

January

BULLETIN

2021

Renewable Electricity



APREN Associação de Energias Renováveis

Executive Summary

January 2021



Fossil
28.8%
1,423 GWh



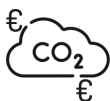
Renewables
71.2%
3,521 GWh



4,944 GWh
Generation



€60.8/MWh
MIBEL PT price



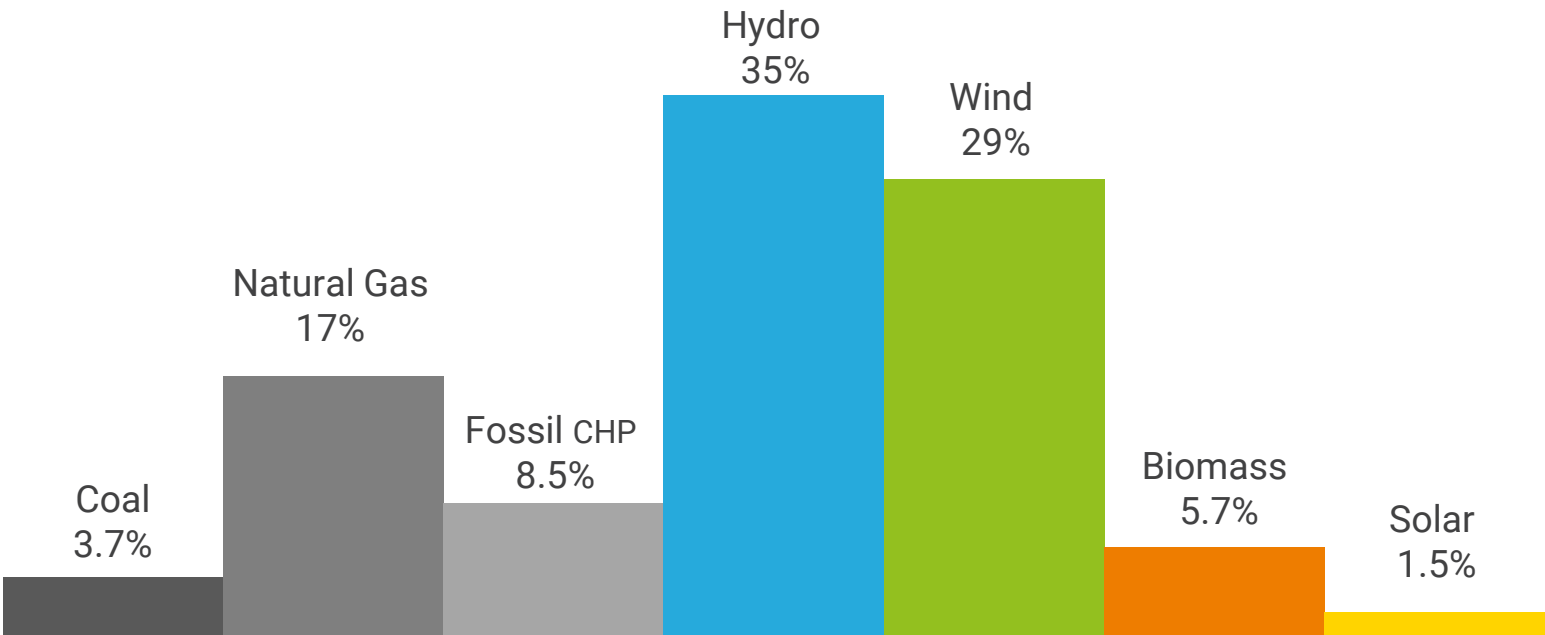
€33.4/tCO₂
CO₂ price



274 GWh
Import balance



0.6 MtCO₂eq
CO₂ emissions



Source: REN, APREN analysis



Electricity Generation: Mainland Portugal

January 2021

Main indicators



Fossil
28.8%
1,423 GWh



Renewables
71.2%
3,521 GWh



4,944 GWh
Total generation



12.5 %
in comparison
to Jan 2020



1.09
Wind index



71.2 %
Renewable incorporation



3.4 %
in comparison
to Jan 2020



0.97
Hydro index



5,218 GWh
Consumption¹

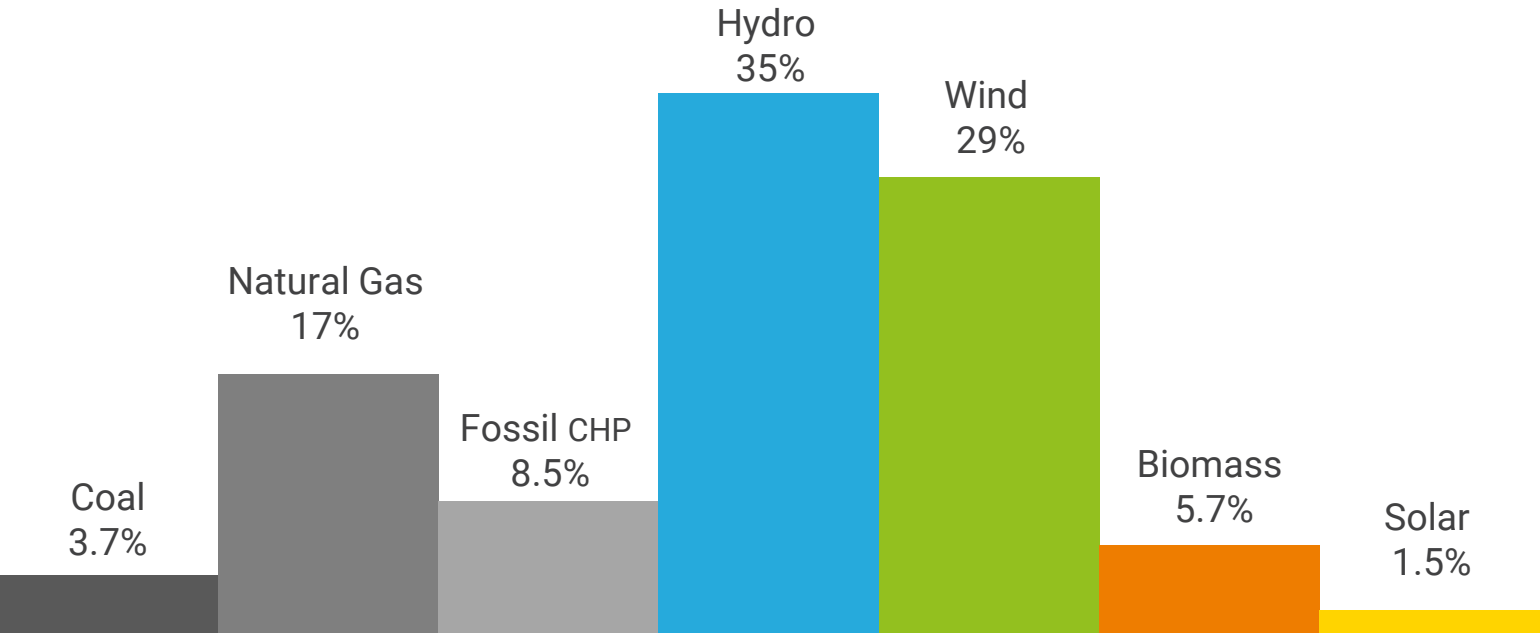


3.0 %
in comparison
to Jan 2020



64.0%
Dams storage

¹Consumption refers to the net generation of power from the plants, considering the balance of import-export.
Source: REN, APREN analysis



