



PORTUGUESE RENEWABLE ELECTRICITY REPORT

JULY 2020



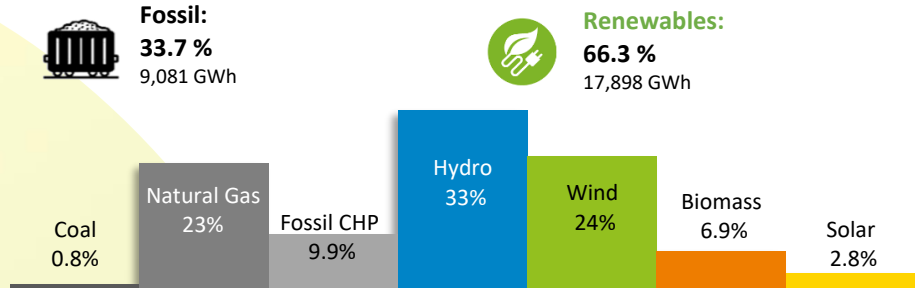
APREN Associação
de Energias
Renováveis

EXECUTIVE SUMMARY

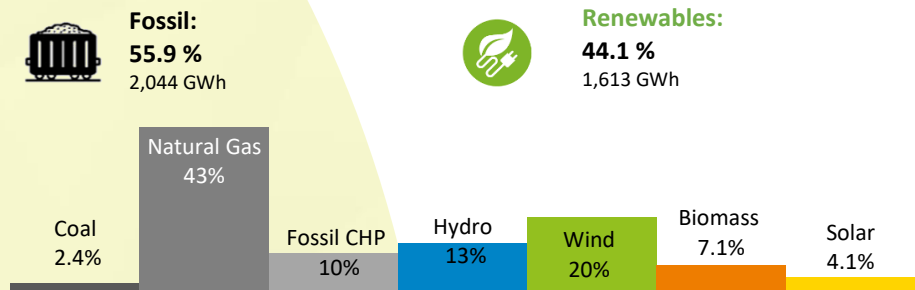
66.3 %

Renewable electricity generation
(January to July 2020)

CUMULATIVE ON JULY 2020 (JAN-JUL)



JULY 2020



GENERATION

26,979
GWh

CO₂ PRICE

22.7
€/tCO₂

CO₂ EMISSIONS

3.4
MtCO₂

PT MIBEL PRICE

30.1
€/MWh

IMPORTS

4,318 GWh

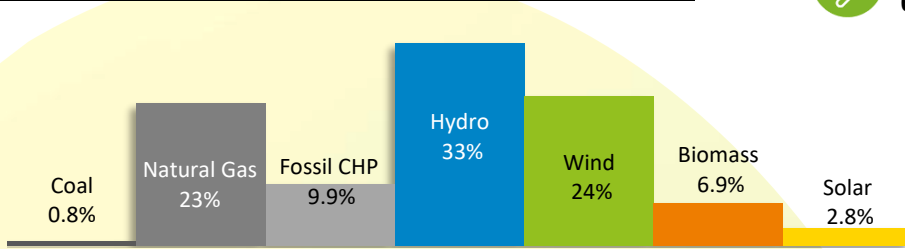
EXPORTS

2,077 GWh


Note: Cumulative values from January to July 2020.

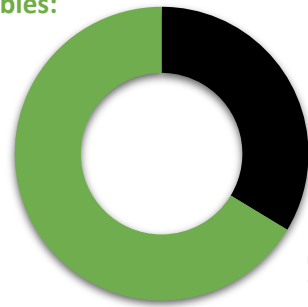
ELECTRICITY GENERATION: MAINLAND PORTUGAL

CUMULATIVE ON JULY 2020 (JAN-JUL)



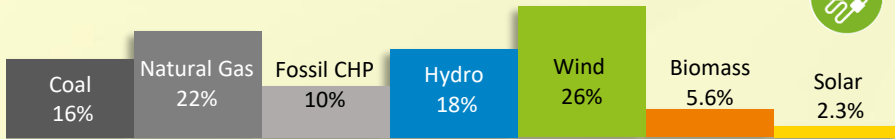
Source: REN, APREN Analysis

 **Renewables:**
66.3 %



 **Fossil:**
33.7 %

CUMULATIVE ON JULY 2019 (JAN-JUL)



