

A Snapshot of the Turkish Solar Energy Market

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Turkey's potential for a large increase in energy demand and production, along with its strategic position as an energy transport hub between Europe and the Middle East make it an attractive option for energy investments. Turkey also has a significant potential for electricity generation from solar energy, due to its advantageous geographical position with an esteemed solar power capacity that can be used to generate 380 billion kWh/per year as one of the sunniest countries in Europe.

That being said, mainly due to regulatory complications and delays, there are currently no solar energy generation license holders and percentage of energy being generated by solar power by the consumers is also relatively low compared to the EU. Although electricity generated from solar energy receives the highest feed-in tariff figures in Turkey, the insufficiency and invariability of incentives are also debated among the reasons for the immaturity of the solar energy market.

Energy produced from renewable resources is significantly important in terms of decreasing the country's deficit, considering that 60 percent of Turkey's energy is imported, something that is considered the Achilles heel of the Turkish economy. As of 2013, Turkey only met 27 percent of its energy needs from its own sources, renewables and coal included. By 2023 Turkey aims to meet 30 percent of its energy need from renewable energy sources alone.

In order to create a more liberal, secure, transparent and competitive energy sector and to increase energy production from renewable resources, Turkey has gone through a series of legislative changes aimed at altering the face of the energy market. Within this scope, the Electricity Market Law numbered 6446 (**EML**) which is the main law regulating the electricity market in Turkey and the Electricity Market Licensing Regulation (**Licensing Regulation**) were both published in 2013. In addition, the Law Regarding the Use of Renewable Energy Resources for the Generation of Electrical Energy numbered 5346 (**Renewable Energy Code**) was amended for the purpose of achieving a more secure energy market with additional incentives on renewables. Within this legal framework, recent solar energy regulatory developments, the licensing process in relation to solar energy and current incentives for solar energy will be shortly outlined below.

Solar Energy Incentives

Legal entities having a generation license are granted a Renewable Energy Resource Certificate (**RER Certificate**) by the EMRA, for determining the type of resource in purchase and selling the electric energy generated from renewable energy resources in domestic and international markets.

The RER Certificate allows the holder the ability to benefit from the RER Support Mechanism. The RER Support Mechanism means the support mechanism, which includes the procedures and principles regarding the fees from which the entities conducting generation activities from renewable energy resources can benefit, time periods and the payments to be made to those.

The fees to be applied to the generation license holders who are already or will be operationalized by the end of 2020 and can participate and benefit from the feed-in tariffs for the first 10 years of operation is set at \$133 per MWh under current legislation. In the event that the mechanic and/or electro-mechanic devices used in such generation

plants are manufactured in Turkey, a local content fee is added to the above mentioned fee. Such a fee ranges between \$0.04 and \$0.25 a kWh considering the plant type and types of devices that are manufactured in Turkey.

In addition to the feed-in tariffs of the RER Support Mechanism, renewable energy license holders are exempt from the obligation to pay the license fee following the first eight years of the date of completion of the facility as per Article 43 of the Licensing Regulation.

Solar Energy Tenders

All applicants willing to produce energy from solar resources shall follow a tender and licensing procedure to be granted a pre-license. The EMRA evaluates the solar power license applications and considers the eligibility of the projects for the connection to the electricity transmission network by obtaining the opinion of TEİAŞ, Turkey's state-owned electricity transmission company. In case there is more than one application to connect to the same network, TEİAŞ organizes a tender in accordance with the Article 15 of the Licensing Regulation to determine the eligible applicant. The applicant who offers to pay the highest contribution fee per MW shall be deemed the winner of the tender and granted a pre-license to produce solar power. The contribution fee shall be paid to TEİAŞ in three annual installments following the preliminary acceptance of the facilities. If there are no competing bids for the same area, license applicants may precede with the licensing and interconnection formalities set forth under the EML and Licensing Regulation without the need to attend the tenders.

Within this legal framework, EMRA has initiated pre-license tenders in 2013 for a solar energy portfolio with the total production capacity of 600 MW to start the licensing of the solar energy projects. In the first round of the tenders, 496 applications with a total capacity of 8,900 MW were received, which indicated that the sector has presented significant interest in solar energy licenses. The first round of the tenders took place in May in relation to two of the solar power plant projects in the portfolio, one in Elazığ with 8 MW installed capacity and the other in Erzurum with 5 MW installed capacity. The winning bidders were the ones who offered to pay the highest amount of contribution rate to TEİAŞ.

It should be noted that EMRA has not issued the pre-licenses of the winning solar power project owners following the tenders, therefore the procedure and license obligations of the first ever solar power license holders is not yet clear. It is expected that EMRA will proceed with the remaining tenders of the 600 MW portfolio and the new connection points and capacities that will be made available to the solar production facilities will be determined by the end of December.

