REPORT
RENEWABLE ELECTRICITY IN PORTUGAL

Monthly Edition

October 2018

APREN Associação de Energias Renováveis

RENEWABLE ELECTRICITY IN MAINLAND PORTUGAL

Highlights of the Portuguese Power Sector

• Since the beginning of 2018, renewable energy sources have represented about 52,7% of the total electricity production in mainland Portugal.

• As for the electricity demand, an accumulated value of 42 213 GWh was registered since the beginning of the year, denoting an increase of 1,6% in comparison to the same period of 2017, thus giving continuity to the growing rate that has first been identified in 2016.

• Until October, the MIBEL's average price was 56,54 €/MWh, whereas on a monthly basis, the average price for October was €65,38/MWh. Although significantly lower than the value registered during last September, October's price is still 15% higher than the average price for the respective month in 2017.

Electricity Production Profile in mainland Portugal

In the period between January and October 2018, 52,7 % of the electricity produced in mainland Portugal was of renewable origin, whereas the remaining 47,3 % was produced from fossil fuels, thereby contributing to a global electricity production of 45 873 GWh. These results indicate that fossil fuels continue to have a predominant role in the energy mix.

About a quarter of the electricity production was assumed by hydro technology, reflecting an accumulated hydroelectric producibility index of 1,15. Wind power was the second largest contributor to the electricity mix, ensuring 21,5 % of the production, which is translated into an accumulated wind producibility index of 1,00.

The remaining renewable energy technologies, bioenergy and solar, represented a combined share of 6,7 % in the electricity production mix, with individual contributions of 5,1 % and 1,6 %, respectively.

From the beginning of the year until October, the accumulated demand accounted for 42 213 GWh, which is about 1,6 % higher than last year's value for the same period, after taking in consideration the temperature corrections and number of working days, thus giving continuity to the demand growing trend that has been verified since 2016.

Regarding the international trade and despite the Portuguese export tendency characterised by an annual positive import-export balance of 2 401 GWh, October shows a monthly import balance of 148 GWh. This inflection in the export tendency may be the result of Spanish legislation, which suspended the 7% tax on all electricity producers, thereby lowering the value of Spanish market bids.

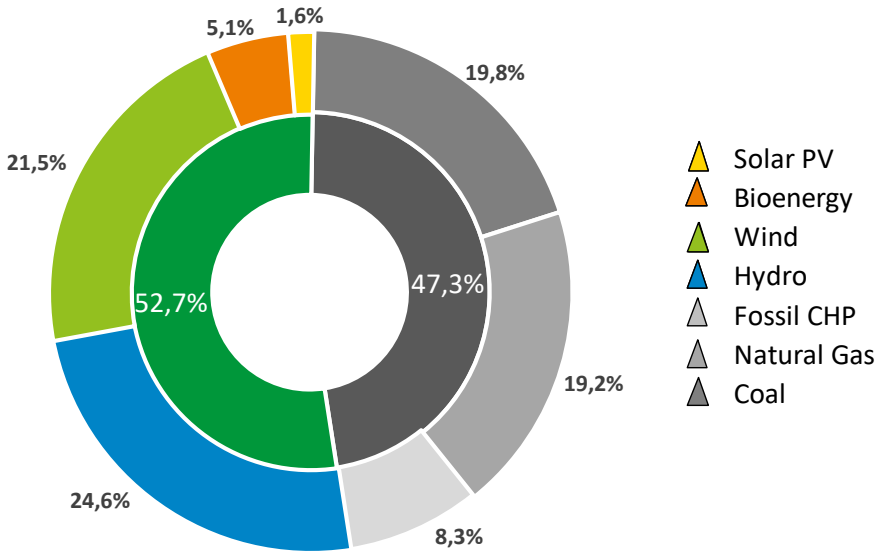

Figure 1: Electricity generation by energy sources in mainland Portugal. (January until October 2018)

Source: REN; APREN's analysis

Electricity Market

The evolution of the wholesale electricity market price can be analysed in Figure 2, which shows a price increase since April 2018. The average price for the current year stands at 56,54 €/MWh, while the monthly value for October was 65,38 €/MWh.

