Comparison of regulatory framework Germany / Italy

Svenja Bartels[1], Benjamin Richter[2]

[1] Rödl & Partner, Via Nicolò Tommaseo 68, 35131 Padova, Italy

[2] Rödl & Partner, Denninger Straße 84, 81925 Munich, Germany

benjamin.richter@roedl.de

Keywords: Legal security, regulatory framework, economy, Italy, Germany.

ABSTRACT

For the realization of deep-seated geothermal energy projects a regulatory framework that offers legally secure and economic conditions is of utmost importance. The differences between Germany and Italy shown in the report illustrate the necessity to gain extensive knowledge – besides geological conditions - on the regulatory conditions concerning any specific location to be developed before taking an investment decision.

1. INTRODUCTION

The use of geothermal energy can be divided roughly into near-surface or deep-seated geothermal energy. While near-surface utilization of geothermal energy supplies single buildings (or complexes of buildings) with heat by earth heat collectors in combination with heat pumps (depth approx. 15 - 150 m), deep geothermal energy offers the possibility of larger dimensioned energy supplying projects, including the generation of electric power.

Deep hydrothermal energy is a special case, because water-bearing layers (aquifers) are used in great depth (2,000 - 5,000 m). For this purpose at least two boreholes are required (production well, reinjection well), because the raised thermal water has to be reinjected into the same layer after being cooled down.

The following paper focuses on the five key criteria concerning legal security and therefore necessary regulatory framework conditions that allow for an economic investment into deep-seated hydrothermal energy projects. These criteria are described in detail comparing Germany and Italy in the following. The investigated key criteria are:

- Long-term legal security of the ownership of geothermal resources and possible impact on financing of geothermal projects
- Legal security that the water licence to exploit the necessary amount for an economic project operation can be issued
- Legal security that district heating prices can be determined according to market conditions and are not regulated by public authorities (only limitations to prevent abuse of market power)
- Feed-in tariffs sufficient for an economic project operation, which allow for an adequate risk-award ratio
- Obligation of e.g. transmission system operators to purchase produced energy, as well as priority access of geothermal power plants to networks (and possibly obligation for network expansion)

2. LEGAL SECURITY REGARDING OWNERSHIP OF GEOTHERMAL RESOURCES

From the point of project development and project related risk management as well as due to high investment costs the long-term security for an exclusive exploration and exploitation of a specific geothermal reservoir is of utmost importance for any investor. As long as there is no legally binding definition, other parties could jeopardize realized investments. Possible impacts are lower reservoir temperatures due to intensive use or declining flow rates.

In a first step the exploration field would have to be determined and legally secured to allow for preliminary geological investigations or exploration drillings. Based on these results a sufficiently large exploitation field would have to be determined to secure a long-term exclusive right for exploitation (e.g. 50 years). Finally the ownership of the resource has to be allocated for a specific area within the exploitation field.

2.1 Germany

In Germany only the holder of the exploration and exploitation permit according to §§ 7 and 8 Federal Mining Act is entitled to apply for the ownership. Furthermore the economic exploitation has to be shown credibly by the applicant. The ownership of the geothermal resource does not comprise the ownership of the landed property. At the moment of awarding the ownership of the geothermal resource the exploitation permit expires concerning the respective area of the exploitation field. Similar to real estates it is possible to enter the ownership of the resource into the land registry and use it to safeguard a credit.

2.1 Italy

In Italy, the general legislation provides that the landed property extends to the relevant subsoil, with the only exception for its resources. As a matter of fact, due to their public interest nature, they are owned by the State (or by the Region in certain cases) that may grant its exploiting to a private individual by means of an authorization. In particular, for geothermal resources, the recent legislation (D.Lgs. 22/2010) provides an exploration permit (*permesso di ricerca*) for the research of new geothermal fields, issued for at most 4 years (plus an additional 2 years); in addition it provides the growing permit (*concessione di coltivazione*) for the exploiting of the discovered resources. In order to guarantee the payback of the incurred investments for the exploration, the exploring private is preferred in the assignment of the relevant exploitation permit, which can be issued for a period of 30 years and renewed after carrying out a competitive tender.

Other than in Germany, in Italy the ownership of the resource stays with the State or Region and therefore cannot help to safeguard a credit.

3. LEGAL SECURITY REGARDING WATER LICENCE

Since an exploitation permit according to mining law only allows for the exploitation of geothermal energy but does not include the necessary utilization of water or steam a further license according to water legislation is necessary in the context of hydrothermal projects.

3.1 Germany

Function of water legislation in Germany is to minimize the utilization of the resource water to secure the natural sources. In contrast the function of mining law is to maximize the utilization of the natural sources.

