



APREN Associação
de Energias
Renováveis

PORTUGUESE RENEWABLE ELECTRICITY REPORT

JULY 2019



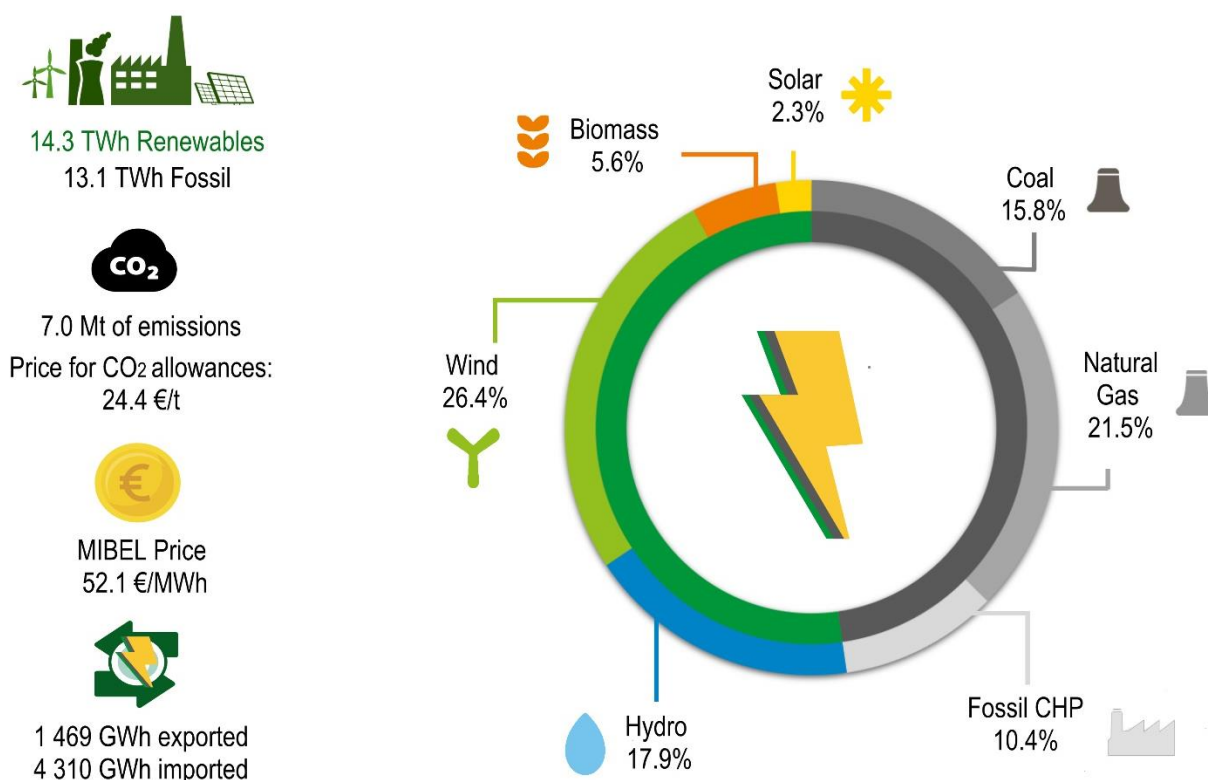
RENEWABLE ELECTRICITY IN MAINLAND PORTUGAL

JULY 2019

EXECUTIVE SUMMARY

- In the period **between January and July 2019**, renewable power plants sited in Mainland Portugal **produced 14.3 TWh of electricity**, which is a **52.3 % contribution** to the overall electricity production mix.
- The Mainland **imported a total of 4 310 GWh of electricity** and **exported 1 469 GWh**, leading to an **import balance of 2 841 GWh**.
- **By the end of July**, the average electricity **daily market price was 52.1 €/MWh**.
- During the first seven months of the year, the **power sector emitted around 7.0 million tons of CO₂**, which is approximately translated into 255 grams of CO₂ emitted for every kWh of electricity produced.

ILLUSTRATIVE SUMMARY: ELECTRICITY PRODUCTION IN 2019



ELECTRICITY PRODUCTION IN MAINLAND PORTUGAL

Between January and July 2019, renewable power plants sited in Mainland Portugal produced **14.3 TWh of electricity, a 52.3 % contribution to the overall electricity production mix** (27.4 TWh). These renewable penetration levels are well below (24.5 % lower) the ones achieved in the same period of 2018 (19.0 TWh), when more favourable conditions for renewable production were recorded. However, 2019's renewable electricity production is still slightly lower, by 1.9 %, than 2017's (14.6 GWh), a year with similar hydro and wind productivities to 2019 (hydro: 0.57; wind: 0.97).

