

PV Financing Best Practice: L'Oreal Industrial Park (Italy)

General project Description

This PV plant has been realized in the industrial sector, in the town of Settimo Torinese, located in the Metropolitan City of Turin, in Piedmont and counting about 50,000 inhabitants.

The PV plant has the remarkable size of 3 MWp and the main driver for the project development was to reduce the energy bill of the industrial park company, L'Oreal.



Source: Qualenergia.it

Business case description / economic parameters

The electricity generation estimated for the PV plant is 3,600 MWh/year, with a specific yield of 1,200 kWh/year per kWp.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 646554

The investment needed for realizing the PV system is more than 3,000,000 €, which means a specific cost of about 1,000 €/kWp.

The main source of revenue for the investor is selling the electricity to L’Oreal through a SEU (“Sistema Efficiente di Utenza”), the Italian equivalent, according to the current legislation, of a Power Purchase Agreement. The L’Oreal plant is the largest Italian PV plant using a PPA.

The most interesting feature of this plant is that it has not been supported through any kind of incentive since the feed-in tariff had already been removed and the tax reduction was not applicable to such a large system.

Technical project parameters

PV modules by Talesun have been mounted on the industrial building roof with a 12° tilt, while inverters have been supplied by SMA Italia.

The PV system is combined with a biomass plant and a district heating grid, so that the industrial park is completely self-sufficient from an energy point of view as part of a wider project, called “L’Oreal: zero emission”.

A key parameter is the self-consumption rate, since it will affect the project profitability. In this case, given the high energy demand, it should be possible to use directly all the electricity produced through the PV plant. The estimation for the photovoltaic share on the total electricity need is about 30%.



Source: SMA Italia

Stakeholders / companies / PPA

Enersol is the investor and owner of the PV plant. Enersol sells electricity to L'Oreal at a price which is between 8% and 12% cheaper than the grid electricity price for the company.

Due to the current Italian legislation, the energy directly sold from Enersol to L'Oreal does not pay grid burdens and only partially has to cover system burdens.

SMA Italia is the technical partner in this project, following the whole system development until the final plant commissioning. A key point has been the initial analysis of the company electricity demand so to size the PV system in order to maximize self-consumption thereby increasing the project profitability.

Replicability / Outlook

Such a PPA scheme is highly replicable in the current Italian PV market and given the current legislative framework. It gives immediate benefits for the company purchasing cheaper electricity and it can give a short payback time to the investor and owner of the PV system.

One condition for the business plan to work could be the size of the plant: large systems, with a low price per kWp, can be the best choice. Furthermore, looking for energy intensive users, which can assure a high self-consumption rate, is an essential aspect. For this reason, industrial or large commercial users, showing high electricity consumption during the day and possibly also over the weekends, seem to be the most appealing targets.

A potential hurdle can be the future reduction of the user consumption which can be overcome by under-sizing the PV system, thus maintaining the same self-consumption level. Moreover, self-consumption can be increased by smart demand management, storage systems and increase of electric uses (e.g. using heat pumps).

A further risk, quite hard to predict, could be a change in the legislation, placing new taxes on self-consumed electricity.

Sources of photos and information:

- <http://www.sma-italia.com/prodotti/referenze/loreal-lo-stabilimento-a-emissioni-zero-e-il-piu-grande-impianto-di-seu-realizzato-in-italia.html>
- <http://www.qualenergia.it/articoli/20150209-seu-con-3-mw-fotovoltaici-che-taglia-bolletta-elettrica-grande-fabbrica-sma-loreal>