



PORTUGUESE SOLAR ENERGY

Market outlook

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Foreword

After mini-hydro and wind, photovoltaic solar energy could become the third wave of the renewable energy revolution in Portugal. By 2020, the established power in the country promises to grow three times up to 900 megawatts.

Portugal has been one of the most enthusiastic countries regarding renewable energies. In 2015, 28% of the energy consumed was produced by renewable sources, compared to 19.2% in 2004. The amount consumed through renewable energy is the eighth highest among European countries and the fifth highest between countries that share the euro, being Portugal's target for 2020 set at 31%.

In addition, in May 2016, the country used only renewable energy for four consecutive days and was able to supply the country's electricity grid without any carbon emissions relying only on wind, water and solar energy.

Regarding solar energy, Portugal has a strong potential, boosting an annual average of 2,200 to 3,000 hours of sun in the mainland, making it the European country with most hours of sun exposure.

Today, the established solar power in Portugal is of 299,89 MW. This represents a 484% increase compared to the 62 MW installed in 2008. The Moura solar park with its established 46MW and an annual production of 93 GW is the biggest in Portugal.

However, in 2016, despite the fact that renewable sources represented 58% of the electricity generated in Portugal, still, more than 30% of the renewable quota was achieved by the electricity generated by large-scale hydro power plants (with more than 10 MW of capacity), continuing solar energy very far from what could be its potential in the country, representing only 1% of the energy produced.

Given that evidence, the Government has already begun to reverse this trend with the issuing of licenses to build around 400 central MW. In addition, the establishment costs of a solar power plant in Portugal has decreased by 80% compared to 2008, being expected that by 2020 the capacity in the country will be 900 MW and by 2030, it will increase to 2,871 MW.

As a result of these changes, the construction of 15 new solar plants is currently being planned. The largest investment will take place at Alcútem with the installation of the largest solar power plant in Portugal with 220 MW, and an estimated cost of 200 million euros, led by the international consortium China Triumph International Engineering Co. group and its Irish partner WELink.

Licensing procedures

From 1988 to 2006, under the Old Renewables Law (Decree-Law 189/88, of 27 May 1988) and the Old Renewables Access Law (Decree-Law 312/2001, of 10 September 2001) the licensing procedures for renewable energy power generation were only dependent on the verification of technical requirements following a promoters' request for a grid connection point.

Today, power generation based on renewable energy is a strongly regulated activity. Decree-Law 172/2006, of 23 August 2006 ("Renewables Law") and Ordinance 243/2013 as amended by Ordinance 133/2015, of 15 May (the "Renewables Access Regulation") set a licensing procedure for the installation and operation of renewable energy facilities whereby the attribution of grid connection points must result of a public initiative, a public tender or similar call for proposals.

The licensing procedure is divided in three stages:

- Obtaining a point of reception of the energy in the national grid ("RESP");
- Obtaining an authorization to install the facility;
- Requesting a license to operate the facility.

The grid connection point is granted by Direção Geral de Energia e Geologia ("DGEG") subject to a favourable preliminary assessment in respect of the availability of capacity in the RESP, which is followed by an application for the awarding of the grid connection point. This grid connection point is subject to a power generation capacity cap.

The authorization to install the facility is granted by the Ministry of Economy, for facilities whose capacity exceeds 10 MW, or by the General Director of DGEG, for facilities with capacity up to 10 MW.

A license to operate the facility is issued after a final inspection conducted by DGEG, within a maximum period of 30 days after receipt of the application for the license.

The Renewables Law and the Renewables Access Regulation also set other conditions applicable to the projects of power generation using RES, such as:

- A 24 months deadline, starting from the date the authorization is granted, for the installation of the facility; and
- The connection to the RESP must be supported by the promoter.

Solar energy tariffs

The costs of the solar energy are not borne by the State. Instead, they are included in the electricity invoice paid by all final end consumers. However, the Government, will no longer authorize the construction of solar power plants under a FiT mechanism, forcing producers to sell their electricity to the market.

According to the Renewables Law there are two types of remuneration for the production of renewable energy:

- An ordinary regime, where producers sell the electricity to the market at market price ; and
- A special regime with a feed-in tariff ("FiT"), for electricity from cogeneration, renewables, micro-production, mini-production and production without power injection in the network. This scheme always preceded by public tender.

The FiT was first established in the Old Renewables Law with prices above than those practiced in the markets setting up an incentive policy to the development of the renewables energy, being the tariffs paid to the operators upon purchase of their production. However, the traders rebound the price paid on the consumers.

The FiT applicable rates are determined by adding up three components: (i) avoided investment costs on new power plants; (ii) avoided costs on transmission, operation and maintenance, including fuel costs; and (iii) environmental benefits arising from the use of renewable sources.

