

July

# BULLETIN

2021

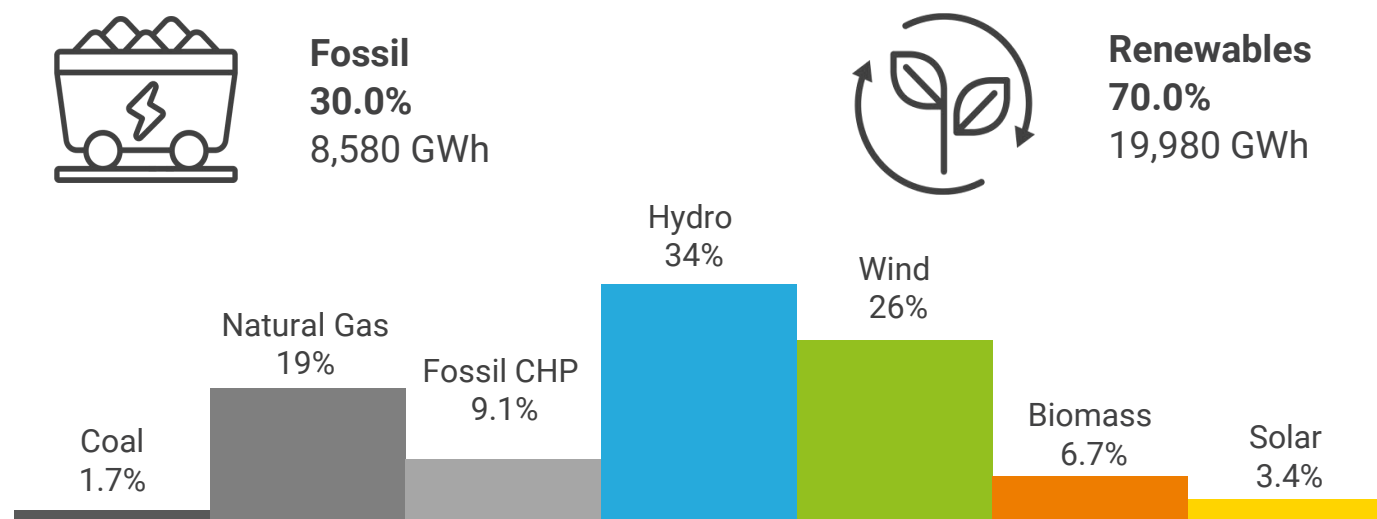
Renewable Electricity



APREN Associação de Energias Renováveis

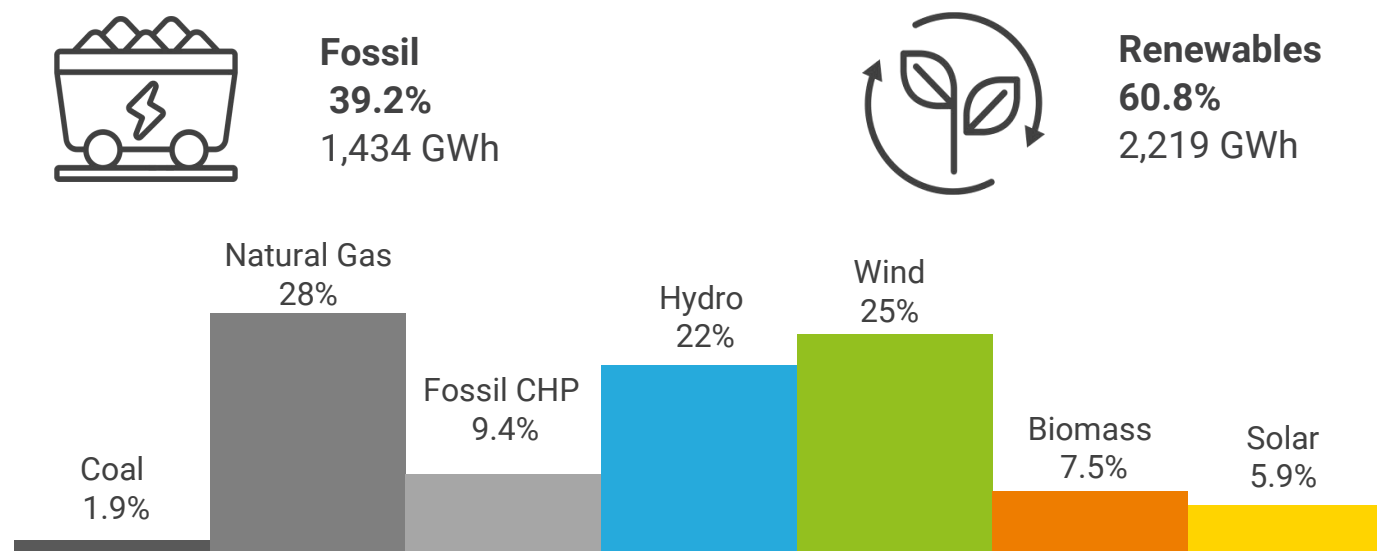
# Executive Summary

## Accumulated July 2021 (Jan-Jul)



Source: REN, APREN analysis

## July 2021



Source: REN, APREN analysis

## Electricity sector indicators (accumulated Jan-Jul)

**28,560 GWh**  
Generation

**€ 45.1/tCO<sub>2</sub>**  
CO<sub>2</sub> Price

**€ 63.2/MWh**  
Price MIBEL PT

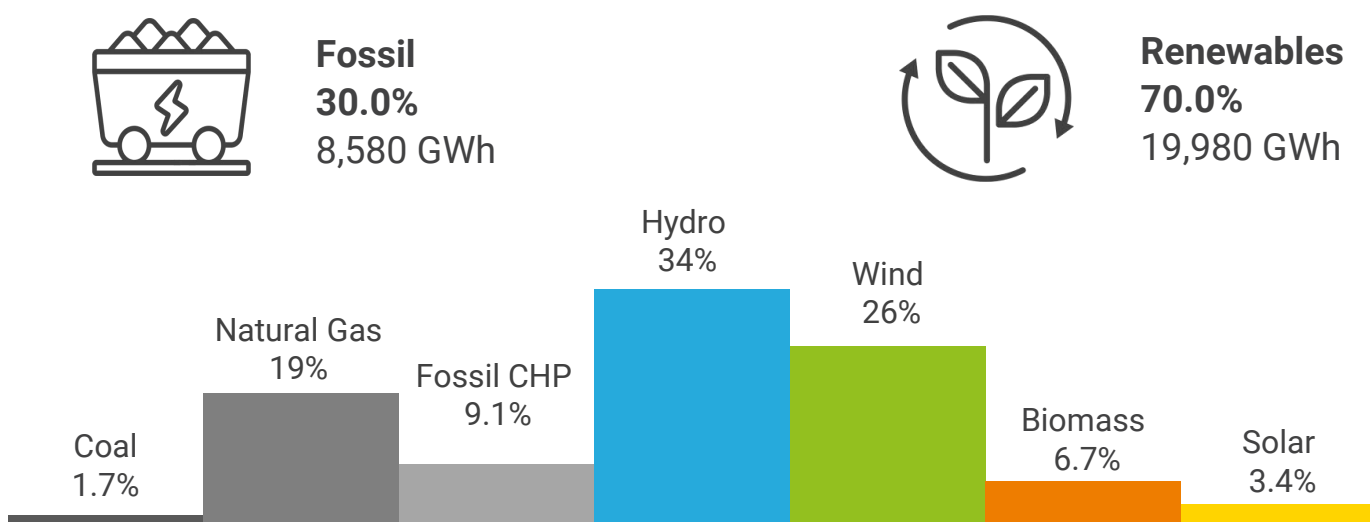
**3.3 MtCO<sub>2</sub>eq**  
CO<sub>2</sub> Emissions