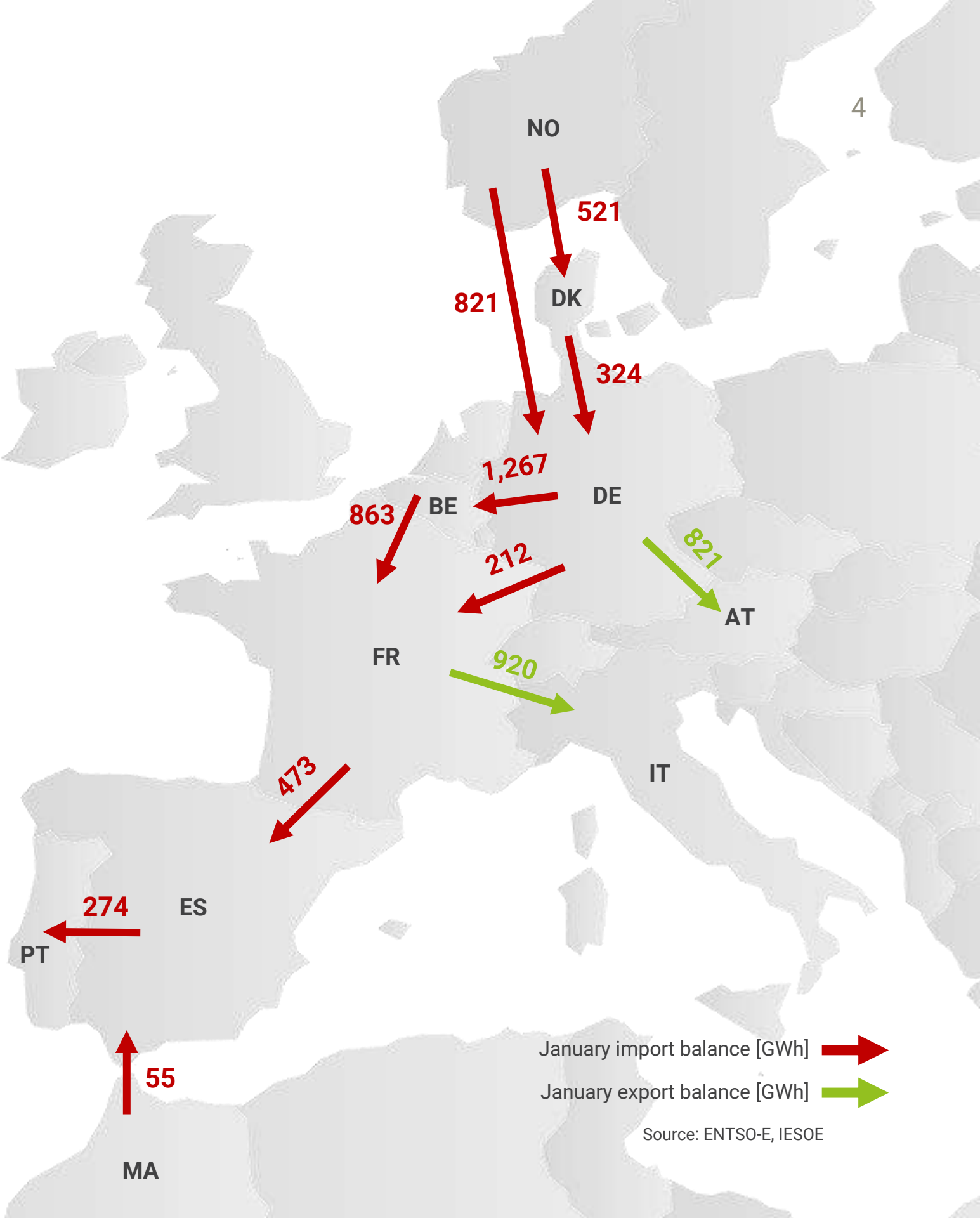
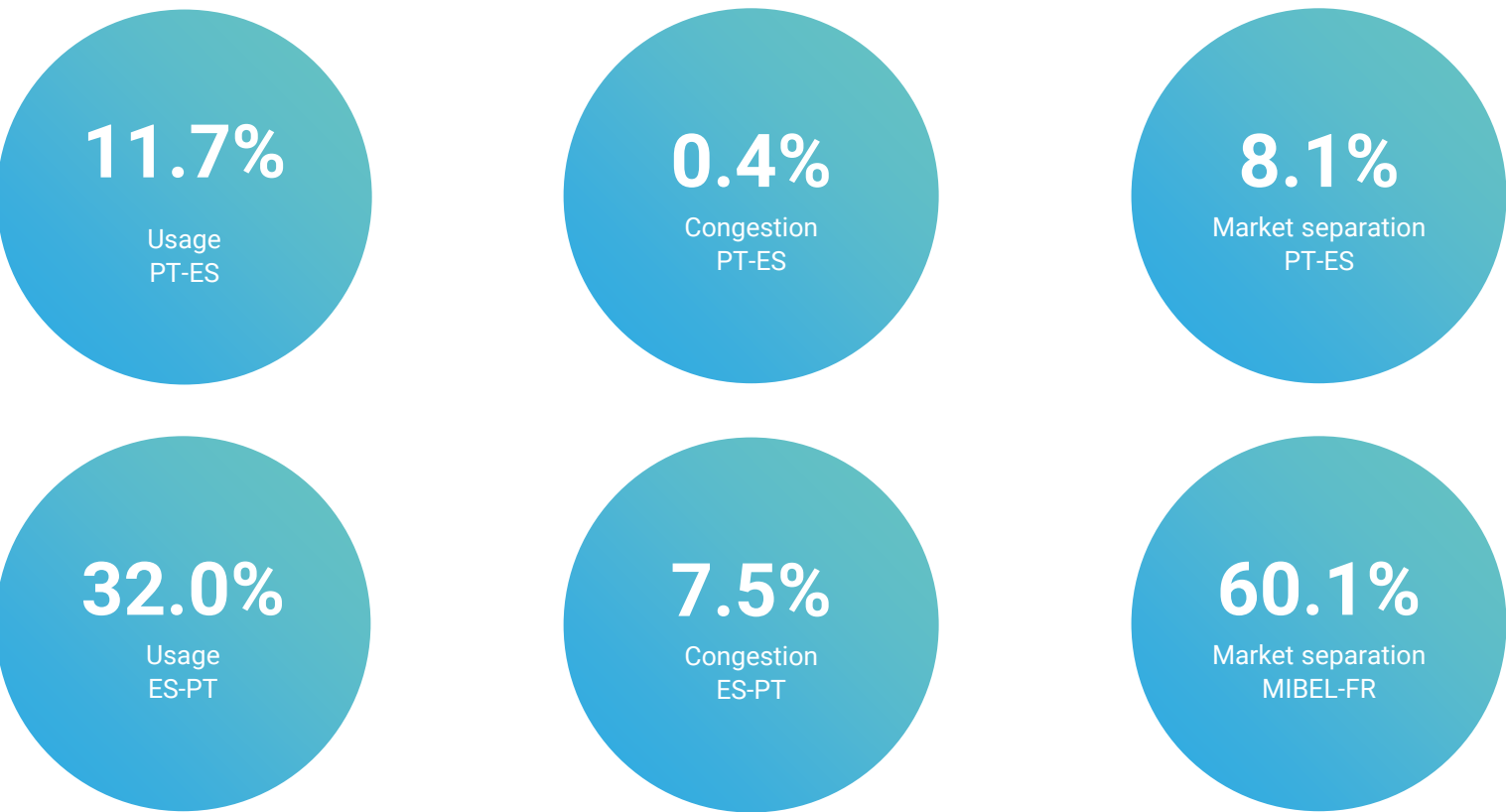
Source: REN, APREN analysis

Internacional trade

Between January 1 and 31, 2021, the electricity system of Mainland Portugal registered electricity imports equivalent to 686 GWh and exports of 412 GWh, resulting in an import balance of 274 GWh, inverting the balance verified in the same period of 2020 (-497 GWh).