These two remuneration schemes have coexisted to this date. One where producers sell their electricity in organized markets with electricity traders, and another, in which electricity is delivered against payment of feed in tariff, a guaranteed price for sale to the public electric network.

The Portuguese Government has early in 2017 decided that it will not license any new FiT photovoltaic plants. The political motive is to shorten the electricity invoice paid by consumers, but the argument passed to the market players is that the market offers sufficient conditions for the deployment of new projects without a feed-in tariff due to the ongoing solar panels' cost reduction.

Major players

Acciona Energy

Acciona Energy, S.A. is a renewable energy projects subsidiary of Acciona, S.A, a Spanish group focused in the development and management of infrastructure. Acciona Energy owns 66% and operates the largest solar park in Portugal, the photovoltaic plant of Amareleja – located in Moura (Alentejo). Mitsubishi Corporation has a 34% stake in this company. This solar plant has a peak capacity of 45.78 MW, and produces an average of 93 GW per year, equivalent to the demand from around 30.000 houses.

Glennmont

Formerly BNP Paribas - Clean Energy Partners, Glennmont Partners is one of Europe's largest fund managers focusing exclusively on investment in clean energy infrastructure. The fund, raise long-term capital to invest in power generation projects, such as wind farms, biomass power stations, solar parks and small-scale hydro power plants. In Portugal, Glennmont owns a photovoltaic plant in Alvalade with an installed capacity of 14 MW, in Coruche with an installed capacity of 8 MW, in Ferreiras with an installed capacity of 6 MW, in Seixal with an installed capacity of 2 MW, and two others in Loulé with an installed capacity of 6 MW and 4 MW.

Infrapar

Infrapar, S.A., is a subsidiary of the Portuguese Group Infraventus, an renewable energy projects, developer having already projects in Iberian, Australian, South African, Finnish and Panamanian markets. The company owns a photovoltaic plant in Tomar with an capacity of 3,58 MW, two in Estremoz with a capacity of 5.79 MW and 0,50 MW, and three others in Évora with an installed capacity of 5,76 MW, 5,75 MW and 5,71 MW. Also under construction are three photovoltaic plants with a peak capacity of 3.81 MW.

Neoen

Neoen is a French company focused on the construction and development of renewable energy projects, comprising a total asset of 665 MW in Solar, 445 MW in Wind, and 15 MW in Biomass. The company owns and manages several plants around the globe, namely in France, with the most powerful solar plant in Europe with an installed capacity of 300 MW, Australia, El Salvador, and Zambia. In Portugal, Neoen owns a photovoltaic plant in Coruche, with a capacity of 2,2 MW, in Seixal with a capacity of 8,8 MW, and in Cabrela with a capacity of 13,2 MW.

Prospects

Portugal may become an appealing country for solar energy developers: the commitment of economic agents to the solar production of energy, the strong reduction of the establishment costs of a solar plant and the number of hours of sun exposure have contributed to put Portugal in the map for investors.

The promised construction of up to 15 new solar power plants should increase the country's production from 300 MW to 900 MW. The Sino-Celtic consortium China Triumph International Engineering/Welink is said to invest 200 million euros in a 200MW solar power plant, the largest ever in Portugal. Several other companies engaged in the construction of solar power plants: Hyperion is to invest 130 million euros in 5 solar power plants in Alentejo with a total production of 150 MW. Also in Alentejo, Expoentfokus is expected to invest 120 million euros in other 5 plants with a total power of 130 MW. Finally, Exus Management Partners is preparing to build 3 plants in Alentejo, and one in Ribatejo with a total investment of 60 million euros with a capacity of 67 MW.

All this in spite of the fact of the Portuguese Government's policy to reduce the costs of electricity to consumers and the tariff deficit of the National Electric System by severely reducing the state grants over the years. There is a belief that the development of a competitive market regime is possible at the initiative of the promoters.

One of the hardest measures taken by the Government was to end the sale of energy through of FIT contracts, obliging promoters to sell their energy at market prices. This decision has been strongly criticized by several stakeholders, represented by the Portuguese Association of Renewable Energies (APREN).

APREN proposed the Government to opt for auctions for the purchase of electricity among the traders, establishing a tariff with a fixed term before the construction of the power plants, in order to guarantee the profitability of the projects.

The fact is that of the 400 MW of licenses for the construction of solar power plants at market prices approved by the Government in 2016, none of them have yet been built. Market players still expected a new regulatory framework for the remuneration of solar energy, suspending the construction of the new solar plants because they would have to sell the electricity in the market, without a predictable return.



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