



Energy

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Contributing Editors:

Michael Burns & Julia Derrick

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Portugal

Ana Luís de Sousa, Vanda Cascão & Isabel Valente Sanches
VdA

Portugal has become widely known for its leading role in the promotion of renewable energy. After decades when the country remained historically dependent on hydro resources and thermal assets, Portugal has witnessed significant investments in the renewable energy sector, in particular wind energy projects, which already account for almost one quarter of all electricity generated in the country. The past few years have been foreshadowing a boom in solar projects which are expected to become a driving force behind the country's renewable energy goals for the next decade.

Overview of the current energy mix, and the place in the market of different energy sources

In 2018, the energy generation mix in Portugal showed a substantial diversification of energy sources: hydro (13.4 TWh), wind (12.5 TWh), coal (11.1 TWh), natural gas (10.1 TWh), biomass (2.8 TWh), solar (0.8 TWh) and geothermal (0.2 TWh), with cogeneration contributing 5.7 TWh.

According to the Portuguese Renewable Energy Association (APREN), in 2018, electricity from renewable sources accounted for 52.6% of all electricity generated in Portugal, with wind and hydroelectric alone totalling 22% and 23.7% each, notwithstanding average producibility indexes of 1.05 for hydroelectric energy and 1.00 for wind energy. This means that wind energy and hydroelectric power reached nearly 50% of all electricity generated in Portugal in 2018. Other significant sources were natural gas, which reached 18.1% in 2018, and coal at 19.6% of all electricity produced in this year.

A remarkable feat in 2018 was the historical performance of renewable powerplants during the month of March, where the whole of mainland Portugal's energy needs were met exclusively by recourse to renewable energy sources.

Also, according to the reports published by APREN, the share of energy generated from renewable sources in 2018 allowed for a reduction in CO₂ emissions of approximately 12 megatonnes, up from 8.9 megatonnes in 2017, with savings of around €189 million in CO₂ allowances, up from €51 million in 2017.

The energy dependency indexes for the year 2018 also show a reduction from previous years, with the current estimate set at 76% – down from 78% between the years 2007 and 2017, and 85% between 1996 and 2006.

Provisional data included in the APREN reports for the period between January and August 2019 already show that renewable energy sources represent 51.8% of all electricity generated in mainland Portugal, evidence that renewable sources are steadfast in establishing their role in the current energy mix, with wind energy alone accounting for

26.1%, and hydro power in second place with 17.4%.

While wind and hydroelectric energy should continue playing a significant role as drivers in the renewable energy generation in Portugal, it is expected that solar photovoltaic will represent the biggest increase in generation by 2030, when both the Sines and Pego coal plants are expected to have been retired from operation.

Changes in the energy situation in the last 12 months which are likely to have an impact on future direction or policy

Solar auctions

The past 12 months have witnessed significant developments in the Portuguese energy sector, notably in respect of solar energy projects, with the first major solar auction for injection capacity having taken place in June and July 2019, for a total installed capacity of 1,400MW, and with a second auction for 700MW expected to be launched for January 2020.

The boom in solar photovoltaic projects being submitted to the Portuguese General Directorate of Energy and Geology (DGEG), the licensing entity, shows that one of the most abundant potential sources of energy in the country is finally taking centre stage in the renewable energy sector.

The experience gathered from the first auction, as well as the record-low tariffs offered and the shift in investor profile, will likely impact future policies and drive new changes.

Storage options

There have also been recent amendments to the Portuguese legislation which aim at enabling the storage of electricity, whether on its own or jointly with a generation facility. While this is subject to a specific licence and continues to require further regulation to be implemented, it nonetheless shows a step towards the opening of the market to energy storage options which have up until now been scarce.

Together with the entry into operation and the experience gathered from the Graciólca project, located on the island of Graciosa in the Azorean archipelago – which uses a combination of wind and solar power, and has a storage facility meant to generate electricity output covering more than 50% of the island's energy needs – this may bring a renewed focus and investment in energy storage options, allowing for more efficient generation facilities in the future.

Offshore wind energy

Another significant event is the implementation of the Windfloat project – the first offshore wind energy project in Portugal, being developed with innovative floating technology. Despite having an extensive coastline giving access to a vast maritime area, Portugal has not witnessed a boom in offshore wind as countries such as the United Kingdom have. This is mostly due to the subsea conditions and very deep waters near the coast, which do not allow for the installation of wind turbines similar in style to those which have been used all around the world. The Windfloat project has successfully tested a 2 MW prototype and is now expected to have 25 MW of installed capacity entering into operation by late 2019 or 2020. This technology will pave the way to similar projects being implemented, not just in Portugal but elsewhere, overcoming the technical difficulties faced in the past years which had left the country behind in the offshore wind race.

