



PORTUGUESE RENEWABLE ELECTRICITY REPORT

APRIL 2020



APREN Associação
de Energias
Renováveis

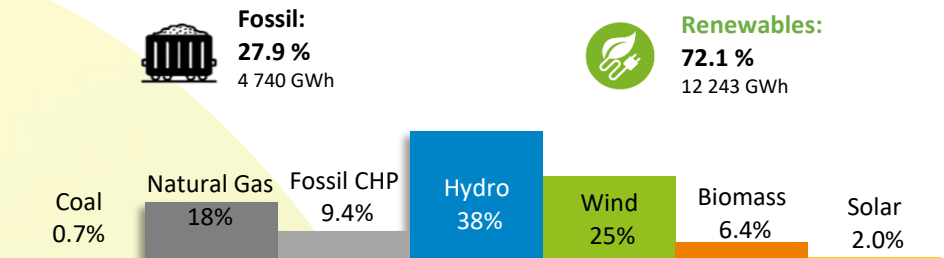
EXECUTIVE SUMMARY

72.1 %

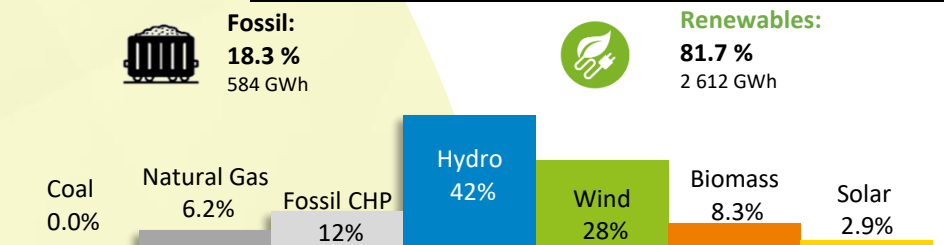
Renewable electricity generation

(January to April 2020)

CUMULATIVE ON APRIL 2020 (JAN-APR)







APRIL 2020



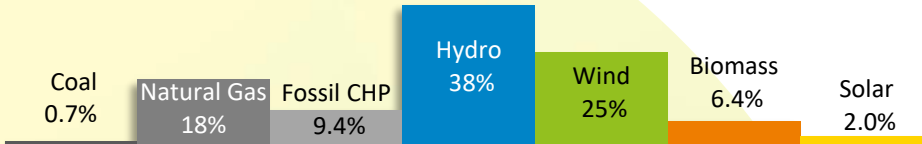
THE IMPACT OF COVID-19 ON THE ELECTRICITY SECTOR

After the State of National Emergency was decreed on March 18th in response to the COVID-19 pandemic, a big part of the national businesses has stopped, which had serious repercussions in the electricity sector, such as:


- 
A significant reduction on the electricity demand by 12 % compared to April 2019, taking into account the necessary corrections on temperature and number of working days. The impact on the demand-side is especially notorious since the beginning of April.
- 
A significant reduction on the CO₂ emission allowances price by 22 % in comparison to April 2019. It was reached the year's minimal value of 15.2 €/tCO₂ on March 18th, as a result of low market demand.
- 
A significant reduction on the hourly average electricity price by 65 % compared to April 2019 (50.7 €/MWh), with periods recording prices below 10 €/MWh.
- 
Drastic reduction of CO₂ emissions in the electricity sector, having recorded, in April, a historical minimum value of 62 gCO₂/kWh, less than 1/3 of the value registered in the same period of 2019 (205 gCO₂/kWh), due to a high renewables share of 81.7 % in the electricity generation.

