



REPORT RENEWABLE ELECTRICITY IN PORTUGAL

Monthly Edition

April of 2018



APREN Associação
de Energias
Renováveis



RENEWABLE ELECTRICITY IN MAINLAND PORTUGAL

Highlights of the Electric Sector in April of 2018

- Average electricity price in the MIBEL spot market was 42.66 €/MWh.
- A group of 177 non-consecutive hours, in which renewables alone were enough to supply the electricity needs of Mainland Portugal.
- Increase of the Portuguese electricity consumption by 10.4%, when compared to the same period of the previous year.
- From the beginning of 2018 to the end of April, 66.6% of the total electricity generated in Portugal was from renewable origin.



Electricity Production Profile

In the first four months of 2018, renewable energy sources (RES) generated 13,067 GWh, which accounted for 66.6% of the total electricity produced in Mainland Portugal, 19,607 GWh.

This good RES performance was partly due to the greater availability of renewable resources, mainly hydro and wind during March and April.

In fact, in April, according to the climatological bulletin of the Portuguese Institute of the Sea

and Atmosphere, the average rainfall value was 118.5 mm, which contributed to a monthly hydroelectric productivity index of 2.01.

On the other hand, the wind regime of April led to a monthly wind index of 1.08.

Figure 1 shows the shares of the different electricity generation sources in Mainland Portugal since the beginning of the year, which not only supplied the electricity demand (18 510 GWh) but also allowed an export balance of 1 097 GWh

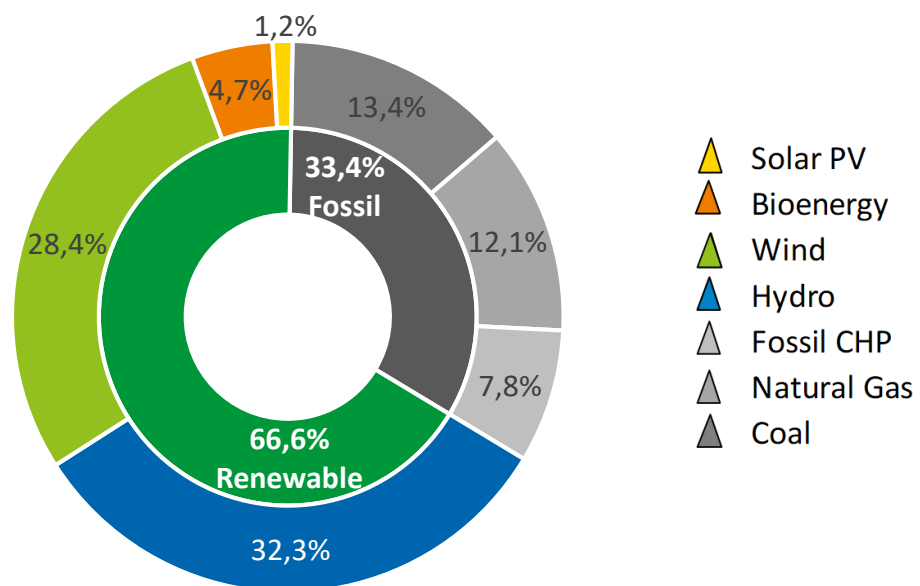


Figure 1: Electricity generation by energy sources in Mainland Portugal. (April of 2018)

Source: REN; APREN's analysis



Electricity Market

In April, the average electricity price in the MIBEL spot market was 42.66 €/MWh and the market price ranged from 47.1 €/MWh (April 1st) to 57.99 €/MWh (April 13th). By its turn, the average price of the market since the start of 2018 was 47.1 €/MWh.

Regarding the electricity trades with Spain, during 2018 the Portuguese system imported electricity at an average value of 44.9 €/MWh and exported it at an average price of 49.8 €/MWh.