Source: REN, APREN analysis

Main interconnection indicators PT-ES



Accumulated Electricity Market - Europe

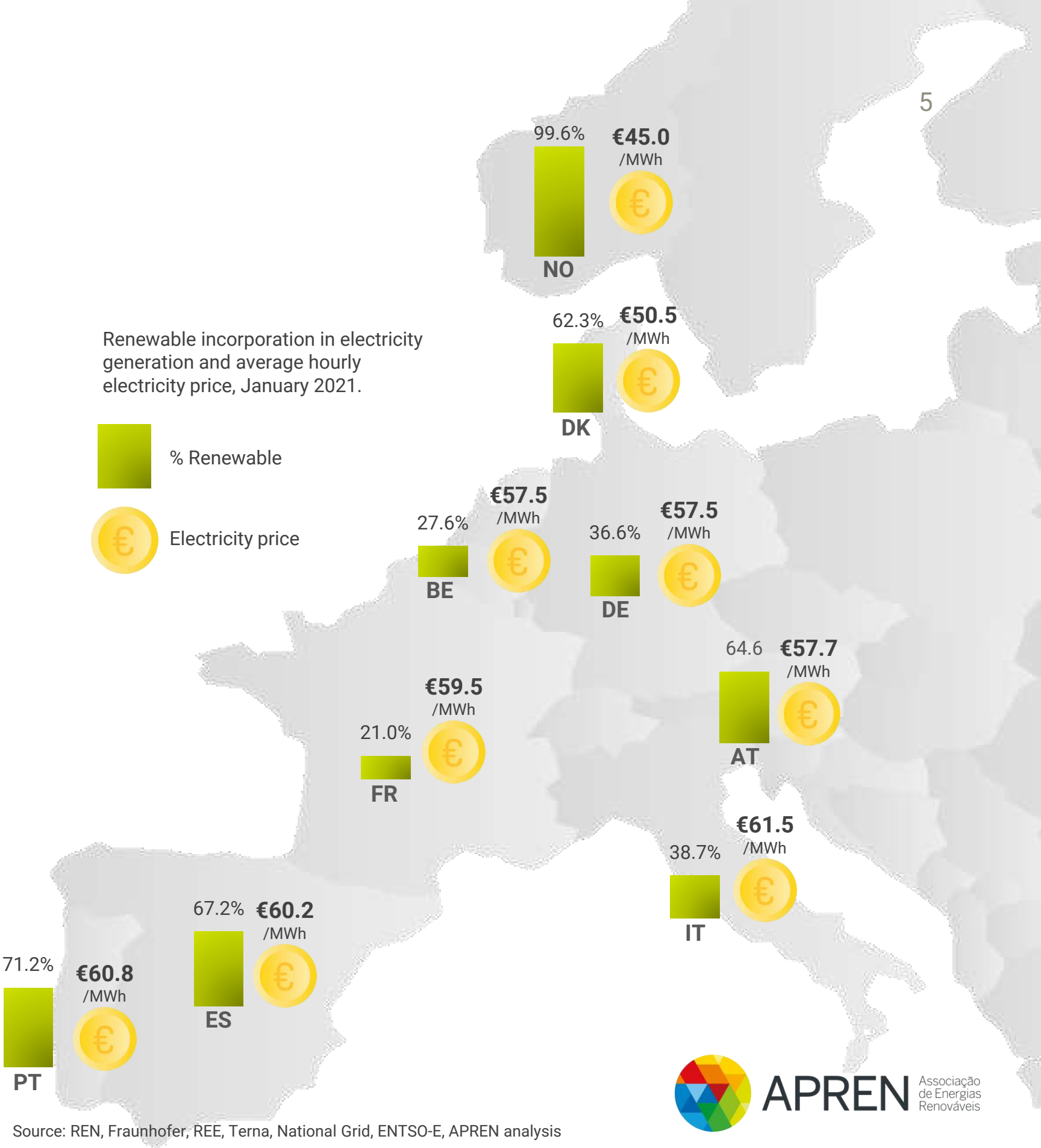
Between January 1 and 31, 2021, there was an average hourly price in the Iberian Electricity Market (MIBEL) in Portugal of €60.8/MWh², being the second highest price, compared to the other countries shown on the right, and Italy the first. Portugal was also the second country with the highest renewable incorporation in electricity generation, behind Norway which obtained 99.6% of its electricity from RES and was also the country with the lowest average hourly price.

January registered very low temperatures across the European region, which led to a dramatic increase in electricity and natural gas consumption, resulting in a significant increase in natural gas prices in the various world markets, with direct repercussions on the price of electricity.

