GEOELEC
Legal status and regulation, do they create barriers ?

Training Course Strasbourg, day 1

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European Geothermal Energy Council

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Main areas of legal problems and regulatory barriers

A basic problem EU-wide solved by Directive 2009/28/EC:

Binding definition of Geothermal Energy

Art. 2:

The following definitions also apply:

…

(c) 'geothermal energy' means energy stored in the form of heat beneath the surface of solid earth;

Main areas of legal problems and regulatory barriers

Ownership of the resource / license for using the resource

- A clear title for exploitation rights over a sufficient period is crucial

Protection of the resource against other uses/users

- No licenses for other uses/users that would jeopardize the resource
- Certain distance (or other protection) must be kept for other uses

Environmental regulations

- Groundwater protection incl. pressure issues, soil protection
- Seismicity, surface issues

Work safety, construction, traffic

- Any legislation applicable for similar activities in mining, drilling, construction, etc.

Main areas of legal problems and regulatory barriers

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Protectio

- No licens source
- Certain c uses

For a renewable energy, „exploitation“ might not be the best wording; the energy extraction should be seen more a use of the resource, a temporary exploitation and recovery, or similar.

Environmental regulations

- Groundwater protection incl. pressure issues, soil protection
- Seismicity, surface issues

Work safety, construction, traffic

- Any legislation applicable for similar activities in mining, drilling, construction, etc.

Main areas of legal problems and regulatory barriers

For geothermal power, grid access is a top issue

- Secured right of connection, or negotiation with grid operator (who actually might be a competitor)
- All regulations for electricity grids apply!

Regulatory barriers can also result in cost barriers

- Cost for legal fees, license fees
- Cost for royalties => in particular problematic if fixed and not related to production!
- Cost for environmental studies, public hearings, etc.pp.

Main areas of legal problems and regulatory barriers

Dividing legal and regulatory barriers into impact groups:

- Uncertainty, lack of protection

  in case no clear title for exploitation can be obtained, and/or no protection against other uses/users, the basis for investment is absent

- Timing

  Procedures for obtaining the basic rights to the resource

  Procedures for practical exploitation (environment, neighbours, etc.)

  Procedures for grid connection

- Cost, as stated on previous slide

- No grid connection – no sales of power

Main areas of legal problems and regulatory barriers

A target within project Geoelec is to collect experiences of project developers with legal and regulatory barriers.

Geoelec can build upon (more theoretical) work from previous EU-projects and tries to shed light on what is stated in regulations and what is the actual, daily practice.

This part of the project is still work in progress.

Resource ownership and protection

Who actually owns the geothermal resource?

Options:

- The state / the crown

  could be stipulated e.g. in mining law or in mineral resources law,

  good option if licensing is regulated properly;

  more difficult if included in water legislation

- The owner of the ground on surface

  difficult situation, as for a larger project multiple owners will be concerned; for deep geothermal project very time consuming

- Not regulated

  worst case, deep geothermal projects almost impossible

Resource ownership and protection

Who actually owns the geothermal resource?

Survey from project GTR-H (finished 2009):

GTR-H was focussing on regulations for geothermal heating (shallow and deep); Geoelec is working on an update and enlargement, focussing on electricity

	BARRIERS IDENTIFIED	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania
ID	*Financial Barriers*																
F1	Feasibility Study support									50% (ADEME up to € 150k)	No, in special cases there may be financing as part of a research activity				Recommended as 'preliminary investigation' by Law (art. 104 c.2 D. Lgs. 152/2006)	No, in special cases there may be financing as part of a research project	
		Direct grants															

Lux	Malta	Netherlands	Poland	Portugal	Romania	Slovak Republic	Republic of Slovenia	Spain	Sweden	UK + N. Ireland	Framework Statement	Ranking (L M H)
			No consider providing funding in special cases of highest risk	No. In some cases may be supported as a research activity	WB GeoFund program, Technical Assistance (TA) window			Yes. In some Autonomous Regions as Basque Country			Feasibility Study Support may be useful to develop the GT sector in low sector uptake	Low, Medium

