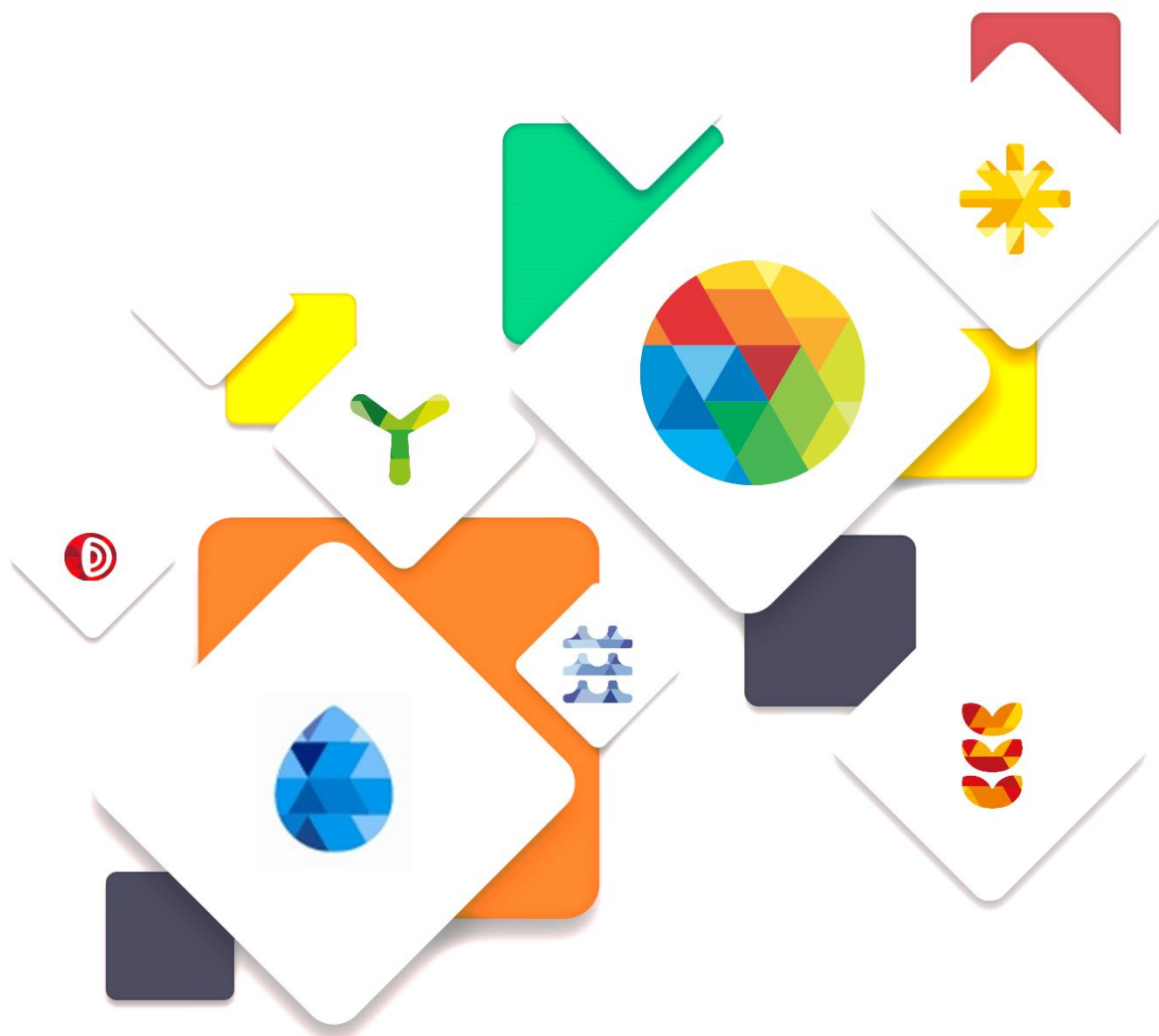




APREN Associação
de Energias
Renováveis



REPORT RENEWABLE ELECTRICITY IN PORTUGAL

Monthly Edition

July 2017

RENEWABLE ELECTRICITY IN MAINLAND PORTUGAL



In the first 7 months of the year, because of the situation of severe drought that the country is crossing, the hydro availability was very low which contributed to a significant fossil production share – 55.1 %, one of the highest shares of the last decade. This higher quota of thermoelectric production has endorsed the rising of the average wholesale market price that registered the average value of 50.89 €/MWh, well above the homologues values of the previous years when the renewable production was more favourable. For example, in 2016 when the renewable production reached 67 %, the average wholesale market price was 31.22 €/MWh.