How to Operate After the Tender - the Licencing Process

The EML and Licensing Regulation introduced a pre-license requirement, which changed the entire licensing process applicable for all energy generation facilities. As per the EML, applicants shall apply for the preliminary license prior to the construction of a generation facility and they can only be granted a full generation license upon fulfillment of their obligations under their preliminary license. The matters that have to be completed within the preliminary license period as per Article 17 of the Licensing Regulation are as follows:

- Preliminary license holder must acquire the property and/or usufruct rights pertaining to the field where the generation plant will be constructed. If expropriation is needed, the decision with regard to expropriation shall also be obtained from the relevant authority;
- Construction plans for the generation plant must be approved by the relevant authority and construction permits shall be obtained;
- Project pre-approval for the generation plant must be obtained;
- Necessary opinions and approvals set forth in Article 17 of the Licensing Regulation must be obtained from the relevant authorities;
- Environmental Impact Assessment decision must be obtained. This application shall be made within 90 days following the date of preliminary license;

- Separate agreements required for the generation plants with governmental authorities such as DSİ and TEİİAŞ must be executed.

In addition to standard pre-licensing requirements listed above, solar energy project owners are required to submit the documentation proving that the field has a solar energy measurement in compliance with the standards set forth under the Licensing Regulation and obtained within the last three years and having at least one year duration. It is aimed to determine the projects eligible to connect the system at the beginning of the licensing process with the detailed technical measurement procedures for solar energy.

The market players mainly criticized preliminary licence period for being too short, by taking into account the fact that to obtain the required permits, licenses, approvals and decisions usually takes more than 24 months. In particular, expropriation of the project area and approval of the construction plans within the provided 24 month period is not always realistic, considering the constant delays and problems caused by the relevant administrative authorities. While solar energy licensing created a certain enthusiasm in the energy market, investors carefully evaluate the possible technical difficulties and administrative obstacles in completion of the pre-license obligations, as the solar licensing is new to the market.

Operations Exempt from License and Tender Procedures

All electricity production activities are subject to the licensing procedure of the EMRA in Turkey. As an exemption to this rule, electricity legislation in Turkey allows certain small-scale facilities to generate electricity without the burden of obtaining a license and incorporating a company, provided that the conditions under Article 14 of the EML are met. Within this scope, electricity generation facilities based on renewable energy resources with a maximum 1 MW installed capacity are exempt from the obligation to obtain a generation license.

Regulation on Electricity Generation without Licence in the Electricity Market was recently published for the purpose of ensuring the efficient usage of the small-scale electricity plants and to enable electricity consumers to procure electricity from the closest generation facility. It should be noted that licence exempt generation opportunities particularly draw the attention of investors willing to produce electricity from solar power. Research by private institutions indicates that as of September, 3,609 facilities applied to obtain permission to generate electricity without a licence and 1,604 of these applications were approved. It should be highlighted that 1,184 of the approved projects were in relation to solar energy projects. The number of applications point out a significant increase compared to the term of the former EML, which is considered the result of the capacity increase for license exempt generation from 500 kWh to 1 MW with the new EML.

As a result of this increase in capacity, large electricity users (i.e., factories and hospitals) now have the opportunity to generate all or most of their electricity themselves and sell the remaining amount to the relevant distribution company. It should be noted that although the number of applications is relatively high there are still procedural and administrative problems preventing the facilities from commencing operations, such as the lack of capacity limit of the power distribution units, issues and delays in Environmental Impact Assessment procedures and procedural issues between distribution companies and TEİİAŞ.

In order to be eligible for the licence exempt generation, facilities need to apply directly to distribution companies within their region or to organized industrial zone distribution license holders to obtain permission in relation to above-mentioned activities. In order to be eligible for the exemption, installed capacity of the renewable energy plant shall not exceed 1 MW and the facility must be connected to the system as an electricity consumer. License exempt facilities can also benefit from the incentive and support mechanisms for the renewable energy plants, which is an important matter for the investors.

Final Note

The liberalization of the energy market and the effort to increase the number of renewable energy projects are expected to increase the number of investments in the near future. Recent solar energy tenders and the transition of the energy market also has a great significance in increasing this number, however the vagueness of the solar energy licensing due to the fact that there are no precedent solar energy licenses, constant delays in licensing and tender procedures has led to hesitation on the investor side.

In order to establish a secure, independent and truly liberal energy market and decrease the energy dependence of Turkey, necessary steps need to be taken by the government to further increase the available incentives and eliminate the issues in procedural matters by taking into account the expectations of the market players.

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