Guaranteed remuneration schemes approaching the end of their term

A growing number of powerplants are approaching the end of their guaranteed remuneration

term, following which they shall be placed under market conditions. This entails various levels of changes:

On the one hand, there is a resurgent focus on other forms of revenue which, up until now, had remained relatively dormant, with promoters starting to look at sources such as guarantees of origin (which framework is still to be further developed), as well as corporate power purchase agreements which, as of 2019, have not yet a significant presence in the market.

On the other hand, there is growing interest in the market in undertaking supply activities and energy trading as a means to guarantee the flow of production to the market – particularly so, given that the market aggregator envisaged to undertake the purchase and sale of electricity from these newly merchant plants is not yet effectively in place. This will likely accelerate changes in the sector, both in terms of organisation and legislation.

Developments in government policy/strategy/approach

National Plan for Energy and Climate

A preliminary National Plan for Energy and Climate (PNEC 2030) was presented by the Portuguese Government in January 2019, in which it sets the proposed targets for 2030. The PNEC remained under public consultation until June 2019 and it is expected to be finalised by the end of the year, defining an action plan for carbon neutrality and the strategic investments to be made in respect of energy and climate.

The targets proposed by the Portuguese Government in the PNEC 2030 include a reduction of between 45% and 55% in GEE emissions, and a 35% energy efficiency rate for primary energy consumption. It is estimated that the electricity generation sector will have an installed capacity of approximately 30 GW in 2030, representing an increase of 10 GW by reference to 2015, with renewable energy projects accounting for over 80% of the total installed capacity in Portugal.

The PNEC 2030 also sets goals for energy use and efficiency in the transportation sector, identified as one of the cornerstones of the aim for a decarbonised society, and the promotion and implementation of smart networks and storage so as to ensure service quality and supply safety, as well as flexibility in the demand-supply system.

The Roadmap to Carbon Neutrality (RCN 2050) was also approved in July 2019, establishing the action lines for a carbon-neutral society by 2050, and determining targets of 80% of all electricity generated in Portugal from renewable sources by 2030, to increase to 100% by 2050.

The ambitious targets being set by the government are expected to translate into the enactment of several measures to ensure the energy transition and efficiency and safety of the sector, while promoting a significant increase in the generation and consumption of energy from renewable sources.

Energy taxation

The State Budget for 2018 introduced some relevant changes to the taxation of coal used in the generation of energy, imposing a tax on oil products and CO₂ added tax at a rate of 10% to powerplants using coal in the production of electricity, which were previously exempt from this payment. This rate has increased to 25% for 2019, and it is set to continue increasing progressively until 2022, when such products will be taxed at 100%. This mechanism directly translates the efforts of the Portuguese government in reducing coal production into a phasing-out of fossil fuels in the generation of energy in Portugal.

Through the State Budget for 2019, it has also been determined that the Extraordinary Contribution of the Energy Sector (*Contribuição Extraordinária do Setor Energético* or CESE) shall be extended to renewable energy projects benefiting from a guaranteed remuneration, which up until then and since the enactment of the CESE in 2014, had been exempt from this payment.

The CESE is levied on electricity generators, on the one hand, and on the TSO of the natural gas sector, on the other. The increasing taxation of the energy sector is likely to create a strain on certain sector entities, and this is a far from amicable situation – as evidenced by news reports, according to which several entities in the electricity and natural gas sector are already reportedly challenging the payment of CESE in judicial courts.

Developments in legislation or regulation

Licensing scheme for new projects

Decree-Law no. 76/2019, of 3 June, brought about a sweep of amendments to some of the core legislation of the electricity sector – the first major systematic revision since 2012. It has notably introduced important changes in relation to the attribution of grid reserve capacity and subsequent licensing procedures, as well as a simplified procedure for single-source projects under 1 MW, the entire output of which is meant to be injected into the public grid.

Prior to the enactment of this Decree-Law no. 76/2019, requests made for injection points where grid capacity was unavailable or insufficient (in light of requests placed) would be made by draw. The procedure for the attribution of connection points and licensing of new electricity generation projects now includes a competitive electronic auction process, through which interested parties may bid on lots for the granting of grid capacity.

Interested parties may opt between two remuneration models: one where the powerplant operates under market conditions, with the generator offering a fixed contribution (in EUR/MW) payable to the Portuguese National Electricity System for a period of 15 years; or one where the powerplant benefits from a guaranteed remuneration calculated by applying a bidding discount offered by the sponsor in relation to the reference tariff presented in the auction.

Another option introduced by Decree-Law no. 76/2019, for situations where grid capacity is not available, is to enter into an agreement with the network operator and to provide the necessary investment and funds for the reinforcement of the network so as to connect the envisaged project. In this scenario, the funding burden is put on the promoter, thus ensuring that grid investments do not have an impact on the electricity tariffs and therefore on the consumers.