**1,317 GWh**  
Import balance

**117 gCO<sub>2</sub>eq/kWh**  
CO<sub>2</sub> Specific emissions

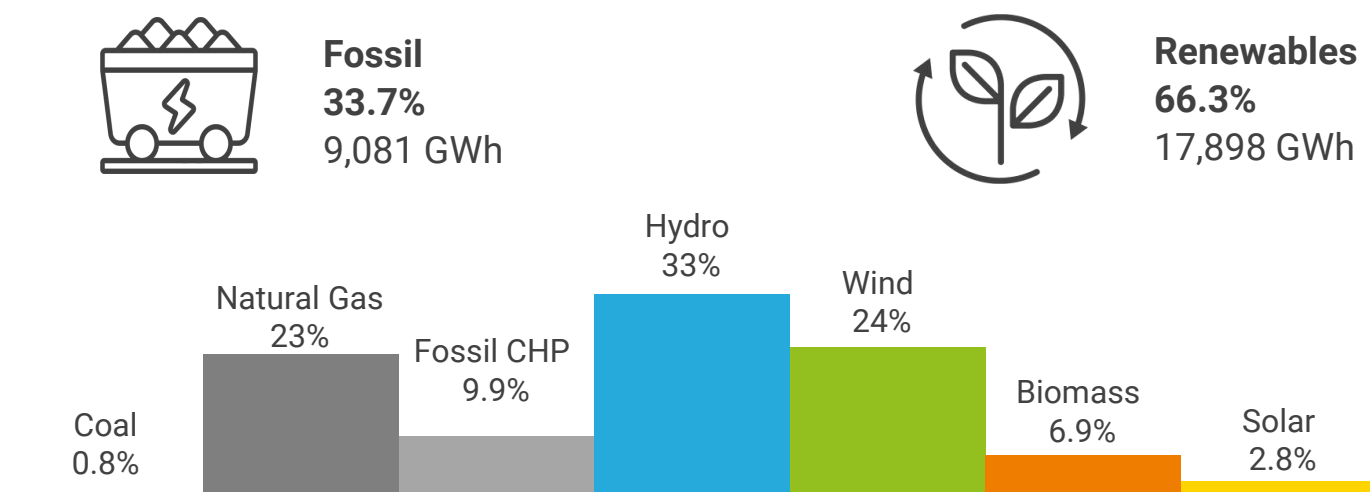
# Electricity Generation: Mainland Portugal

## Accumulated July 2021 (Jan-Jul)




Source: REN, APREN analysis


## Accumulated July 2020 (Jan-Jul)



Source: REN, APREN analysis


## Main indicators

 **28,560 GWh**  
Total generation

 **5.5 %**  
compared to Jul 2020


 **0.99**  
Wind Index

 **70.0 %**  
Renewable incorporation

 **3.6 %**  
compared to Jul 2020

 **1.13**  
Hydro Index

 **29,877 GWh**  
Consumption<sup>1</sup>

 **2.2 %**  
compared to Jul 2020

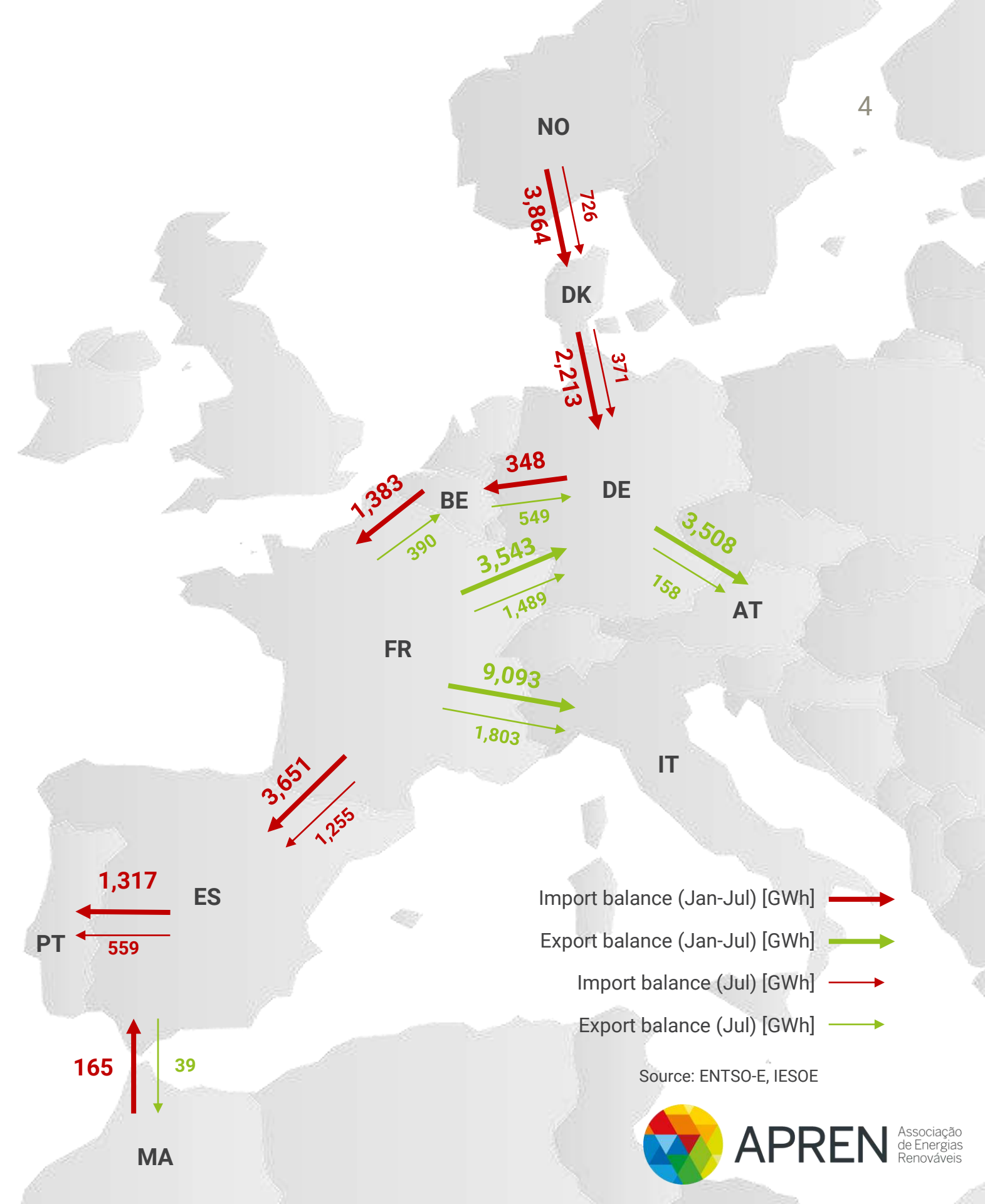
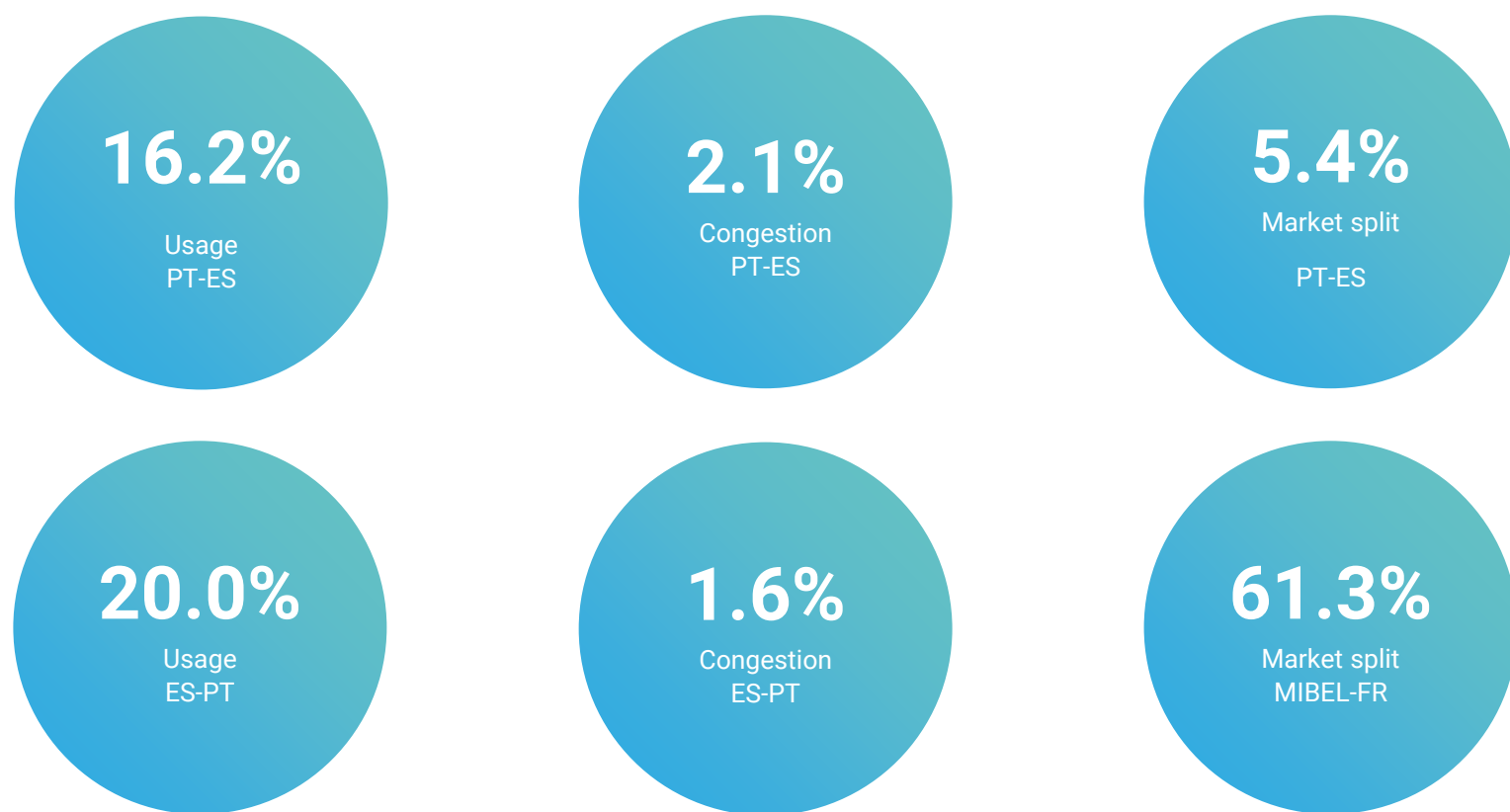
<sup>1</sup>Consumption refers to the net power generation of energy from power plants, bearing in mind the import-export balance.  
Source: REN, Analysis APREN