During this period, the wind generation has been very constant and it was the renewable technology with highest volume of production with a quota of 22.3 %. Meanwhile, the hydro (small and large power plants) reached 16.0 %, followed by bioenergy with 5.1 % and by solar photovoltaic with 1.5 % (figure 1).

Accumulatively, the demand reached 28 922 GWh which means an increase of 1 % comparing to last year, taking into consideration the temperature and working days' correction. This outcome shows a

positive signal for the Portuguese economy evolution.

Regarding the international net exchanges, the balance remained exporter registering accumulatively 2 192 GWh, despite being bellow the value of 2016. This value shows the market potential of the Portuguese power sector and may be maximized in the future throughout the increase of the interconnections and the renewable production, mainly solar and wind.

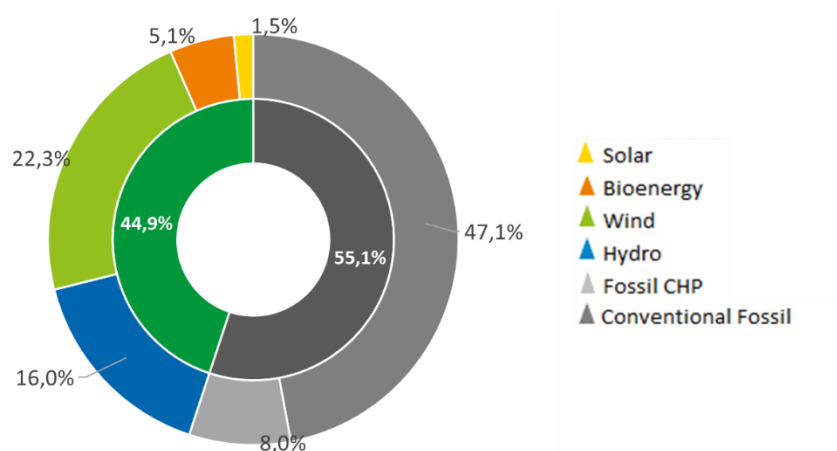


Figure 1: Electricity generation by energy sources in Portugal Mainland. (January until July 2017)

Source: REN; APREN's analyses



According to the Portuguese Institute of Sea and Atmosphere (IPMA) around 79 % of the country is in severe drought. The low precipitation has contributed to the reduction of the hydroelectric production that typically represents a quarter of the demand. Though, in this summer season, the conditions have been very disadvantageous. The reservoirs reached 58 % of their capacity leading to a high use rate of the fossil fuel power plants with a raise of the greenhouse gases emissions responsible for the climate change.

Dry periods trigger the rise of the electricity wholesale market price. In July, the average market price closed at 48.60 €/MWh, around 20 % above the value of the homologues period of 2016 (figure 2).

If the analysis focus in period since the begging of the year, the average price reached 50.89 €/MWh around 63 % highest than the value for the same period in 2016.

