



REPORT RENEWABLE ELECTRICITY IN PORTUGAL

Monthly Edition

August of 2018



APREN Associação
de Energias
Renováveis



RENEWABLE ELECTRICITY IN MAINLAND PORTUGAL

Highlights of the Portuguese Electric Sector

- In cumulative terms, since the beginning of the year, renewable energies accounted for 55% of the total electricity production in mainland Portugal.
- In absolute terms, an accumulated consumption of 33 958 GWh was achieved, representing an increase of 1,8% compared to the previous year.
- In August, it was verified an average MIBEL market price of 64,29 €/MWh.
- The electricity prices have been rising during the year 2018, driven by a rise in commodity prices, such as the CO₂ allowances which nowadays cost more than 20€/t.



Electricity Production Profile of Mainland Portugal

From January to August 2018, renewable energy sources (RES) have played a leading role in the electricity production of mainland Portugal, contributing to 55,3% of the overall electricity production (37 451 GWh).

The technology with greater prominence was hydro, which contributed to 26,7% of the overall electricity production, followed by wind technology, which accounted for 22,1%. Despite the hot summer that registered temperatures above 40°C, the precipitation during the winter and spring months was above the historical average, with an accumulated hydro producibility index of 1,19.

The remaining renewable energy technologies presented a contribution of less than 10%, namely biomass with 5,0% and solar with 1,5%.

In absolute terms, an accumulated consumption of 33 958 GWh was achieved, which, taking into account the temperature and working days correction, represents an increase of around 1,8% compared with the previous year.

With regards to international trades, Portugal continues with an export trend, with the net export balance of 2 443 GWh.

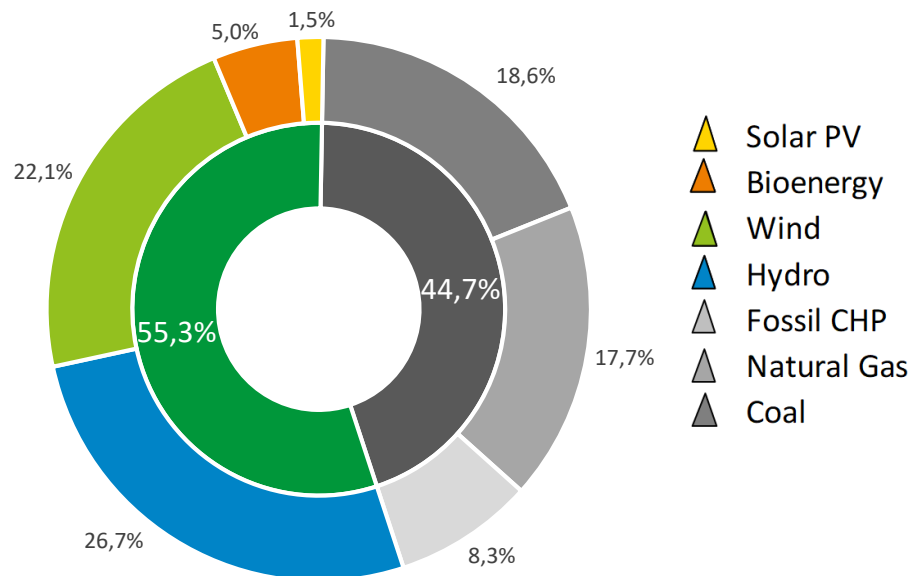
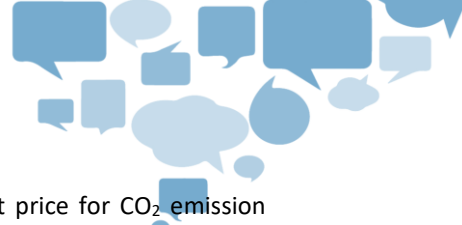


Figure 1: Electricity generation by energy sources in Mainland Portugal. (January until August of 2018)

Source: REN; APREN's analysis



Electricity Market

Until the end of August, the average price of MIBEL was 53,6 €/MWh. Focusing the analysis in August, an average value of 64,29 €/MWh was verified (Figure 2). Since April 2018, there has been a tendency for wholesale market electricity prices to rise, not having registered prices of this magnitude since 2008, when a peak in fossil fuel prices was recorded, and also since January 2017 (71,52 €/MWh). The latter was a result of an emergency situation in the French electricity sector which was driven by some nuclear power plant outages. Different factors have contributed to the rise of prices in the Iberian Peninsula:

