



APREN Associação
de Energias
Renováveis

PORTUGUESE RENEWABLE ELECTRICITY REPORT

JANUARY 2019



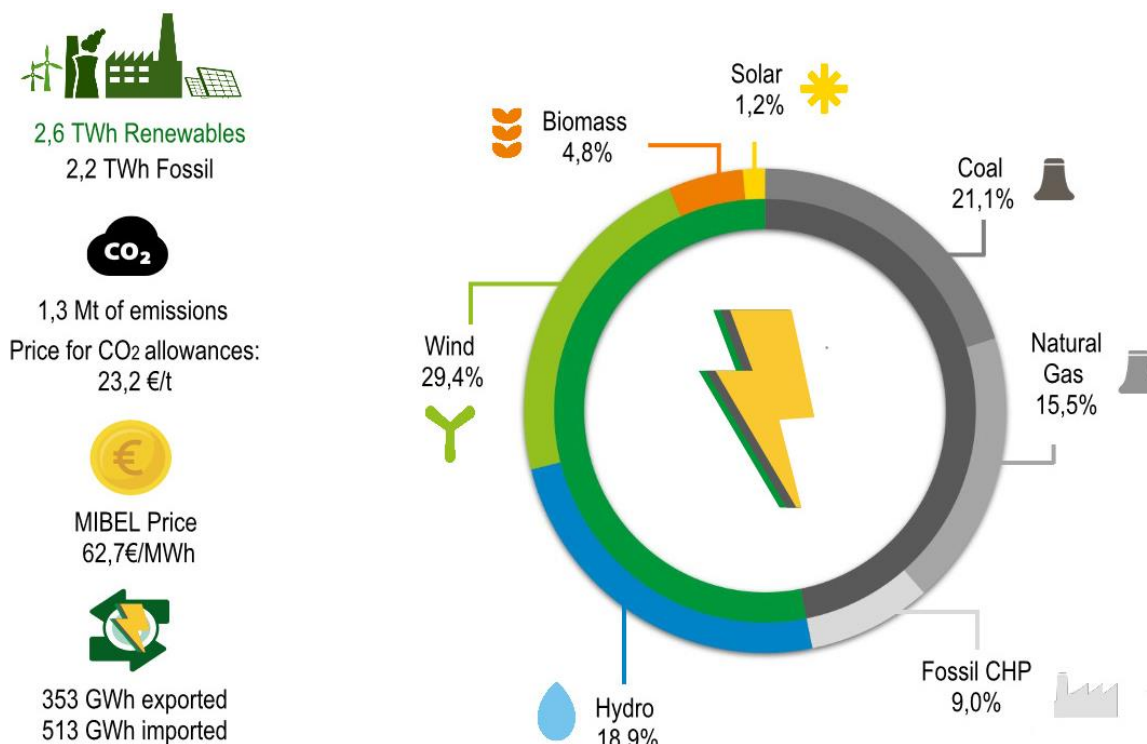
RENEWABLE ELECTRICITY IN MAINLAND PORTUGAL

JANUARY 2019

EXECUTIVE SUMMARY

- **2019 started up with a 54,4 % (2 619 GWh) renewable energy share within the electricity production mix**, thus representing an increase of 11,9 % in comparison to the same period of 2018.
- **The average MIBEL daily market price for Portugal was 62,7 €/MWh**, which resulted in a 11,1 % growth over January 2018's and reflected the current upwards tendency within the European electricity market.
- **1,3 Mt of CO₂ were emitted in January 2019 which, considering the total electricity production, accounted 275 gCO₂/kWh of specific emissions**, representing a 19,8 % reduction compared to 2018's homologous period (343 gCO₂/kWh).
- **On January 23rd, a new historical maximum (101,9 GWh) of wind power production was achieved**, assuring 61,4 % of the electricity demand in Mainland Portugal.

ILLUSTRATIVE SUMMARY: ELECTRICITY PRODUCTION



ELECTRICITY PRODUCTION IN MAINLAND PORTUGAL

The year 2019 started up with a 54,4 % (2 619 GWh) renewable energy share in the electricity production mix (Figure 1), within a whole 4 815 GWh of electricity production, thus reflecting an increase of 11,9 % when compared to January 2018 (2 341 GWh, 47,7 %). However, a significant fossil fuel share is still prevailing in the mix, representing 45,6 % (2 196 GWh) in the global picture.