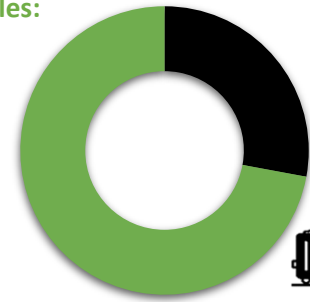
ELECTRICITY GENERATION: MAINLAND PORTUGAL

CUMULATIVE ON APRIL 2020 (JAN-APR)



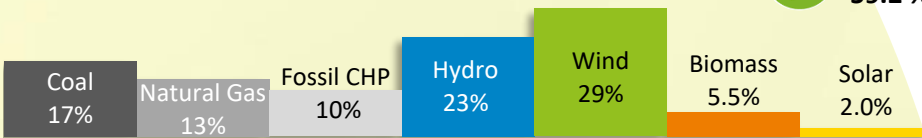
Source: REN, APREN Analysis

 **Renewables:**
72.1 %



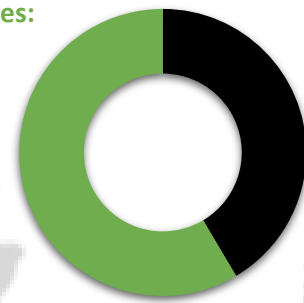
 **Fossil:**
27.9 %

CUMULATIVE ON APRIL 2019 (JAN-APR)



Source: REN, APREN Analysis

 **Renewables:**
59.2 %



 **Fossil:**
40.8 %

MAIN INDICATORS:

CUMULATIVE ON APRIL (JAN-APR)

| | 2020 | 2019 | |
|---------------------------|--------|--------|--------|
| % renewable generation | 72.1 | 59.2 | ↑ 13% |
| Generation [GWh] | 16,983 | 15,730 | ↑ 8.0% |
| Demand ¹ [GWh] | 17,373 | 17,681 | ↓ 1.7% |
| Wind index | 0.86 | 0.93 | |
| Hydro index | 0.96 | 0.58 | |

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

Source: REN, APREN analysis

INTERNATIONAL TRADE

Between January and April of 2020, the Portuguese mainland electricity system recorded electricity imports of 2,020 GWh and exports of 1,630 GWh, resulting in an import balance of 390 GWh.

Source: REN, ENTSO-E, APREN analysis

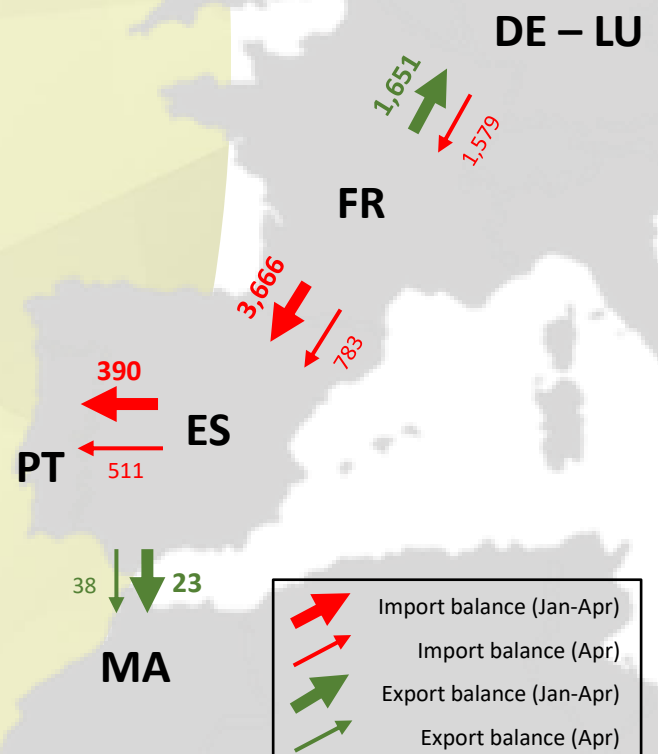


Figure 1. Import-export balance PT-ES, ES-MA, ES-FR and FR-(DE-LU). [GWh]. Source: ENTSO-E, IESOE

ELECTRICITY MARKET

Between January 1st and April 30th of 2020 there was an average electricity market price within the Iberian Electricity Market (MIBEL) in Portugal of 30.6 €/MWh², a significant reduction of 44 % in comparison to the same period of 2019.

Between January 1st and April 30th of 2020 there were registered 294 non-consecutive hours where renewable electricity generation was enough to meet the demand in Mainland Portugal, which were characterized by an average MIBEL price of 26.4 €/MWh.

