



PORTUGUESE RENEWABLE ELECTRICITY REPORT

AUGUST 2020



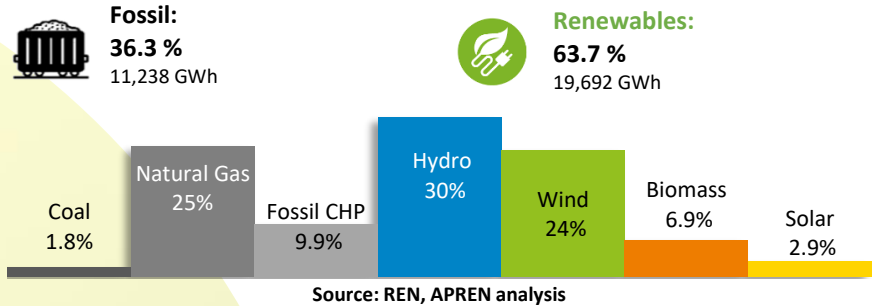
APREN Associação
de Energias
Renováveis

EXECUTIVE SUMMARY

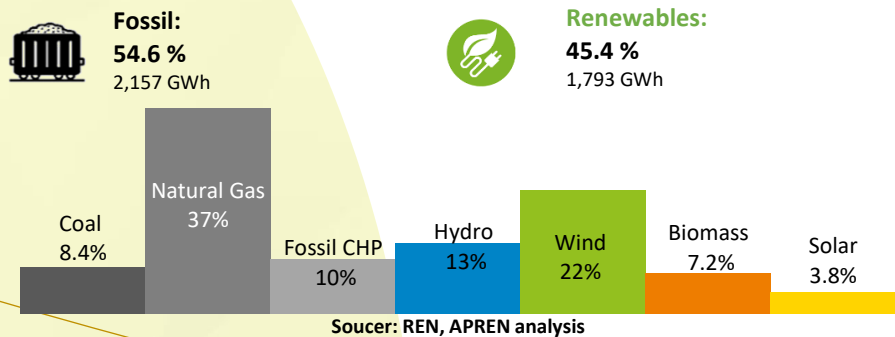
63.7 %

Renewable electricity generation
(January to August 2020)

CUMULATIVE ON AUGUST 2020 (JAN-AUG)



AUGUST 2020



GENERATION

30,929
GWh

CO₂ PRICE

23.2
€/tCO₂

CO₂ EMISSIONS

4.3
MtCO₂

PT MIBEL PRICE

30.8
€/MWh

IMPORTS

4,881 GWh

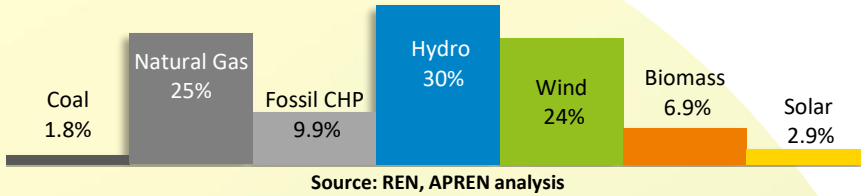
EXPORTS


2,448 GWh

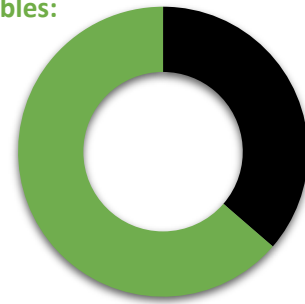
Note: Cumulative values from January to August 2020.

ELECTRICITY GENERATION: MAINLAND PORTUGAL

CUMULATIVE ON AUGUST 2020 (JAN-AUG)