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

²Arithmetic average of hourly prices

Source: ENTSO-E, OMIE, APREN analysis

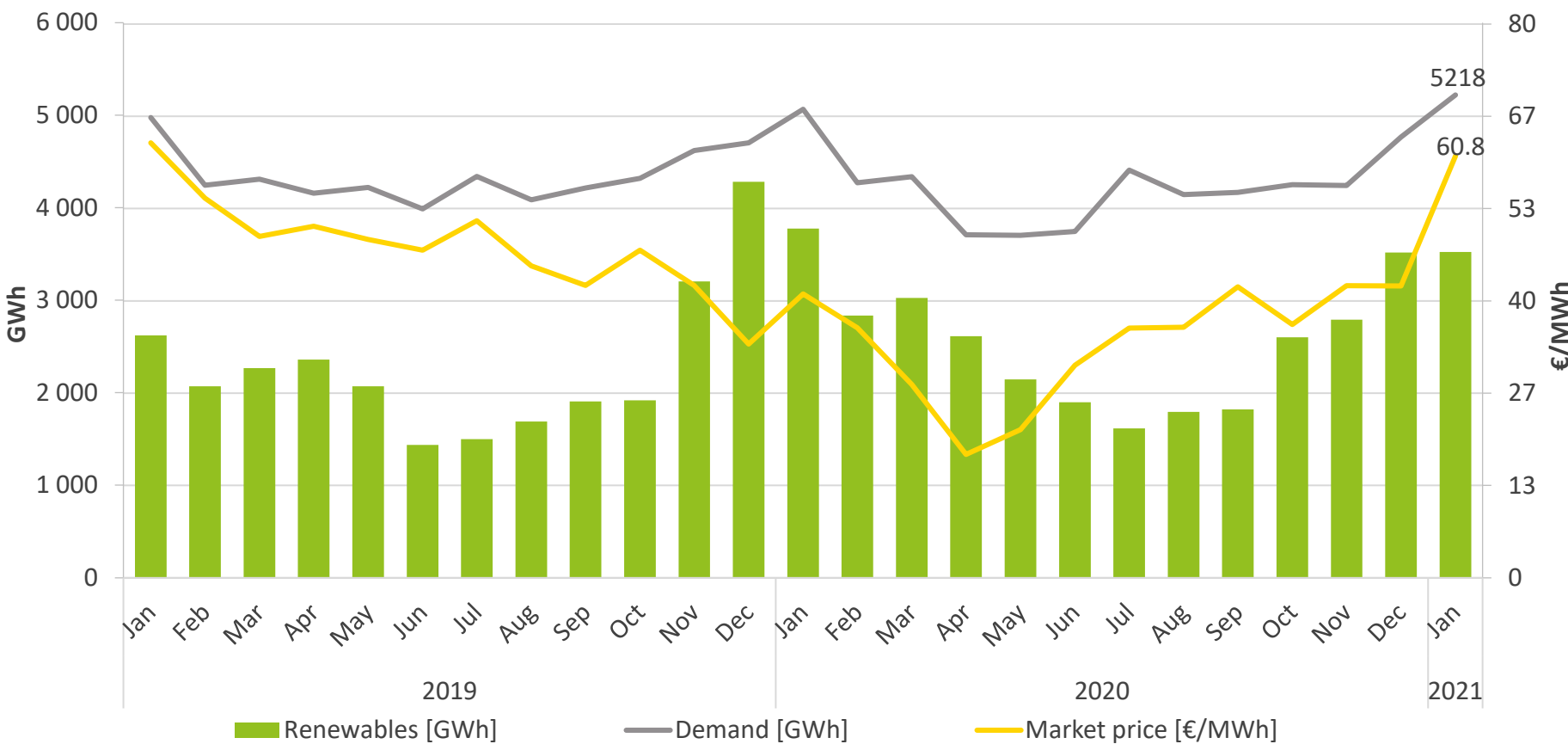


Accumulated Electricity Market - Portugal

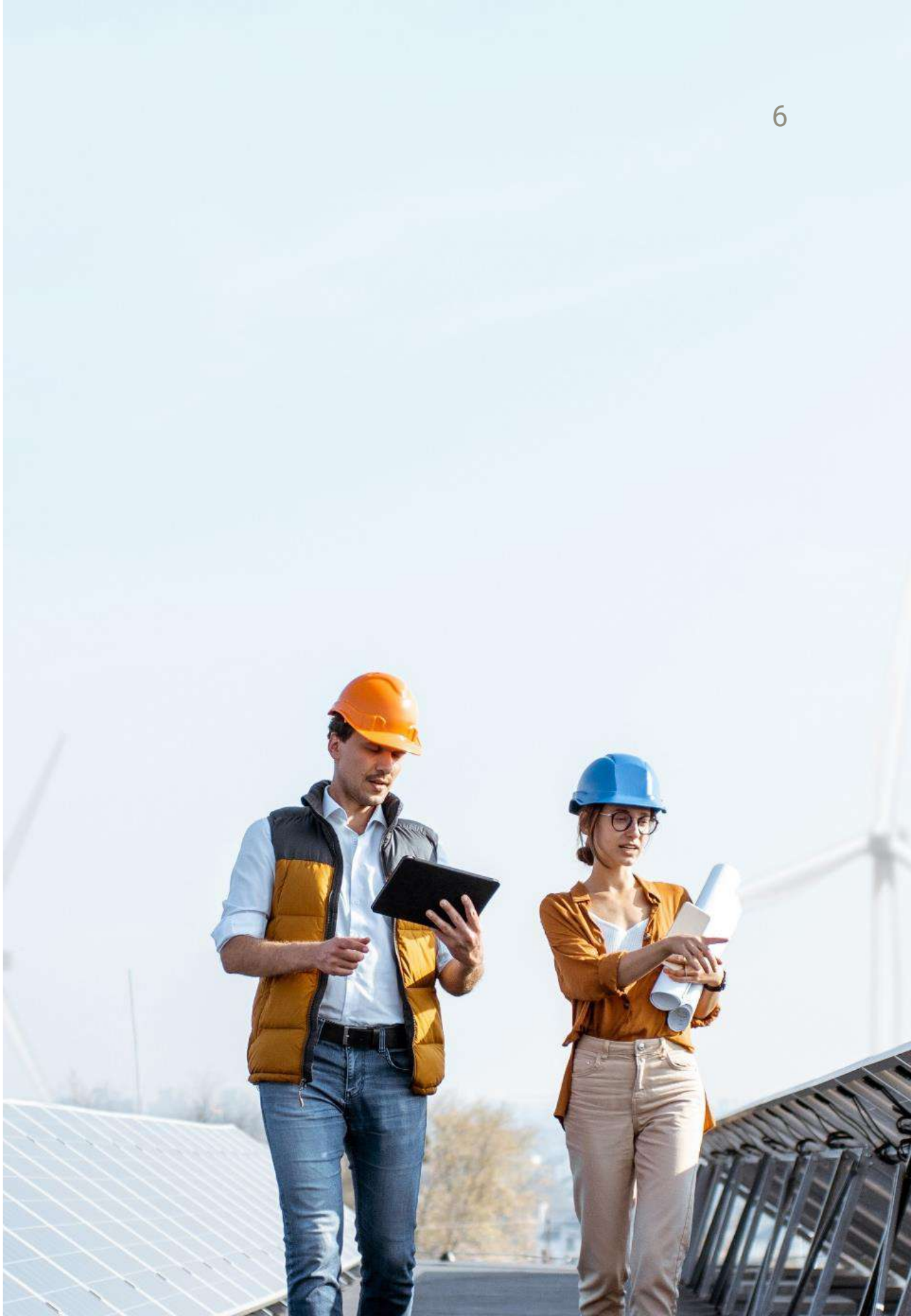
During January 2021, the average hourly price registered at MIBEL in Portugal (€60.8/MWh²) represents a significant increase of 49% over the same period last year, with the highest average hourly price since January 2019 (€62.7/MWh²).