April registered an average hourly price of 17.8 €/MWh, a decrease of 65 % compared to the same period of 2019 (April 2019 - 50.7 €/MWh). This scenario reflects the impacts of the COVID-19 pandemic, for which a summary of the main impacts is presented in the section [COVID-19: IMPACT ON THE ELECTRICITY SECTOR](#).

²Arithmetic average of the hourly prices

Source: OMIE, APREN Analysis

AND ON THE REST OF EUROPE?

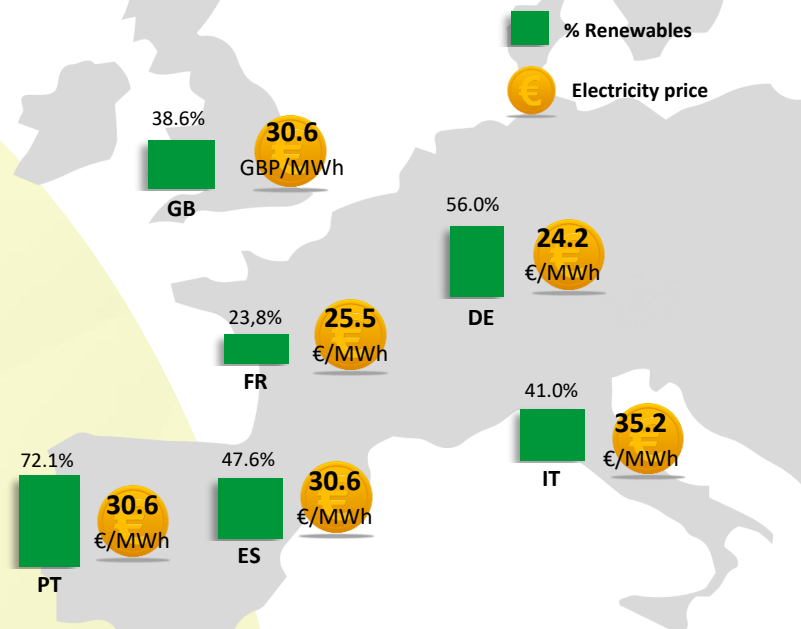


Figure 2. Renewable electricity generation share and average hourly electricity market price, between January and April 2020. Source: REN, Fraunhofer, REE, Terna, National Grid, ENTSO-E, APREN analysis

