

## **CURRENT SITUATION**

Following the attack in wind power investments, the Ministry of Energy and Natural Resources has prepared a “road map” for producing electricity from solar power, assuring to transform the solar power into investment.

According to this, in the “Law on Using the Renewable Energy Resources for Purposes of Electricity Energy Production” no.5346, it is envisaged to make arrangements for solar energy at first step in terms of price and technology to be applied.

Following this step, the expression of “forming views within the framework of the regulation to be passed by the Ministry in relation with the applications made for getting licenses for wind power in accordance with the License Regulation of Electricity Market” related with the duties of the Electrical Power Resources Survey and Development Administration in “Law on Energy Efficiency” no.5727 shall be rearranged by adding the statement of “solar power” after wind power.

Following the said arrangement, a regulation for the purposes of using the solar potential as in wind projects shall be prepared by the Electrical Power Resources Survey and Development Administration.

In this study, different technologies such as central solar plants (CSP) and solar power plants (photovoltaic-PV) shall be considered and the procedures to be applied in case of more than one application for different areas shall be mentioned in the regulation.

After all infrastructure of the legislation is completed, Energy Market Regulatory Authority (EMRA) shall announce the application dates and how the applications will be evaluated.

In the next step, Electrical Power Resources Survey and Development Administration (EPRSDA) shall make its evaluation about the subject and notify it to EMRA.

### **PROBLEM**

#### **-TECHNOLOGICAL COMPATIBILITY OF AREA IS IMPORTANT**

In the mentioned process, it is important to make arrangements in terms of regulations “for solving the possible coincidences to occur considering that the geographical characteristics and the measurement data of the area obtained from satellite or ground measurement systems will be needed in order to evaluate the area for which the license application is made and the selected technology in a sound way, the appropriateness of the area with the selected technology and whether this data reflect the characteristics of the area or not and the amount of area needed per megawatt” and then to receive the license applications.

#### **- TURKEY’S SOLAR POTENTIAL**

Considering its geographical location, Turkey is lucky in terms of solar energy potential when compared to many countries. According to the study carried out by EPRSDA, the annual total insolation time of Turkey is approximately 2640 hours (daily total 7,2 hours), total radiation intensity is approximately 1311 kWh/ square meter -year (daily total 3,6 kWh/ m<sup>2</sup>). Among the regions of Turkey, the one which most receives solar energy is South East Anatolian Region. It is followed by Mediterranean Region.

Having a large potential in terms of solar energy, Turkey’s annual solar energy potential is at the level of 380 billion kilowatt hours (kWh). This amount is equal to the energy produced by a natural gas plant of 56 thousand megawatts (MW). In Turkey, where approximately 200 days are sunny considering the geographical location, only 1 per thousand of the solar energy capacity can be benefited from now.

**- WORLD USAGE OF CLEAN AND COST-EFFICIENT SOLAR ENERGY)**

The most important feature of sun being a clean and cost-efficient energy resource is that it is abundant and unlimited. Previously the solar power was used as heat energy but recently it is benefited as electrical energy along with the developed technology and its usage is gradually increasing. Electrical energy is produced through solar panels and photovoltaic cells at gradually decreasing costs. Also hot water is gained from solar energy around the world. For example, a temperature of 320 degrees is provided from solar collectors founded on Pyrene Mounts between France and Spain. While it is also possible to get hot water from solar panels mounted on the roofs of houses in the same way, this method is widely used in mostly sunny cities of Turkey.

Australia, Japan, Israel and USA are the leading countries benefiting from solar energy. In Israel, the energy produced annually through solar power is equal to 300 thousand tons of petroleum.

**- DURATION FOR PURCHASE GUARANTEED INCENTIVES IS 15-25 YEARS)**

Portugal, Italy, France, Germany, Greece and Spain are among the countries using solar energy throughout the Europe. The duration for purchase guaranteed incentives for the investments on solar energy in the mentioned countries varies between 15-25 years. Also, the purchase guaranteed prices vary largely depending on the invested technology.

An area of 15 thousand-30 thousand square meter/megawatts is needed depending on the technology to be selected for investments.