# International Trade

Between January 1 and July 31, 2021, the electricity system of Mainland Portugal registered electricity imports equivalent to 4,421 GWh and exports of 3,104 GWh, with Portugal being an importer with a balance of 1,317 GWh.

Source: REN, Analysis APREN

## Main interconnection indicators PT-ES



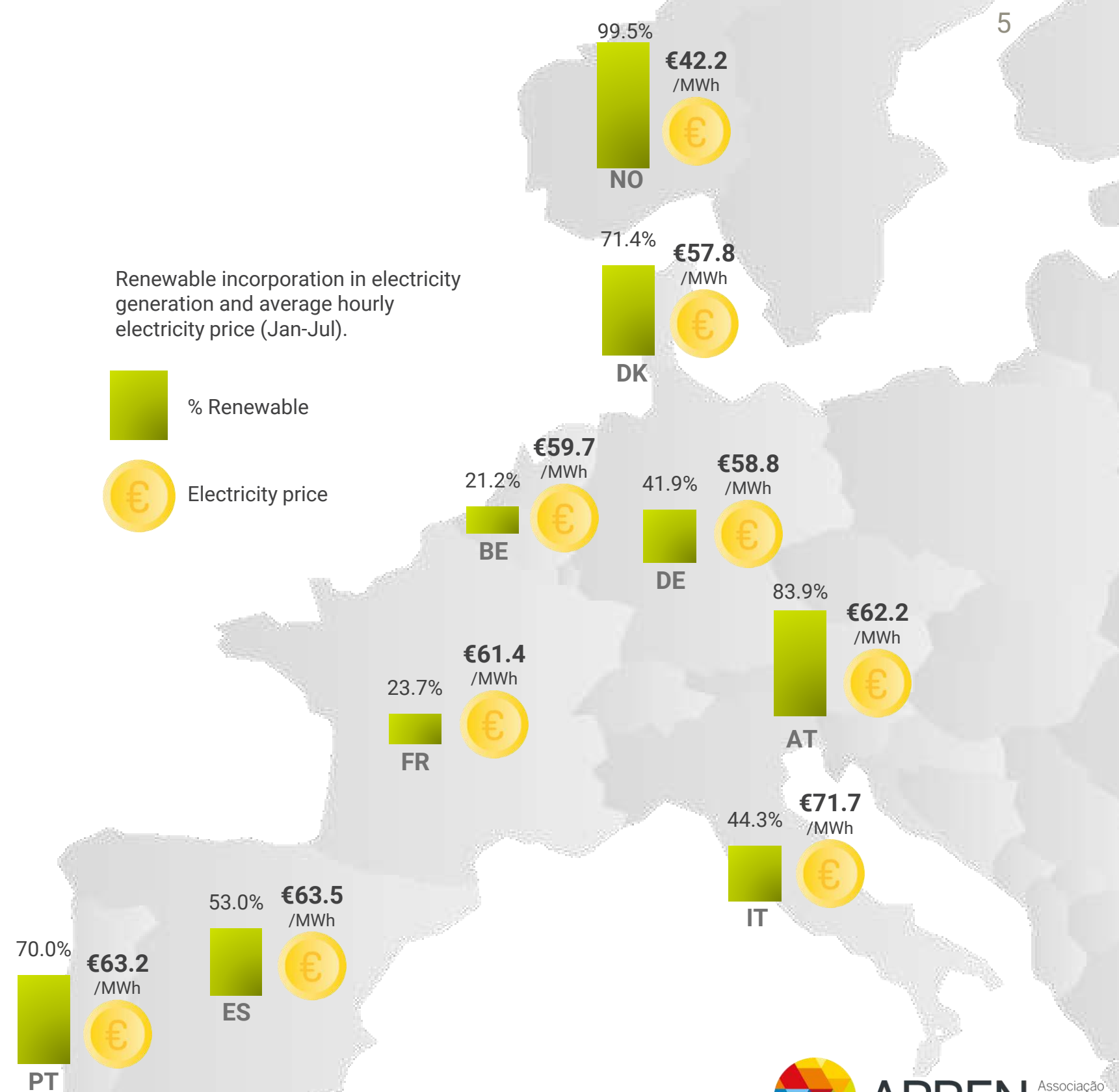
# Accumulated Electricity Market - Europe

Between January 1 and July 31, 2021, there was an hourly average price on the Iberian Electricity Market (MIBEL) in Portugal of € 63.18/MWh<sup>2</sup>. Despite the high renewable incorporation in Portugal, the market price has been on the rise, as a result of the growing trend in the market for CO<sub>2</sub> allowances and of the rise in the price of natural gas. It is in this scenario that Portugal registered the third highest average electricity price, compared to the other countries shown on the right. Portugal was the fourth country with the highest renewable incorporation in electricity generation, behind Norway, Austria and Denmark, which obtained 99.5 %, 83.9 % and 71.4 % respectively, from RES.