RENEWABLE GENERATION, DEMAND AND MIBEL PRICE

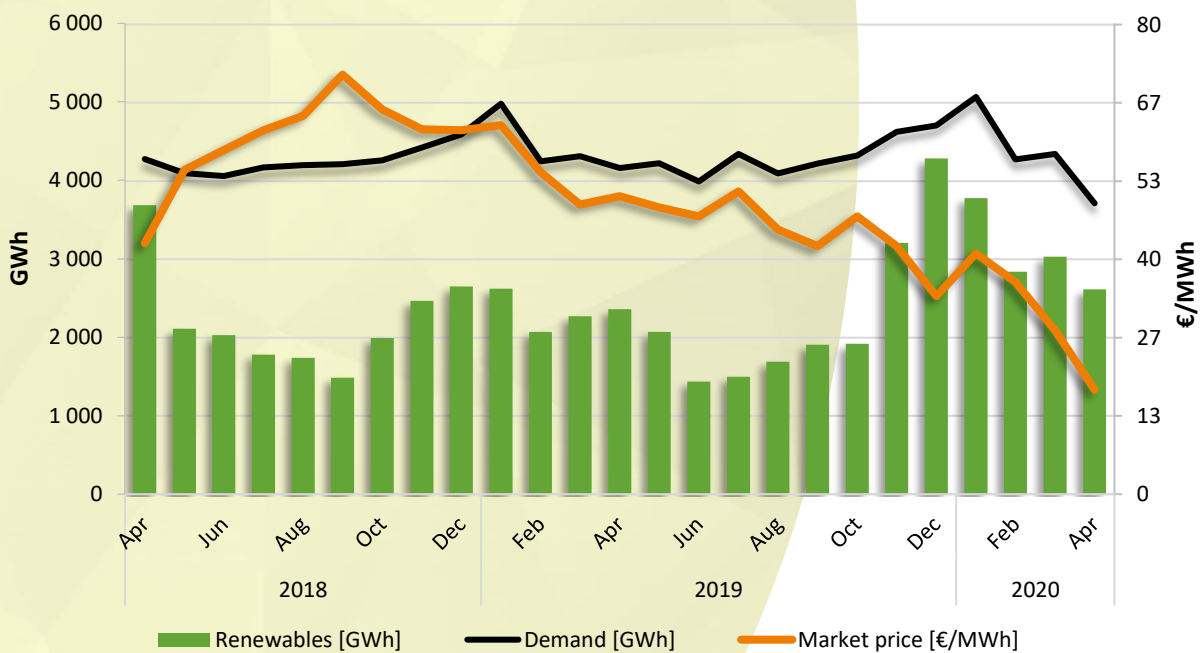


Figure 3. Market price, electricity demand and renewable electricity generation (Apr-2018 to Apr-2020). Source: OMIE, REN, APREN analysis

POWER SECTOR EMISSIONS

The table aside identifies the savings achieved between January 1st and April 30th of 2020 on fossil fuel imports, CO₂ emissions and CO₂ emission allowances, as result of the renewable electricity generation.

During this period, the European market for CO₂ allowances (EU-ETS) recorded an average hourly price of 22.1 €/tCO₂.

April recorded an average hourly price for CO₂ emission allowances of 20.0 €/tCO₂, a 22% reduction compared to April 2019, contrary to the trend on increasing allowances prices that has been observed. This is a result of the COVID-19 pandemic impact on the carbon market. The main impacts of the pandemic are presented in the section [COVID-19: IMPACT ON THE ELECTRICITY SECTOR](#).

Source: SendeCO2

RENEWABLES AVOIDED...

Fossil fuel imports



240 M€

Jan-Apr

CO₂ emissions



7.0 MtCO₂

Jan-Apr

CO₂ allowances



156 M€

Jan-Apr

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

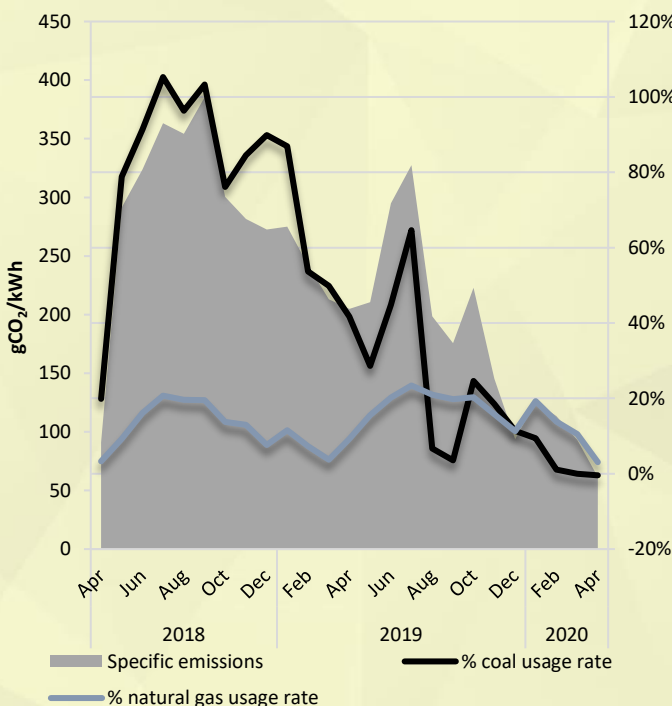


Figure 4. Specific emissions from the power sector in Mainland Portugal, % usage rate of coal and natural gas power plants (Apr-2018 to Apr-2020).
Source: REN, DGEG, ERSE, APREN analysis.

