

Turkey`s Law On the Utilization of Renewable Energy Sources for the Purpose of Generating Energy

■ by *Ayşegül Özdemir**

The law on the Utilization of Renewable Energy Sources (RES) for the purpose of generating energy, (Law No. 5346 of 10/05/05) is the first Renewable Energy Law of Turkey which was enacted in the year 2005 by the Turkish National Parliament.

Considering environmental issues and achieving the goal of sustainable development, renewable energy is generally accepted as a key energy source for the future. The utilization of RES will bring efficient and effective solutions, by lessening the dependence on fossil fuels and importing energy from other countries.

Turkey has got considerable amounts of RES, but it is still an energy importing country, with more than half of its requirement being imported from neighbouring countries.¹

For the last few years, Turkey`s economy has significantly developed and its population has rapidly grown, but at the same time its environmental concerns have increased. As a result, Turkey`s need for generating more electricity from RES has become vitally important. If the utilization from these RES is improved, it can develop to be a significant source of energy for the country.

Turkey has a wide range of RES and they provided approximately 12% of total primary energy supply in 2003, the second largest source of energy after coal in the country. The primary RES in Turkey are: solar, wind, geothermal, hydro and biomass.

Solar energy: The amount of sunlight that Turkey receives annually is equivalent to roughly 11,000 times the amount of electricity generated in Turkey in 1996.² As the statistics show, solar energy is being used extensively, especially for the purpose of generating heat energy in

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¹ Kaygusuz Kamil, "Energy policy and climate change in Turkey", Energy Conversion and Management, Vol.44, Issue 10, June 2003, pp. 1671-1688

² "Turkey: Renewable Energy", Güner Law Office, p.2.

households. This sort of energy could be exploited more, as the country's total solar energy potential is 35 Mtoe per year and solar energy production is expected to reach 602 kilo tonnes of oil equivalent in 2010 and 1119 Ktoe in 2020.³

Wind energy: The west and south coast part of Turkey have significant potential for wind energy development. Turkey's technical wind energy potential is 88,00 JMW. Wind energy potential is 10,600MW⁴ 40 new wind farm projects (totalling app. 1400 MW) have already obtained licences and 751 licensee are still awaiting approval.⁵

Geothermal energy: Turkey is located in the Mediterranean sector of the Alpine- Himalayan Tectonic Belt and is one of the top seven countries in the world for geothermal energy resources.⁶ It is equivalent to one eighth of the world's total geothermal potential. Yet, the use of its potential is not higher than %5.

For the last 40 years, direct use of geothermal resources has increased relatively, from the space heating of single buildings to district heating, greenhouse heating and industrial usage.

By 2010, the aim is to increase geothermal energy by ten times. Due to this considerable potential, geothermal energy is also covered with a special law other than the RES law.

Hydropower: Turkey is exploiting 35% of its hydro potential, and the 2010 national development plan goal is to use all of this potential.

Biomass: Fuel wood and animal wastes are the main biomass fuels in many rural areas in Turkey. Despite a drop in its usage since the 1980s, it still holds an important share in energy consumption. By 2030, the aim is to increase its current potential by seven times.

The utilization of renewable energy resources in Turkey as an alternative to fossil fuels has been promoted and encouraged particularly over the last few years.⁷ There are two regulations that layout rules in this area: Electricity Market Law⁸ (EML); and the Electricity Market Licence Regulation⁹ (Licensing Regulation). EML, No 4628, entered into force in 2001 and

³ "Turkey: Renewable Energy", Güner Law Office, p.2.

⁴ Ibid.

⁵ Ibid.

⁶ Hepbaşlı, Arif & Özgener, Leyla; "Development of geothermal energy utilization in Turkey: a review", Renewable & Sustainability Energy Reviews, Vol 08, Issue 5, October 2004, pp 433-460.

⁷ Öztürk, Mehtap Yıldırım & Ergün, Çağdaş Evrim, "The Turkish renewable Energy Law: Still Hungry" Çakmak Law Firm

⁸ Law No. 4628, Official gazete 3 March 2001, 24335

⁹ Official Gazete 4 August 2002, 24836; see moreover Electricity Market Grid Regulation, Official Gazete 22 June 2003, 25001; Regulation on Balancing and Settlement, Official Gazete 21 December 2004, 25677; Communiqué Regarding the Principles and Procedures of Financial Settlement, Official Gazete 4 November 2003, 25279.

empowers the Energy Market Regulatory Authority (EMRA) to take the necessary measures to promote the utilization of renewable energy resources. Furthermore, the Licensing Regulation sets forth a number of provisions for promoting the utilization of renewable energy resources.