Furthermore in opposition to mining law no legal claim exists in water legislation. But in some German states the mining authority is entitled to override the interests of water legislation.

It is legally possible to obtain a license which is valid for decades. But in general the water license will be determinable to only few years and has to be prolonged by an application procedure on a regular basis. Therefore the period of validity of the water licenses is usually considerably lower than the one of the exploitation permit according to mining law and means a further risk in project realization. But in reality up to know all necessary water licenses have been issued for hydro-geothermal projects.

3.1 Italy

The water licenses are still regulated by the *Regio Decreto* 1775/1933. The license is granted by the Province or Region upon payment of a yearly fee. The license is always temporary and it can be granted for a period of 30 years, the same as for the exploitation permit. Therefore, although both licenses are necessary, the equality of their duration guarantees the security of the investment.

For the geothermal use of the underground water, the main problem is represented by the lack of a specific legislation in most Regions, delegated by the State to the legislation for the water and soil protection. In such cases, the need of an interpretative application of the general water provisions is often cause of bureaucratic delays.

Other than in Germany, the jurisdiction for any legal claim on the water license is delegated to a special court (*Tribunale delle acque pubbliche*), which competence is extended also to the underground water.

4. LEGAL SECURITY REGARDING DISTRICT HEATING PRICES

Any investor needs the security that district heating and district cooling prices can be determined in a way that allows the achievement of a certain rate of return of the investment as well as the possibility of passing increasing prices to the final customers.

In case the heat market is not yet completely deregulated and a certain “protection” of the final customer is political objective since heating energy can be considered to be substantial for any person, this leads to certain barriers for investments in this sector.

Regulated districted heating prices by public authorities would lead to the following consequences:

- a maximization of benefit is not possible
- the price could not be adapted to the present supply situation (e.g. required price for combustible as redundancy and peak load)
- the price could not be adapted to any investments (restoration, extension) undertaken
- the price could not be adapted to the capacities asked by particular costumers
- the price would depend on political matters and is influenced by date of elections etc.
- the business planning always lacks security, as the planned prices could be changed by the municipal council
- a third party, which is not a contracting party in an heat supply contract, has substantial influence on the content of the supply contracts and in succession on sales and benefits of the heat supply company.
- the risk of non coverage of heat generation costs would lead to a decline in revenues and profits

With reference to a geothermal project, the consequences would be that, even if the main costs (e.g. electricity for pumps) increase in the case of

feed-in-tariff - subsidies, the heat supply company has no instrument to equal its losses.

4.1 Germany

Any heat supply contract (with exception of industrial costumers (§ 1 para. 2 AVBFernwärmeV)) in Germany has to base on the "regulation on general conditions for the supply with district heat".

In this regulation several aspects of the supply are fixed, e.g.:

- type of supply
- scope of supply
- system of communication if there are unforeseen difficulties with supply
- liabilities in case of supply interruptions
- calculation of costs for connection to the heating network
- utilization of real estate
- definitions of interfaces
- measurement of heat volume
- utilization of heat
- etc.

The relevant paragraph concerning the price regulations defines among other aspects the following (§24 (4), AVBFernwärmeV):

- "The price sliding clause has to be defined in that way, that both, the development of costs of the production and supply of district heat and the respective circumstances on the heat market are included appropriate. It has to disclose the relevant calculation factors completely and in a generally comprehensible form. If the price sliding clause is implemented, the price factor which determines the contribution (in percent) of the costs for combustibles has to be shown separately in any change of price."

The inclusion of a price sliding clause therefore enables the above mentioned balancing of interests. The price cannot be defined completely free of any regulation, but can be oriented to the present situation of the heat supply costs (e.g. combustible price). The price, consequently, not only can be increased by the heat supply company, but also has to be decreased, if the price factors, which are defined in the price sliding clause decline.

In consequence, the following advantages can be achieved:

- the price is not regulated by any third party
- the price always includes the actual development of all influencing factors
- the price also has to be decreased if the factors show such a development
- the price and its development is transparent for clients.

In relation to a geothermal heat supply project, the price, if such a price sliding clause forms the base of a heat supply contract, would in consequence not be effected such strongly by rising price for combustibles as a "conventional" heat supply network leading to an advantageous price stability of the heat sales prices.

4.1 Italy

The Italian district heating system, though in a permanent development, is still missing a regulatory framework. Consequently, the prices that operators apply to their customers are not subject to any regulations by central Authorities.

For this reason, the antitrust Authority has started up an investigation, in order to avoid that the lack of regulation could cause monopolies of the local operators. The findings of the investigation have not been published yet.

It is therefore predictable, according to the spread of the district heating system that the regulation of the sector will be done in the next years.