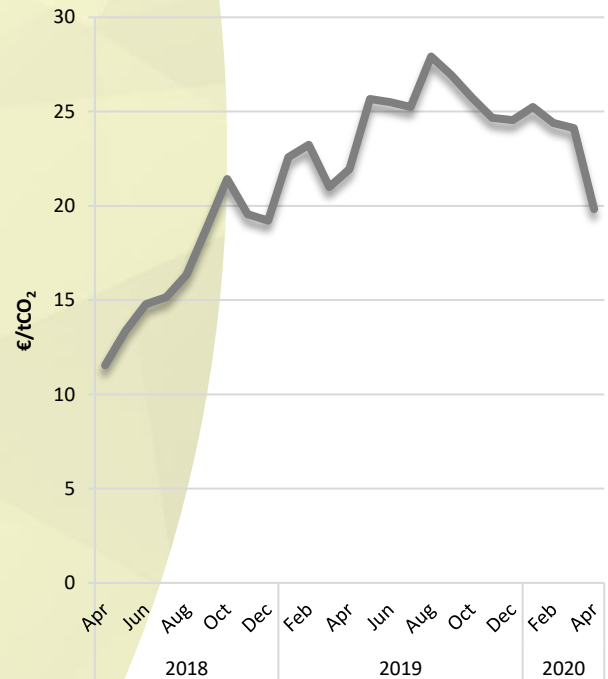


Figure 5. CO₂ allowances price (Apr-2018 to Apr-2020).
Source: SendeCO2.

MONTHLY ANALYSIS: APRIL

On April, renewable electricity generation represented 81.7% of the overall electricity generation in Mainland Portugal (3,196 GWh).

Concerning the international trade in April, we highlight the import balance of 511 GWh recorded for the mainland electricity system.