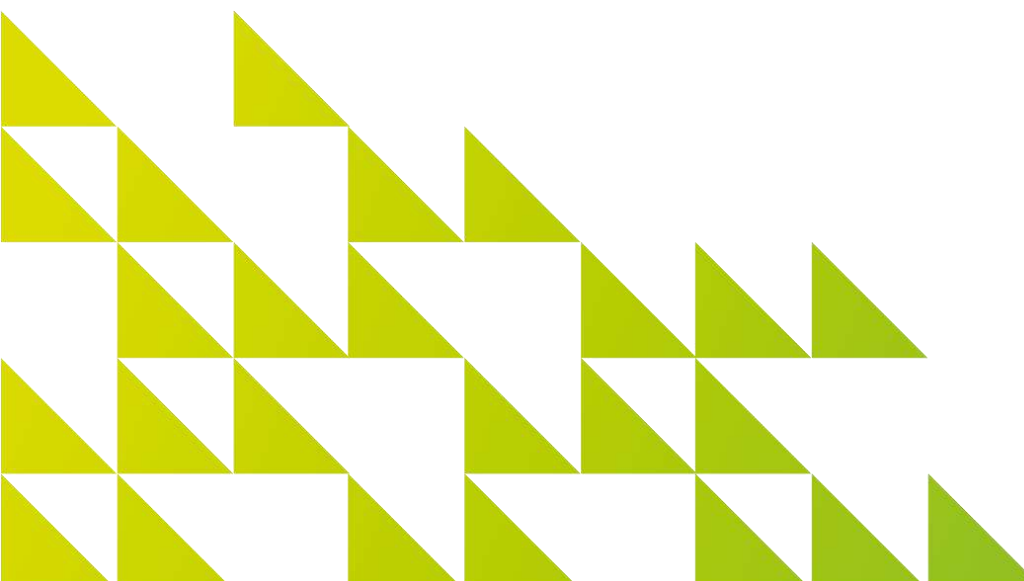
This analysis only took into account the main European markets, in order to have a representative panorama of comparison.

<sup>2</sup>Arithmetic average of hourly prices

Source: ENTSO-E, OMIE, Analysis APREN



Source: REN, Fraunhofer, REE, Terna, National Grid, ENTSO-E, Analysis APREN



# Accumulated Electricity Market - Portugal

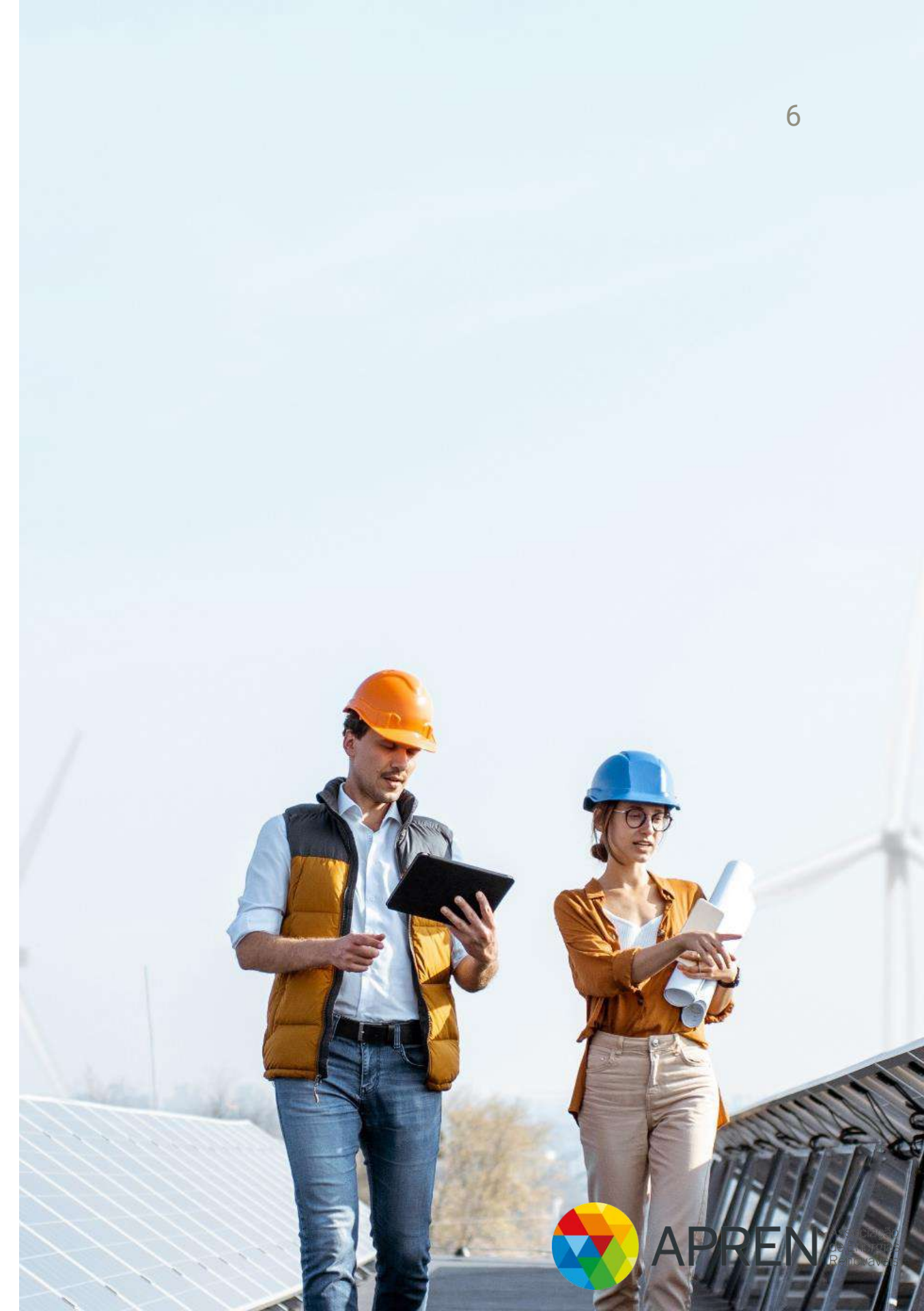
Between 1 January and 31 July 2021, the average hourly price recorded on the MIBEL in Portugal (€ 63.18/MWh<sup>2</sup>). It represents an increase of more than double compared to the same period last year.

In the same period, 1,022 non-consecutive hours were recorded in which renewable generation was sufficient to supply the electricity demand of Mainland Portugal, with an average hourly price on MIBEL of € 36.29/MWh.

<sup>2</sup> Arithmetic average of hourly prices  
Source: OMIE, Analysis APREN



Market price, electricity demand and renewable generation (Jul-2019 to Jul-2021).  
Source: OMIE, REN, Analysis APREN