The higher renewable share was essentially a result from better hydro and wind producibilities, with values of 0,42 and 1,10, respectively.

The wind power technology assured a significant part of the mix (29,4 %, 1 418 GWh), followed by

coal (21,1 %, 1 016 GWh). Despite the weak hydroelectric share (18,9 %, 911 GWh) compared to average annual standards, its contribution was 30,1 % higher than the value recorded at the beginning of 2018.

For this period, the electricity demand was 4 815 GWh, reflecting the upwards tendency that has been observed since 2016, with a 2,5% increase over 2018 (1,3 % when considering the corrections on temperature and number of working days).

As for the international trade, January recorded a net import balance of 160 GWh, with electricity exports around 353 GWh and imports of 513 GWh.

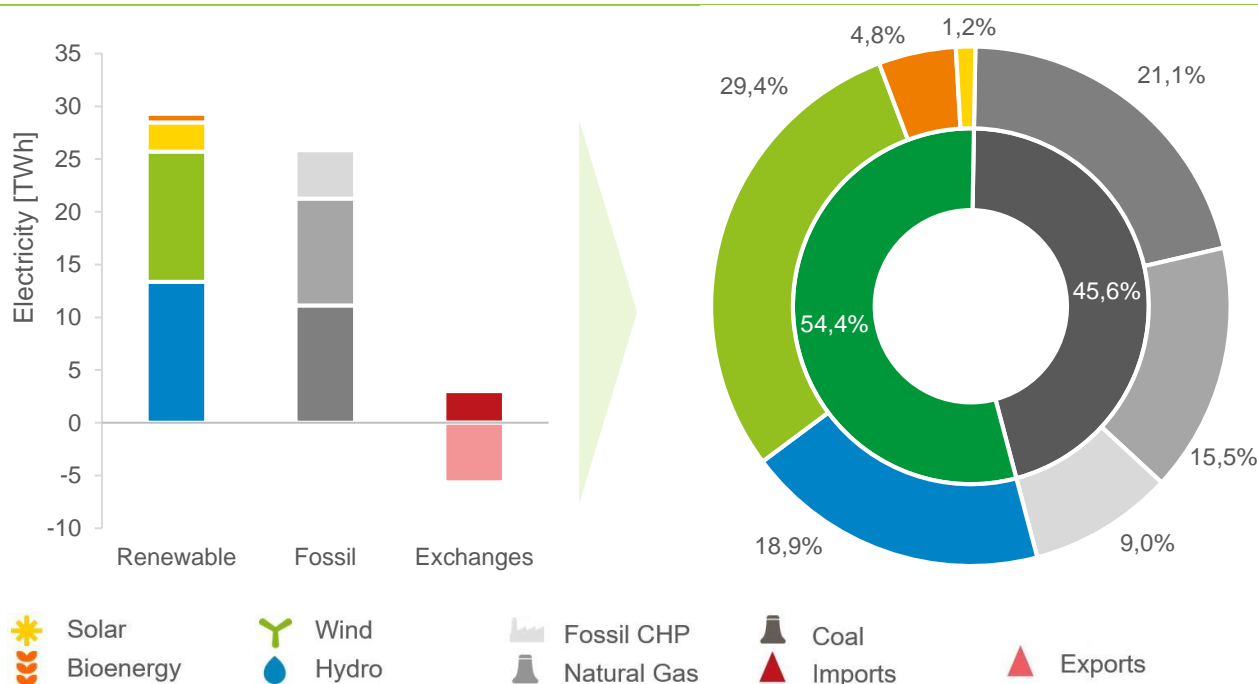


Figure 1. Electricity production by energy source in Mainland Portugal (jan-2019).

Source: REN, APREN's analysis



ELECTRICITY MARKET

The average MIBEL daily market price in Portugal for January 2019 was 62,7 €/MWh, consisting in an increase of 11,1 % over the same period of 2018, also reflecting the current trend for high prices throughout Europe. Despite this European-wide trend, the Iberian price was still higher than the major European electricity markets, such as France, with 61,1 €/MWh and Germany, with 49,4 €/MWh.

Notwithstanding the numerous externalities that deeply affect the daily market price, such as the

price for CO₂ allowances, it is still clear that a higher renewable energy production will have a positive impact on the closing market price (Figure 2). In fact, January accounted for 6,5 non-consecutive hours where the renewable production was enough to meet the demand for Mainland Portugal, and these were characterized by an average price of 55,7 €/MWh, which is 11,2 % lower than January's market price.

