&D
	The Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic for the Structural Funds of EU	Funding of R&D projects	Grant Agency of Structural funds focused on R&D, transport, etc.	Neutral	several €100k - few €1M		Formulation and coordination of geothermal R&D programs
	Environmental fund	Funding of environmentally focused applications	Fund of Ministry of Environment	Neutral	several €100k		Formulation and coordination of geothermal R&D programs
Private grant giving institutions / funding agencies							
Other federal administrative units							
Power Industry	Utilities (e.g. ENEL)	Energy planning	The largest power engineering corporation in Slovakia	Neutral	Medium		Require close alignment to define and implement geothermal projects
Industry	Independent, generally small geothermal developers (e.g. Slovgeoterm)	Development of new geothermal DH sites	Subject of enterprise of Slovgeoterm is to provide utilization of geothermal energy in regions of Slovakia at the world class. In particular it represents elaboration of technical-economical study (feasibility study), which determines quality and quantity parameters of a geothermal water, energy potential of a geothermal resource, possibilities of its usage in given locality and economical efficiency of a project.	Positive and constructive	Medium	Several employees, few €100k annual turnover	None
	Independent, providers of geothermal RnD (e.g. Geothermal Anywhere)	R&D on deep drilling technologies	Private company focused on deep drilling technology for geothermal application	Positive and constructive	Medium	29 employees, about €1M annual turnover	Better information dissemination
Public Stakeholders	Agency for Geothermal Power Engineering	Support and promotion of geothermal energy	AGEO GeoEnergia creates a space in which all sectors involved in the development of geothermal energy cooperate to secure the commercial utilization of this renewable source of clean energy and its sustainable growth.	Positive	Medium	Few members, approx. €20k annual turnover	Better information dissemination
	NGOs (e.g. Greenpeace)	Low	Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment	Very positive	Low		Information on geothermal R&D
	Media and opinion makers	Low	-	Neutral	Low		Better information dissemination

Geothermal ERANET - WP5 - Cooperation with Stakeholders							
Stakeholder List		Country:	Hungary	Date:	02.08.2013		
Stakeholder Groups	Stakeholder name	Interest or role in geothermal R&D	Characterisation of stakeholder	Attitude	Importance/Influence on geothermal RD&D	Extent of activity in geothermal R&D	Actions required
Comments to column titles		E.g. providing R&D services, using results of public funded R&D, energy planning ...	Any Information relevant for evaluation of SH's role/function in geothermal R&D		Including competences/tasks imposed by laws and regulations, strategic decisions in R&D, funding volume, investment volume	E.g. number of persons/jobs or annual turnover in geothermal R&D, other figures indicating size of activity	
Political Stakeholders	Ministry of National Development, State Secretariat for Energy and State Secretariat for Climate Policy and Development	responsible for mining (including exploration and exploitation of geothermal energy in the frame of concession) and RES policy		positive, promoting the enhanced USE of geothermal energy, therefore in conflict with Min. of Rural Development	medium on RD, very high on regulations and strategic decisions in relation with NREAP	no such info	establishment of integrated legislation on geothermal energy
	Ministry of Rural Development, State Secretariat for Environment	responsible for water management in general, HU implementation of the Water Framework Directive - i.e. assessment of thermal groundwater bodies		positive, however focusing on the PROTECTION of thermal groundwater resources (carrying medium of geothermal energy), therefore in conflict with Min. of National Development	medium on RD, very high on regulations and strategic decisions in relation with water management	no such info	establishment of integrated legislation on geothermal energy
Gov't appointed advisory committees	0						
Academia	Geological and Geophysical Institute of Hungary	national geological survey under the Ministry of National Development, responsible for collection, interpretation and dissemination of geoscientific data (including mineral resources and geothermal energy). Performing national and international RD projects		very positive	monopoly by having national databases, therefore very high in regional and international RD projects	out of 165 employes about 30 in connection with geothermal RD projects national and international (geology, geophysics, hydrogeology, GIS), also performing expert work to support the tasks of the Hungarian Office for Mining and Geology (line 18)	more funding for development (e.g. new computers, purchase of softwares, etc), need for young and expert people
	Eötvös Loránd University, Budapest	main centers for high-level education (generally special courses at geology-related departments), Msc and PhD programs (especially at Miskolc University)		very positive	important in education, however no major influence on RD	1-10 students annually (per university)	more funding, grants (e.g. for foreign studies)
	Miskolc University						
	Szeged University						
	Debrecen University						
Public Funding Agencies	National Environment and Energy Center	program manager of the "Environment and Energy Operative Program (- EEOP (2007-2013) financed by the Structural and Cohesion Funds	The EEOP has 7 priority areas out of which 2 are related to geothermal: Priority 4: Increase the use of renewables (396 million EUR) and Priority 5: Energy efficiency (386,5 million EUR).	very positive	The EEOP program is the most efficient and major supporting scheme for geothermal projects in Hungary.	The following projects were financed between 2007 and 2011: EEOP-4.1.0. (Support of heat/power generation from renewables): 3 projects, total support: 2, 53 million € EEOP-4.2.0. (Local heat and cooling supply from renewable sources): 10 projects, total support 14,87 million € EEOP-4.7.0. (Subsidy of the preparing and developing activities of the geothermal based heat and electricity producing projects): 2 projects, total support 2,08 million €	Lack of prove of own resources, guarantees and elongated licensing procedures were the main problems during the period of contracting, while in the period of project implementation itself, mostly the changes in the technical content of execution, and the not sufficient proofs of performances caused delays.