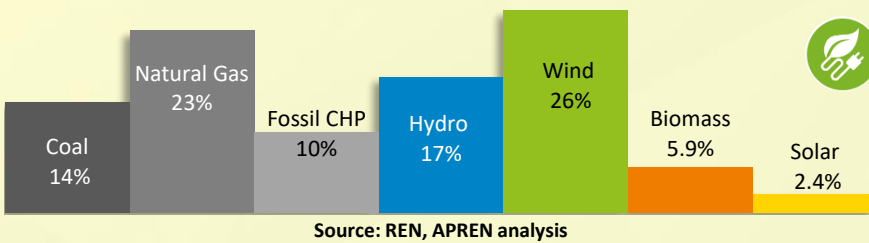


 **Renewables:**
63.7%

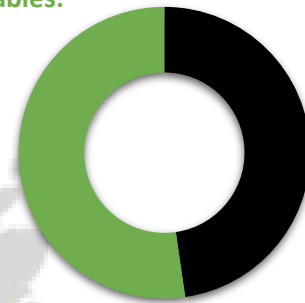


 **Fossil:**
36.3%

CUMULATIVE ON AUGUST 2019 (JAN-AUG)



 **Renewables:**
51.8%



 **Fossil:**
48.2%

MAIN INDICATORS: CUMULATIVE ON AUGUST (JAN-AUG)

	2020	2019	
% renewable generation	63.7%	51.8%	↑ 11.8%
Total Generation [GWh]	30,929	30,884	↑ 0.1%
Demand ¹ [GWh]	33,362	34,309	↓ 2.8%
Wind index	0.88	0.97	
Hydro index	0.96	0.59	

¹ Demand referred to the powerplants' net power generation, considering the import-export balance.

Source: REN, APREN analysis

INTERNATIONAL TRADE

Between January 1st and August 31st of 2020, the Portuguese mainland electricity system recorded electricity imports of 4,881 GWh and exports of 2,448 GWh, resulting in an import balance of 2,433 GWh, 29 % lower than the import balance recorded in the same period of 2019.

Source: REN, ENTSO-E, APREN analysis

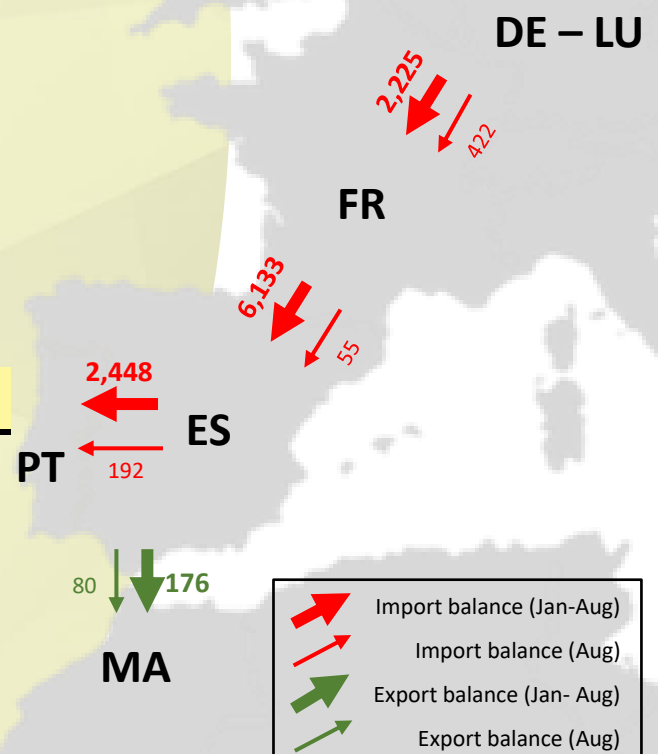


Figure 1. Import-export balance PT-ES, ES-MA, ES-FR and FR-(DE-LU). [GWh]. Source: ENTSO-E, IESOE

ELECTRICITY MARKET

Between January 1st and August 31st of 2020 there was an average electricity market price within the Iberian Electricity Market (MIBEL) in Portugal of 30.8 €/MWh², a significant reduction of 40 % in comparison to the same period of 2019.

Also, it was recorded 341 non-consecutive hours in which renewable electricity generation was sufficient to meet the demand in Mainland Portugal, being characterized by an average MIBEL price of 25.8 €/MWh.

August registered an average hourly price of 36.1 €/MWh, a decrease of 20 % compared to the same period of 2019 (August 2019 - 51.2 €/MWh). However, it is noticeable that the market price is recovering, simultaneously with the increase in consumption, after the sharp fall observed between January and April 2020, as a result of the COVID-19 pandemic.