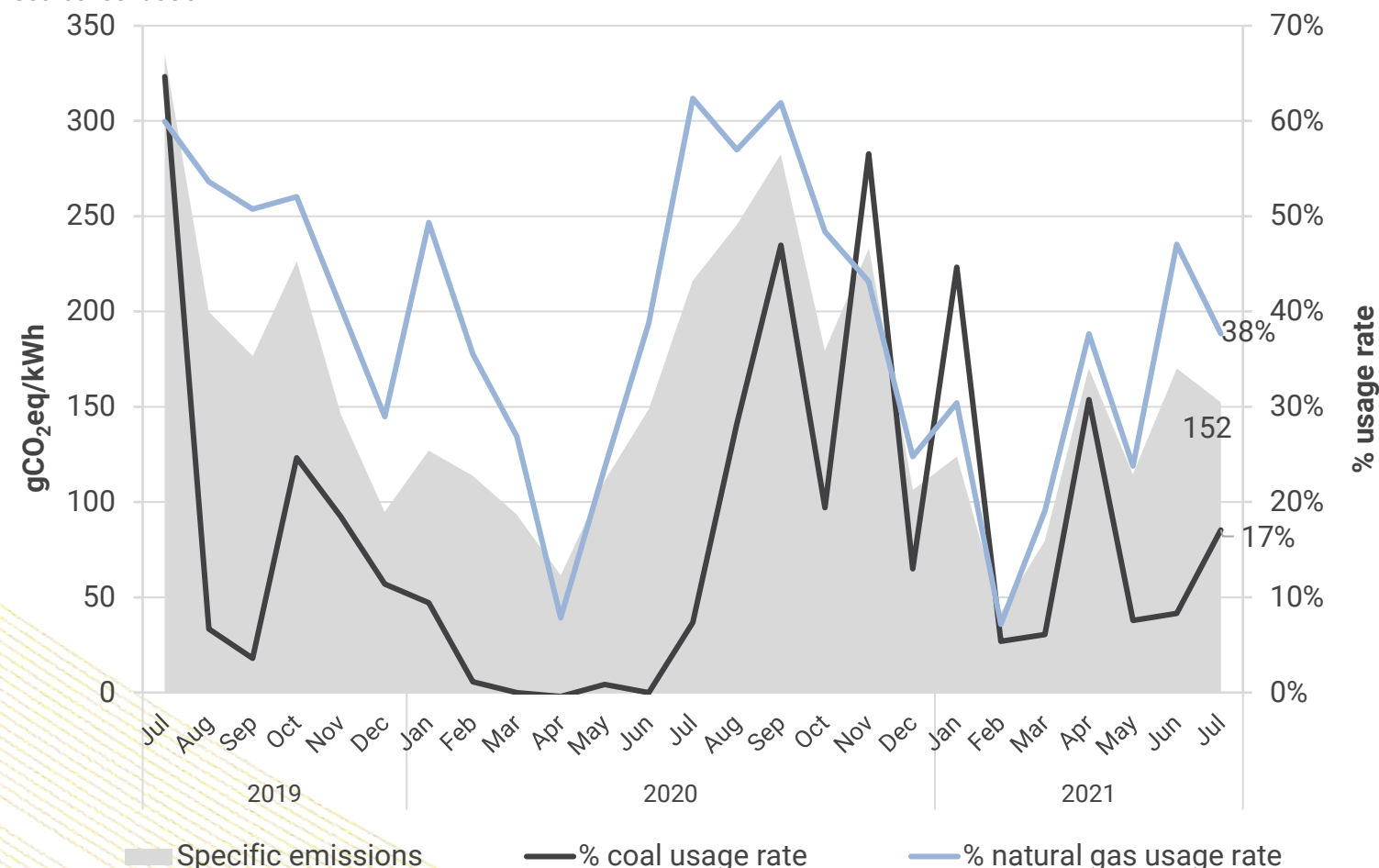
# Power Sector Emissions

Between January 1 and July 31, 2021, the specific emissions reached a total of 117 gCO<sub>2</sub>eq/kWh, while total emissions from the electricity generation sector reached 3.3 MtCO<sub>2</sub>eq, of which 0.5 MtCO<sub>2</sub>eq correspond to the month of July.

Since the beginning of the year, the European Emissions Trading System (EU-ETS) has recorded an average price of € 45.1/tCO<sub>2</sub> which represents an increase of 98 % compared to the same period of 2020. This month was registered the highest average price ever (€ 53.28/tCO<sub>2</sub>), nearly the double of the price from July 2020.



Source: SendeCO2



Specific emissions from the electricity sector in mainland Portugal, % use of coal and natural gas power plants from Jul-2019 to Jul-2021.

Source: REN, DGEG, ERSE, Analysis APREN



CO<sub>2</sub> allowances price from Jul-2019 to Jul-2021. Source: SendeCO2.

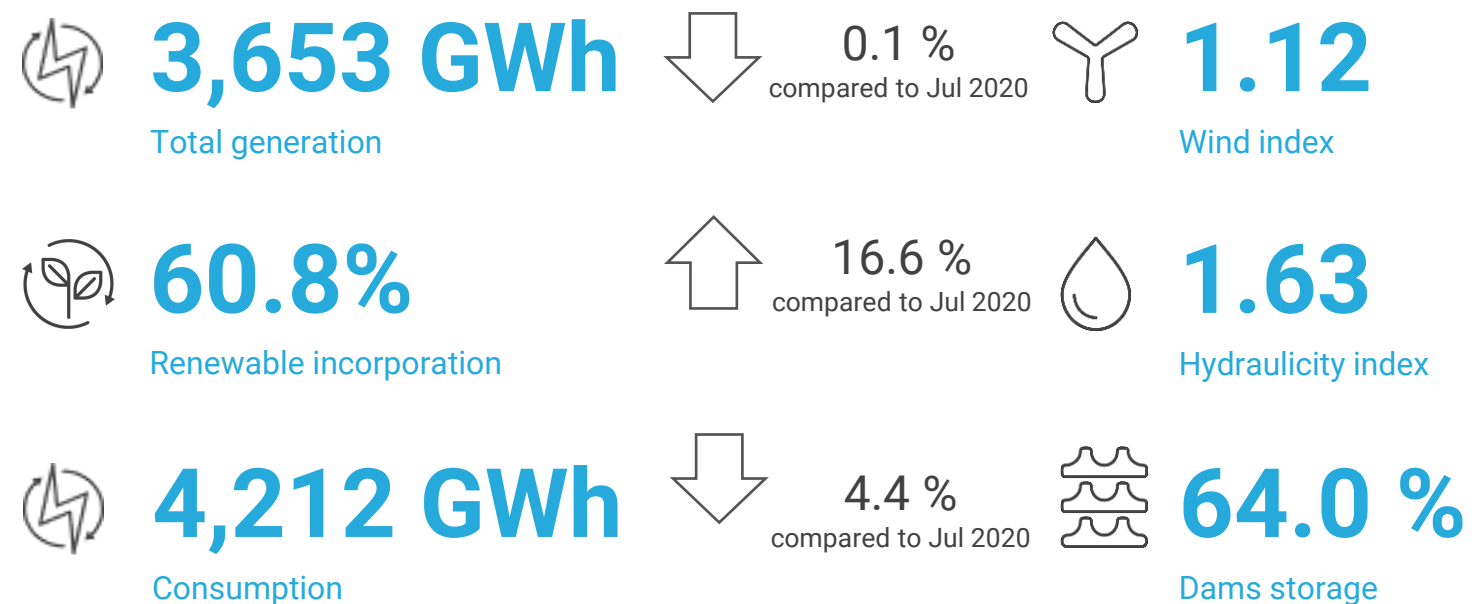
# Monthly analysis in Portugal: July

In July, the generation of renewable electricity represented 60.8 % of the total electricity generated in Mainland Portugal (3,653 GWh). July registered a total of 17 non-consecutive hours in which renewable generation was sufficient to supply the electricity demand of Mainland Portugal, with an average hourly price on MIBEL of € 101.11/MWh. It should be noted that the production of photovoltaic solar electricity this month reached an all-time high of 216 GWh.

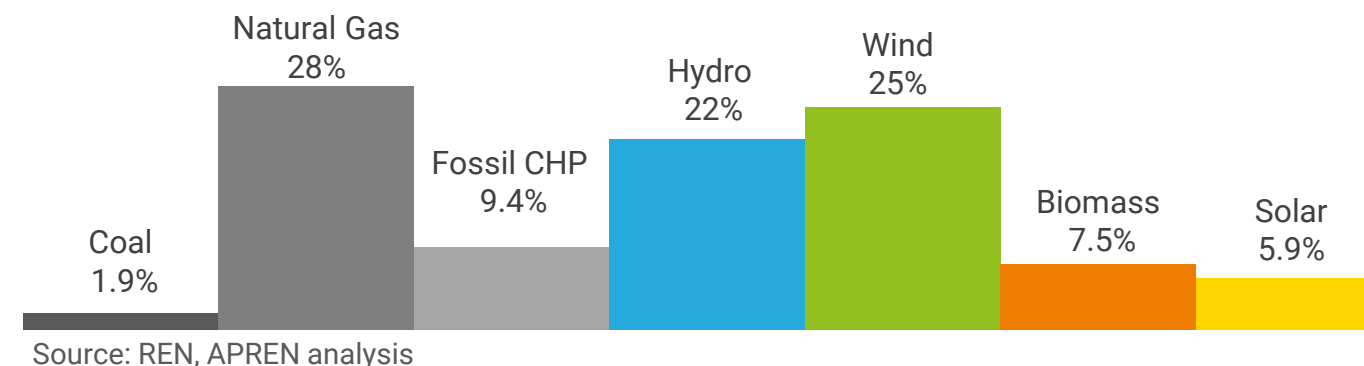
Regarding international trade in July, it should be noted that Mainland Portugal was an importer, registering a balance of 559 GWh, a decrease of 25 % compared to the import balance recorded in July 2020 (748 GWh).