In the same period, 166 non-consecutive hours were recorded in which renewable generation was sufficient to supply the electricity consumption in mainland Portugal, with an average hourly price in the MIBEL of €33.08/MWh.

²Arithmetic average of hourly prices
Source: OMIE, APREN analysis



Market price, electricity consumption and renewable generation (Jan-2019 to Jan-2021).
Source: OMIE, REN, APREN analysis

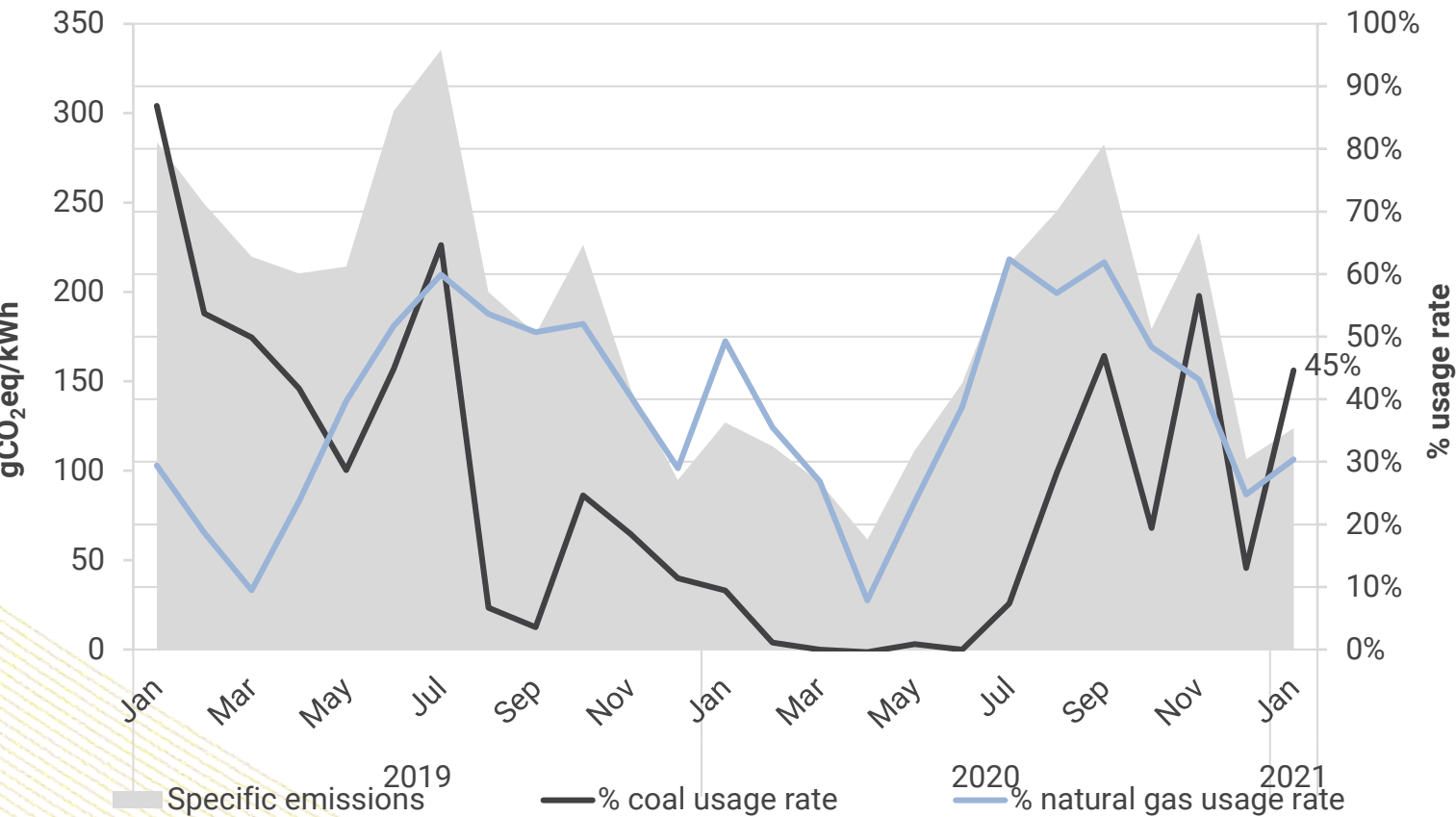


Power sector emissions

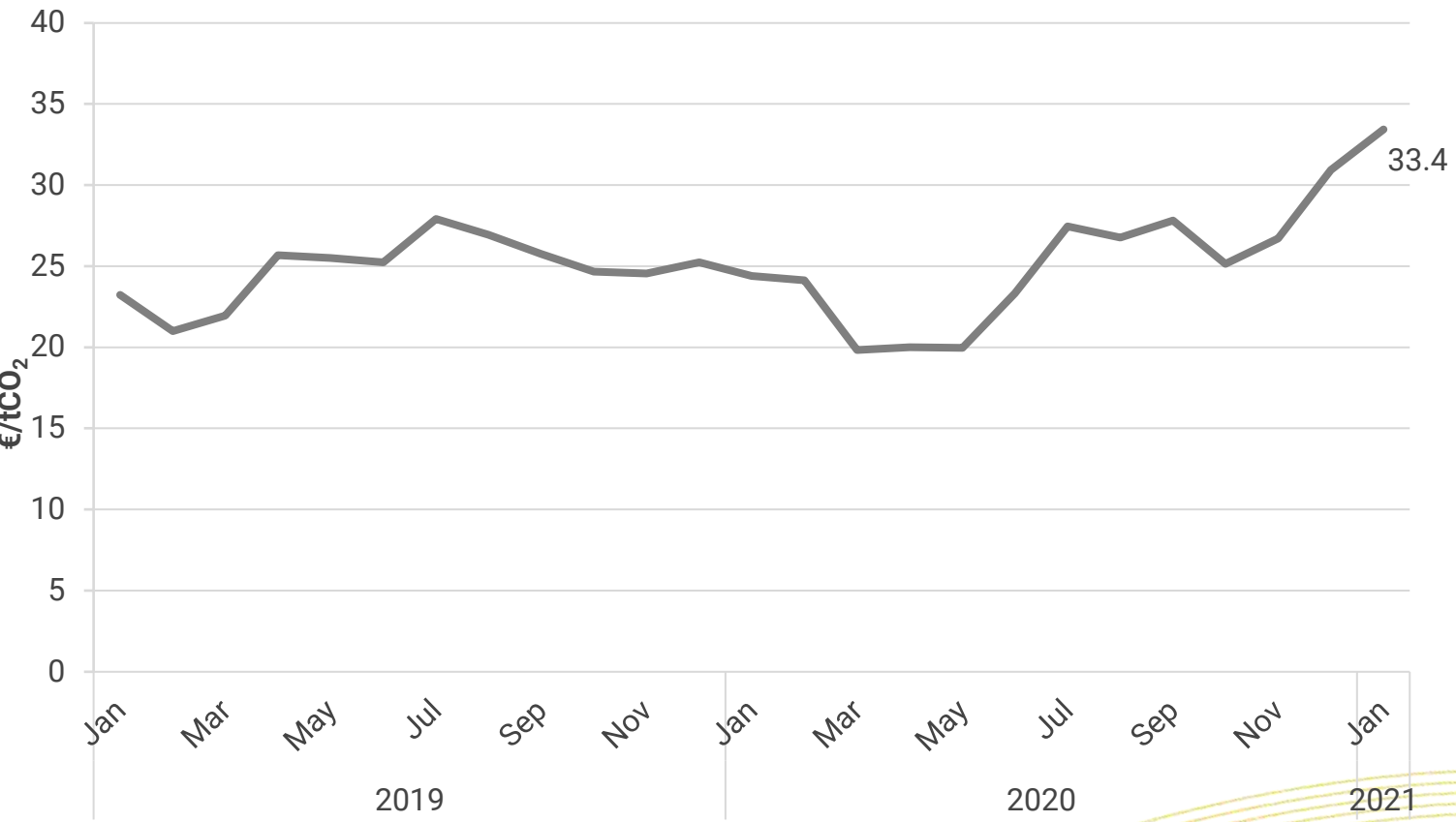
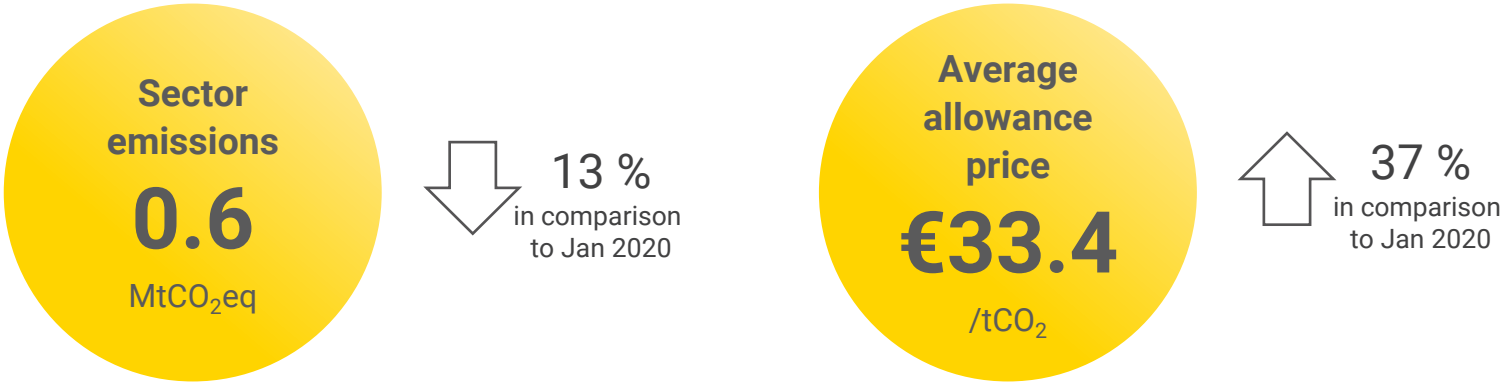
Between the 1st and 31st of January 2021, an average price of €33.4/tCO₂ was registered in the European Emissions Trading System (EU-ETS), which represents an increase of 37% compared to January 2020.