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

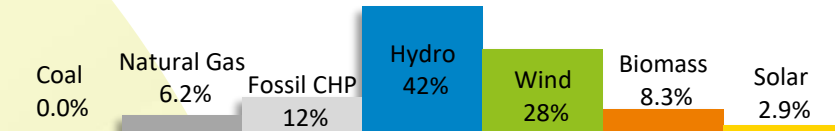
Source: REN, APREN analysis

MAIN INDICATORS

GENERATION

Total generation: 3,196 GWh

Renewables share: 81.7 %



OTHER INDICATORS

Demand: 3,707 GWh

Wind index: 0.85

Hydro index: 1.17

Source: REN, APREN analysis

LOAD DIAGRAM FOR APRIL 2020

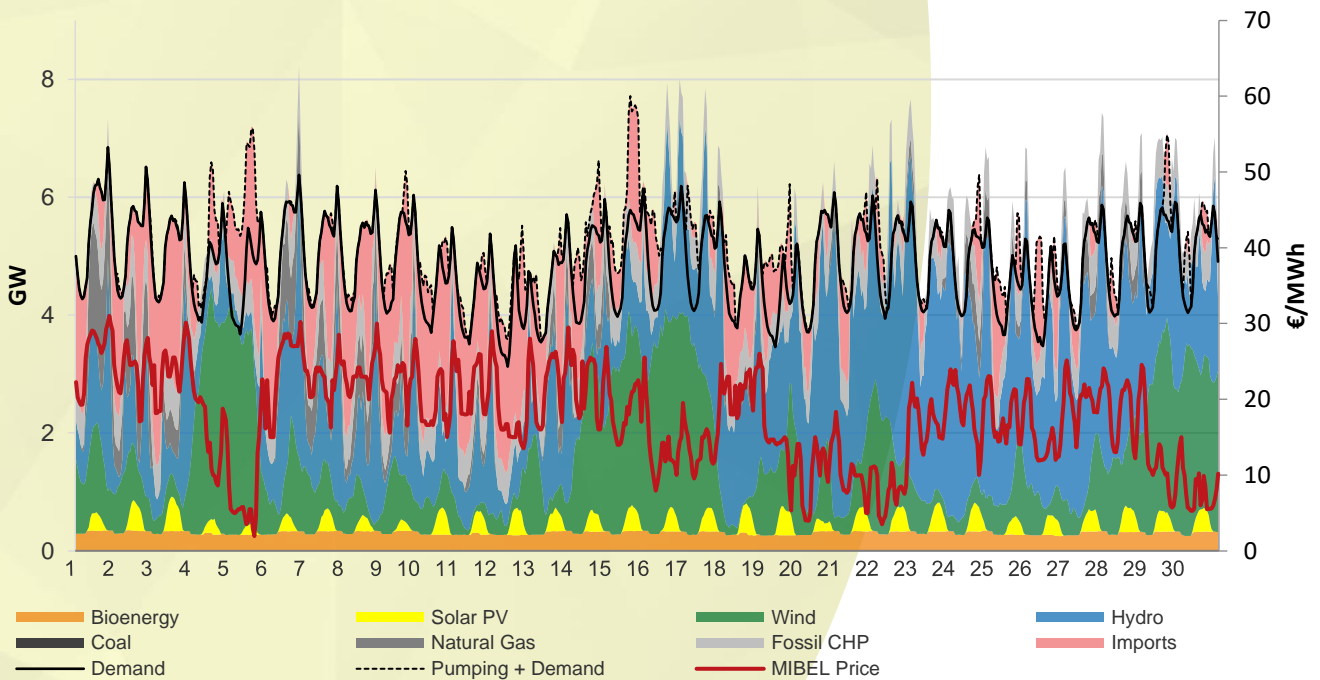


Figure 6. Load Diagram for Mainland Portugal (Apr-2020). Source: REN, APREN analysis.

COVID-19: IMPACT ON THE ELECTRICITY SECTOR

LOAD DIAGRAM: 18TH MARCH TO 30TH APRIL 2020
6 WEEKS OF STATE OF EMERGENCY

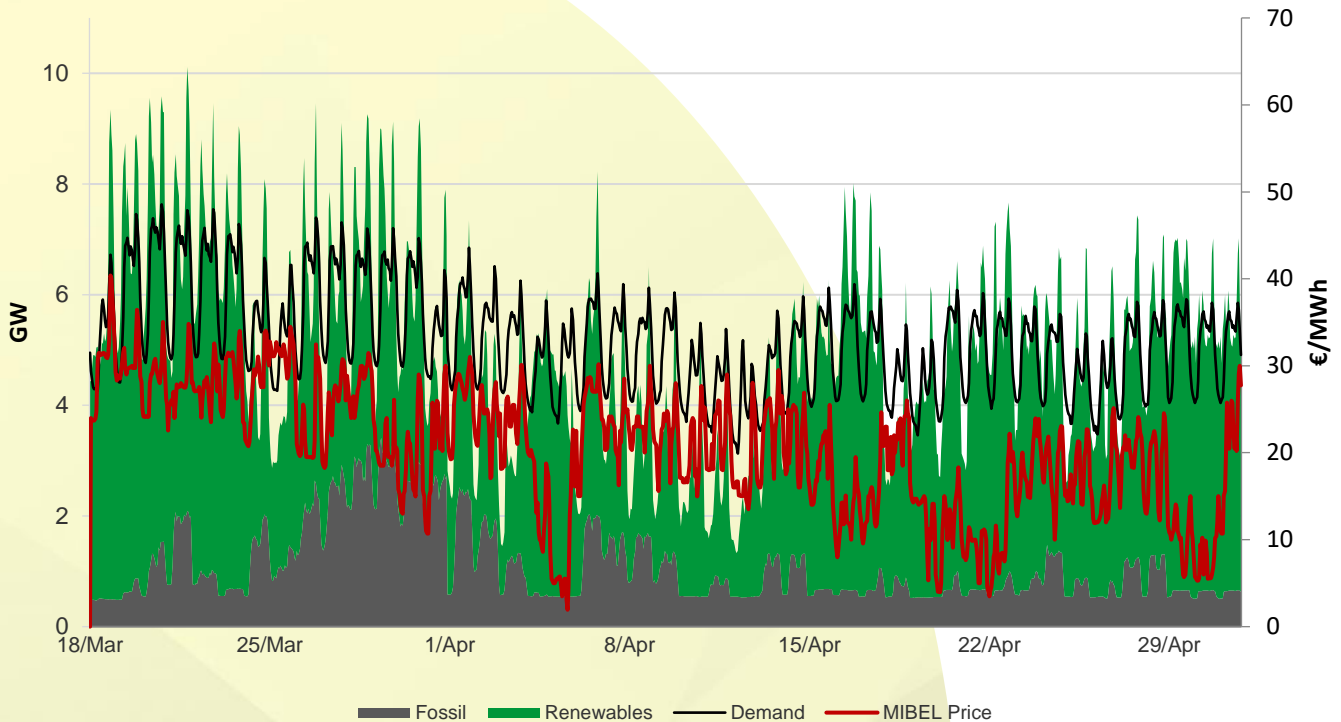






Figure 7. Load diagram for Mainland Portugal (18th March to 30th April 2020). Source: REN, APREN analysis.