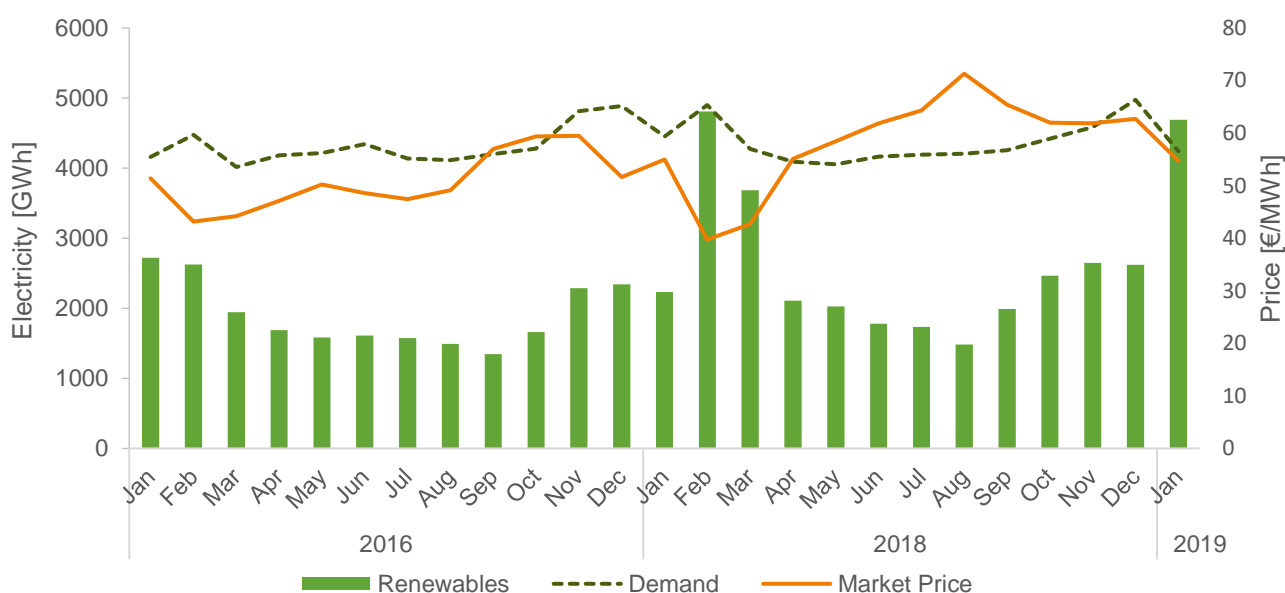


Figure 2. Renewable electricity production, Wholesale electricity market price and Electricity demand (jan-2017 to jan-2019).

Source: OMIE, REN, APREN's analysis



POWER SECTOR SPECIFIC EMISSIONS

One of the most impactful factors affecting the electricity market price is the price for CO₂ allowances (Figure 3), which is fairly reflected in the MIBEL price (Figure 2). In January 2019, the average price for CO₂ allowances within the European Carbon Emission Allowances Market was 23,2 €/t, which is about 2,7 times higher than the value for the same period of 2018 and even higher than the forecasts for 2020 presented in the National Plan for Energy and Climate (NPEC).

This increase over the carbon allowances price resulted from the Emissions Trading Scheme review back in April 2018, which set strict rules to enable the achievement of the European targets for 2030. Hence, the price is expected to remain stable or even to adopt a slightly ascending route, as NPEC predicted a value of 33,5 €/tCO₂ by 2030.

The power sector was responsible for the emission of 1,3 MtCO₂, with specific emissions of 275 gCO₂/kWh, reflecting a 19,8% reduction compared to 2018 (343 gCO₂/kWh).