Source: REN, Analysis APREN

## Electricity sector indicators



Source: REN, Analysis APREN

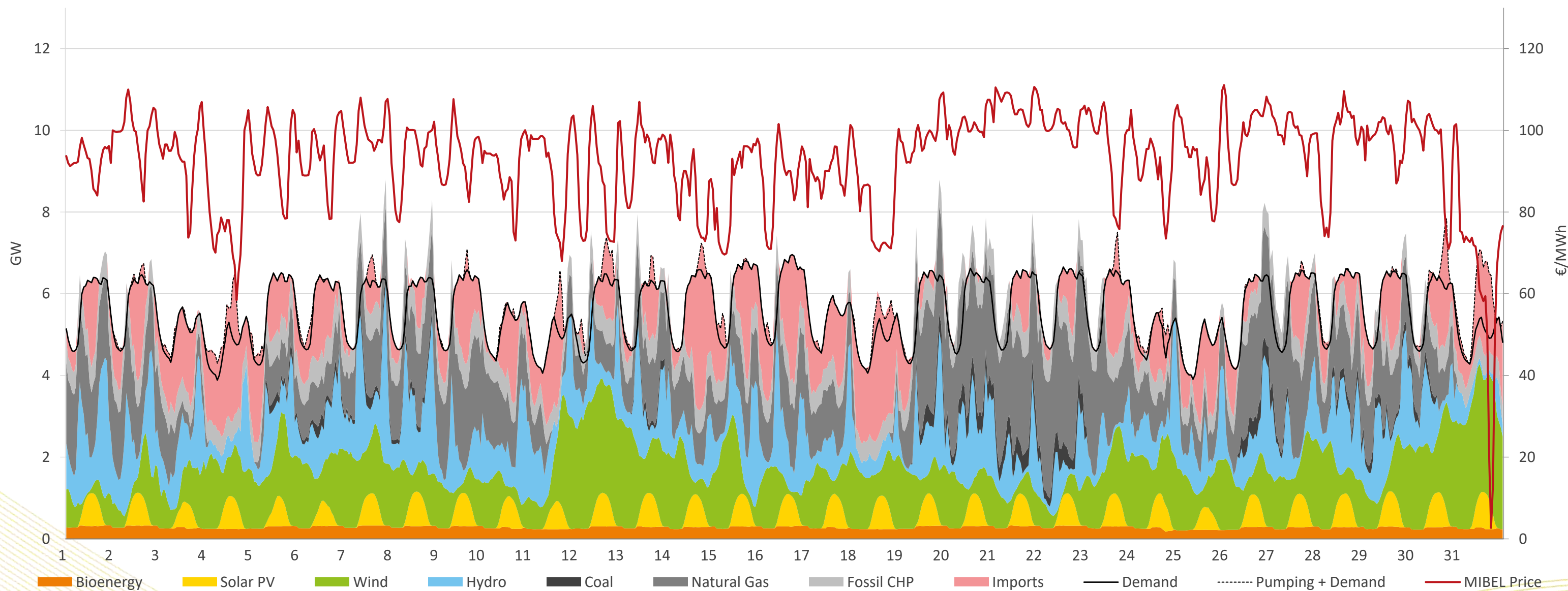


Source: REN, APREN analysis



# Monthly analysis in Portugal: July

## Load diagram from July 2021



Source: REN, Analysis APREN

# Monthly Market Analysis: July

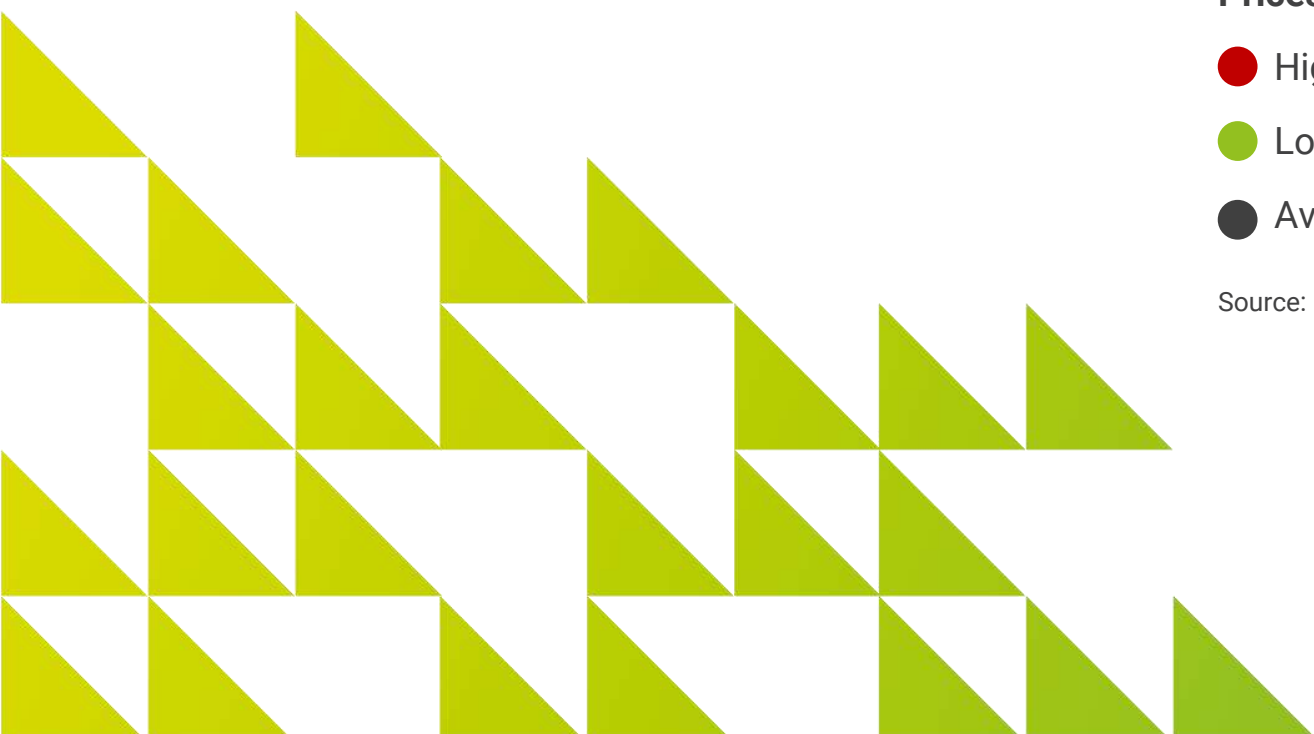
## Electricity market in Europe

During the month of July 2021, there was an hourly average price on MIBEL in Portugal of € 92.60/MWh, which represents near the triple the price recorded in July 2020. In Portugal and Spain there was a minimum hourly price on MIBEL of € 2.67/MWh.

Of the countries shown on the right, the lowest price registered was € -36.22/MWh in Belgium. France, Germany, Austria and Denmark also had a negative minimum hourly price. The highest hourly price was recorded in Denmark and Germany, reaching € 150.0/MWh.

This analysis only took into account European countries with influence in the Portuguese market.