²Arithmetic average of the hourly prices

Source: OMIE, APREN Analysis

AND ON THE REST OF EUROPE?

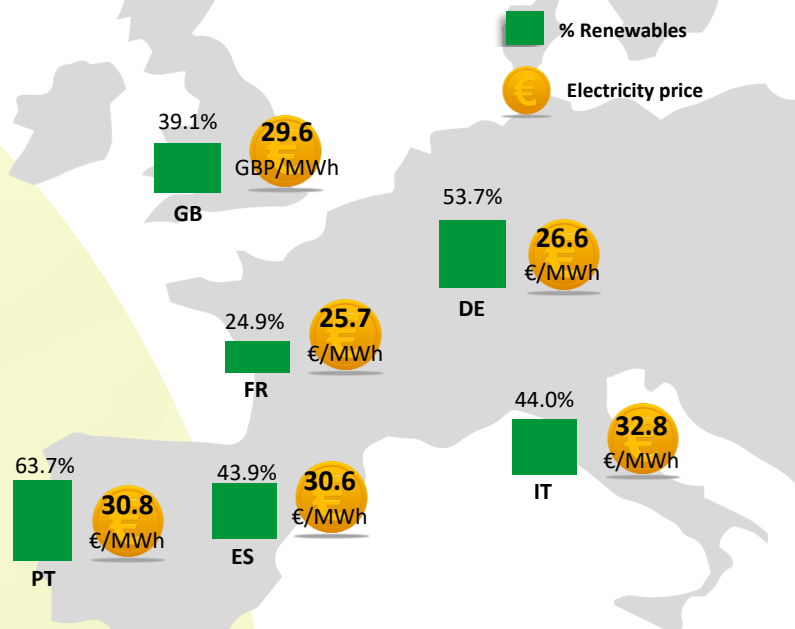


Figure 2. Renewable electricity generation share and average hourly electricity market price, between January and August 2020. Source: REN, Fraunhofer, REE, Terna, National Grid, ENTSO-E, APREN analysis

