



**Regulatory
Frameworks for
Geothermal
Exploration and
Exploitation**



Geothermal Transparency Guide

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Geothermal Transparency Center – updated online form of Geoth. Transparency Guide

- Database with information on regulatory issues
- The aim is to provide information on regulatory issues in all GGA countries
- Annual updates of rules/regulations
- Statistical information
- New questions concerning f.ex. whether licenses can allow for a multi-use of the resource (electricity production, district heating-cooling, greenhouses, aquaculture etc), capital controls, land lease agreement issues etc.



Countries already involved:

Iceland	BBA
Canada	DLA Piper (Canada) LLP
Chile	Carey
Ethiopia	Teshome Gabre-Mariam Bokan law office
France	Allen & Overy
Germany	CMS Hasche Sigle
Indonesia	Hiswara Bunjamin & Tandung (Herbert Smith Freehills)
Italy	Bonnelli Erede



Japan

Latham & Watkins

Kenya

Anjarwalla & Khanna

Mexico

Hogan Lovells

New Zealand

Russell McVeagh

Philippines

SyCip Salazar Hernandez & Gatmaitan

Turkey

Bezen and Partners

United States

Van Ness Feldman LLP

Vietnam

Baker & McKenzie

How is
geothermal
regulated ?



Resource ownership

- In the vast majority of cases, the resource is state owned. In some cases (Iceland, Japan, US) private landowners can hold ownership of resource on their land. In Germany the resource is ownerless
- Access to geothermal resources is in most cases granted only by the state



Types of permits required

- Generally private parties cannot harness the resource without a license. Iceland, Japan and Germany allow landowners a limited exploitation of the reservoir
- Exploration licenses have a short life span (1 - 4 years). Holders of exploration licenses have either an exclusivity or a pre-emptive right to obtain exploitation licenses
- Duration of exploitation licenses is 10 – 65 years. Generally, extensions are available, sometimes on several occasions with however a long stop date in most instances
- Power Plant Licenses are separate from exploitation licenses
- Licenses are transferable in certain countries



Incentives

- Most countries provide for some form of incentives related to exploration, exploitation and production
- The incentives vary from being feed-in tariffs (Germany, Italy, Japan, Kenya, Turkey), tax rebates, tax holidays, deduction of import/export duties, guarantees and direct financial support



Fees, rentals, royalties and guarantees

- The application of fees, rentals, royalties and guarantees for the extraction of geothermal resources is often unclear in the licensing procedure
- State and/or municipal authorities are provided with the authority to impose fees and require guarantees during the development of the resource
- Uncertainty as concerns fees and guarantees reduces substantially the bankability of geothermal development projects



Criteria for granting and revoking licenses

- Applicants must submit information relating to their technical and financial capability, as well as a description of the reservoir and an analysis of the development project
- Landowner's consent is generally required
- Licenses can generally be revoked if (i) fees are not paid; (ii) general conditions of the license are not met; (iii) laws, including environmental regulations, are not followed; and (iv) only in certain cases if works have not commenced within a certain period from the issuing of the license



Power Purchase Agreements and grid connection

- General terms and duration of Power Purchase Agreements are rarely regulated but highly standardized and must comply with local law
- The price of power acquired by public entities is however in certain cases regulated. In France the price has now moved from FiT to CfD and the terms of the premium contracts are regulated
- The grid connection is generally subject to a separate agreement. Allocation of risk is a major aspect of any grid connection agreement



Surveillance

- Exploitation License holders are generally subject to periodical (annual, semi-annual or quarterly) reporting obligations
- Governmental authorities have in many instances a unilateral right to perform site visits and inspections
- In certain cases, peer review is required, which transfers decision making from public authorities to other market participants or scholars



Taxation and currency issues

- Taxation of companies engaged in geothermal activities follows in most cases general corporate income tax of each country
- VAT is applicable to power sale, with few exceptions - US has for example no VAT
- Capital controls are applied in certain countries, which may have an impact on the bankability of projects



Environmental aspects

- An environmental impact assessment is generally required for exploitation licenses
- The framework for environmental assessment is by and large similar between countries, whereas the administrative procedures, timelines etc. may vary somewhat

**Regulatory
Frameworks are
affecting
bankability**





How do Regulatory Frameworks have an impact on bankability?

- Regulatory frameworks in respect of geothermal licensing procedures (terms of application, information on the applicant, criteria for granting a license etc.) are in many respects similar between countries
- However:
 - the structure of public decision making varies considerably
 - technical regulatory requirements and lack of legal clarity are making geothermal projects less bankable



The structure of public decision making in geothermal regulations

- In certain countries, no particular public body is granted authority to deal with geothermal projects
- Different ministries are involved in the application procedure
- This reduces transparency and creates a risk of overlapping requirements between public authorities
- It is essential for countries to establish one central agency dealing with the public ministries on the one hand, and the developer on the other hand



Example of public bodies which the developer needs to deal with

- Ministry of Energy
- Ministry of Transport
- Ministry of Natural Resources
- Ministry of Environment
- Ministry of Justice
- Ministry of Land Rights
- Ministry of Labor **etc.**



General regulatory requirements affecting finance:

- General terms of licenses; term, pre-emptive right for production, revocation etc
- Tax issues
- Environmental issues
- Incentives for investment
- Terms of PPA's and Transmission Agreements, if regulated. Consequences of default
- Capital controls, if applicable
- The application and amount of liquidated damages in case of default



Example 1 of regulatory requirements affecting finance:

- Restriction on (i) transfer of shares or (ii) change in board members, in the license holder
- Financing parties must be able to assume control of the license holder in case of defaults in the financing agreements, either through share transfer or control through board members
- **Solution:** Two-tier system of license holder, Parent and Subsidiary, where the shares of the Parent are transferable and board members can be changed
- **Solution:** „*Direct Agreement*“ between Public Authority and Financing parties



Example 2 of regulatory requirements impacting financing:

- Guarantees to be submitted to the Public Authority in charge, before exploration drilling or exploitation
- If guarantees are required for drilling or exploitation, the amounts in question must be sufficiently clear in the application process
- Financing parties must be able to assess the nature and impact of such guarantees and evaluate the costs involved



Example 3 of regulatory requirements impacting financing:

- “*Peer review*” of the project prior to exploration drilling or exploitation
- If Public Authorities are transferring the decision process to a Peer Review process, such process needs to be clearly defined in the application process
- Financing parties need to understand the potential impact of such Peer Review and the authority of such review to require changes in the project schedule



Example 4 of regulatory requirements impacting financing:

- Duration and terms of land lease agreements, to the extent regulated
- If the land under the project is leased, Financing parties will be concerned with:
 - a sufficiently long term of the land lease agreement
 - provisions for renewal – whether the License Holder has a unilateral option to extend the term
 - decommissioning - whether the License Holder needs to remove all assets at the end of the term
 - whether the Public Authority can terminate the land lease agreement

**Need for
harmonization?**





Can the harmonization of regulatory frameworks increase bankability?

- Yes! The way to optimize the licensing procedure in geothermal projects is
 - to clarify all technical regulatory requirements in the application process
 - to harmonize licensing procedures and regulatory requirements
- We need to understand which technical regulatory requirements have an impact on the bankability of development projects and decrease any lack of transparency



For further information

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THANK YOU !