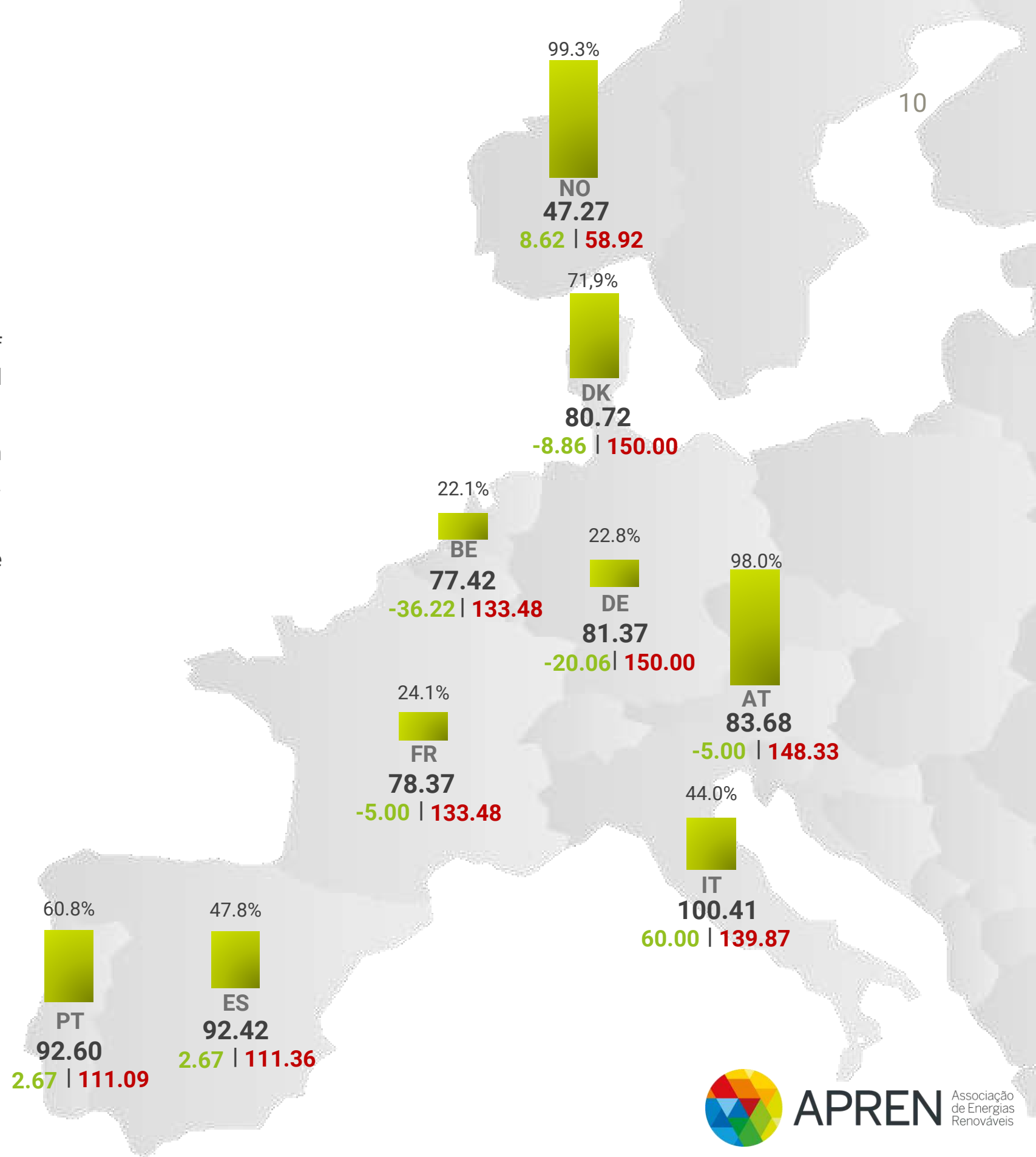
Source: ENTSO-E, IESOE, Analysis APREN



### Prices in €/MWh

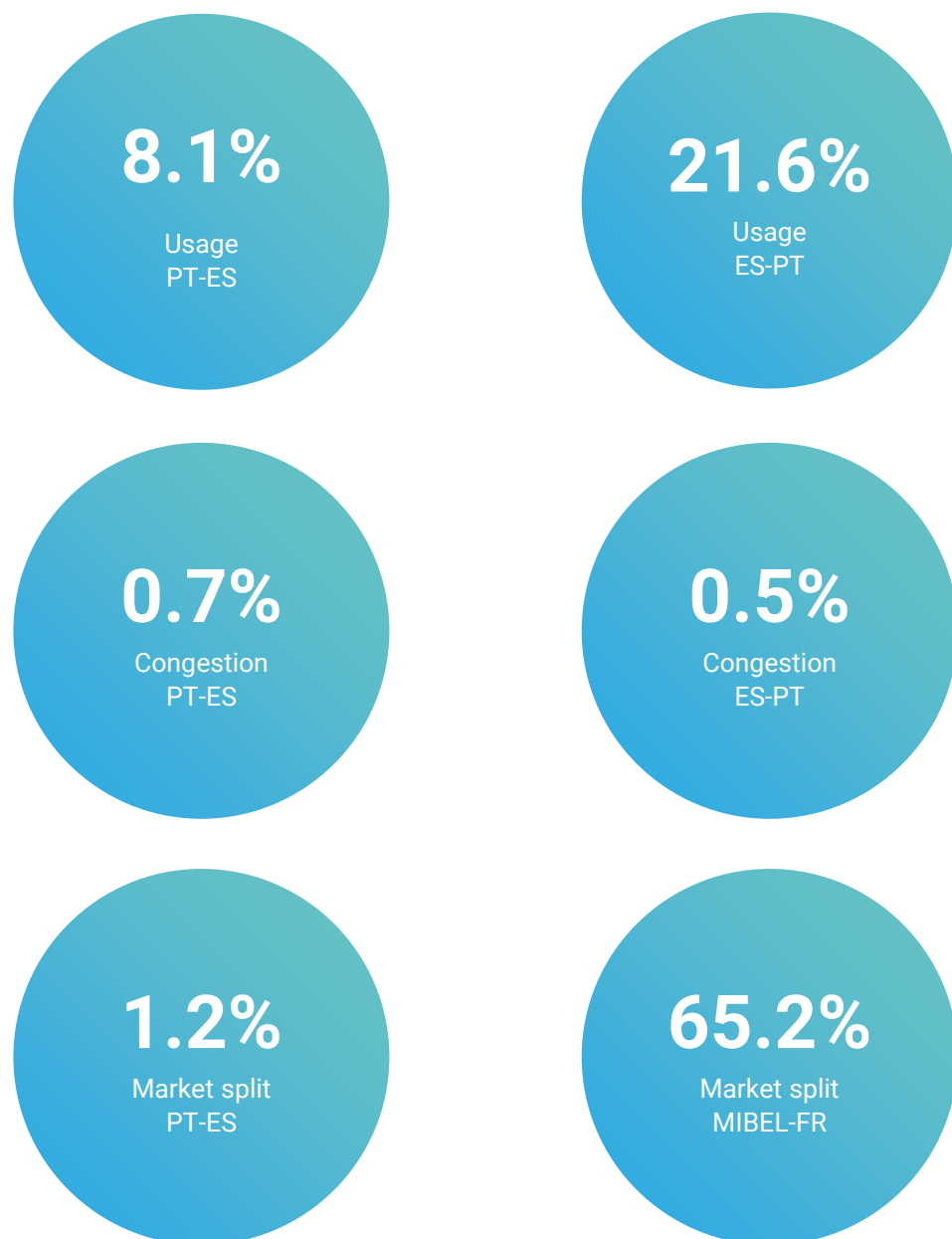
- Highest
- Lowest
- Average

Source: ENTSO-E, IESOE



# Monthly market analysis: July

## Electricity market in Portugal



# Environmental Service

The indicators below identify the savings achieved between January 1 and July 31, 2021 in fossil fuels, CO<sub>2</sub> emissions and CO<sub>2</sub> emission allowances, resulting from the incorporation of renewable electricity generation.

This analysis is based on the assumption that, in the absence of renewables, production would be ensured firstly by natural gas, followed by coal and finally the use of imports.