Source: REN, APREN Analysis

 **Renewables:**
52.3 %



 **Fossil:**
47.7 %

MAIN INDICATORS:

CUMULATIVE ON JULY (JAN-JUL)

	2020	2019	
% renewable generation	66.3	52.3	↑ 14.0%
Total Generation [GWh]	26,979	27,382	↓ 1.5 %
Demand ¹ [GWh]	29,220	30,223	↓ 3.4 %
Wind index	0.86	0.97	
Hydro index	0.94	0.57	

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

Source: REN, APREN analysis

INTERNATIONAL TRADE

Between January 1st and July 31st of 2020, the Portuguese mainland electricity system recorded electricity imports of 4,318 GWh and exports of 2,077 GWh, resulting in an import balance of 2,241 GWh.

Source: REN, ENTSO-E, APREN analysis

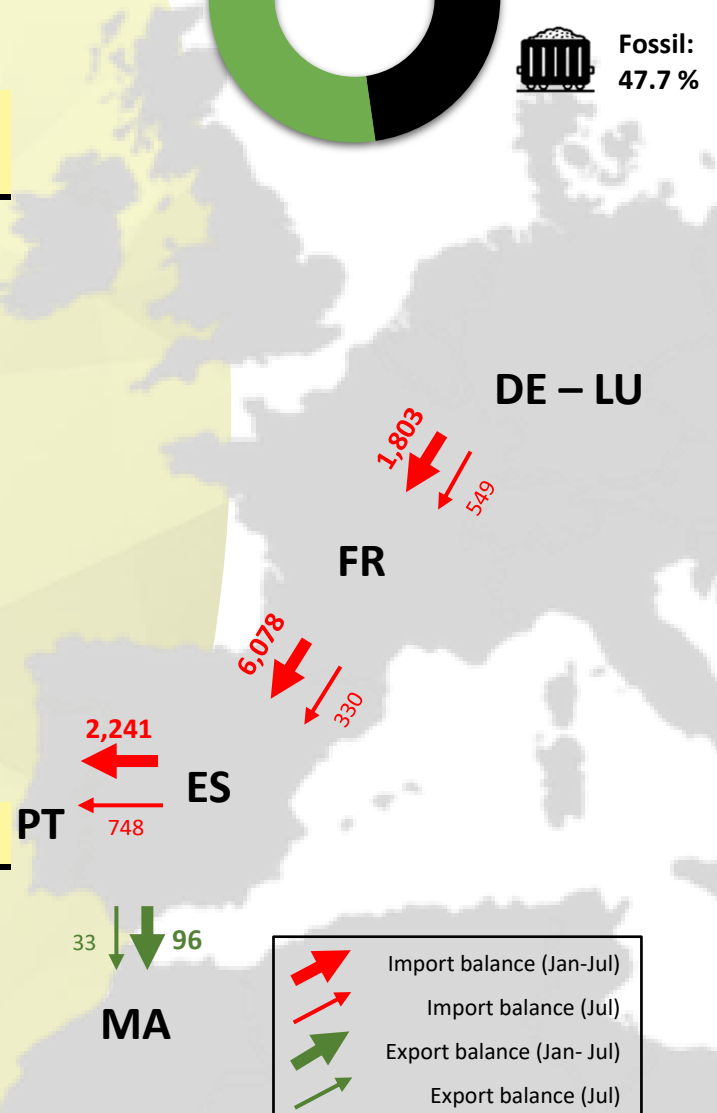


Figure 1. Import-export balance PT-ES, ES-MA, ES-FR and FR-(DE-LU). [GWh]. Source: ENTSO-E, IESOE

ELECTRICITY MARKET

Between January 1st and July 31st of 2020 there was an average electricity market price within the Iberian Electricity Market (MIBEL) in Portugal of 30.1 €/MWh², a significant reduction of 42 % in comparison to the same period of 2019.