GTR-H deliverable D14

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GTR-H deliverable D14

Example resource regulation Italy

L3	Regulation Covering Geothermal Resource Ownership	Yes (Civil Code, L. 896/1986, D.Lgs. 152/2006 mostly), stating each underground resource, surface water and groundwater included, is state property

Republic of Slovenia	Spain	Sweden	UK + N. Ireland	Framework Statement	Ranking (L M H)
	Yes. In some Autonomous Regions as Basque Country			Feasibility Study Support may be useful to develop the GT sector in low sector uptake	Low, Medium

Resource ownership and protection

Who actually owns the geothermal resource?

Survey from project GTR-H (finished 2009):

- state owned in:

  BG, DE, FR, GR, HU, IT, NL, PL, PT, RO, SI, SP

  good option if licensing is regulated properly; example DE, NL

- The owner of the ground on surface

  LV

- Not regulated

  IE, UK

GTR-H recommendation: Ownership requires to be defined in the primary legislation

Resource licensing

In case the ownership is with the state, the following items are crucial for geothermal development:

- Who can apply for a license (non-discriminatory process)
- One- or two-step-process (exploration, exploitation)
- Time period for which a license can be obtained, possible prolongations
- Royalties (based upon what parameter? Fixed or as a percentage of production?)
- Time for obtaining a license

Resource licensing

Royalties and duration period

- Royalties are possible, but currently waived for support reasons e.g. in DE; countries with reported royalties were e.g. PL, HU, SP
- 20 years or more in DE, FR, GR, HU, IT, LV, NL, PT, RO, SI, SP
- Specific problems in UK, where either the hydrocarbons law or the right of the ground owner might be concerned

GTR-H recommendation: The permit duration for extraction and exploitation of deep GeoEnergy projects should be a minimum of 20 year with an option for review/extension.
Production license termination processes should be included.

Resource licensing

Time for obtaining license

- Values reported from about 6 months (e.g. GR, NL) to 2-3 years (e.g. IT, PL)

GTR-H recommendation: Administrative process should take approximately 6 months. Permitting guidelines should be available and process should be made under a single submission.

Environmental regulations

The state has a duty to provide regulations protecting the environment or other human interests from possible negative consequences of geothermal power production.
The following rules should be adhered to:

- A viable equilibrium has to be found between regulations that might have not the necessary protective effect, and those that might kill geothermal development
- Full Environmental Impact Assessment (EIA) procedures only for large projects with considerable risk potential
- Keep environmental regulations focussed on the protection of ground, groundwater, surface from possible harm caused by the geothermal plant, and do not address unrelated issues!

Environmental regulations

Negative examples:

- A confusion is made of fracking for shale gas with EGS hydrofrac, and all stimulation actions are banned (e.g. German state NRW)
- Drilling and safety regulations for hydrocarbon exploitation are imposed on geothermal drilling
- …

The list of barriers from environmental regulations can be rather long. There will, of course, be cases where environmental issues make a project impossible. However, this should be limited to as few cases as possible, and be known as early in the project as possible!

Your own experiences are appreciated, please let EGEC and the national associations know!

Public acceptance

For a geothermal project, the acceptance by the local citizens is a basic requirement – sometimes legally, but always poitically.

- Public acceptance can only be expected if the issues are addressed openly and explained properly, and on as early a stage as possible!
- In a full EIA, typically a public consultation is included.
- On the other hand, in most of the licensing processes following mining legislation, decisions are taken on a more central (i.e. remote) level and local influence is limited.
- Even if construction of a geothermal plant is legally correct, public protest and opposition can jeopardise its existence due to political pressure

Grid access

Within Directive 2009/28/EC grid access is treated in Art. 16:

- Art. 16, 2

(a) Member States shall ensure that transmission system operators and distribution system operators in their territory guarantee the transmission and distribution of electricity produced from renewable energy sources;

(b) Member States shall also provide for either priority access or guaranteed access to the grid-system of electricity produced from renewable energy sources;

- Art. 16, 3

Member States shall require transmission system operators and distribution system operators to set up and make public their standard rules …

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How much of these provisions already is implemented into national legislation, and how is the practice?

