

## The New Geothermal Law of Turkey and the Opportunities Provided to Entrepreneurs

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### ABSTRACT

Scientific and technical studies, together with field surveys related to geothermal resources have been ongoing for almost fifty years in Turkey. Despite this considerable time, the expected investments have not been done until now, due to the lack of a geothermal law, and the insufficiency of existing legislation. As Turkey is situated on the Alpine-Himalayan Orogenic Belt, it is one of the richest countries in terms of geothermal resource potential, and has a top rank in world classification. The new geothermal law resolves the problems regarding legislation, and offers this rich potential, which could not be appraised for long years, to the interest of domestic and foreign investors.

Geothermal Resources and Natural Mineral Water Act, No. 5686, issued on 13<sup>th</sup> June, 2007 was designed in accordance with the Turkish Trade Law. This new Law presents license and investment guarantees, by the issues of operating licenses to the domestic and foreign companies, valid up to thirty (30) years in the initial phase, with consequent extensions possible for ten (10) years, in later phases. This investment assurance covers holding license by a direct appeal based on a project, transferring a license to a third party, or receiving transferred licenses, re-possessing a license of a geothermal area, being released for any reason, by means of a bidding procedure. Additional aspects and assurances brought by the new law are; the availability of performing any kind of tests and measurements without being subject to production, the first legal statement until now of the application of reinjection process to preserve reservoir parameters and environment, and the obligation of post-treatment discharge considering environmental constraints, if reinjection is not possible.

On the other hand, the essence of the law to preserve the geothermal system and to provide optimum utilization of the resource without wasting it, together with the prevention of visual pollution by limiting construction, has been emphasized. In brief, the new geothermal law, No. 5686, has been prepared in an approach to preserve the geothermal system and potential, and to watch the benefit of the investor. With the long-term license validity and investment assurance provided to the foreign entrepreneurs, it is aimed to put these invaluable domestic resources to the beneficiation of humankind, through all the possible geothermal-related investment areas.

### 1. INTRODUCTION

The gap in legislations, complexity and the lack of coordination has been greatly eliminated by the "Geothermal Resources and Natural Mineralized Waters Law, No. 5686", which inured on June 13<sup>th</sup>, 2007 (Geothermal Law, 2007) and related Geothermal Regulation (dated on December 11<sup>th</sup> 2007). This law covers

the geothermal resources, natural mineralized waters and geothermal-originated gases, such as carbon dioxide, radon and methane, all of which are described as "natural capital or wealth". It is aimed at providing a continuous and effective exploration, development and production phases unity as much as possible, in accordance with the scientific and technical principals and with the application of new technologies.

The extremely interesting and complex geological situation of Turkey accounts for numerous natural resources. Turkey shows a great potential regarding the geothermal resources, natural mineralized waters and geothermal-originate gases, due to his location on the Alpine-Himalayan Orogenic Belt, which gave rise to the occurrence of extensive orogenic, magmatic and volcanic activities. On the other hand, significant geothermal resource potential is observed for the Aegean Region at the first rank, followed by Northwest Anatolia, Central Anatolia, East and Southeast Anatolia, due to the active main fault zones, and some other secondary faults. The new law, which has eliminated the gaps in legislation, has offered this rich potential to the attention of domestic and foreign entrepreneurs. This new law gives the right to acquire licenses to both domestic and foreign companies.

### 2. GEOTHERMAL LAW OF TURKEY

The new law has adopted two licence phases in principle, namely the exploration and exploitation licences. Thus, holding a licence for a certain time is made obligatory, by directly applying to the related administration. Right of priority has been accepted to protect the rights of the entrepreneur, arising through licence applications.

According to the Article 4.1, geothermal resources and natural mineral waters are under the possession and disposal of the State and are not bound by the land they exist in. It is obliged to receive authorization according to this Law for performing activities related with the resource (Geothermal Law, 2007).

Rights on geothermal resources and natural mineral waters shall be entitled to the personable Turkish Republic citizens, firms with legal personality who are constructed in accordance with Turkish Republic legislation and are determined to work on geothermal resources and mineral waters in their statues and authorized public entities, their establishments, subsidiaries and public administrations. Rights on geothermal resources and natural minerals shall be entitled to one real or legal person (Geothermal Law, 2007).

Rights on geothermal resources and natural mineral waters are subject to heritage. These rights may be entitled to one of the inheritors who has the properties set in the second paragraph on a letter of attorney consented by each of the inheritors or to a third party. If the inheritors cannot reach a consensus, on the application of one of the inheritors, the

court shall entitle the most competent inheritor or if it shall not be possible decide to sell the authorization. The court shall solve the problem with a simple judgment procedure. If there is no application to the court, the authorizations that are not devolved in six months time shall be repealed. The procedures for devolution and transfer shall be determined by regulation (Geothermal Law, 2007, Geothermal Regulation, 2007).

Duration of the exploration licence is three years, and that of exploitation licence thirty years for the first stage. The exploitation licence validity may be extended in ten years' periods. It is necessary to submit projects and revised projects, in accordance with the framework determined by the administration. Some advantages brought by the new law are, the possibility of acquiring exploration and exploitation licences by directly applying to the administration, transfer of the licence to another entrepreneur or acquire another parties' licence, the possibility of acquiring multiple licences neighboring each other in any geographic region and the possibility of acquiring and activating old licences through auctions, which cover those that had become invalid due to a number of reasons.