Also, it was recorded 340 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 25.7 €/MWh.

July registered an average hourly price of 36.0 €/MWh, a decrease of 30 % compared to the same period of 2019 (July 2019 - 51.5 €/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?

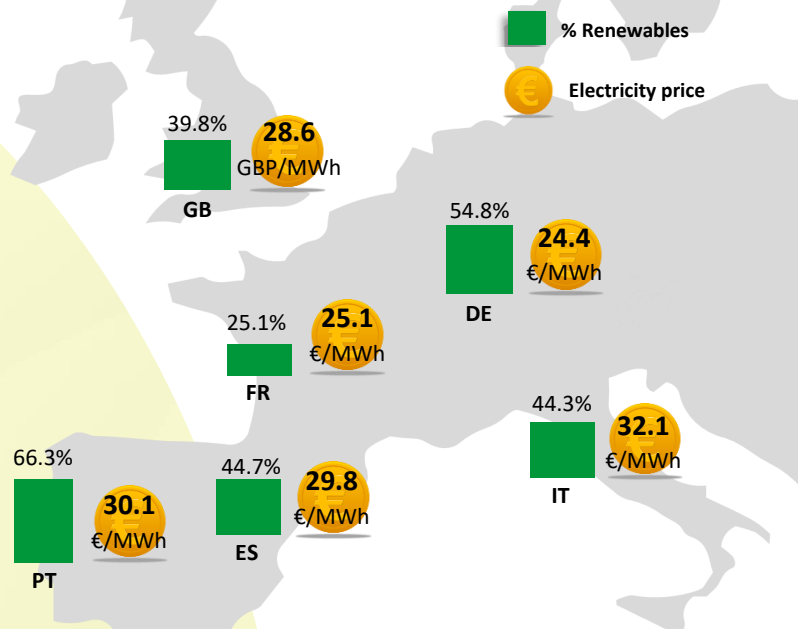


Figure 2. Renewable electricity generation share and average hourly electricity market price, between January and July 2020. Source: REN, Fraunhofer, REE, Terna, National Grid, ENTSO-E, APREN analysis

