



**APREN** Associação  
de Energias  
Renováveis

# **PORTUGUESE RENEWABLE ELECTRICITY REPORT**

FEBRUARY 2019



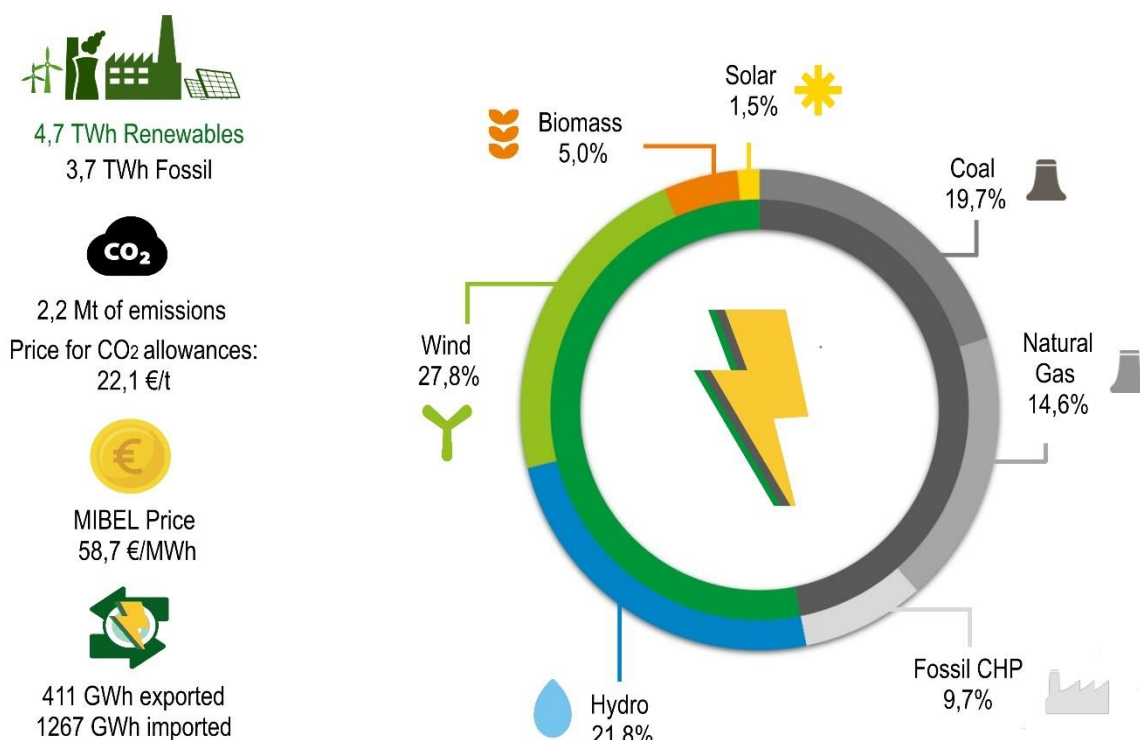
# RENEWABLE ELECTRICITY IN MAINLAND PORTUGAL

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## EXECUTIVE SUMMARY

- From the beginning of the year, renewable sources represented 56.1 % of the electricity production mix in Mainland Portugal, generating 4 688 GWh, when the total electricity production was 8 361 GWh.
- It is noteworthy the current trend of the commercial trade exchanges with Spain, being characterized by an accumulated net import balance of 856 GWh, which represents 9.3 % of the electricity demand in Mainland Portugal.
- The average MIBEL price was 58.7 €/MWh, representing a significant reduction compared to the market prices that were registered during the second semester of 2018.
- The power sector was responsible for 2.2 Mt of CO<sub>2</sub> emissions, which translates in 275 gCO<sub>2</sub>/kWh.