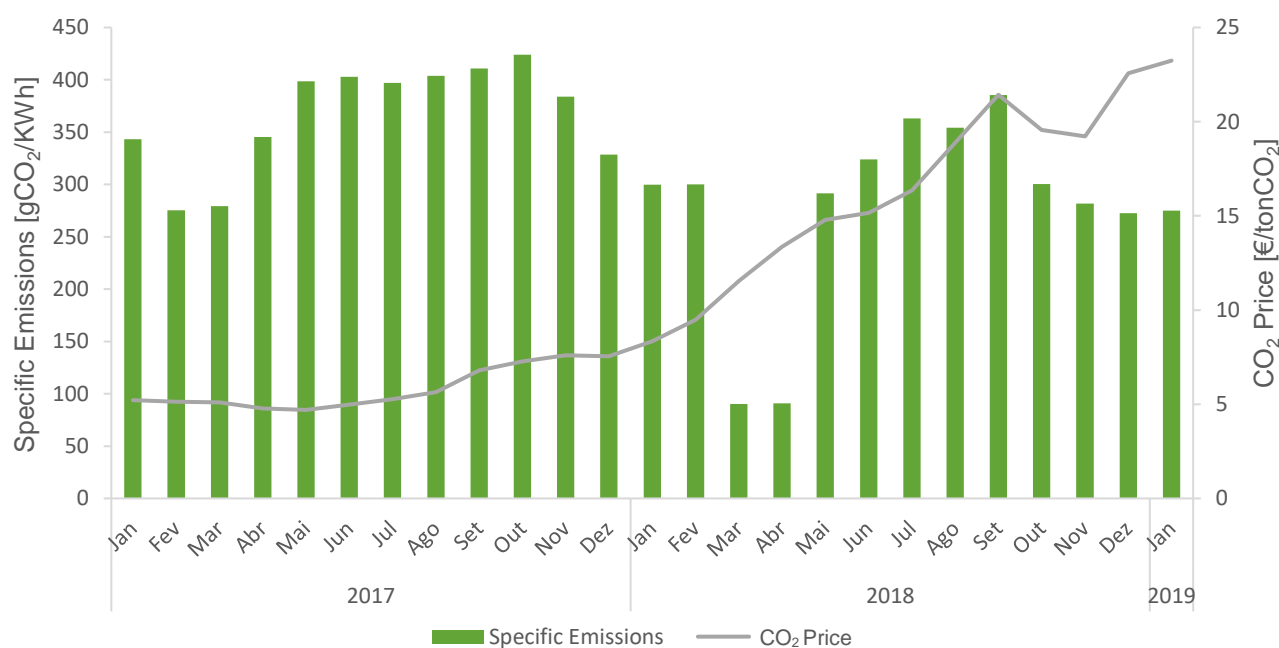


Figure 3. Specific emissions resultant from the power sector's activity in Mainland Portugal and CO₂ allowances price (jan-2017 to jan-2019).

Source: REN, APREN's analysis



JANUARY'S LOAD DIAGRAM

Figure 4 illustrates the load diagram for January 2019, including the electricity production distribution by energy source, as well as the import/export flows and electricity storage through hydroelectric pumping.

High wind yields are identified in the diagram below, among which we highlight the period from 3:00 a.m. until 5:00 p.m. on the 20th, during which the wind technology represented about 90 % of the electricity

demand in Mainland Portugal. It is also worth noting that on January 23rd a new historical maximum (101,9 GWh) of wind power production was reached, addressing 61,4 % of the mainland's electricity needs.

The maximum export value (3 539 MWh) was identified on the 11th at 7:30 a.m. and a maximum import value (2 441 MWh) on the 6th at 3:45 p.m.