RENEWABLE GENERATION, DEMAND AND MIBEL PRICE

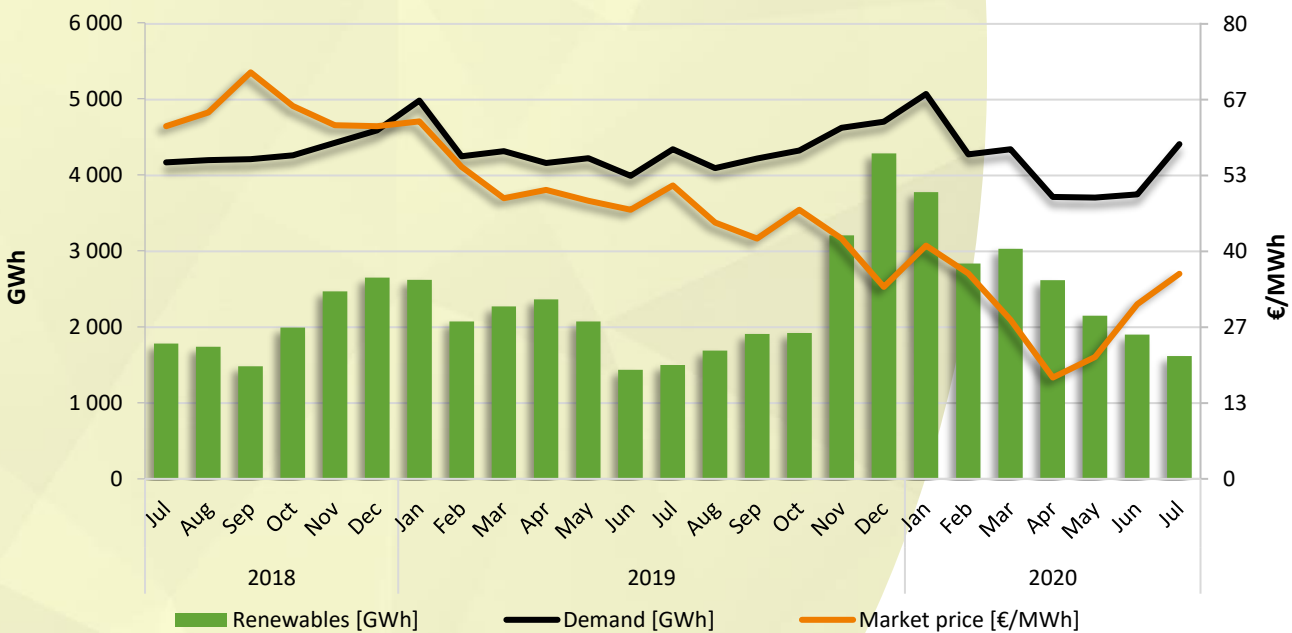


Figure 3. Market price, electricity demand and renewable electricity generation (Jul-2018 to Jul-2020). Source: OMIE, REN, APREN analysis

POWER SECTOR EMISSIONS

The table aside identifies the savings achieved between January 1st and July 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 3.4 Mt of CO₂. Regarding the emission allowances, the European market for CO₂ allowances (EU-ETS) registered an average price of 22.7 €/tCO₂.

July recorded an average price for CO₂ emission allowances of 27.5 €/tCO₂, a 1.7% reduction compared to July 2019. Despite the impact of the COVID-19 pandemic on the carbon market, the average allowances price in July reached the second highest peak ever, only surpassed in July last year (27.9 €/tCO₂).

Source: SendeCO2

THIS YEAR RENEWABLES AVOIDED...

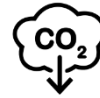
Fossil fuel imports



309 M€

Jan-Jul

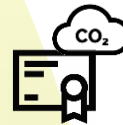
CO₂ emissions



9.7 MtCO₂

Jan-Jul

CO₂ allowances



221 M€

Jan-Jul

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

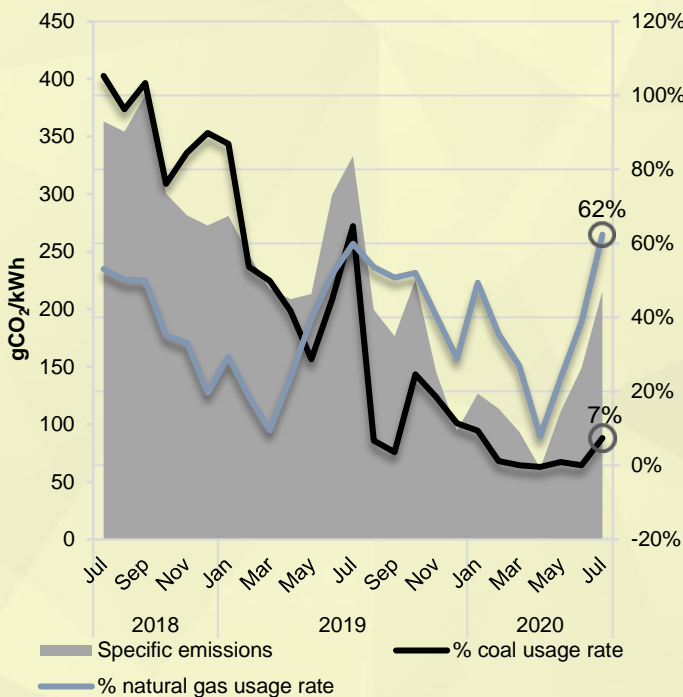


Figure 4. Specific emissions from the power sector in Mainland Portugal, % usage rate of coal and natural gas power plants (Jul-2018 to Jul-2020).
Source: REN, DGEG, ERSE, APREN analysis.