Given the low hydro productivity, wind technology assumes a prominent role, accounting for 26.4 % of the Mainland's electricity production mix (7.2 TWh). Natural gas combined cycle power plants had also

a significant weight, 21.5 % (5.9 TWh), which is of serious concern to us, because it deepens the country's energy dependency from abroad and contributes to the increase in GHG emissions. On the other hand, the Mainland recorded **high import values of 4 310 GWh**, compared to **only 1 469 GWh of electricity exports**, leading to an **import balance of 2 841 GWh**. This importing trend has been a reality since the beginning of 2019, during which the Mainland has imported electricity during 68.7 % of the whole period.

As for the **electricity demand**, it summed up to **30.2 TWh¹** under the period jan-jul, representing a 1.7 % reduction from 2018's real values, and 0.8 % when accounting for the corrections on temperature and number of working days.

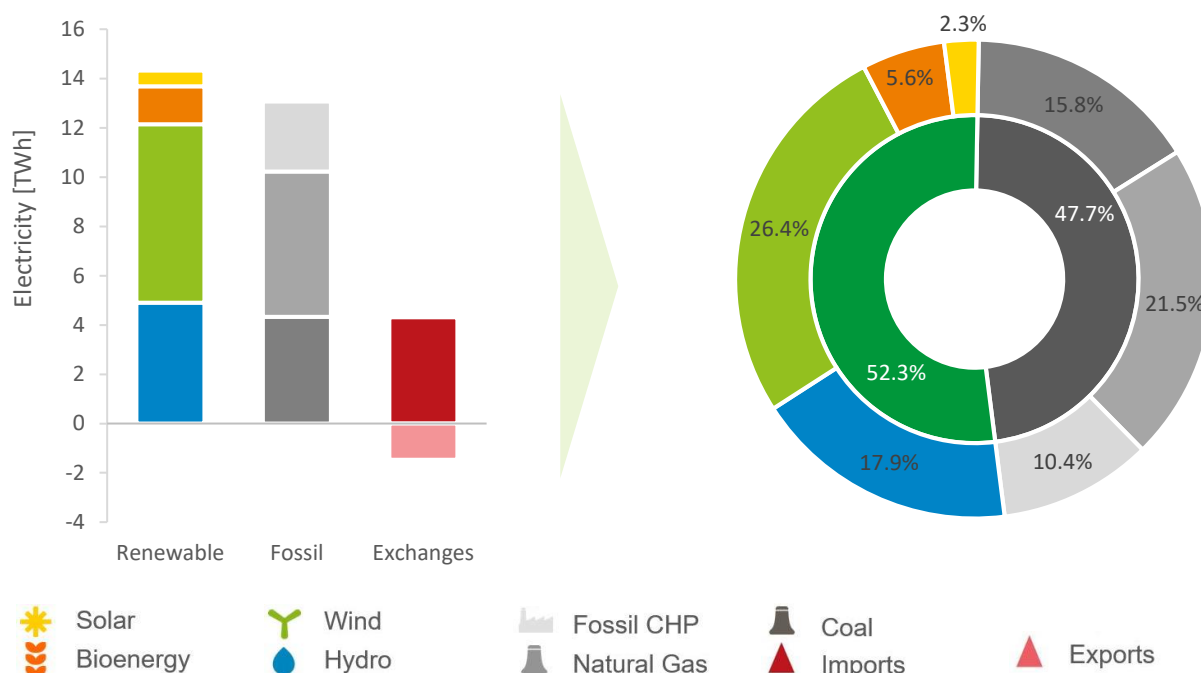


Figure 1. Electricity production by energy source in Mainland Portugal (July-2019).

Source: REN, APREN's analysis

¹ Power plants' total electricity generation for consumption, not considering the import-export balance and grid losses.



ELECTRICITY MARKET

By the end of July, it was registered an **average daily electricity price of 52.1 €/MW²**. While focusing only on **July**, the **average price was 51.5 €/MWh**, a 9.1% increase compared to June. This price behaviour followed the Mainland's electricity demand increase during these last two months (Figure 2). Nevertheless, July 2019 registered a significantly lower (by 16.7 %) average price, by 16.7 %, than 2018's.

Despite the clear reduction in the daily electricity market prices when compared to last year, the electricity sold under the Iberian Electricity Market (MIBEL) tends to be more expensive than in the remaining European countries, which is then reflected in high electricity imports from the Iberian Peninsula. In fact, Spain imported electricity in 89.6 % of the time within the period Jan-Jul, summing a total of 8.5 TW of electricity imports from France.