## ILLUSTRATIVE SUMMARY: ELECTRICITY PRODUCTION – FEBRUARY 2019



## ELECTRICITY PRODUCTION IN MAINLAND PORTUGAL

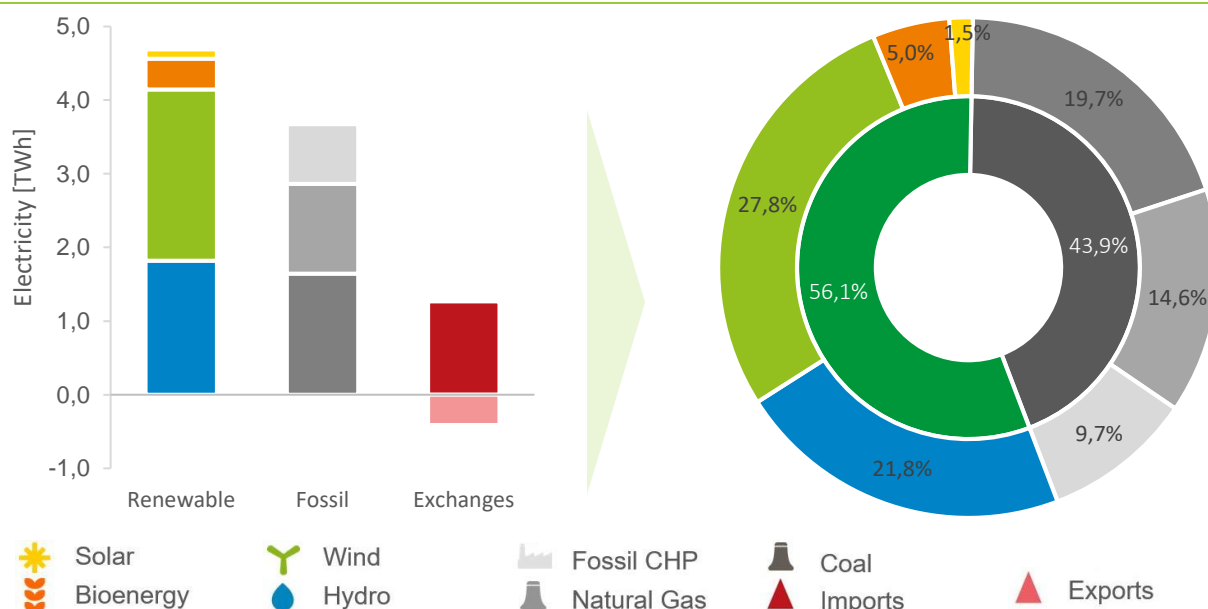
Since the beginning of the year, **renewable energy sources (RES) represented 56.1 % of the electricity production mix** (Figure 1) in Mainland Portugal, by producing 4 688 GWh of electricity, in a total of 8 361 GWh. These first two months accounted for a slightly higher (by 2.5 %) renewable electricity production than in the same period of 2018 (4 574 GWh). Fossil fuels accounted for the remainder of the mix, recording a cumulative electricity production of 3 673 GWh, therefore representing a portion of 43.9 %.

There was an increase in hydro producibility from January to February (0.49), in comparison to last year's (0.39). In other hand, the accumulated wind producibility index is lower than in 2018 (1.0), with a current value of 0.91. These productivities reflect the technologies' contributions to the mix, where there was an increase in the wind representativeness, now of 27.8 % (2 325 GWh),

compared to 2018's 26.9 % (2 506 GWh). Also, there was an increase in the hydro representativity, now of 21.8 % (1 820 GWh), while in 2018 it only represented 16.0% (1 495 GWh).

**In this period, the electricity demand <sup>1</sup> was 9 217 GWh, reflecting a slight decrease of 0.1 % over 2018** (a 0,1% increase after accounting for temperature and number of working days corrections).

Concerning the commercial trade exchanges, we highlight the import trend that has been taking place since the beginning of the year, which means that Spanish producers have been offering the most competitive electricity prices within the Iberian Market. **In the first two months there was a net import balance of 856 GWh**, which represents 9.3 % of the electricity demand in Mainland Portugal.



**Figure 1.** Electricity production by energy source in Mainland Portugal (feb-2019).

Source: REN, APREN's analysis

<sup>1</sup> Power plants' total electricity generation for consumption, including the import-export balance and grid losses.