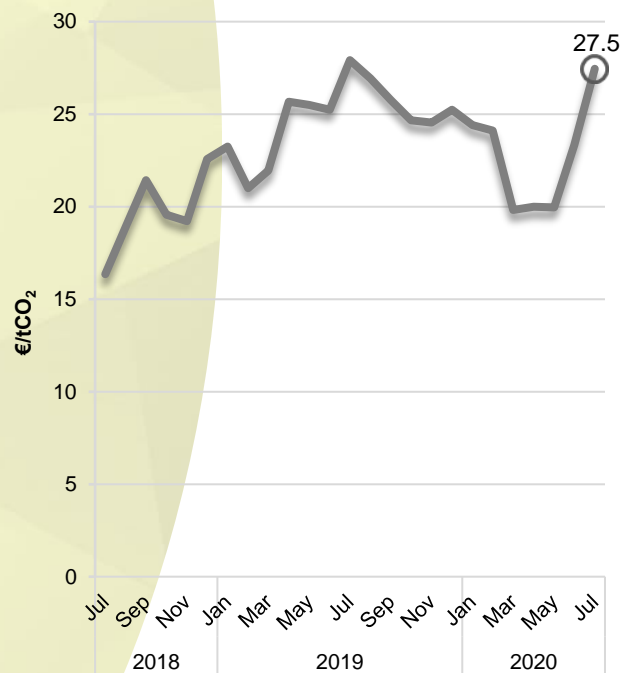


Figure 5. CO₂ allowances price (Jul-2018 to Jul-2020).
Source: SendeCO2.

MONTHLY ANALYSIS: JULY

In July, renewable electricity generation represented 44.1% of the overall electricity generation in Mainland Portugal (3,657 GWh).

Concerning the international trade in July, we highlight the import balance of 748 GWh recorded for the mainland electricity system.

The table aside shows the main productivity indicators for renewable generation in July 2020.

It should be noted that solar PV electricity production reached a historical maximum of 150 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 50.7 MW of new capacity in the last two months.