- Increased electricity consumption; 1,8% above the 2017 value for the same time period, in mainland Portugal;

- The European market price for CO₂ emission allowances increased substantially, having exceeded 20 €/tCO₂. The price for the homologous period in 2017 was below 7 €/tCO₂;
- 4 nuclear reactors in France were stopped due to heat waves;
- The commodity prices have registered an upwards tendency in the current year;
- Low availability of the Spanish natural gas power plants;
- Higher energy and environmental taxes;
- End of the capacity payments scheme in mainland Portugal;
- End of the power availability payment to thermal power plants (natural gas, coal and nuclear) in Spain.

The combination of these factors has contributed to a rise in electricity market prices, which are not only of macroeconomic nature, but also of energy policy nature.

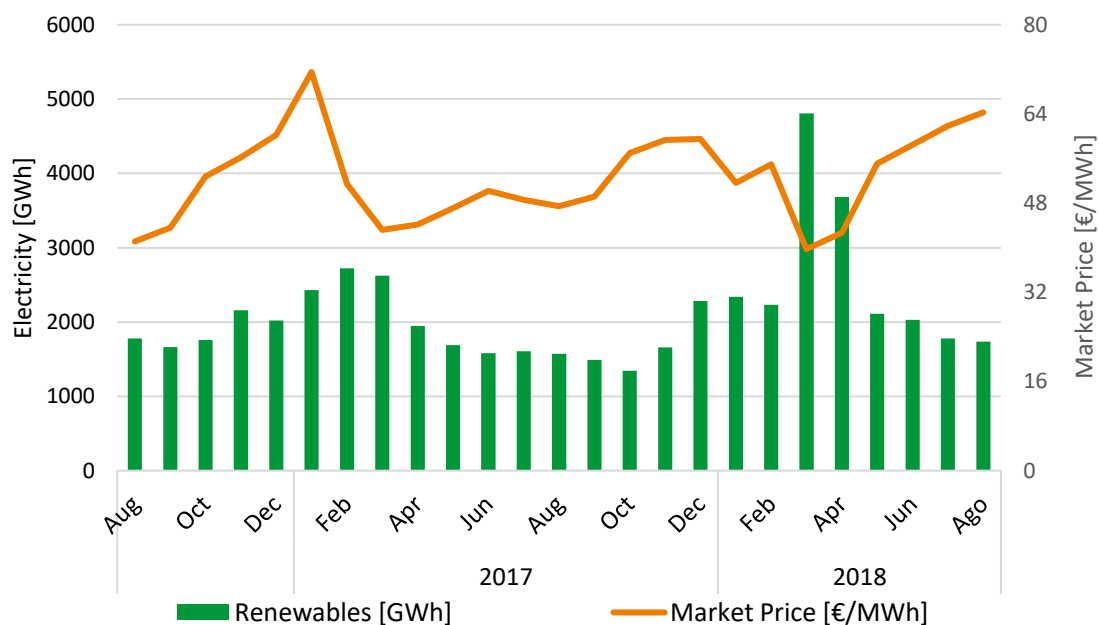


Figure 2: Evolution of the Renewable Electricity Production and of the Iberian Wholesale Electricity Price. (August of 2016 to August of 2018)

Source: OMIE, REN; APREN's analysis



Production profile in the last 2 years

Figure 3 illustrates the monthly electricity production by source over the last two years. The reduction of monthly hydroelectric and wind generation in the summer periods is visible, which is then compensated by the production in the gas and coal thermal power plants.

Also noteworthy is the increase in electricity production from fossil fuels in recent months, due to the trend of net export balance with Spain.