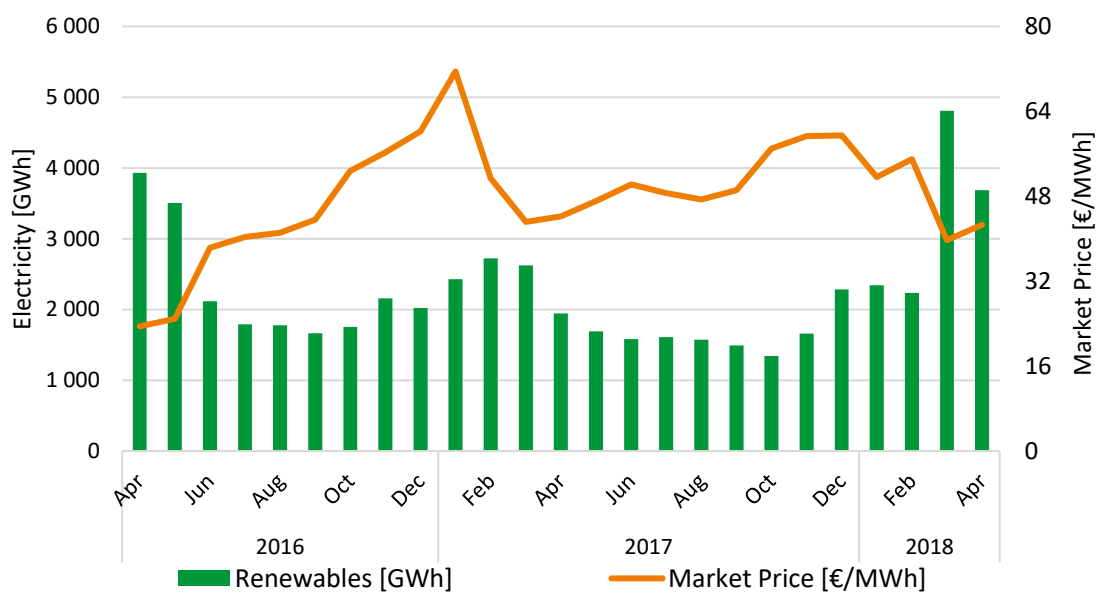


Figure 2: Evolution of the Renewable Electricity Production and of the Iberian Wholesale Electricity Price. (April 2016 to April 2018)

Source: OMIE, REN; APREN's analysis



Production profile in the last 2 years

The monthly electricity production, by source, from January to April 2018 in the context of the last two years is illustrated in Figure 3.

Analyzing the production pattern of renewable sources, it is verified that the hydroelectric production of the last two months was above average, which consequently resulted in a decrease of the electricity generated in fossil power stations.

In fact, during March and April, natural gas power plants had a load factor of 8% and coal-fired power stations 22%, which translated into a lower bill with fossil fuels imports.