Limitation to the transfer of licences

In an attempt to overcome the grid capacity scarcity witnessed in the past years and put a halt to licence trading, recent amendments to the sector legislation have included a prohibition on transferring the grid capacity reserve and the corresponding production licence (whether directly or through the share or asset sale of the promoter) until the project is deemed able to enter into commercial operation.

Hybrid electricity generation

Powerplants may now generate electricity from different primary sources (up to two) in the same infrastructure and through the same connection point, allowing for an increase in generation and contributing to a greater energy mix, without requiring additional investments

for reinforcement of the grid, due to the injection capacity remaining the same, notwithstanding the different technologies remain subject to independent licensing.

A growing interest in combining wind and solar has already been reported from major players in the sectors, as it would allow powerplants to maximise output and efficiency given the different sources' availability and feasibility, without requiring further infrastructure investments from the network operator, as the injection capacity remains the same.

Feed-in tariffs

As a result of both the financial constraints which the country has faced in recent years and the subsequent change of policy direction as regards incentives to the energy sector – and in particular, for renewable energy projects – Portugal has witnessed a halt to the guaranteed remuneration schemes previously applicable to renewable energy projects.

Recent amendments have now partially reintroduced the feed-in tariff regime under special conditions, albeit at significantly lower prices, and provided that such remuneration is either secured through a public tender or auction, or in the context of overpowering, or for projects using hybrid generation to combine a different primary energy source to an existing powerplant.

Biomass projects

The biomass generation regime allows for the implementation of biomass powerplants not only by private investors and players (who remain under a specific regime), but also by the municipalities or, alternatively, by private entities subject to a public contract being executed with the relevant municipality.

However, such projects have not yet been launched by the municipalities. Decree-Law no. 120/2019, of 22 August, introduced certain amendments to the regime applicable to the installation of forest biomass powerplants, in an attempt to boost the implementation of projects using forest biomass, and simultaneously working towards better land management and planning to fight against forest fires which have ravaged significant parts of the country in recent years.

Overpowering

As had already been announced by the Portuguese government, changes have been introduced to the overpowering regime in that the Portuguese regulator (ERSE) must evaluate each request in order to determine whether the envisaged overpowering may carry an adverse effect for the National Electricity System.

As a large number of powerplants under the guaranteed remuneration schemes have opted in to the extension regime enacted in 2013 – which allowed plants to apply a floor and cap to their market remuneration for either the first five or the first seven years (depending on the conditions) after the end of their respective feed-in tariff periods – the amendments now introduced by this Order no. 43/2019, of 31 January, determine that the prior consultation of ERSE is only waived if the generators accept a non-revisable tariff of €45/MWh for a single period of 15 years, thus barring the energy output from such overpowering being considered for the abovementioned extension period (if applicable).

Clawback mechanism

The legal framework created in 2013 for the prevention of market distortions between Portugal and Spain (Iberian Market) was designed to restore competition equilibrium in the wholesale electricity market between the two countries by eliminating windfall profits received by Portuguese generators as a result of taxes introduced in Spain and therefore

higher pool prices, a situation which was viewed as affecting Iberian electricity prices.

This mechanism was halted in 2018 for a six-month period, in acknowledgment of the suspension for the same duration of the tax measures imposed in Spain. Decree-Law no. 104/2019 was recently published on 9 August 2019, harmonising the clawback mechanism to MIBEL rules, and foreseeing the possibility of a payment on account – which value is to be defined every year by governmental order.

Judicial decisions, court judgments, results of public enquiries

2018 saw the creation of a parliamentary inquiry committee with the goal of assessing whether there were “excessive rents” being paid to generators in the electricity sector as a result of energy policies over the years. The main focus of this committee (comprising representatives of all political parties with parliamentary seat) was the remuneration being paid to electricity generators, both renewable and non-renewable, and the potential accountability of political actors with influence over such energy “rents” being paid.

The final report was approved in May 2019 and brought to the Portuguese Parliament in July 2019. Although the recommendations and proposals made in the final report are not binding, the Parliament and the Government are likely to take the findings of the inquiry committee into account in the making of future policies and measures applying to the energy sector.

Major events or developments

Over the years, promoters which had obtained licences for the installation and development of renewable energy projects were met with difficulties in securing the necessary financing for the works required. As the projects stalled, the country was faced with a problem of lack of grid availability for new projects, and obstacles in attracting new investment.

Indeed, while there was evidence of a growing interest in developing new solar photovoltaic projects, the government needed a solution to free up the grid and attract investment. This led to a solar auction taking place between June and July 2019 – the biggest since 2007 – with bids for 1,400 MW of installed capacity. A second auction is expected to take place in January 2020, for another 700 MW of solar power.