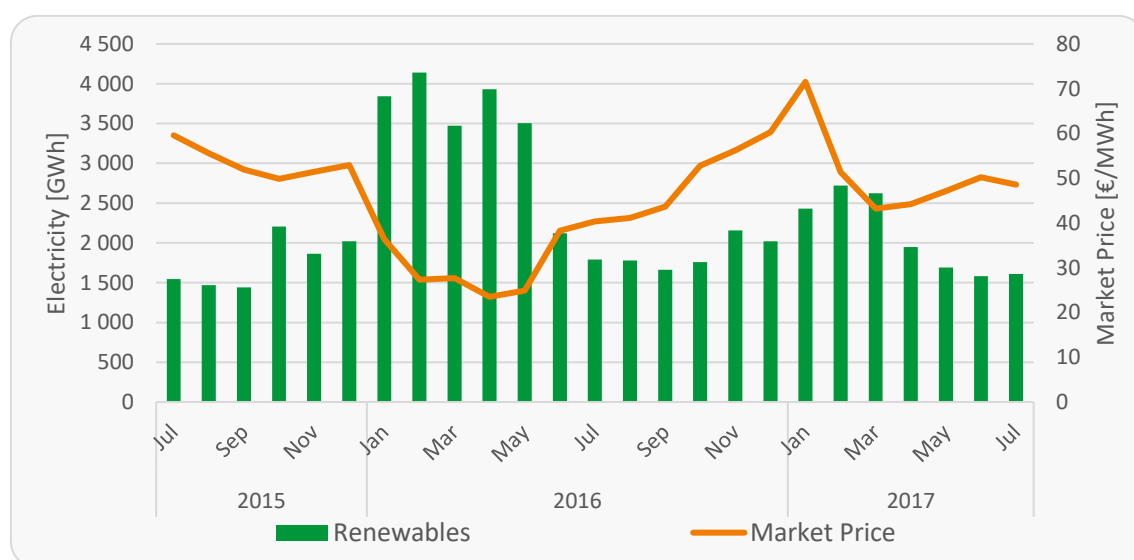
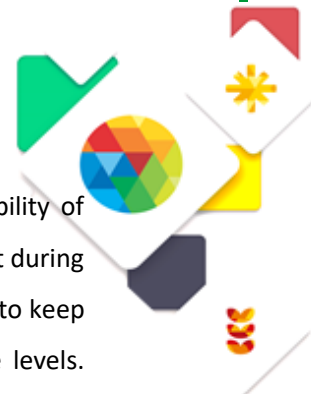


Figure 2: Evolution of the Renewable Electricity Production and of the Wholesale Electricity Price (July of 2015 until July of 2017)

Source: OMIE, REN; APREN's Analysis



The monthly electricity production, by source, during the last two years is shown in the figure 3. It is highlighted the monthly hydroelectric production variations and, mainly, its reduction during the dry months, deficit that was filled by the conventional thermal power plants production.

In 2017, principally in July, the natural gas consumption has raised significantly to meet the market demands with an export trend.

This figure also shows the low variability of wind energy, the main technology that during these critical dry months has allowed to keep the renewable share with expressive levels. Especially in July, the electricity production from wind had a contribution of 895 GWh, around 15 % above the monthly value of the two last years.

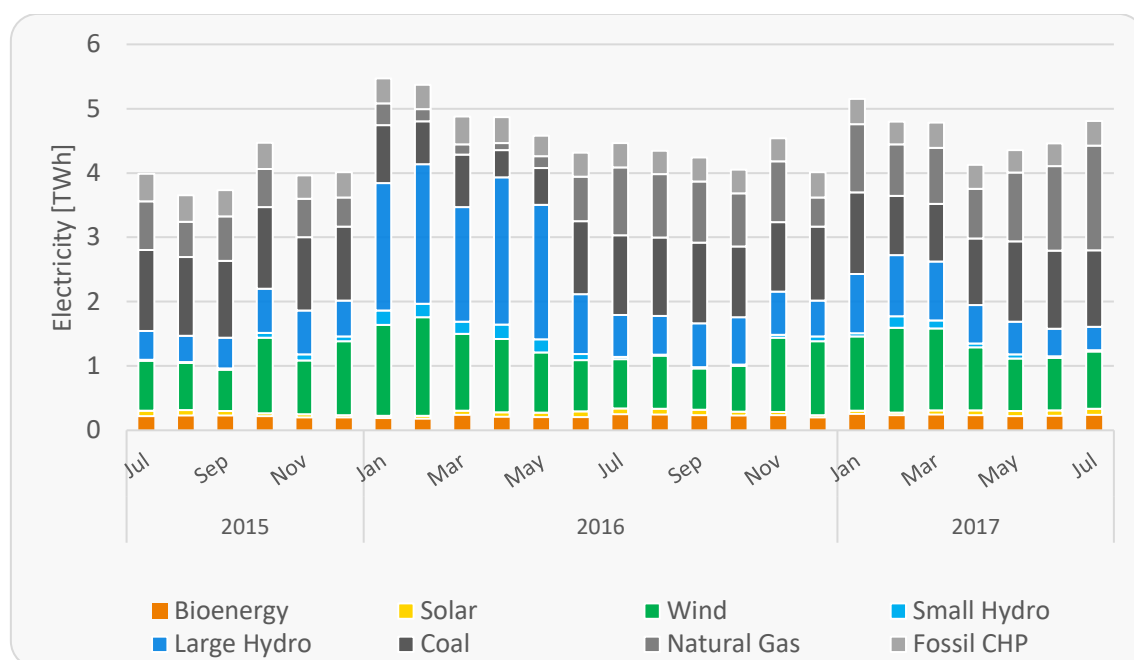
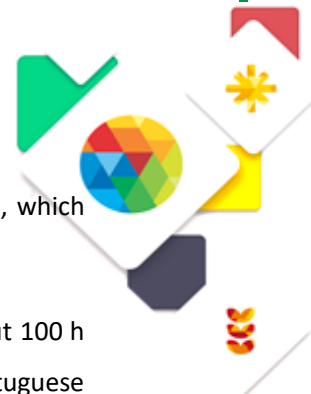


