

## UNLICENSED SOLAR ENERGY PROJECTS: FINANCING PROBLEMS

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However, system installation costs or project financing constitutes a substantial problem for the electricity consumers who plan to decrease electricity bills/costs by using solar energy. As a matter of fact, a shallow research shows that currently most banks in the country are not very enthusiastic about providing financial support for "unlicensed solar energy projects", at least for now. For instance, some banks we contacted over the phone have stated that currently they do not provide loans for unlicensed energy projects, or require very high amount of guaranty. Therefore, a consumer, who intends to generate electricity from solar energy, will face a minimum investment cost of TRY 300,000.00, within the scope of a 100 kW project though this amount may vary according to the quality of the materials used in project. Moreover, it must be kept in mind that in addition to high initial investment costs photovoltaic (PV) systems require proper operation and regular maintenance in order to provide the expected benefits. At this junction, the consumer intending to self-supply its electricity needs should either abandon this project or achieve its objective through other means (like agreements made or contemplated with private domestic/*foreign* companies who intend to invest in or provide financing for unlicensed solar energy projects).

On the international platform, especially in the USA and some European countries, a system named "Third Party Financing" is employed in order to overcome the financial challenges as well as operation and maintenance liabilities involved in solar energy projects (1). This system is generally implemented by a "Power Purchase Agreement" (PPA) or a leasing agreement, wherein the consumer supplies its electricity needs by a contract made with the investor for an average term of 20 to 25 years, in which the consumer uses the electricity generated by the PV system without owning the PV system or not being liable for the initial investment cost.

In the first model referred to as "Power Purchase Agreement" (PPA) (2), the customer (consumer) who wishes to generate its own electricity authorises the developer (investor) to install the PV system on the customers property, and the electricity generated by this PV system is purchased by the consumer from the price specified under the agreement. In this model, the owner of the system is the investor who develops and finances the project, while the consumer is in the position of system beneficiary. This model allows the consumer to avoid not only the initial investment costs but also the operation and maintenance liabilities down the road. In other words, initial investment costs, as well as operation and maintenance liabilities are directly transferred to the investor. Generally, in this system the customer makes monthly payments to the investor based on the amount of electricity generated by the system. Even though it is not permitted for the property owner to sell the generated electricity without written consent of the system owner, it is possible to sell the surplus energy to distribution system. Due to some conditions arising from legislations, another model called the leasing model was developed as an alternative to this model in USA. In this model, the property owner leases the solar energy system needed for electricity generation and makes monthly fixed payments to the system owner in return of this lease. In both models the system owner investor is provided with the opportunity to benefit from aids and tax deductions applicable to renewable energy sources. Since installation, operation and maintenance of PV systems require high-cost, PPA and Leasing options provide attractive alternatives for the consumer (3).

When the Turkish Legislation on unlicensed electricity generation is examined it is seen that there are no *direct* regulations relating to third party financing of unlicensed solar energy projects. Under the current system, any consumer who wishes to generate electricity within the scope of unlicensed solar energy project has to either

use its own resources or obtain financial support from banks/financing institutions in order to complete the project. However, banks are currently uninterested in this field and demand high interest rates for such loans. Nevertheless, currently there are many domestic and foreign companies which are ready and willing to provide financing for unlicensed projects in scope of the system models used on international platform. However, the legal uncertainties regarding the legislations leave the prospective investors of this sector apprehensive. In the current situation, **domestic and foreign companies attempt to achieve the same solution through indirect means and combination of complex contracts.**

Legitimation of "third party financing" in Turkey will open the way for both the consumers who wish to engage in unlicensed electricity generation by use of solar energy and the investors of this field. Therefore, proper regulations which protect both the consumers and the investors will ensure that all parties involved – the consumer, the investor, and the state – will benefit from this process and the way will be further opened for unlicensed energy projects in energy market. Thus from solar powered irrigation projects to rooftop and field installation types, the number of unlicensed solar energy projects will soar.

- (1) <http://www.solarroadmap.com/srmdata/userfiles/Third-Party-Financing---SPYC.pdf>
- (2) <http://www.nrel.gov/docs/fy12osti/51815.pdf>
- (3) <http://www.nrel.gov/docs/fy10osti/46723.pdf>

**NOTE:** I would like to thank dear Ateş Uğürel for his role as the originator of the idea behind the articles "Solar Rights" and "Cooperatives in Energy Market".