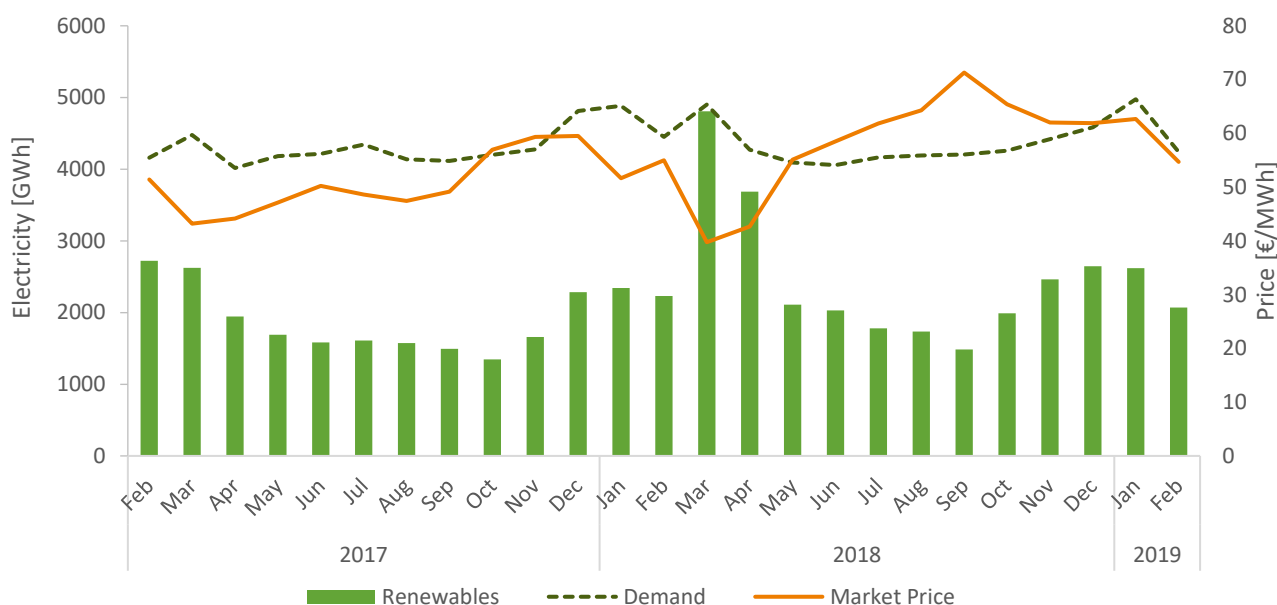
## ELECTRICITY MARKET

Since September 2018 there has been a sustained decline in the electricity price, being the average February 2019's value 23.3 % lower than the one registered in September 2018. **In fact, the monthly electricity price, currently at 54.7 €/MWh<sup>2</sup>, was even lower than the average price for February 2018, of 55.0 €/MWh.**

However, despite this downturn, **the average price for the last two months (58.7 €/MWh) was still higher than the one for the same period of 2018 (53.3 €/MWh).**

During this period, 17.3 non-consecutive hours of 100 % renewable electricity production were identified, and these were characterized by an average market price of 52.2 €/MWh, which is 11.1 % lower than the real average market price.

As for the monthly renewable electricity production, this year's can be regarded as the weakest February of the last two years, with a monthly output of 2 069 GWh, which is 7.3 % lower than in 2018 and 24.0 % lower than in 2017.



**Figure 2.** Renewable electricity production, Wholesale electricity market price and Electricity demand (feb-2017 to feb-2019).