October alone reflected a decrease of 5,92 €/MWh compared to September's monthly price, thus contradicting the upwards tendency for the wholesale market price verified in recent months. As showed in Figure 3, this behaviour derives from an increase in renewable energy production characterized by a significant share of wind power production.

However, despite the downturn in the market price, the average value for October is still around 15% higher than the value for the same period of 2017.

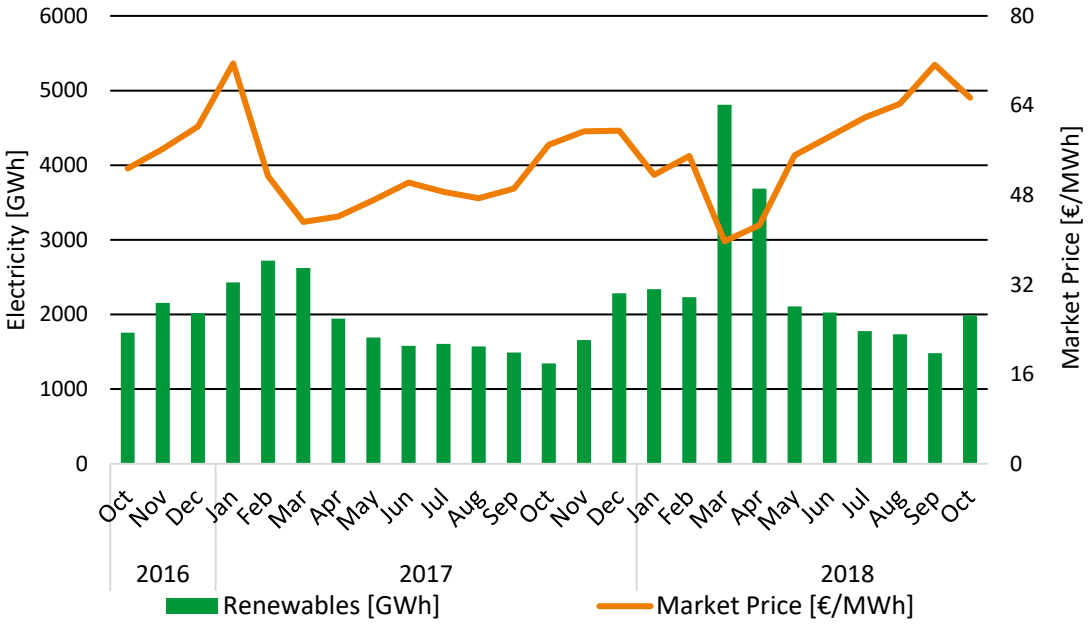

Figure 2: Renewable Electricity Production and of the Iberian Wholesale Electricity Price. (October 2016 to October 2018)

Source: OMIE, REN; APREN's analysis

Production profile in the last 2 years

Figure 3, which illustrates the electricity production profile for the last two years, shows a decrease in the contribution of fossil fuels to the electricity production, mainly driven by a significant increase in the wind power production by comparison with the same period for the last two years.

The wind power production was portrayed by a monthly wind producibility index of 1,19, which is the second highest since the beginning of 2018, only surpassed in March, when the renewable energy production was equivalent to 103,6% of the electricity demand.