## Renewables have avoided ...

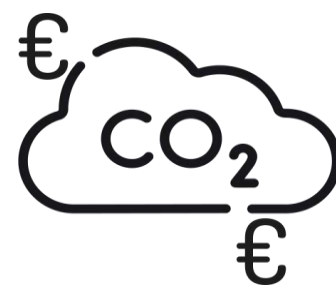


**€667 M**

Imported fossil fuels (Jan-Jul)

**€133 M**

Imported fossil fuels (Jul)

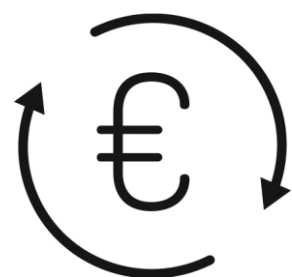


**7.6 MtCO<sub>2</sub>eq**

CO<sub>2</sub> emissions (Jan-Jul)

**1.0 MtCO<sub>2</sub>eq**

CO<sub>2</sub> emissions (Jul)



**€209 M**

Imported electricity (Jan-Jul)

**€12 M**

Imported electricity (Jul)



**€312 M**

CO<sub>2</sub> allowances (Jan-Jul)

**€52 M**

CO<sub>2</sub> allowances (Jul)

Source: REN, SendeCO<sub>2</sub>, WorldBank, DGEG, ERSE, Analysis APREN.

Note1: To estimate savings on imported fossil fuels, coal prices until November 2019 were considered, due to unavailability of data.

Note2: For the estimate of savings in imported electricity, the average price in the MIBEL market was considered.

# European Policy and Regulation

## *Fit for 55*

On July 14 the European Commission (EC) launched the [legislative package](#) “Fit for 55”, designed to achieve the new European climate ambition of reducing greenhouse gas (GHG) emissions by 55% until 2030, compared to 1990. Of the 13 proposals for legislation already published, the following stand out:

- [Renewable Energy Directive \(RED III\)](#): New target for renewable incorporation in final energy of 40% for 2030, compared to the previous one of 32%;
- [Energy Efficiency Directive](#): New energy efficiency target of 36-39% for final and primary energy consumption compared to previous 32.5%. This previously indicative target becomes mandatory at EU level.
- [European Emissions Trading System \(EU-ETS\)](#): In addition to increasing the ambition to 61% in reducing GHG emissions, the new proposal includes the extension of the EU-ETS to the maritime transport sector and the creation of a new EU-ETS, dedicated to the road transport and buildings sectors.
- [Carbon Border Adjustment Mechanism \(CBAM\)](#): It will place a carbon price on imports of a targeted selection of products, ensuring that European emission reductions contribute to a global decline in emissions, rather than boosting carbon-intensive production outside Europe.
- [Energy Taxation Directive \(ETD\)](#): It introduces a new structure of tax rates based on the energy content and environmental performance of fuels and electricity, and it broadens the taxable base by including more products and by removing some of the current exemptions and reductions.

## **Forest Strategy**

On July 16, the EC adopted the [New EU Forest Strategy](#) for 2030, that promotes forest management practices more favorable to climate and biodiversity, emphasizes the need to keep the use of wood biomass within the limits of sustainability and the efficient use of wood resources in line with the “cascade” principle.

## **Offshore Working Group**

The EC launched an [invitation](#) to the expression of interest to all relevant stakeholder organizations to become members of a new working group on offshore renewable energy. The deadline for applications is September 10, 2021.

# National Policy and Regulation

## Buildings

On July 1, the [Ordinance No. 138-I/2021](#) was published, which regulates the minimum energy performance requirements for buildings surroundings and technical systems and their application depending on the type of use and specific technical characteristics.

On July 1, General Directorate of Energy and Geology (DGEG) published the [Dispatch No. 6476-D/2021](#), which approves the requirements for the preparation of the Building Energy Performance Improvement Plan (PDEE) and the [Dispatch No. 6476-H/2021](#), approving the Manual of the Energy Certification System for Buildings (SCE).

## Energy Consumption Efficiency Promotion Plan (PPEC)

On July 5, the [Dispatch No. 6546/2021](#) was published, approving the assessment criteria related to energy policy objectives and instruments.

## Agreements with TSO

It was published the [list](#) with the final classification of the projects for the Agreement with the National Transmission System Operator, ordered descending from the respective score, taking into account the criteria defined in the Terms of Reference of the “Agreements to be signed with the Grid Operators for the allocation of injection capacity reserve in the PSEN” approved by the Director General for Energy and Geology on February 17, 2020.

## Guarantees of Origin

On July 5, the [Dispatch No. 6560-B/2021](#), from DGEG, was published. It establishes the transaction rules of the guarantees of origin of electricity production from renewable sources, in accordance with the provisions of Decree-Law (DL) No. 60/2020.

# National Policy and Regulation

## Permitting

On July 2, the [Dispatch No. 16/DG/2021](#) was published, from DGEG, which extends the administrative deadlines of the small production units (SPU), provided for in paragraph 1 of article 27-B of DL 172/2019.

On July 2 the Assistant Secretary of State and Energy published a [Dispatch](#) which extends the deadlines for the implementation of power plants resulting from the 2020 capacity auction.

## Global System Management Procedures Manual

On July 19, the Regulatory Authority for Energy Services (ERSE) published the [Directive No. 13/2021](#), which approves the new registration of Physical Units in the Balance Areas “Douro Superior” and “Douro Superior (Pumping)” and amends the Procedures Manual for the Global Management of the Electric Sector System (MPGGS).

On the same day, the [Directive No. 14/2021](#) from da ERSE was published, which approves the entities authorized to integrate the marketing diversion unit under the terms of the MPGGS.

## Additional power and additional energy

On July 27, the [Regional Legislative Decree No. 16/2021/M](#) was published, which establishes the discipline applicable to additional power and additional energy, over-equipment and over-equipment energy of wind power plants, which electricity is remunerated by a guaranteed remuneration scheme.

## European Barometer



### **Fit for 55**

The EC has launched the “Fit for 55” legislative package, designed to achieve the new European climate ambition of reducing GHG emissions by 55% until 2030, compared to 1990.



### **Forest Strategy**

The EC has adopted the New EU Forest Strategy 2030, which promotes the most climate-friendly and biodiversity-friendly forest management practices, emphasizes the need to keep wood biomass use within the limits of sustainability and efficient use of forest resources, in line with the “cascade” principle.



### **New Climate Change Adaptation Strategy**

EU environment ministers endorsed the EU's new climate change adaptation strategy, which sets a vision by 2050 to make Europe resilient and fully adapted to its inevitable impacts.



### **Next Generation EU**

The EC has approved Portugal's recovery and resilience plan worth € 16.6 billion, with the Commission having concluded that the Portuguese plan intends to apply 38% of its total allocation to measures to support climate objectives.

## National Barometer



### **Energy Efficiency**

DL No. 50/2021 was published, establishing the legal regime for energy efficiency management contracts to be signed between the State and energy service companies. The Dispatch No. 6070-A/2021, was also published, which approves the regulation for the attribution of incentives for the 2<sup>nd</sup> phase of the Support Program for More Sustainable Buildings.



### **Permitting**

Order no. 16/DG/2021, of DGEG, which extends the administrative deadlines of the SPUs, was published. A Dispatch was also published by the Deputy Secretary of State and for Energy extending the deadlines for the implementation of the power generation centers resulting from the 2020 auction.



### **Agreements with TSO**

The list with the final classification of the Agreements with the National Transmission System Operator was published, in descending order of the respective score.



### **Wind power plants remuneration**

Order No. 6304/2021 was published, which regularizes the compensation made between 2013 and 2020 and the remuneration owed to wind power plants covered by Decree-Law No. 35/2013, of 28<sup>th</sup> of February.



### **Hybrid power plants**

Dispatch No. 13/DG/2021 was published, which establishes the technical rules for the implementation of hybrid power plants associated with photovoltaic solar plants resulting from competitive procedures.



**APREN | Technical and Communication Department**

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

(+351) 213 151 621  
[www.apren.pt](http://www.apren.pt)