Source: OMIE, REN, APREN's analysis

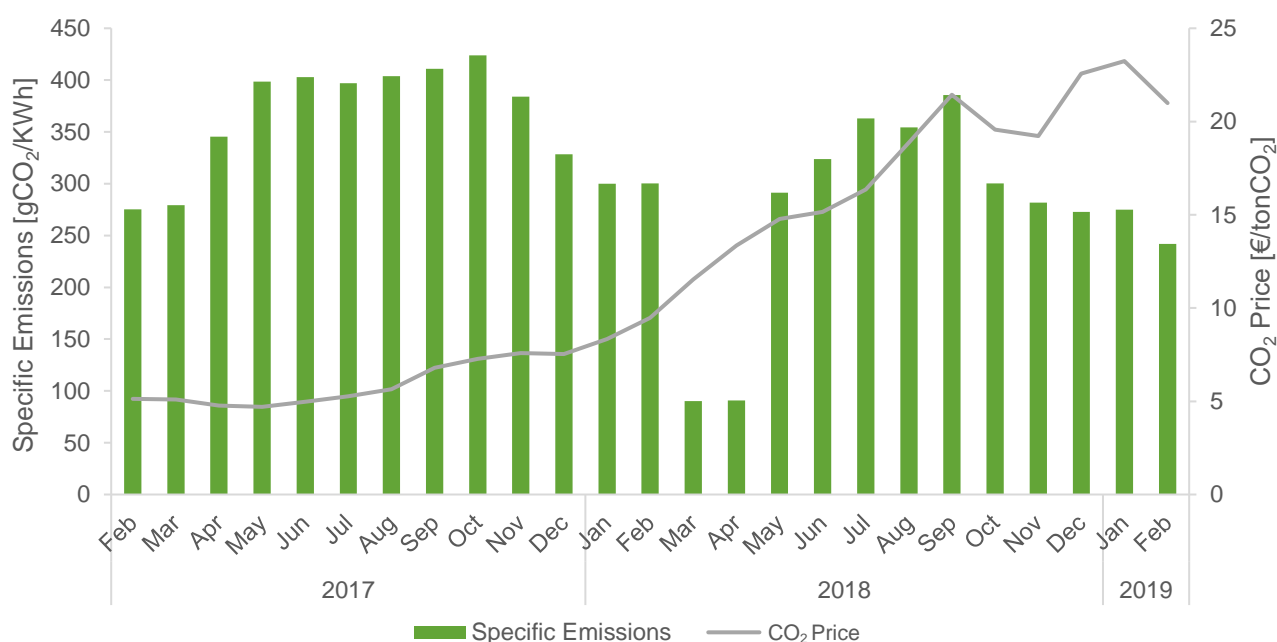
<sup>2</sup> Arithmetic average of the electricity prices in February 2019. Source: OMIE.



## POWER SECTOR SPECIFIC EMISSIONS

During 2019's first two months, there was an **average CO<sub>2</sub> allowances price of 22.1 €/t**, which is 2.3 times higher than the price for the same period of 2018 (9.41 €/t). However, the monthly price for the CO<sub>2</sub> allowances have decreased from January to February, with an average of 21.0 €/MWh for the last month.

During this period, **the power sector discharged a total of 2.2 MtCO<sub>2</sub>**, with specific emissions of 258.5 gCO<sub>2</sub>/kWh, about 13.8 % lower than in 2018 (300.0 gCO<sub>2</sub>/kWh).



**Figure 3.** Specific emissions resultant from the power sector's activity in Mainland Portugal and CO<sub>2</sub> allowances price (feb-2017 to feb-2019).