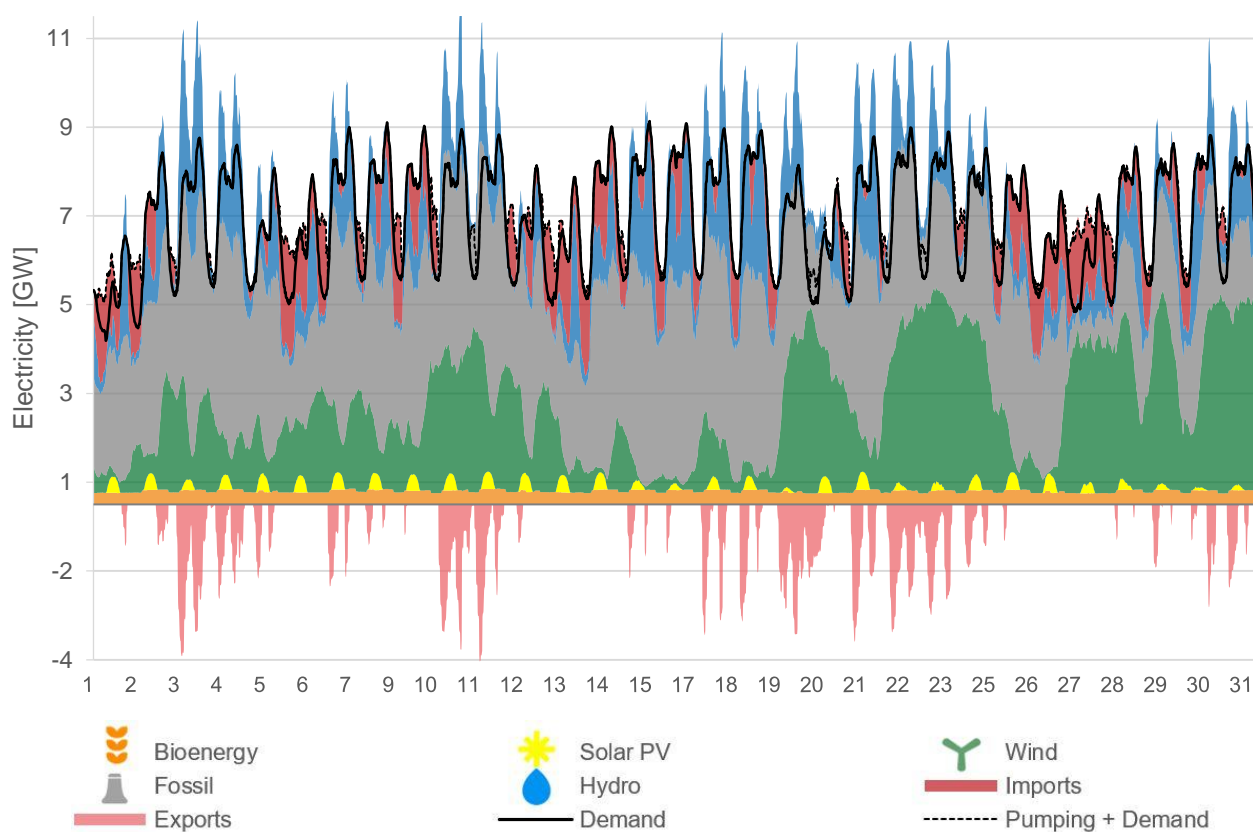


Figure 4. Load Diagram for Mainland Portugal (Jan-2019).

Source: REN, APREN's analysis



FINAL REMARKS

With the presentation of the NPEC and the National Carbon Roadmap for 2050 (NCR 2050) at the end of 2018, a turning page on renewables sector is expected during 2019, in order to ensure a full compliance with the 2030 targets established by the Portuguese Government.

Following this, the new Ministry for Environment and Energy Transition (MEET) publicly expressed its political intention of holding a 1 350 MW auction for new solar PV capacity in June 2019, which will be a fundamental first step towards the realization of 8,1-9,9 GW of solar PV until 2030, since only 680 MW are currently installed.

It is worth mentioning that this goal will envisage a significant role to be played by distributed solar production and self-consumption.

On January 8th, the European Commission approved, under the EU State Aid rules a support scheme for biomass installations within the vicinity of forest areas considered "critical" in terms of fire risk. This measure will encourage forest owners to clean the high-risk zones and to use the resulting residues for energy production, thus helping to prevent future fires in Portuguese forests. This scheme will last for 15 years and will count with a supporting budget of about 320 million euros, resulting from an increase in the energy tariff.

On January 31st, the Ordinance n. ° 43/2019 was published in the Official Gazette and establishes the procedures for additional energy injection and for the authorization of the over-equipment projects in windfarms, as well as, the exemption requirements concerning the individualized telemetering for the electricity production resultant from the over-equipment capacity, and defines the remuneration regime applicable to over-equipment procedures. With this new regulation the producer can decide to accelerate the licensing process by skipping the Regulator's (ERSE) authorization and accepting a fixed tariff of 45 €/MWh for the extra amount of energy derived from the over-equipment, during a period of 15 years.

Also, on January 31st, ERSE launched a public consultation to the grid connection parameters to be applied by production and consumption facilities (at EHV, HV and MV), with a connection capacity higher or greater than 2 MVA. This proposal amends the Directive n. °18/2012, by taking into account the Regulation n. ° 632/2017, and extends the burden associated to connection services to all consumer facilities as well as to production facilities (which were not previously covered).





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

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 MEET publicly 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 Guarantees of Origin (it had already been from 2010 to 2015). No Guarantee of Origin has been issued since 2015.



SERUP's suspension

Suspension of the production unit registration platform (SERUP), with the expectation of resuming its normal operation on March 1st, 2019.

Information available in:

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