- Art. 16, 3

Member States shall require transmission system operators and distribution system operators to set up and make public their standard rules …

Summary

Barriers against geothermal power plants can result from:

- Uncertainty with resource ownership, difficult procedures for obtaining exploitation rights – in a number of countries solved satisfactory
- Environmental regulations need to take a wise approach, protecting the environment but not killing projects, wherever possible
- Secured grid access is a must for geothermal power – in some countries solved within legislation e.g. for feed-in-tariffs, for all stipulated in RES Directive
- Public acceptance problems must be taken seriously and solved, even if not required legally

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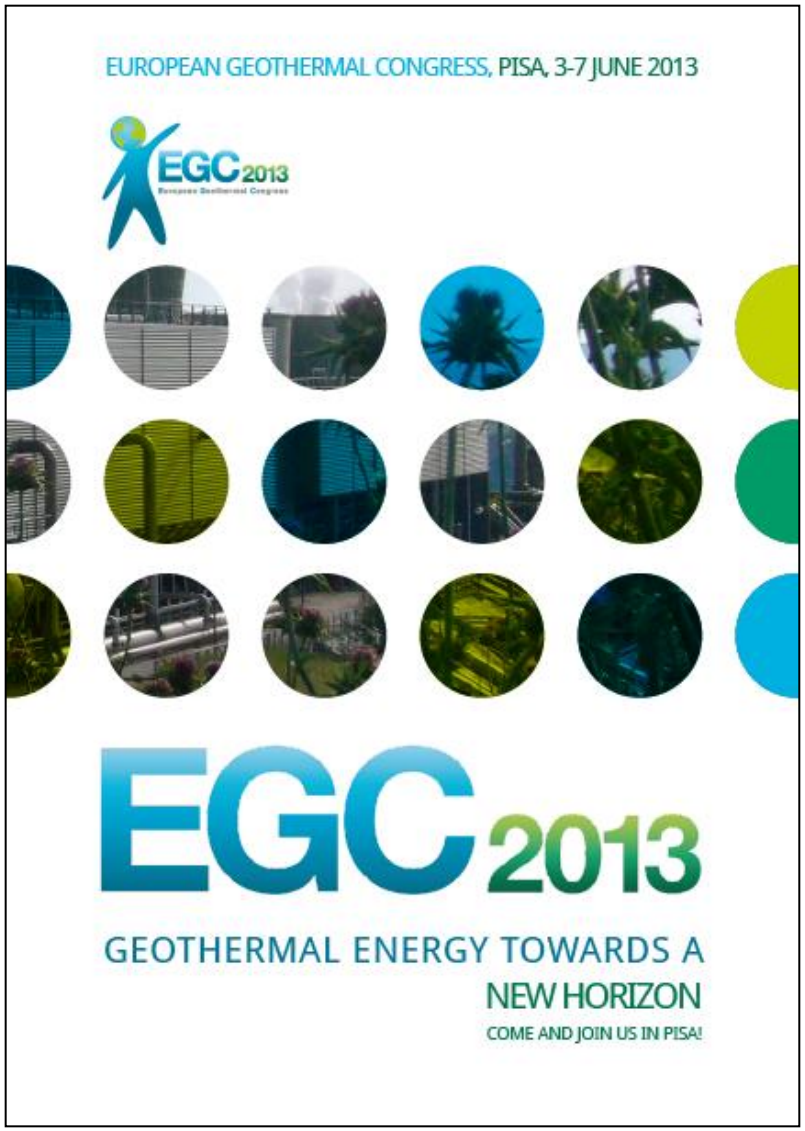
Thank you for your attention…

…and be invited to EGC 2013 in Pisa!



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