5. ECONOMIC FEED-IN TARIFFS

Any investment always asks for stabile market conditions. Besides the amount of feed-in tariffs especially the long-term security regarding feed-in tariffs would be even more important in relation to a geothermal power plant, as the project preparation phase (time till commissioning) could last several years.

Due to the relatively high risks concerning the drilling exploration risks regarding deep-seated geothermal projects, feed-in tariffs have to allow for an adequate risk-award ratio since in most cases a certain amount of venture capital will be necessary in the first phases of project development.

A further aspect is the reference value for the calculation of the feed-in tariff. This can either be the net or the gross capacity of the installation. Remuneration only regarding net capacity (energy required for pumps and own consumption of the power plan deducted) has major influence on the profitability of any project.

5.1 Germany

For the last years the Renewable Energy Sources Act (EEG) in Germany offered a very stable and secure investment environment for geothermal projects. A statement of course has to be made project specific but in general the rate of the feed-in tariffs can enable an economic project realization especially considering

that in Germany the gross capacity of the renewable energy technology can be fed into the distribution network. The feed-in tariff for hydro-geothermal projects presently amounts to 25 Ct/kWh. The energy required for the pumps and for the own consumption of the power plant is taken from the grid at a lower price. The security of fixed feed-in tariffs is furthermore given for a period of 20 years plus year of commissioning.

Currently the continuance of the EEG is broadly discussed in Germany.

5.1 Italy

The recent legislation on the incentives for renewable energies (*Decreto Ministeriale 06.07.2012*) offered new investment opportunities to the energy operators. In conjunction with a cut to the incentives granted to photovoltaic, the government reserved new funds to the other sources, among them geothermal.

The feed in tariff, granted for 20 years, consists of an incentive for the power generated, which may be added to the incomes for the sale of energy to the public entity (*GSE*). The current value of the feed in tariffs for the geothermal plants vary within a limits of 0.085 €/kWh and 0.135 €/kWh, depending on the nominal power of the plant. Geothermal plants with nominal power higher than 20 MW, have to undergo a public tender.

Altough the tariffs are lower than the ones of the old regime, the legislation is aimed at supporting innovative technologies, recognizing premium tariffs for the reinjection of geothermal fluids, the construction of plants in consequence of new growing permit (*concessione di coltivazione*) and the realization of plants capable of pulling down the polluting substances of the fluids.

6. PRIORITY AND GUARANTEED ACCESS TO THE POWER GRID

According to the Directive 2009/28/EC on the promotion of the use of energy from renewable sources, priority access and guaranteed access for electricity from renewable energy sources are important for integrating renewable energy sources into the internal market in electricity. Priority and guaranteed access to the power grid therefore has to be secured by all EU Member States.

6.1 Germany

In Germany grid connection is regulated in the Renewable Energy Sources Act (EEG).

According to section 5 EGG, "grid system operators shall immediately and as a priority connect installations generating electricity from renewable energy sources and from mine gas to that point in their grid system (grid connection point) which is suitable in terms of the voltage and which is at the shortest linear distance from the location of the installation if no other grid system has a technically and economically more favourable grid connection point." Necessary costs for the connection have to be borne by the installation operators. In case the grid operator assigns a different grid connection point, additional costs have to be borne by the grid operator (section 13 EEG). Furthermore costs for optimising, strengthening and expanding the grid system have to be borne by the grid operator (section 14 EEG).

Only to prevent cases of grid overload grid operators are entitled to reduce output of renewable energy plants. Grid operators have to "ensure that the largest possible quantity of electricity from renewable energy sources and from combined heat and power generation is being purchased" (section 11 EEG).

6.1 Italy

In Italy, the connection to the power grid and the relative procedure to carry out with the grid operator is provided by TICA (*Testo Integrato Connessione alla Rete*) issued by the the energy Authority (AEEG-*Autorità per l'Energia Elettrica e il Gas)* by means of the deliberation ARG/elt 99/08.

Art. 28 of TICA provides that the grid operator, in pursuance of its services, must give priority to the applications that are aimed to the connection of renewable energy plants and high efficiency cogenerator plants.

Furthermore, in Italy, the deregulation of the energy sector has been launched by the Legislative Decree 79/1999 (*Decreto Bersani*). Its art. 3 provides that the Authority shall ensure the priority on dispatching to the power generated by renewable energies. The same provision has been kept also in the following sectorial legislation (Decree 387/2003).

It follows that, when the national grid is endangered due to the surplus of power generated, the energy production can only be limited through the power modulation of the plants fed by fossil sources. Only in cases of high risk for the national grid, the grid operator is entitled to reduce the input of the renewable energy plants.