MAIN IMPACTS

After the State of National Emergency was decreed on March 18th in response to the COVID-19 pandemic, a big part of the national businesses have stopped, which had serious repercussions in the electricity sector, such as:

- 
 • **A significant reduction on the electricity demand** by 12 % compared to April 2019, considering the necessary corrections on temperature and number of working days. The impact on the demand-side is especially notorious since the beginning of April (Figure 7).
- 
 • **A significant reduction on the CO₂ emission allowances price** by 22 % in comparison to April 2019. It was reached the year's minimal value of 15.2 €/tCO₂ on March 18th, as a result of low market demand.
- 
 • **A significant reduction on the hourly average electricity price** by 65 % compared to April 2019 (50.7 €/MWh), with periods recording prices below 10 €/MWh (Figure 7).
- 
 • **Drastic reduction of CO₂ emissions in the electricity sector**, having recorded, in April, a historical minimum value of 62 gCO₂/kWh, less than 1/3 of the value registered in the same period of 2019 (205 gCO₂/kWh), due to a high renewables share of 81.7 % in the electricity generation.

FINAL REMARKS

National Regulation

It was published on the website of the Directorate General for Energy and Geology (DGEG), the **Clarifications on the impact of the Ordinance No. 73/2020** on the hybridization of existing powerplants. This document, which was published in response to a number of doubts and questions from stakeholders, including APREN Members, clarifies that the existing powerplant of a hybrid powerplant, is not, directly and immediately, obliged to comply with the requirements of the EU Regulation No. 2016/631 and the requirements applicable by the Ordinance No. 73/2020.

In response to the COVID-19 pandemic:

Through a Dispatch from the Ministry of Environment and Climate Action (MAAC), during the State of Emergency, it is allowed the issue of a provisional certificate, instead of the operation certificate for small production units - SPUs (installed capacity < 1 MW). According to MAAC, this decision can unlock the procedures for a total of 30 MW, throughout 220 small production units.

Already in May, it was published the Dispatch No. 33/2020, which extended the suspension of activities and deadlines for all administrative procedures defined by the Dispatch No. 27/2020, except for:

- a) SPUs registration requests, for concept demonstration or experimental projects, to be implemented in the maritime space or in inland waters;
- b) Requests for registration or mere prior communication for self-consumption units and for production permits for self-consumption for systems not connected to the grid.

European Policy



Within the scope of the Green Deal for all Europeans, the EC continues its efforts for its implementation, assuming it continues to be a priority action regardless of parallel actions for the containment and economic response to the COVID-19 pandemic.

POLICY AND REGULATION



Proposal for the Regulation on the European Climate Law

On March 4th the EC published the proposal for the Regulation for the European Climate Law which sets the roadmap for carbon neutrality in 2050.



Published the New European Industrial Strategy

On March 10th, the new Industrial Strategy for Europe was published by the EC, defining its industrial strategy for 2030.

IN RESPONSE TO THE COVID-19 PANDEMIC



Suspension of fees for SPU and PUSC

On March 17th, 2020, it was published the Dispatch No. 26/2020 on the processes and billing of fees related to SPU and PUSC.



Suspension of requests for capacity allocation and registration of SPU or PUSC

Order No. 27/2020 suspends new requests for the allocation of Capacity Reserve Titles; Agreements for the allocation of reception capacity in the RESP; SPU and PUSC registry; Electricity Production Permits under the ordinary regime, cogeneration and special regime; and, Permits for the establishment of network infrastructure.

The suspension period was extended by the Dispatch No. 33/2020 until the end of May.

Information available in:

APREN | Technical and Communication Department

Av. Sidónio Pais, nº 18 R/C Esq. 1050-215 Lisbon, Portugal

Tel. (+351) 213 151 621 | www.apren.pt