RENEWABLE GENERATION, DEMAND AND MIBEL PRICE

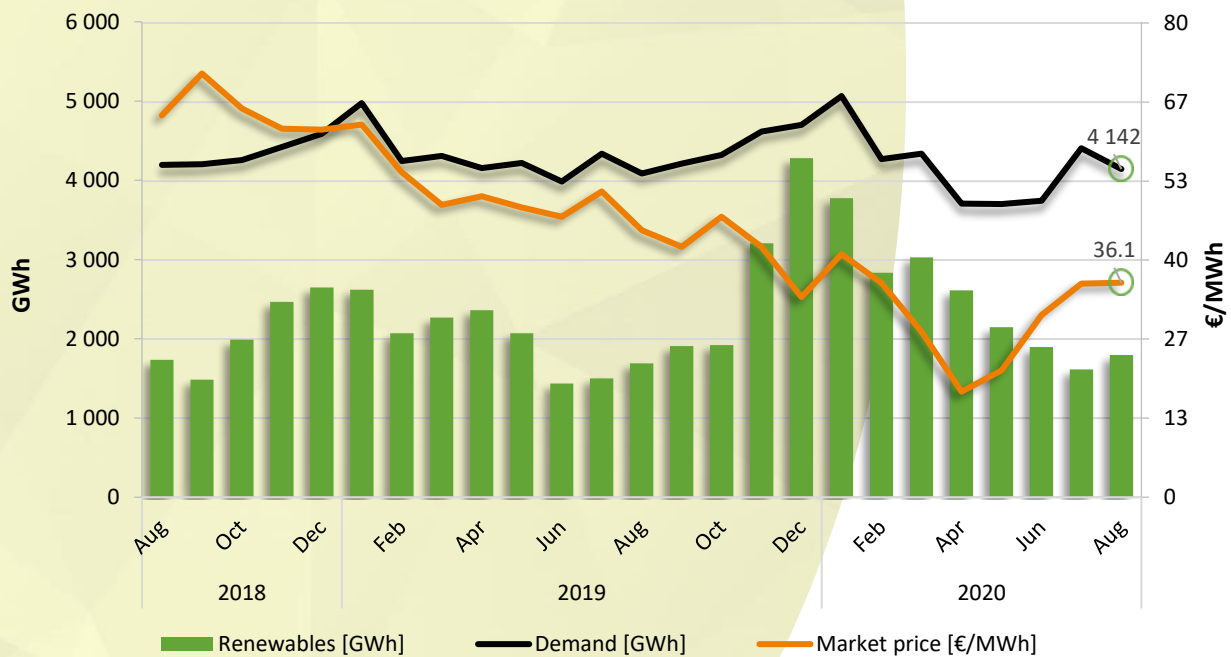


Figure 3. Market price, electricity demand and renewable electricity generation (Aug-2018 to Aug-2020). Source: OMIE, REN, APREN analysis

POWER SECTOR EMISSIONS

The table aside identifies the savings achieved between January 1st and August 31st of 2020 on fossil fuel imports, CO₂ emissions and CO₂ emission allowances, as result of the renewable electricity generation.

During this period, the power sector was responsible for the emission of 4.3 Mt of CO₂. Regarding the emission allowances, the European market for CO₂ allowances (EU-ETS) registered an average price of 23.2 €/tCO₂.

July recorded an average price for CO₂ emission allowances of 26.8 €/tCO₂, a 0.6 % reduction compared to August 2019. Despite the impact of the COVID-19 pandemic on the carbon market, the average allowances price in August is among the four highest values ever.

Source: SendeCO2

THIS YEAR RENEWABLES AVOIDED...

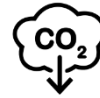
Fossil fuel imports



352 M€

Jan-Aug

CO₂ emissions



10.5 MtCO₂

Jan-Aug

CO₂ allowances



243 M€

Jan-Aug

Source: REN, SendeCO2, WorldBank, DGEG, ERSE, APREN analysis
Note: Coal prices were considered until November 2019, due to data unavailability.

SPECIFIC EMISSIONS AND CO₂ ALLOWANCES PRICE

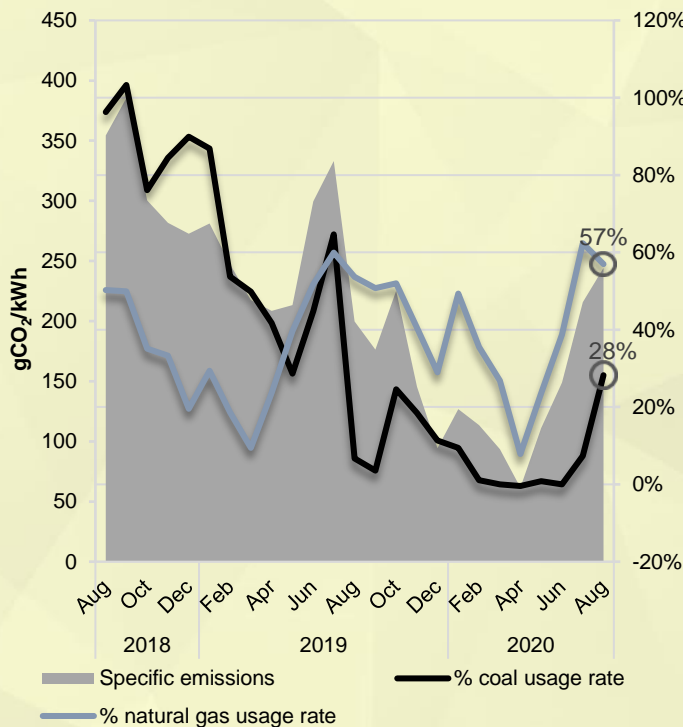


Figure 4. Specific emissions from the power sector in Mainland Portugal, % usage rate of coal and natural gas power plants (Aug-2018 to Aug-2020).
Source: REN, DGEG, ERSE, APREN analysis.

