

## Sunny Days Ahead For Solar In Turkey

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Applications for the Turkey's first-ever solar energy licenses to build up to 600 megawatts of solar projects in 27 regions previously announced by the Ministry of Energy were due at the Energy Market Regulatory Authority in mid-June. The licenses are expected to be awarded in the first half of 2014.

The window may reopen for another round of applications thereafter.

Demand for electricity in Turkey has been growing at an annual rate of almost 8 per cent, and Turkey is highly dependent on imports of oil, natural gas and coal to meet this increasing demand.

The government has been promoting renewable energy in an attempt to reduce the high import bill. Turkey has a vast solar energy potential with 2,640 hours of insolation per year and 380 terrawatt hours of output potential.

The license application process was launched in May 2012 sparking significant interest from the global industry. Notwithstanding a one-year solar radiation measurement requirement as a condition to the license applications, more than 600 interested parties reportedly applied to the Directorate of Meteorology to initiate the solar measurement process. The Directorate of Meteorology is responsible for the control and evaluation of measurement data and, in late March 2013, it shortened the evaluation process following the measurement period from 30 days to 10 days, which reportedly enabled some 200 more entities to apply for a license who would otherwise not be able to complete the one-year measurement requirement.

License applications must pertain to a specific site. Generators must first get an authorization from the Directorate of Meteorology to set up a measurement station on the site and then submit to the Energy Market Regulatory Authority or EMRA measuring data of at least one year, including an on-site measurement conducted for at least six months. Once the on-site data has been secured by the applicant, the data pertaining to the remainder of the one-year period may be obtained from meteorology stations of the Directorate of Meteorology.

When EMRA announced the deadline for solar power license applications, it also set out some terms and conditions for licensing. For instance, agricultural lands have not been made available for solar

power investments: a maximum of two hectares can be allocated for each one megawatt project, and the total annual solar radiation cannot be less than 1,620 kWh/m<sup>2</sup>. EMRA did not specify the technology to be used by the generators; therefore, license holders are free to choose the appropriate technology (photovoltaic or concentrating solar power). Applicants must also fulfill various general licensing preconditions.

### *Feed-In Tariff*

Solar power generators can benefit from various advantages introduced by the Law No. 5346 on “Use of Renewable Energy Resources for Electricity Generation.”

The renewable energy law was amended in early 2011 to provide for feed-in tariffs for renewable generators who opt into a renewable energy support mechanism. The renewable energy support mechanism offers various incentives, including a domestic component incentive.

Solar power plants are granted a feed-in tariff of US\$133 per mWh.

With the domestic component incentive, the feed-in tariff can reach as high as US\$200 per mWh in photovoltaic plants and US\$225 per MWh in concentrating solar plants.

These incremental price incentives apply only to projects that commence operations before December 31, 2015 and opt into the renewable energy support mechanism. Incentives for using domestically-manufactured components are available for five years after a project commences operations. Generators that do not opt into the renewable energy support mechanism will sell the power to the national grid or through bilateral trading. Generators that do will sell it through the Market Financial Settlement Center operated by the state-owned electricity transmission company TEİAŞ (which will be taken over by the Energy Market Operation Co. or EPIAŞ, the new energy bourse expected to be operational within a few months).

The renewable energy law also provides other benefits, such as reduced costs in accessing and using state-owned land and priority in grid connection. Renewable generators are almost fully exempted from the license application fee and annual license fees.

A new law regulating the electricity market in Turkey came into effect at the end of March.

The new electricity market law introduced a number of changes, including a pre-licensing mechanism. Going forward, each generator will be issued a preliminary license during the pre-construction stage that will be replaced by a permanent license at the beginning of construction. During the pre-licensing period, the generator must obtain the required permits, approvals and licenses to start construction and also secure title to or the right to use the relevant land. The pre-licensing period is 24 months, unless there is a force majeure event (unavoidable and unforeseeable events beyond the reasonable control of the generator, including acts of God and war) or it is extended by EMRA (under certain circumstances), which cannot exceed an additional 12 months.

If the generator fails to secure the required permits, approvals or licenses within the pre-licensing term, then no permanent license will be issued. Direct or indirect changes in the shareholding structure of the generator are prohibited during this period and such changes will result in the revocation of the pre-license as will the failure of the generator to fulfill any requirements imposed by EMRA. The upcoming applications for solar power in June will be pre-license applications.

### *Licenses*

Permanent (generation) licenses are granted for a minimum of 10 years and for a maximum of 49 years. Other than expiration of the term, licenses are terminated upon request by the generator or if the generator is declared bankrupt or no longer fulfills the licensing conditions.

As a general rule, licenses are not directly transferable; however it is possible to acquire a licensed project by acquiring the project company, subject to regulatory approvals. Also, a step-in right is granted to lenders in limited or non-recourse project financing, and they may request EMRA's approval for the transfer of the license to another legal entity provided that this entity assumes all the obligations of the related license holder. The pre-construction stage is now covered under the pre-licensing period, during which no direct or indirect shareholding change is allowed.

The electricity market law also changed the contest procedure in solar power applications. Under the previous regime, if there were multiple solar power license applications in the same substation, TEİAŞ would organize a tender through an underbidding procedure with respect to the feed-in rates. In other words, the applicant offering the lowest feed-in rate would be granted the license. However, under the new regime, bidders will bid to pay TEİAŞ an amount per megawatt of capacity for the license, and TEİAŞ will award the license to the bidder offering the highest price. The price offered by the successful bidder will be paid to TEİAŞ within three years (at the latest) after the plant goes operational. If there are no competing bids for the same area or substation, then applicants proceed with the licensing and interconnection formalities.

Although Turkey's renewable energy market has focused more on hydraulic and wind power to date, there is significant solar power potential that will remain untapped after the first round of bids. Solar companies criticize the measurement process due to its cost and argue that meteorological and satellite data should suffice for the applications, but the large number of interested parties indicates a genuine interest in Turkey's solar resources. The countrywide total 600-megawatt capacity is expected to increase to up to 3,000 megawatts by 2023, which will mean a significant rise in the number of licensed generators.

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