Source: REN, APREN's analysis



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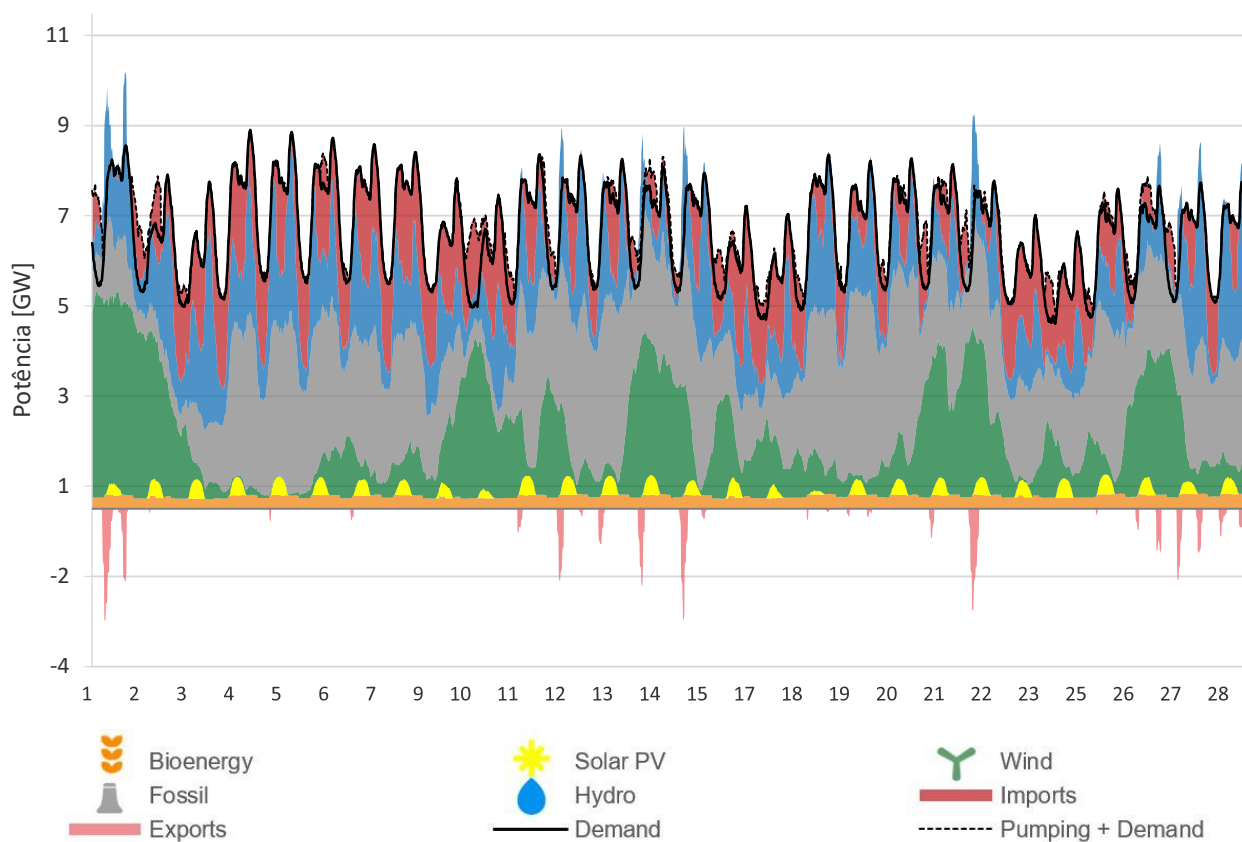
## FEBRUARY'S LOAD DIAGRAM

Figure 4 represents February 2019's load diagram and reflects the importing nature of the national power system during the last two months, thus characterized by scarce exporting periods.

On the other hand, long periods of electricity importation were identified, with the longest one registering a total of 95 hours, from 7<sup>th</sup> to 11<sup>th</sup>

February. The daily import maximum (44.3 GWh) was identified on the 8<sup>th</sup>, when the imports accounted for 27.7 % of the electricity demand in Mainland Portugal.

These high import values were, in part, a reflection of the weak wind and hydro producibilities, with wind registering a monthly producibility index of 0.72.



**Figure 4.** Load Diagram for Mainland Portugal (feb-2019).

Source: REN, APREN's analysis



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## FINAL REMARKS

The National Energy and Climate Plan (PNEC) for 2030, which was presented at the end of 2018, is being exposed and presented throughout the country until the end of March, after which it will begin its public consultation. Meanwhile, the Spanish PNEC was also announced, which exceeded expectations by setting an ambitious target for 2030 for renewable energy in the gross energy production of 42 %. It also set a target for

renewable electricity of 74 % and energy efficiency of 39.6 %. These Spanish targets call upon the strong competitiveness to be expected in the Iberian Market and point out the urgency and speed to which the Member States will have to face the post-2020 energy transformation if they are to achieve the objectives outlined at the COP 21 in Paris.



## HIGHLIGHTS ON THE POWER SECTOR

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### **European Commission Communication: Biomass**

Authorizes the support scheme for biomass powerplants, fostering forest owners to clean high-risk areas and use the resulting residues for energy production.



### **Ordinance n. °43/2019: Over-equipment of wind farms**

Exempts ERSE's consultation for the over-equipment projects in cases where the project developer accepts a fixed tariff of 45 €/MWh for the extra amount of energy derived from the over-equipment.



### **Solar Capacity Auctions**

The Environment and Energy Transition Ministry expressed its intention of holding a 1 350 MW auction for new PV capacity in June 2019.



### **Guarantees of Origin transition to REN**

REN was again named as the Responsible Entity for the Issuing of GO - Guarantees of Origin (it had already been operational from 2010 to 2015, but only for high efficiency cogeneration). No GO for renewable has been issued so far.

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*Information available in:*

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