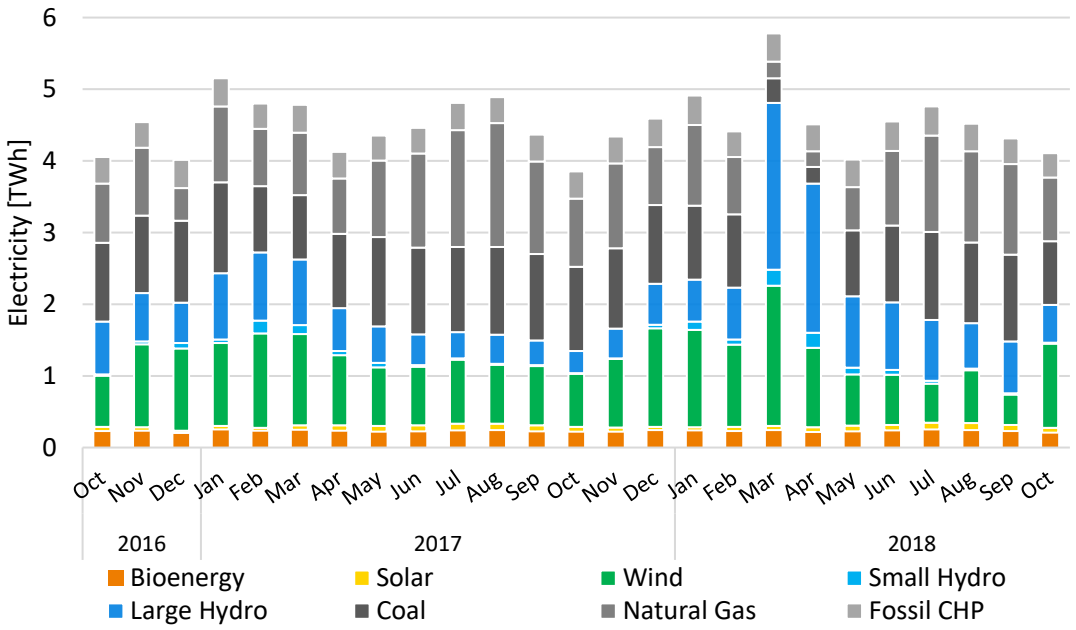

Figure 3: Distribution of the electricity generation by source in mainland Portugal. (October 2016 to October 2018)

Source: REN; APREN's analysis

October's Load Diagram

On Figure 4, it was possible to identify different production profiles, ones characterized by periods of fossil fuel dominance, and others by periods dominated by renewable energy sources (mainly wind).

Despite the dominant peaks of renewables, October was marked by a fossil fuel utilization rate of 51,62% and one of 48,38% from renewable energies, with wind accounting for 29% of the electricity production alone.

As mentioned above, periods of high wind producibility are identified in the figure, mainly on the weekends from 13th to 14th, and from 27th to 28th October, during which, strong meteorological systems were detected, for example, the Tropical Storm Leslie (on days 13 and 14). These periods registered wind power production contributions to the electricity demand over 80%, with values over 90% on October 14th.

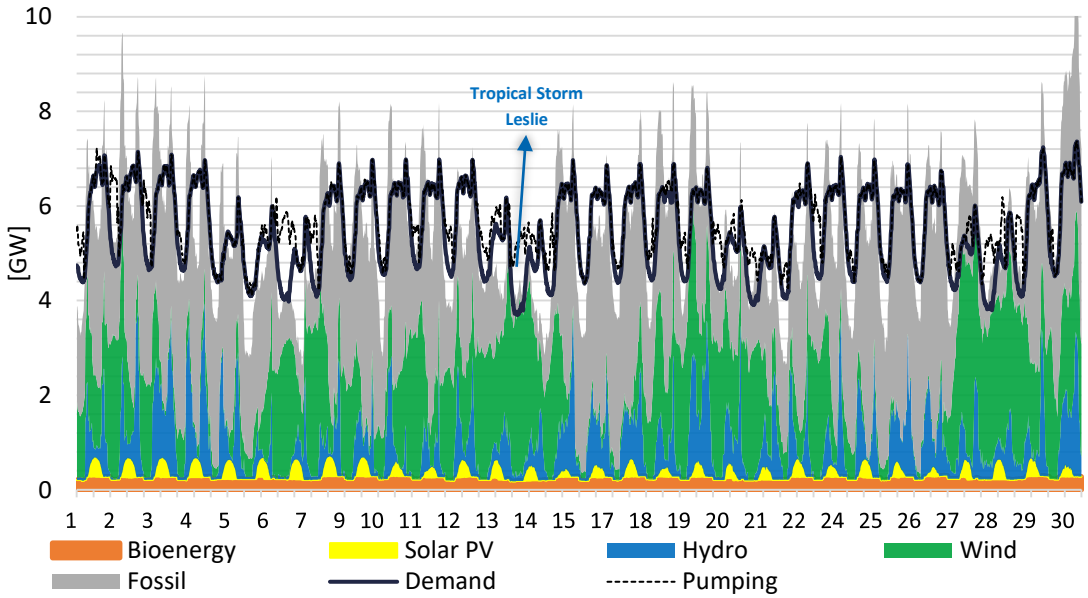

Figure 4: Load Diagram of mainland Portugal. (October 2018)

Source: REN; APREN's analysis

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