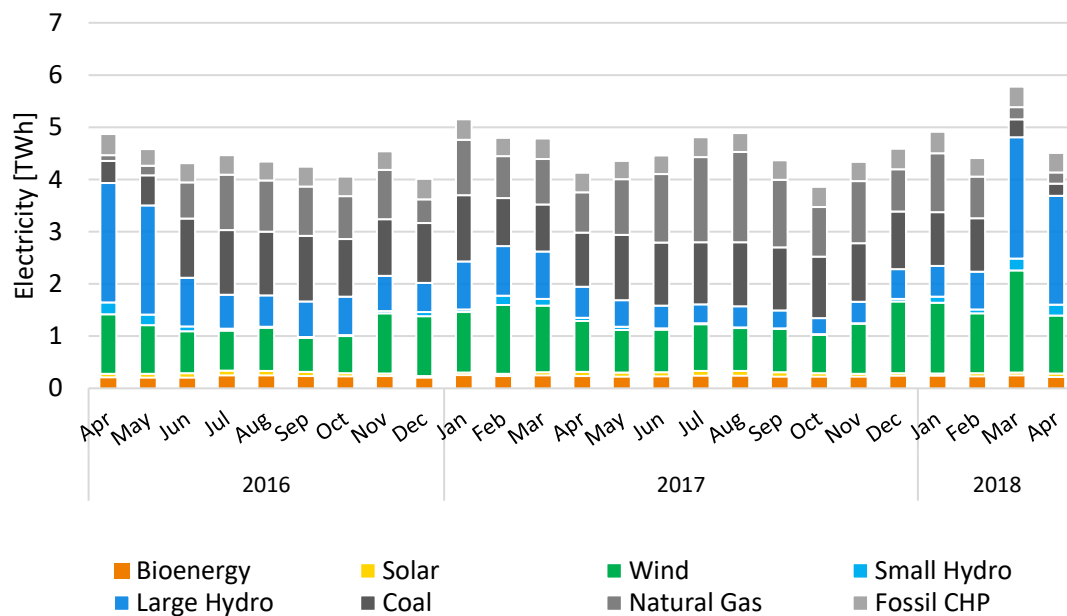


Figure 3: Distribution of the electricity generation by source in Mainland Portugal. (April 2016 to April 2018)

Source: REN; APREN's analysis



April's Load Diagram

In April there was an increase in Portuguese electricity consumption of 10.4%, when compared to the homologous period of the previous year. Correcting the value by the temperature effect and considering working days, it is still obtained a value of 6.6%, according to REN (Portuguese TSO).

In this period, as in March, renewables continued to be dominant in the Portuguese electricity system, having supplied 89.7% of consumption.

By analyzing the load diagram of April (Figure 4) it is possible to identify a set of 177 non-consecutive hours, in which the renewables were enough to supply, by itself, the entire electricity needs of Mainland Portugal.

In the diagram is also highlighted a peculiar situation of the electrical system. This highlight refers to the day 3 at 20h, when the monthly peak of production in the electrical system of 9 826 MW was reached, for a consumption of 7 557 MW.

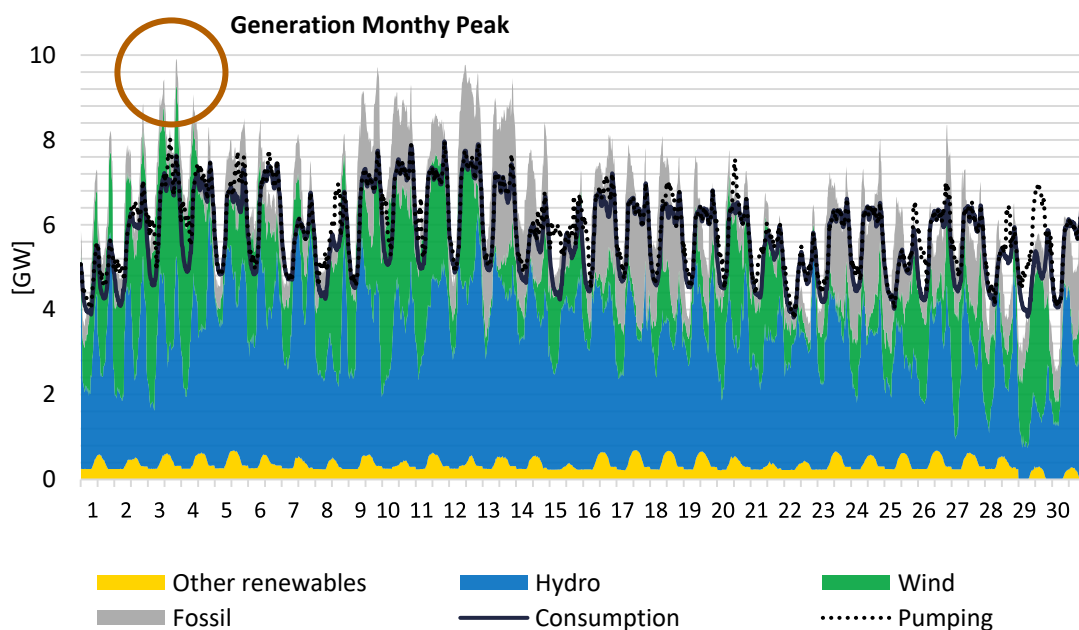


Figure 4: Load Diagram of Mainland Portugal. (April 2018)

Source: REN; APREN's analysis

Information available in:

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