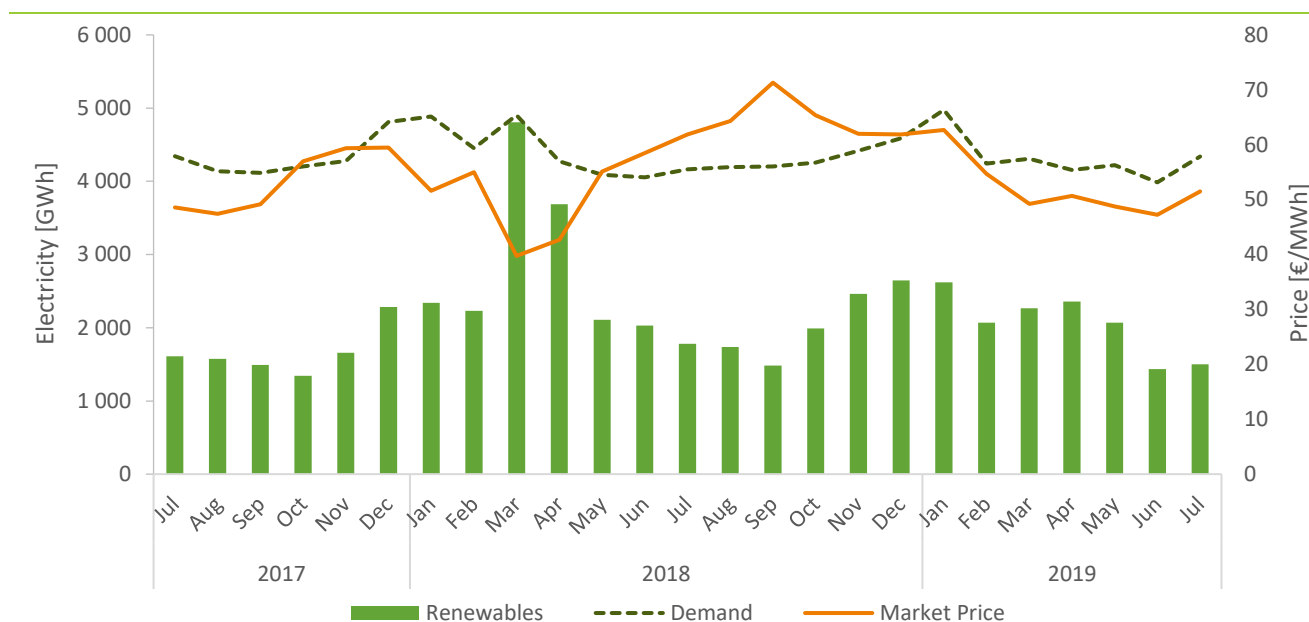


Figure 2. Renewable electricity production, Wholesale electricity market price and Electricity demand (Jul-2017 to Jul-2019).

Source: OMIE, REN, APREN's analysis

² Simple arithmetic average of the hourly electricity prices in June 2019. Source: OMIE



POWER SECTOR SPECIFIC EMISSIONS

During the first seven months of the year, **the power sector emitted about 7.0 million tons of CO₂**, which is approximately translated into 255 grams of CO₂ emitted for every kWh of electricity produced.

The CO₂ emission allowances prices on the European Emissions Allowance Market (CELE) are still increasing, being the average value for the period jan-jul 24.4 €/tCO₂.

At the monthly level, **July registered the highest CO₂ allowances price ever, of 27.9 €/tCO₂**, counting from the opening date of CELE in 2008. This value is already higher than the expected for 2025, by DGEG in the RMSA-E 2018, and very close to the projections for 2030.