Figura 3: Evolução da produção de eletricidade por fonte (julho de 2015 a julho de 2017)

Fonte: REN; Análise APREN



Looking at the monthly load diagram (figure 4), it is verified the existence of high periods of exportation, mainly located at demand peak hours, evidencing that offers of the Portuguese power plants were more competitive than those of the Spanish market.

It is still worth noting that wind farms several times reached a capacity factor of 50 %,

exhibiting an average of around 23 %, which shows their high availability.

At last, it stands out that during about 100 h the renewable penetration in the Portuguese demand was above 50 %.

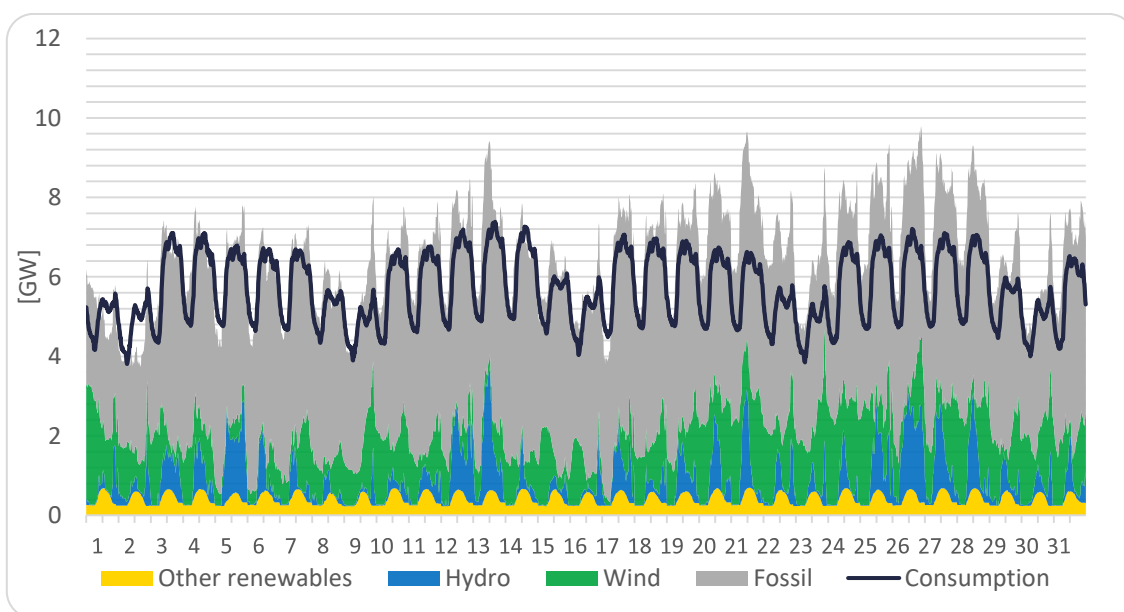


Figure 4: Load Diagram of Mainland Portugal (July de 2017)

Fonte: REN; Análise APREN

Information available in:

APREN | Communication and Technical Departments

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