Another advantage provided by the new law is that, in case the geothermal system carries geothermal-originated gases, such as carbon dioxide, radon or methane, those may also be evaluated using the new technologies for refining, while the geothermal resource being used for any intended purpose, acting with a unique licence. Examples may of diversified utilization of the system be seen at the Denizli-Sarayköy-Kızıldere geothermal field.

Within the concept of enhancing Health and Tourism Expanding Strategy, it is aimed to distribute this activity to the whole of the year, and Turkey has characteristic advantages considered the climate, solar availability, sea and beach opportunities, and with the introduction of the geothermal resources achieving the aim would be made easier. The law provides suitable implementation environment for both vocational purposes and also for physical and mental therapies all around the year, in case of activating the currently idle potential.

The new law also allows the performance of any kind of test and measurement in the exploration phase, without the obligation of production. The preservation of the unity of the geothermal system is expected by such measurements of temperature, pressure and chemical composition changes, which would suggest for the determination of the balance conditions. On this account, exploration, development, preservation and sustainable production on the geothermal system, geothermal reservoir and sources are to be controlled under the technical supervision and vocational guidance of the regarding discipline, which may be consequently be interpreted as the management of the geothermal field through one hand.

With the new law, re-injection application has been introduced for the first time in legal norms to protect the environment, while obligation to treatment and purification in environmental limits has been brought to free discharge the fluids, where re-injection is not technically possible and has been confirmed by the authority. Re-injection is an important process to contribute the regeneration of the resource and the sustainability of production, which is on behalf of the entrepreneur to secure the total investment.

Survey and reporting of the resource protection area is another mandatory caption brought by the law, for the

rational usage of the resource, to prevent the construction activity in the protection zone, and to avoid visual contamination. The limitations and forbidden activities are covered in the survey report. This report should also describe the first, second and third rank protection zones, and the activities to be permitted or banned in each zone, in full detail. Measures to be taken in those zones have again been made obligatory with the new law. This survey report helps the entrepreneur to plan better the investment in the licence area and adjacent areas; while also suggesting the establishment of plants for better usage of the resource in any possible branch.

Regarding the monetary aspects, it is envisaged not to charge any rental fees or mesne profits to the activities carried out on governmental properties. In case that the activity should be conveyed on private property, expropriation and issuance of right of easement facilities have been declared in the law, to promote the entrepreneur and provide time-saving. In addition, the licence record registry system has been introduced to effectively secure the gained rights.

Turkey is also outstanding among the other countries with regard to natural mineralized water potential, quality of those and the high concentration of dissolved minerals in them. However, the existing investment on those resources is not satisfactory. Due to the increasing contamination of the fresh water sources in the world and the decreasing availability of them suggest that the natural mineralized water consumption will increase in years. The new law has also brought significant opportunities to the domestic and foreign entrepreneurs to invest on these resources.

In a similar way, Turkey also possesses an important potential of geothermal-originated gases. The most outstanding of those is carbon dioxide, followed by the others. Thus, Turkey is a country to be preferred on these headings. Investments and processing plants on those gases are increasing each year.

Former licences issued according to different laws, regulations and announcements have been adapted to this new law, and distinctive increase in the issuance of new exploration and exploitation licences has been noticed. The improvements reflect that various big segments and new markets are rising out on the geothermal resources, natural mineralized waters and geothermal-originated gases, covered under this law. This acceleration points out that a strong infrastructure could be built up with the new law, although it may still lack some details. The problems that the entrepreneurs may face during the investment phase and later are intended to be eliminated by a dynamic and applicable legislative change.

### 3. RESULTS

Turkey, one of the richest geothermal countries in the World, has a high potential as a result of its suitable geological situation. Turkey's geothermal energy exploration and utilization have been developed rapidly. On the other hand, essence of the law to preserve the geothermal system and to provide optimum utilization of the resource without wasting it, together with the prevention of visual pollution by limiting construction has been emphasized.

The geothermal law (Geothermal Resources and Natural Mineral Water Act, No. 5686) has been released on 13th June, 2007 and designed in accordance with the Turkish Trade Law. The new geothermal law resolves the problems regarding legislation and offers this rich potential, which

could not be appraised for long years, to the interest of domestic and foreign investors.

In brief, the new law No. 5686 has been prepared with an approach to protect and preserve the geothermal field, geothermal system, the reservoir, the potential, the environment and the entrepreneur himself. A legislative gap in geothermal resources and natural mineralized waters has been filled, the task and responsibility chaos has been resolved, and solutions to items, such as re-injection and environmental aspects, uncoordinated studies, supervising deficiency have been brought to a great extent.

The new law brings the utmost ease and opportunities for any kind of investment on geothermal resource, natural mineralized water and geothermal-originated gases. Priority basis in new licence applications, long-term exploitation licence issuance and measures to secure the investment are

some of those that need to be mentioned. Those are believed to accelerate new investments in these areas. Through such investments, these natural wealth will be offered to the benefit and usage of humankind, which has been the main concept adopted in principle with this law.

#### **4.REFERENCE**

Geothermal Law: Law on the Geothermal Resources and Natural Mineral Water. Act, No. 5686, 13 June 2007, Official Gazette No: 26551. Ankara (2007).

Geothermal Regulation; Geothermal Law Regulation on the Geothermal Resources and Natural Mineral Water. 11 December 2007, Official Gazette No: 26727, Ankara (2007).