The Licensing Regulation specifies incentives for RES. Article 12/4 of the Regulation states that legal entities applying to obtain a licence for the generation of electricity based on RES are required to pay only 1% of the total licensing fee and are exempt from annual license fees for the first eight years following the facility completion date, as inserted in the respective licenses.¹⁰

Legal entities engaged in generation activities at facilities based on RES can purchase electricity from private sector wholesale companies on the condition that they do not exceed the annual average generation amounts which are indicated in their Licenses for that calendar year.¹¹

The regulation presents an opportunity for auto-producers who purchase electricity from RES. They may purchase electricity from private sector wholesale companies under certain conditions, but other auto-producers (who do not buy RES electricity) are not warranted to make such purchases, as stated in article 17 of the regulation.

Furthermore, in article 38, it provides that the Turkish Electricity Transmission Company (TEIAS) and/or the legal entities holding a distribution license shall assign priority to the system connection of generation facilities based on RES.¹²

Turkey's EU Membership process has played a significant role in the development of the law. In the previous National Program that has been prepared and submitted by the Turkish Government, this legislation which aims to improve the utilization of RES was among the short term aims.

AIM AND SCOPE OF THE LAW

As stated in Article 1 of the regulation, the aim of the law is to assure the expansive utilization of RES in a safe, economic and qualified manner, to increase the diversification of energy resources, reduce greenhouse gas emissions, assess waste products, protect the environment and to develop the related manufacturing sector to realize these objectives.¹³

The law includes wind, solar, geothermal, biomass, biogas, wave, stream, tidal energy resources, canal and river type hydroelectric generating facilities and hydroelectric generation facilities with a reservoir area of less than fifteen square kilometers.

¹⁰ Gaupp, Dirk "Turkey's New Law on Renewable Energy Sources within the Context of the Accession negotiations with the EU", vol.08, no.4, pp. 413-416

¹¹ " Turkey: Renewable Energy", Güner Law Office.

¹² Öztürk, Mehtap Yıldırım &Ergün, Çağdaş Evrim, "The Turkish renewable Energy Law: Stil Hungry" Çakmak Law Firm.

¹³ Gaupp, Dirk "Turkey's New Law on Renewable Energy Sources within the Context of the Accession negotiations with the EU", vol.08, no.4, pp. 413-416

Geothermal energy is also covered in a separate law named 'Geothermal Resources and Natural Mineral Waters', which came into force on 11/12/2007. The regulation outlines the procedure, elements and sanctions for: issuing operation Licenses; transferring these licenses; auditing the actions; resource and the environment; revoking the License; protecting the resources; leaving the area of the License in relation to the geothermal resources and natural mineral water that are specified or will be specified; and gas, which originates from geothermal sources.¹⁴

Renewable Energy Sources Certificate

EMRA is authorized to grant a RES certificate and with this certificate legal entities are able to take advantage from the incentives under the law. EMRA is also the entitled authority to issue the regulation which includes the procedures and principles for issuing this certificate called: **RES Certificate Regulation 4/10/2005 O.G. No. 25956**. It is stated in the regulation that the certificate lasts for one year.

INCENTIVES AND SANCTIONS

A) Incentives

Listed below are the incentives provided by the law for entities generating electrical energy from RES:

- 1) No housing plans can be made in public areas or in lands owned by the Treasury that will adversely effect the utilization and productivity of RES.
- 2) The law allows EMRA to purchase the price for electrical energy generated from RES, and to set the price at the previous year's average wholesale electricity price. This price can be increased by %20 at the beginning of each year by the Council of Ministers. EMRA is authorized to determine the prices until the year 2011, until the privatization of the sector.
- 3) Retail sale license holders must purchase electrical energy from RES certified generators which have been in use for less than 10 years. Every year, each retail license sale holder, allowed to purchase RES Certified electricity energy, according to the ratio of the amount of electricity energy that was sold by the retail licence sale holder's entity in the previous year to the whole amount of electricity energy that has been sold in the country that year.

Article 6 of the Law was amended on 18 April 2007 and it determines that the wholesale retail price must be between 5.0-5.5 Euros. Last year's wholesale electrical energy sale price was determined by EMRA and was 9.67 Ykr/Kwh, which is approximately 5 Euros. In addition, the article states a generator can sell its electrical energy for a higher price if there is market demand. As a result of the current supply gap in Turkey, recently all

¹⁴ "Turkey: Renewable Energy", Güner Law Office.

generators have been selling their electrical energy to the Market Financial Reconciliation Center, which offers the highest price.

4) The second amendment made last year was on Article 8 which aims to encourage RES development by lowering the deduction rate on fees from %50 to %85, in cases where parties want to sell, lease, gain rights of access or usufruct rights to forests and lands under private ownership of the Treasury or under the control of the State, in order to generate electricity from RES.