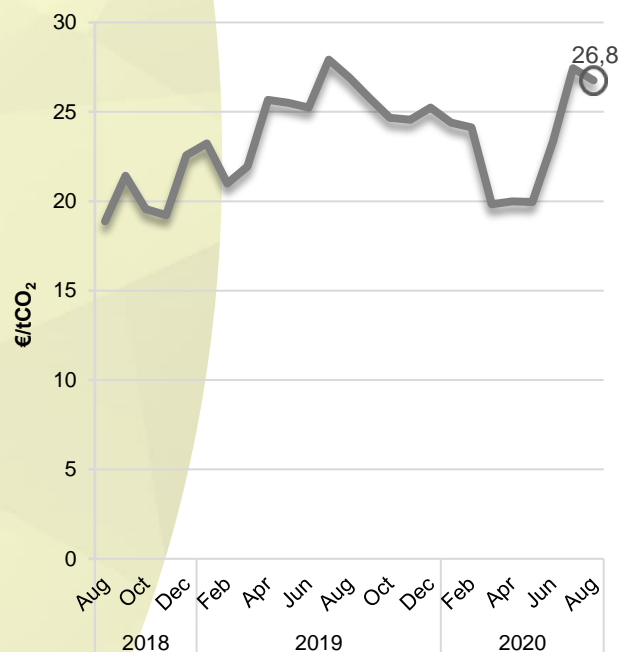


Figure 5. CO₂ allowances price (Aug-2018 to Aug-2020).
Source: SendeCO2.

MONTHLY ANALYSIS: AUGUST

In August, renewable electricity generation represented 45.4 % of the overall electricity generation in Mainland Portugal (3,950 GWh). There is a slight reduction compared to the 48.2 % of renewable generation registered in August 2019, of the overall electricity generation (3,502 GWh).

Concerning the international trade in August, we highlight the import balance of 192 GWh recorded for the mainland electricity system, which represents a 67 % reduction compared to August 2019.

The table aside shows the main productivity indicators for renewable generation in August 2020, of which stands out the highest hydro index in 2020, although there was no impact on the monthly hydro production.

It should be noted that solar PV electricity production reached a historical maximum of 152 GWh this month, partly as a result of new investments in the sector, which were reflected in the entry into operation, under the general market regime, of 63.8 MW of new capacity in the last three months.