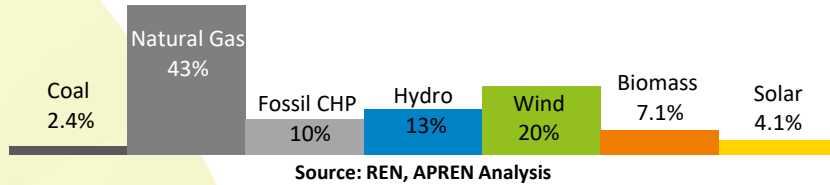
Source: REN, APREN analysis

MAIN INDICATORS

GENERATION

Total generation: 3,657 GWh

Renewables share: 44.1 %



OTHER INDICATORS

Demand: 4,405 GWh

Wind index: 0.86

Hydro index: 0.65

Source: REN, APREN analysis

LOAD DIAGRAM FOR JULY 2020

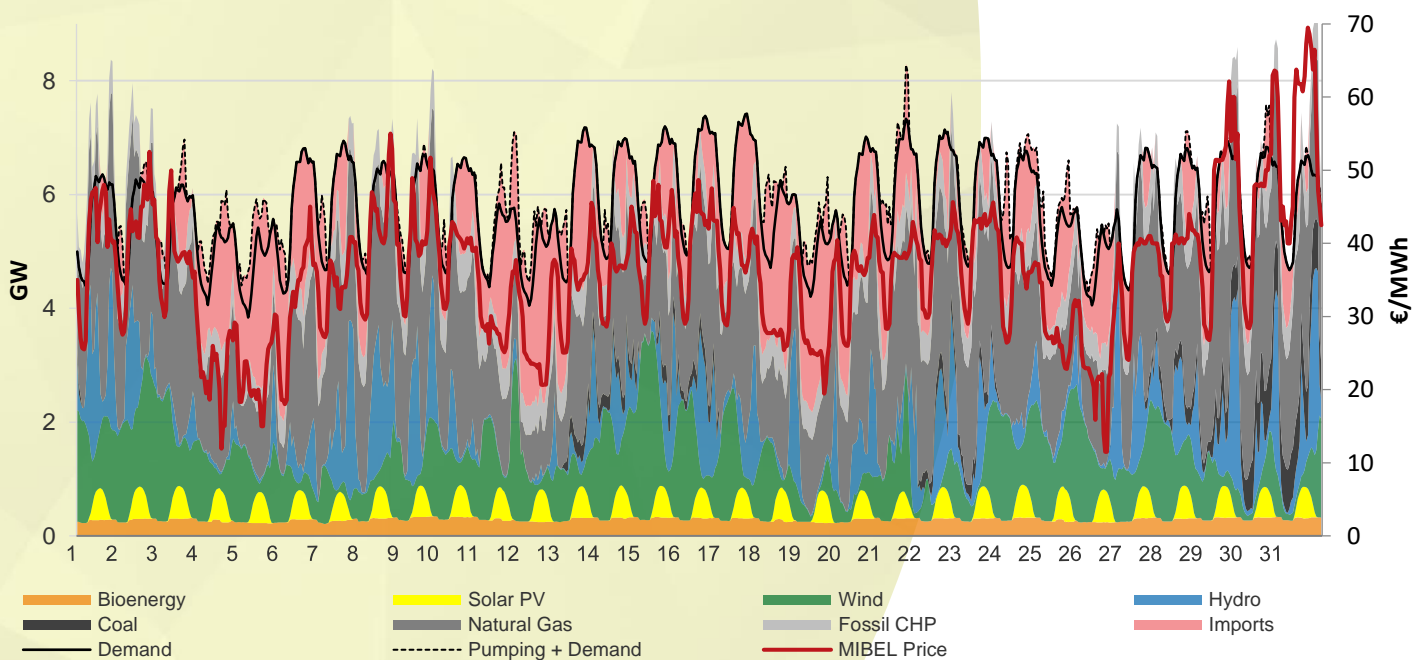
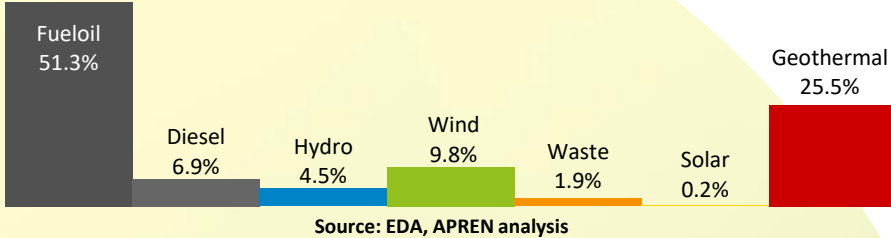



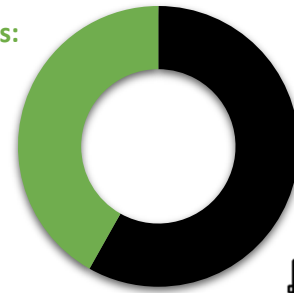
Figure 6. Load Diagram for Mainland Portugal (Jul-2020). Source: REN, APREN analysis.

ELECTRICITY GENERATION: AZORES (JAN-JUN)

CUMULATIVE ON JUNE 2020 (JAN-JUN)



 **Renewables:**
41.8 %
154 GWh



 **Fossil:**
58.2 %
214 GWh

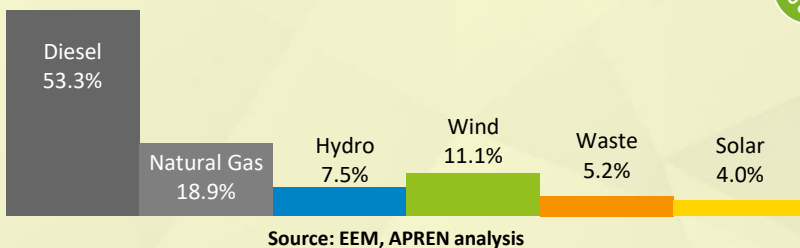
During the first half of 2020, in the Azores Autonomous Region (RAA), the electricity generation mix reflects a predominance of fossil fuels (58.2 %). On the other hand, RES contributed with 41.8 %, having increased 3.5 % in comparison to the same period of the previous year (38.3 %).