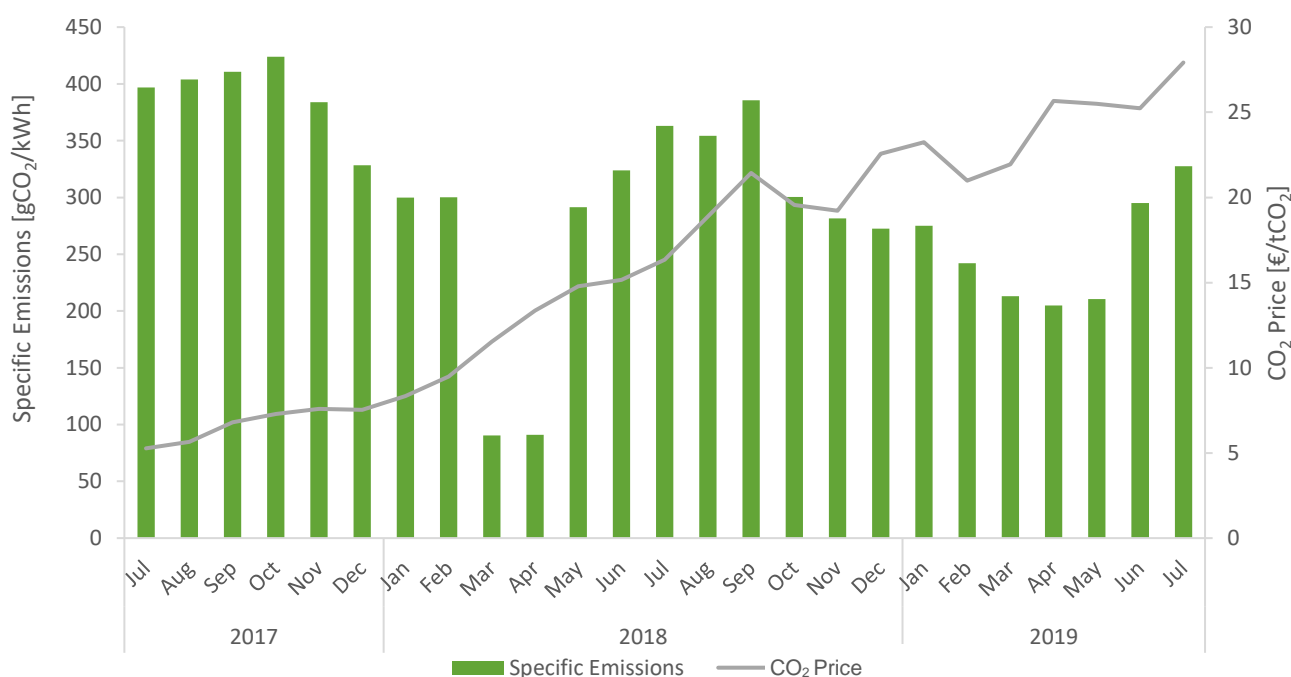


Figure 3. Specific emissions resultant from the power sector's activity in Mainland Portugal and CO₂ allowances price (Jul-2017 to Jul-2019).

Source: REN, APREN's analysis



JULY'S LOAD DIAGRAM

July's load diagram, presented in Figure 4, reflects the Mainland's alarming dependency from **imported fossil fuels, which represented 65.2% of the total electricity production** (4 005 TWh). Renewable energy sources (RES) represented only 34.3 % of the electricity mix, by producing 1 392 TWh of electricity. From RES technologies,

wind contributed the most (16.3 %), with 653 GWh, in a month with a wind producibility index of 0.85.

In the present month, 404 GWh of electricity were imported and 267 GWh exported, resulting in an import balance of 137 GWh.