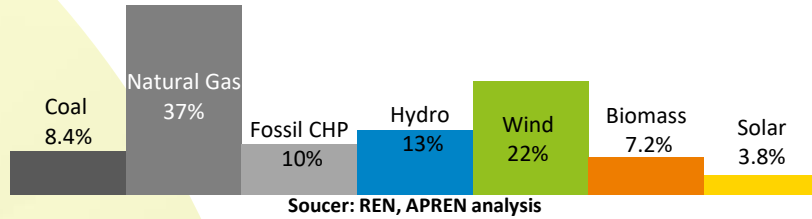
Source: REN, APREN analysis

MAIN INDICATORS

GENERATION

Total generation: 3,950 GWh

Renewables share: 45.4 %



OTHER INDICATORS

Demand: 4,142 GWh

Wind index: 1.03

Hydro index: 1.55

Source: REN, APREN analysis

LOAD DIAGRAM FOR AUGUST 2020

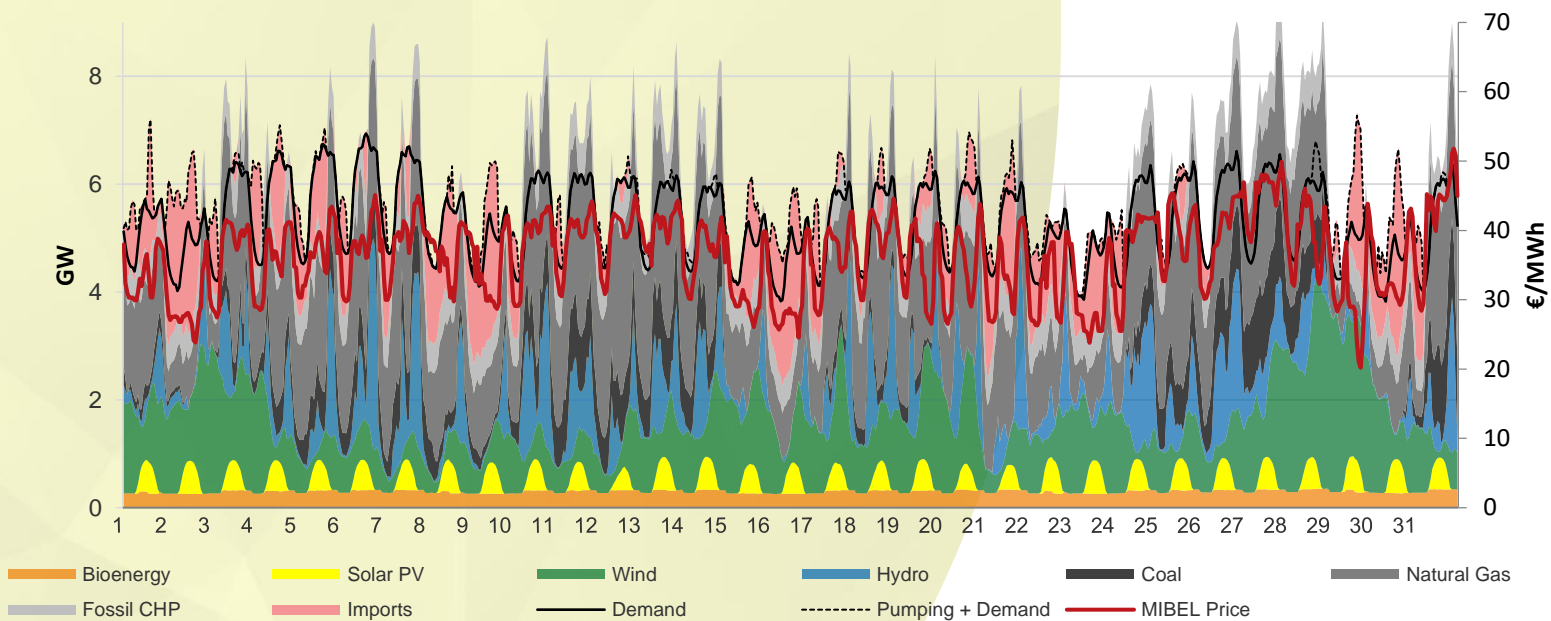


Figure 6. Load Diagram for Mainland Portugal (Aug-2020). Source: REN, APREN analysis.

FINAL REMARKS

National Regulation

Transition to the Alternative Remuneration Regime of Decree-Law No. 35/2013

On August 7th, the Directorate General for Energy and Geology (DGEG) published the Dispatch No. 41/2020, which establishes the transition rules for the alternative remuneration provided for in Decree-Law No. 35/2013, for wind farms with entries into operation spread over time under successive permits.

Clawback

On August 11th, an additional Clarification was published regarding the application scope of the regulatory mechanism that aims to ensure a competitive balance between the wholesale market in Portugal and Spain.

Over-equipment

On August 21st, it was published the Ordinance No. 203/2020 amending the Ordinance No. 102/2015, which establishes the criteria for granting authorization for the installation of the over-equipment of wind power plants, exempting the requirement to prior opinion from the Energy Services Regulatory Entity (ERSE) for authorization of the over-equipment, only if the developer opts for the general market regime for the electricity produced by the over-equipment.

Guarantees of Origin (GOs)

On August 17th, it was published the Decree-Law No. 60/2020, which establishes the mechanism for issuing guarantees of origin for low-carbon gases and for gases of renewable origin.

National Hydrogen Strategy

On August 14th, it was published the Council of Ministers Resolution which approves the National Hydrogen Strategy.

National Gas System

On August 28th, it was published the Decree-Law No. 62/2020, which establishes the organization and functioning of the National Gas System and the respective legal regime and transposes the Directive 2019/692.



POLICY AND REGULATION



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EU Recovery Plan

Europe's recovery plan was approved on July 21st by the European leaders, which involves the revision of the Multiannual Financial Framework for 2021-2027 and mobilizes a total of 750 billion euros through the "Next Generation EU" fund.



European Strategies for Hydrogen and Energy System Integration

The European Commission presented, on July 8th, two fundamental Strategies for the implementation of the Green Deal: the European Strategy for Energy System Integration and the European Strategy for Hydrogen.



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Information available in:

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