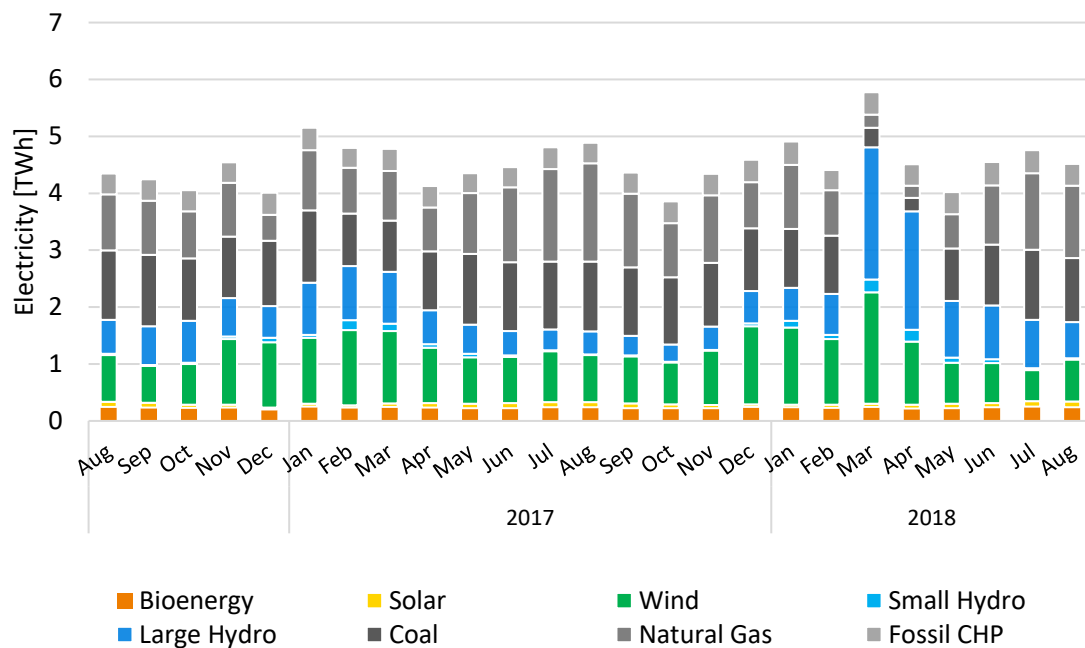


Figure 3: Distribution of the electricity generation by source in Mainland Portugal. (August of 2016 to August of 2018)

Source: REN; APREN's analysis



August's Load Diagram

The load diagram for August (Figure 4) shows the high utilization rate of fossil fuel technologies, which represented 66,4% (2 782 GWh) of the overall electricity production in mainland Portugal.

Analyzing the diagram, there is a tendency to export during peak hours, primarily during the week, and a tendency to import electricity during the off-hours and weekends. This balance shows the capacity of the Portuguese electric system to offer, in the wholesale market, lower values in periods of higher demand.

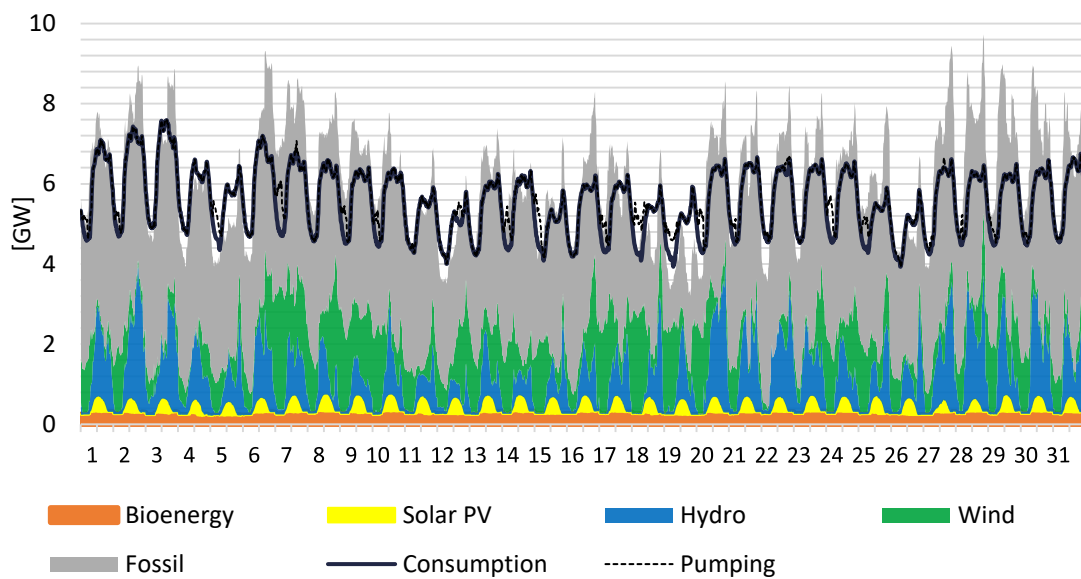


Figure 4: Load Diagram of Mainland Portugal. (August of 2018)

Source: REN; APREN's analysis

Information available in:

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