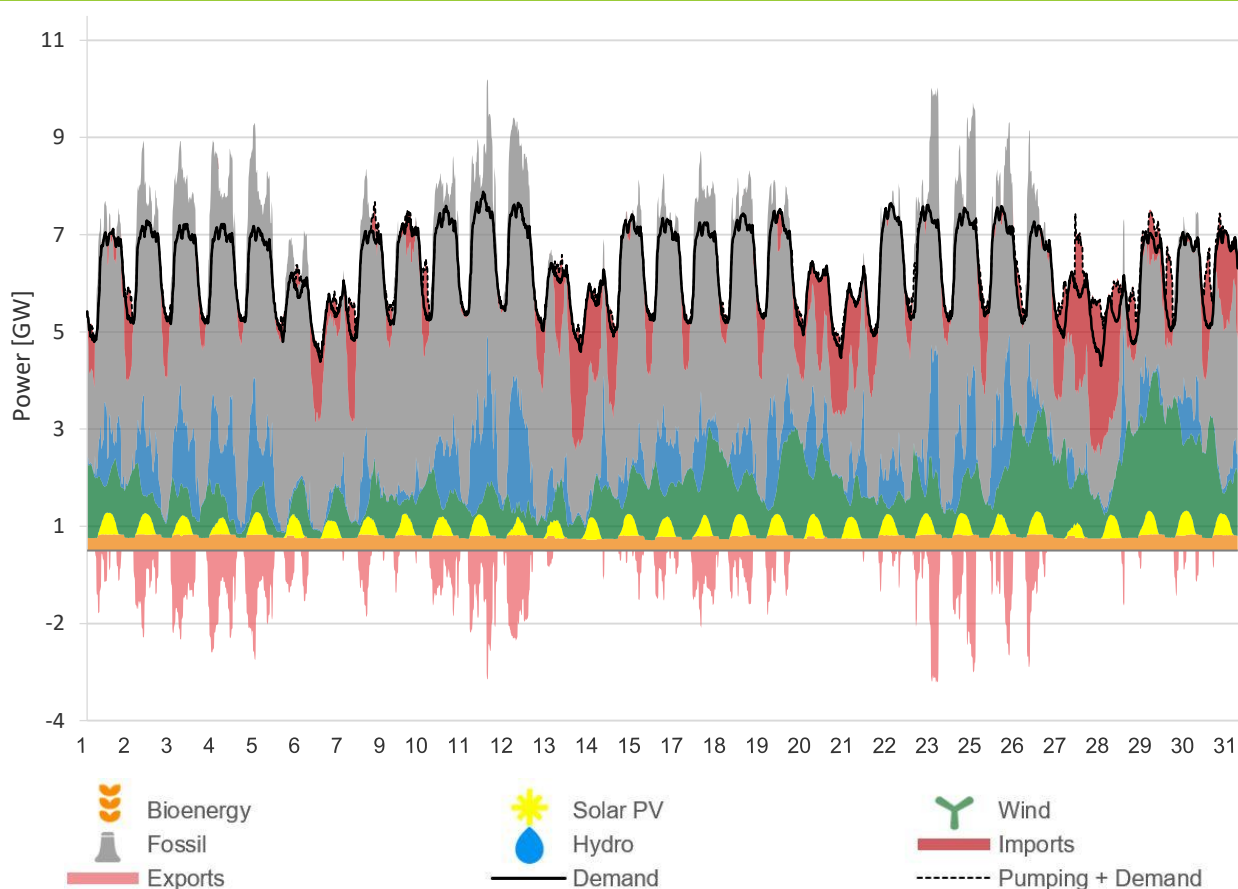


Figure 4. Load Diagram for Mainland Portugal (Jul-2019).

Source: REN, APREN's analysis



FINAL REMARKS

The 25th, 26th and 29th of July were marked by the allocation of 1 400 MW of solar PV capacity in an auction, spread over 24 capacity lots. Of this total, 1 150 MW were allocated, among which 842 MW were under the guaranteed remuneration regime (fixed tariff), and the remaining 268 MW under the general market regime (contribution to the electricity system).

The average value for the fixed tariff was 22.3 €/MWh and the minimum recorded was 14.8 €/MWh. In the general regime, an average annual contribution to the National Electricity System of 20.2 €/MWh was offered, with a maximum contribution of 26.8 €/MWh. These remuneration schemes will be applied for a period of 15 years at constant prices, after which the electricity produced from these power plants will be sold under the general regime.





Roadmap for Carbon Neutrality Approved

On July 1st, the Council of Ministers Resolution nº. 107/2019 was published in the Official Gazette, approving the Roadmap for Carbon Neutrality 2050 (RNC 2050).



Solar Capacity Auctions

The 25th, 26th and 29th of July were marked by the allocation of 1 400 MW of solar PV capacity in an auction, spread over 24 capacity lots.



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.



Decree-Law nº. 76/2019

Allows the adoption of auctioning procedures

Published on June 3rd, 2019, this Decree-Law adapts the current legal regime to allow the adoption of auctioning procedures for the attribution of connection rights for new power plants.



Hybrid projects

It regulates the permitting of hybrid electricity systems, that is, production units based on different primary sources.



Market facilitator

It introduces the market facilitator agent that is responsible for the aggregation of the energy produced by the power plants under the general remuneration regime, and then selling it to the market.



Small projects receive a compensation based on the capacity auction values

This Decree-Law also regulates small production units, which are subject to a competitive procedure applied to a reference tariff, subject to an annual maximum quota.



Repowering with increased power not considered

The Decree-Law does not specifically address the possibility for the repowering of wind farms (with or without capacity increase), hence, it is important to legislate on this subject, taking into account the European Commission guidelines, which particularly impose the adoption of simplified permitting procedures not exceeding 1-year period.~



SERUP suspension for UPP (Small Production Units) registrations

The platform for production unit registration (SERUP) has been suspended for new UPP registrations from 1 August, with no indication of a reopening date, due to the entry into force of the new system introduced by DL 76/2019.

Information available in:

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