5) Article 7 of the law states that: (i) investment in energy generation facilities; (ii) procurement of domestically manufactured electromechanical systems; (iii) investment in research, development and manufacturing for electricity generation systems using solar cells and concentrated collectors; and (iv) investment in research and development facilities for the generation of electrical energy of fuels from biomass resources, can benefit from incentives determined by the Council of Ministers.¹⁵

6) In areas of adequate geothermal sources, where the allocation units in that area is in the administration of a municipality or governorship, geothermal and solar thermal energy resources must be used primarily for heat energy.

7) Hydropower resources with a maximum installed capacity of 1,000kW that are used to satisfy the needs of an isolated and grid supported electricity generation plant are not required to pay service charges for these projects. This is provided that the final design, planning, master planning, preliminary surveying and first auditing were prepared by either State Hydraulic Works(DSI) or the Electrical Power Resources Survey and Development Administration (EIE).

B) Sanctions

EMRA are able to impose up to 250,000 YTL in fines (approximately US 200.000) if the requirements of the Law are not abided by the market players. The legal entity in breach of the law is also required to rectify this within sixty days.¹⁶ In case of a repeat violation, the law also allows EMRA to impose heavier sanctions, including cancellation of their RES License.

CRITICISM OF THE LAW

Surprisingly, no tax advantages are granted by the law to the entities generating energy from RES. This is an important issue, as it will take some time until RES will be economically competitive with conventional energy resources.¹⁷

The law limits the RES types and is not flexible to new technological developments, which in this area tend to develop very quickly. Instead of enumerating the types of RES, the law could set minimum characteristics of

¹⁵ Turkey: Renewable Energy”, Güner Law Office.

¹⁶ Ibid.

¹⁷ Gaupp, Dirk “Turkey’s New Law on Renewable Energy Sources within the Context of the Accession negotiations with the EU”, vol.08, no.4, pp. 413-416

RES, or even authorize EMRA to add other types of RES to the scope of the law if it meets certain criteria.¹⁸

The scope of the law and the licensing regulation do not match in certain areas. First of all, stream energy (as in rivers) is one of the RES listed in the law, whereas the Licensing Regulation does not cover this type. In addition, the law accepts all river and arc type hydroelectric generation facilities, whereas the regulation limits them to those with an installed power of 50 megawatts (only smaller facilities are considered RES).¹⁹ The Licensing Regulation also stipulates that hydroelectric generation facilities with a reservoir volume less than a 100 million cubic meters or with a reservoir area less than 15 square kilometers are considered to be RES. In the law, for hydroelectric generation facilities to be considered RES they only have to have a reservoir area of less than 15 square kilometers. A single definition of RES should be produced by EMRA to avoid future conflicts.

There are two different authorities who are entitled to administrate and supervise the Law. They are EMRA and the Ministry of Energy and Natural Resources (MENR). EMRA is the only entitled authority to grant RES Certificates and to apply the sanctions which are pledged in the law. On the other hand, the authority to prepare projections for the amount of electrical energy to be generated by RER Certificate holders is granted to MENR. MENR is also authorized to coordinate the implementation and supervision of the general principles and requirements provided by the law, as well as the planning of necessary measures.²⁰ Finally, MENR was also responsible for issuing the geothermal energy resources regulation, whereas EMRA is the entitled authority to issue RES Certificate regulation. EMRA is a specified independent authority in the energy sector, and it would lessen the problems and forecoming conflicts between two public authorities if it would become the only empowered authority.

A lack of independence for EMRA as an economic regulator. EMRA has experienced intrusions from TEDAS, the privatization authority and MENR on its role in tarif-setting and other regulatory matters.

CONCLUSION

Turkey's geographic conditions mean that it has great potential for RES. Nonetheless, it has a growing need for energy. Generating electricity from RES will reduce its dependence on fossil fuels and importing energy from abroad. In addition, it would also create job opportunities, protect the environment (by reducing carbon emissions) and strengthen supply security.

Eventhough companies will face some obstacles because of the Turkish legislation, as mentioned above, they will also have the advantages of being

¹⁸ Ibid.

¹⁹ Öztürk, Mehtap Yıldırım &Ergün, Çağdaş Evrim, "The Turkish renewable Energy Law: Stil Hungry" Çakmak Law Firm.

²⁰ Öztürk, Mehtap Yıldırım &Ergün, Çağdaş Evrim, "The Turkish renewable Energy Law: Stil Hungry" Çakmak Law Firm.

pioneers in this rapidly growing sector. The law has already started to attract foreign direct investors, including in partnership with local companies that have already obtained generation licences. The wind sector is a very good example, as EMRA received 751 licence applications up until last year. It is therefore good news that for RES in Turkey, a highly competitive market is emerging.

The law is a first step in the renewable energy area. In the year 2007 two amendments were made on the law in order to fall into line with investors' wishes. In future, it is expected that there would be more amendments to the law to make it more compatible with EU legislation.