Between January and June, the total electricity generation was 369 GWh, which, compared to the same period in 2019 (383 GWh), represents a decrease of 3.8%. The demand drop is in line with the reduction observed behaviour in mainland Portugal due to the COVID-19 pandemic.

The most predominant RES technology in the mix was geothermal, with 25.5 %, 0.5 % less than during the first half of 2019.

ELECTRICITY GENERATION: MADEIRA (JAN-JUL)

CUMULATIVE ON JUNE 2020 (JAN-JUN)



 **Renewables:**
27.8 %
109 GWh



 **Fossil:**
72.2 %
283 GWh

Between January and July 2020, the Madeira Autonomous Region (RAM), registered an electricity generation mix mostly derived from fossil fuels, with RES contributing only 27.8 %, 3.2 % more than during the same period of 2019 (24.6 %).

In the first half of the year there was a 3.8 % decrease in the total electricity generation (391 GWh) compared to the same period of 2019 (407 GWh). The demand reduction is in line with the observed behaviour in the continent, due to the COVID-19 pandemic.

FINAL REMARKS

National Regulation

Clawback

On June 30th, an additional Clarification was published regarding the scope of application of the clawback mechanism. According to this document, the exemption from the clawback payment to Power Purchase Agreements (PPA) holders is applicable regardless of whether the counterparty is an end consumer or a supplier. However, in cases where the counterparty is the supplier:

- There is an exemption from the clawback tax payment if the contract is established with an end consumer for physical delivery of electricity at a specific consumption point;
- There is no exemption from the clawback tax payment if the electricity is sold on the MIBEL daily market, and this payment must be made by the supplier itself.

Capacity Reserve Title (TRC) from the 2019 Capacity Auction – MW/MVA

As a result of a dialogue over the last few months between APREN, the State Secretariat for Energy (SSE) and the Directorate General for Energy and Geology (DGEG), with the aim of clarifying whether the TRCs are delivered in MW or MVA, a Circular-Clarification was finally issued by DGEG, regarding the power connection expressed in apparent power (MVA) in the TRCs issued by the Network Operators and the respective maximum active power (MW) allowed for injection in the Public Service Electricity Network (PSEN), within the scope of the 2019 auction. The document also identifies a Maximum Apparent Power to be applied whenever photovoltaic power plants are subject to reactive power injection/absorption regime in the PSEN.

Small Production Units (SPU)

The Dispatch No. 44/2020 was published on July 30th, proceeding to the rescheduling of the capacity allocation for connection to the PSEN, for SPUs with guaranteed remuneration regime, postponing the attribution session originally scheduled for August 3rd, now to be held on October 1st.

Guarantees of Origin (GOs)

On August 5th, a Communication was published on the DGEG Portal, announcing the second extension of the transitional period for joining the electronic platform for issuing and managing GOs until August 31st.

National Energy and Climate Plan 2030 (NECP 2030)

On July 10th, it was published the Council of Ministers Resolution which approves the NECP 2030.

Legislação Europeia

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

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, which will have a circumstantial part dedicated to the financial support for investments and reforms, including the transition to a green and digital economy.

POLICY AND REGULATION



NECP 2030

On July 10th, it was published the Council of Ministers Resolution which approves NECP 2030.



National Hydrogen Strategy

On July 30th, it was published the Council of Ministers Resolution which approves the National Hydrogen Strategy.



Circular-Clarification from the 2019 Capacity Auction TRC: MW/MVA

It was issued by DGEG, at APREN's request, a Circular-Clarification regarding the power connection expressed in apparent power (MVA) in the TRCs issued by the Network Operators and the respective maximum active power (MW) allowed for injection in the PSEN, within the scope of the 2019 auction.



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.



Clawback

The Dispatch No. 6740/2020 establishes 2.24€/MWh as the amount of advanced payment to be applied in 2020 to the electricity producers covered by the competitive balancing mechanism.

Information available in:

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