Private grant giving institutions / funding agencies	EBRD	financing of large investment projects		neutral, purely on business basis	so far only a 2 large geothermal district-heating projects financed in the frame of a business model of Pannergy Ltd	no such info	funds available for smaller projects too
	EIB						

Other federal administrative units	National Institute for Environment	main organization managing (thermal) groundwater issues, coordinating intergrated river basin management plans (Water Framework Directive), involved in licensing of wells (however not an authority). Under Ministry of Rural Development		positive	very high influence on thermal groundwater management, mainly emphasizing their protection and therefore not favoring energetic utilization. Also promoting re-injection, as a tool of maintaining good reservoir statuses (pressure conditions)	only thermal groundwater bodies, their hydrogeological characterization, 2 experts	more manpower capacity (experts) for evaluations
	Hungarian Office for Mining and Geology	chief authority in licensing geothermal concessional blocks (below -2500 m), maintaining national geothermal resource register (under re-construction), collecting mining royalty after exploited amount of geothermal energy. However no RD activity. Under Ministry of National Development		positive	very high, e.g. outlining potential areas for concessional bids, compiling strategy documents in relation to geothermal potential assessment of the country, NREAP targets, etc. However in all these tasks majority of expert work is provided by the Geological and Geophysical Institute of Hungary (see line 9)	related to authority work/licensing/concession, about 2-5 people	more experts
Power Industry	EU-Fire SWR-Bauconsulting Pannergy Ltd Cege Ltd MOL Mannvitt	interested in project development, RD needs are restricted to their project areas, but there very detailed and sophisticated reservoir models		positive	most sophisticated RD activity carried out at reservoir scale (e.g. modelling, visualization, reservoir assessment etc)	top-experts employed, typically 5-15 at each company	no info
Industry	VIKUV Rotaqua Geo-Log Aqua-Plus	main companies for drilling of thermal wells and various borehole tests, interested in specific technical developments, moderate interest in		neutral to positive, purely on business basis (service companies)	not important	limited, a few wells (mayx up to 10) per year, competition	no info
Public Stakeholders	Hungarian Geological Society Hungarian Hydrological Society Hungarian Geothermal Society Hungarian Thermal Energy Association Chamber of Engineers, Geothermal section	societies of experts dealing with various fields of geothermal,		very positive	high, very active, organization of several scientific meetings, workshops per year	high number of membership (in range of several 100 altogether)	more financial supprt
agricultural users		mostly interested in sustainable production and reinjection, not focusing on RD		neutral, interested only in those which influence their utilization	not important	majority of HU energetic use of geothermal is in the agriculture sector (heating of greenhouses) - 241,84 MW installed capacity, 2800 TJ/y annual use (2011 data). Few large users are concentrated in SE Hungary, but smaller ones spread all over	financial supprt for the establishment of re-injection wells
private companies (consulting, project development and management)		SME-s, typically 1-10 people employed, providing expert work for all types of geothermal		positive, high competition between them	important, however little influence	altogether some dozens of experts, limited annual turnover	no info