The auction attracted the attention of foreign investors, with a large number of bidders coming from the UK, Germany, France and Spain, and broke records for the lowest bids, second only to India, according to news outlets and sector entities. The low tariffs attributed in the auction have also set a precedent for future projects, marking a shift in paradigm for investors, who will have to readjust business models to secure revenues. It is also worth mentioning that a significant proportion of the winners in this first auction were newcomers to the Portuguese market, at the expense of the major players which have dominated the Portuguese market in the past decades.

Proposals for changes in laws or regulations

Market aggregators

With several renewable energy projects benefiting from the guaranteed remuneration scheme reaching the end of their feed-in tariffs, it is expected that market aggregators will undertake the purchase and sale of power generated by such plants. While the figure of the market aggregator was first foreseen in the sector regulations in 2012, no entity has yet undertaken this activity.

Recent amendments enacted in 2019 have determined that this function shall remain subject to a specific licence to be attributed in the context of a public tender. A licensed market aggregator will have the role of acquiring the electricity generated under the special regime under market conditions, at a national or at a local level. Up until then and for smaller projects, the last resort supplier will temporarily undertake this activity.

This is expected to change once the tender is launched and new entities take on this role.

Low-voltage electricity distribution concessions

2019 was set to be the year for low-voltage electricity distribution tenders, with plans having been announced for a major nationwide public tender for the low-voltage distribution concessions. The Portuguese Regulator had proposed that mainland Portugal be divided into three areas – north, centre and south – and that the tenders would be launched jointly by all municipalities in such areas, other than those which would undertake low-voltage electricity distribution on their own.

Despite several concession agreements having reached or reaching their term in 2019, the public tender has not yet been announced and is likely to be postponed to 2020, with the municipalities either undertaking the activity after the term of the concession agreements, or allowing the current concessionaires to continue as such until then. The launching of the public nationwide (mainland Portugal) tender in 2020 is expected to introduce competitiveness and other changes to the low-voltage electricity distribution system.

Self-consumption and energy communities

The government has announced the approval of the final version (pending publication in the Portuguese official gazette) of legislation introducing significant changes to the framework for self-consumption and creating the possibility of energy communities, in an effort to align the Portuguese electricity sector with European Directives and to comply with the PNEC 2030 targets of 47% of renewable energy consumption by 2030, which require that renewable energy account for at least 80% of all electricity generated in Portugal.

Guarantees of origin

Despite being foreseen in the Portuguese legislation since 2010, the framework for guarantees of origin has been subject to several amendments which have continuously shifted powers granted for the issuance of such guarantees of origin among different entities. As a result, there are currently no guarantees of origin being issued in Portugal.

Notwithstanding, the Portuguese Government has publicly stated that it is its intention to promote the issuance of guarantees of origin. And the procedural manual for the issuing entity was under public consultation during the month of August 2019, foreshadowing significant developments in this respect. This may become an important source of revenue for projects, in particular, given the fact that few projects have been attributed with any form of guaranteed remuneration, and those which have – as mentioned above, in relation to the solar auctions – have secured record-low remunerations.

**Ana Luísa de Sousa****Tel: +351 213 113 422 / Email: als@vda.pt**

Ana Luísa de Sousa joined VdA in 2001. Head Partner of the Energy & Natural Resources practice, Ana is widely recognised as an expert in the development and financing of cross-sector projects. Ana has been involved in several road infrastructure projects and PPPs in the health sector and water and waste concessions, but her practice has been specially focused on energy projects, in Portugal as in all of VdA Legal Partners' jurisdictions, acting as legal adviser to the administrative authorities, sponsors and financial institutions (in particular, investment banking and EIB). She is admitted to the Portuguese Bar Association.

**Vanda Cascão****Tel: +351 213 113 478 / Email: vc@vda.pt**

Vanda Cascão joined VdA in 1993. Partner of the Energy & Natural Resources practice area and head of the Green Economy team at VdA, Vanda has worked on countless cross-sector transactions, such as in the renewable energies and natural resources – water and waste – as well as transport – railway, roads, bridges and tunnels, airport construction. She also assists clients with all relevant regulatory matters. She is admitted to the Portuguese Bar Association.

**Isabel Valente Sanches****Tel: +351 213 133 643 / Email: ivs@vda.pt**

Isabel Valente Sanches joined VdA in 2014. She is an Associate in the Energy & Natural Resources area of practice, where she has been actively involved in several transactions, particularly in the financing (project finance) of projects in the energy sector, with a focus on renewable energy projects, and in advising the various entities operating in the sector on regulatory matters. She is admitted to the Portuguese Bar Association.

VdA

Rua Dom Luís I, 28, 1200-151 Lisbon, Portugal

Tel: +351 21 311 3400 / Fax: +351 21 311 3406 / URL: www.vda.pt

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