Despite the impact of the COVID-19 pandemic on the carbon market, mainly in the months of March and April 2020, the average allowances price recovered quickly, having registered this month the highest value ever.

Source: SendeCO2



Specific emissions from the electricity sector in mainland Portugal, % use of coal and natural gas plants from Jan-2019 to Jan-2021.
Source: REN, DGEG, ERSE, APREN analysis



Price of CO₂ allowances from jan-2019 to jan-2021.
Source: SendeCO2.

Environmental Service

The indicators below identify the savings achieved during the month of January 2021 in fossil fuels, CO₂ emissions and CO₂ emission allowances, resulting from the renewable incorporation in the electricity generation.

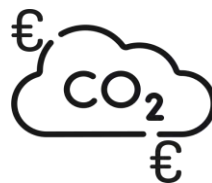
This analysis is based on the assumption that, in the absence of renewables, production would be ensured firstly by natural gas, followed by coal and finally the use of imports.

Renewables have avoided ...



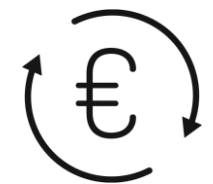
€ 84 M

Imported fossil fuels (Jan)



1.1 MtCO₂eq

CO₂ Emissions (Jan)



€ 81 M

Imported electricity (Jan)



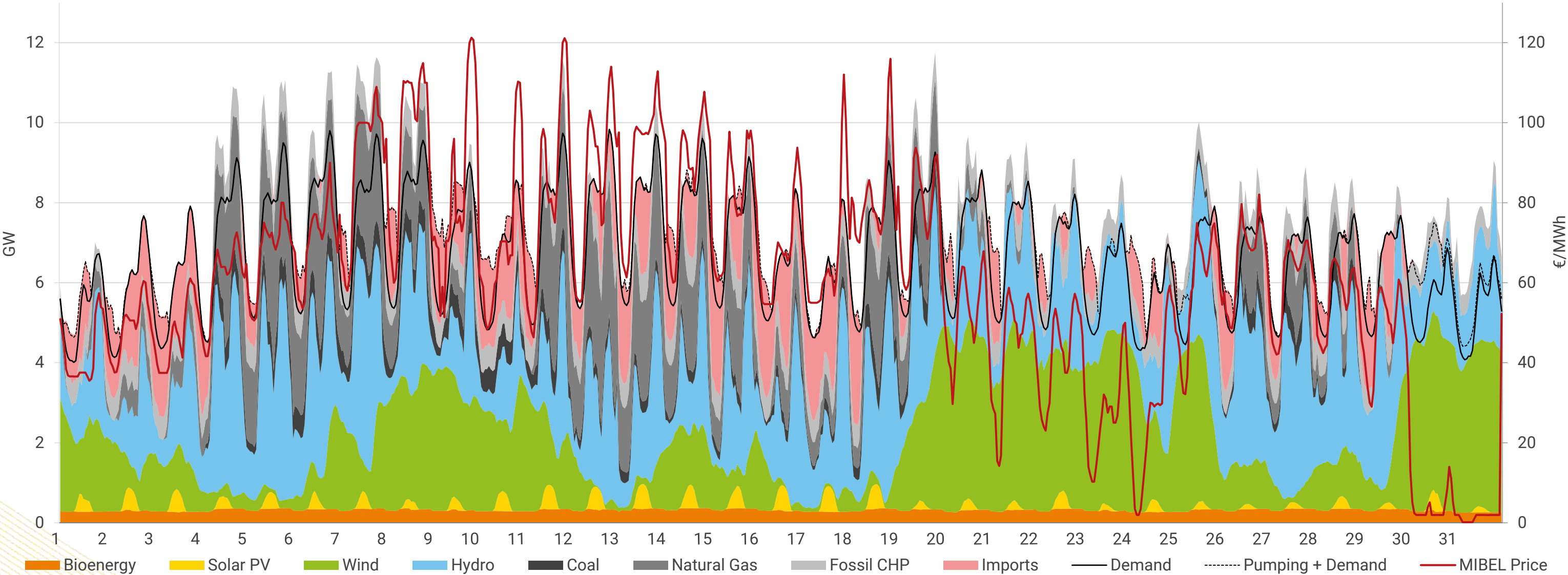
€ 31 M

CO₂ allowances (Jan)

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

Monthly analysis in Portugal: January

January 2021 load diagram



Source: REN, APREN analysis

Monthly market analysis: January

Electricity market in Europe

Between January 1 and 31, 2021, there was a minimum hourly price at MIBEL, both in Portugal and in Spain, of €0.16/MWh resulting from the high renewable incorporation in consumption, being the second lowest price, in comparison to the other countries shown on the right, staying above the German minimum of €0.02/MWh. Portugal and Spain also had the second maximum hourly price, of €121.24/MWh, surpassed by the Belgian maximum of €139.48/MWh.

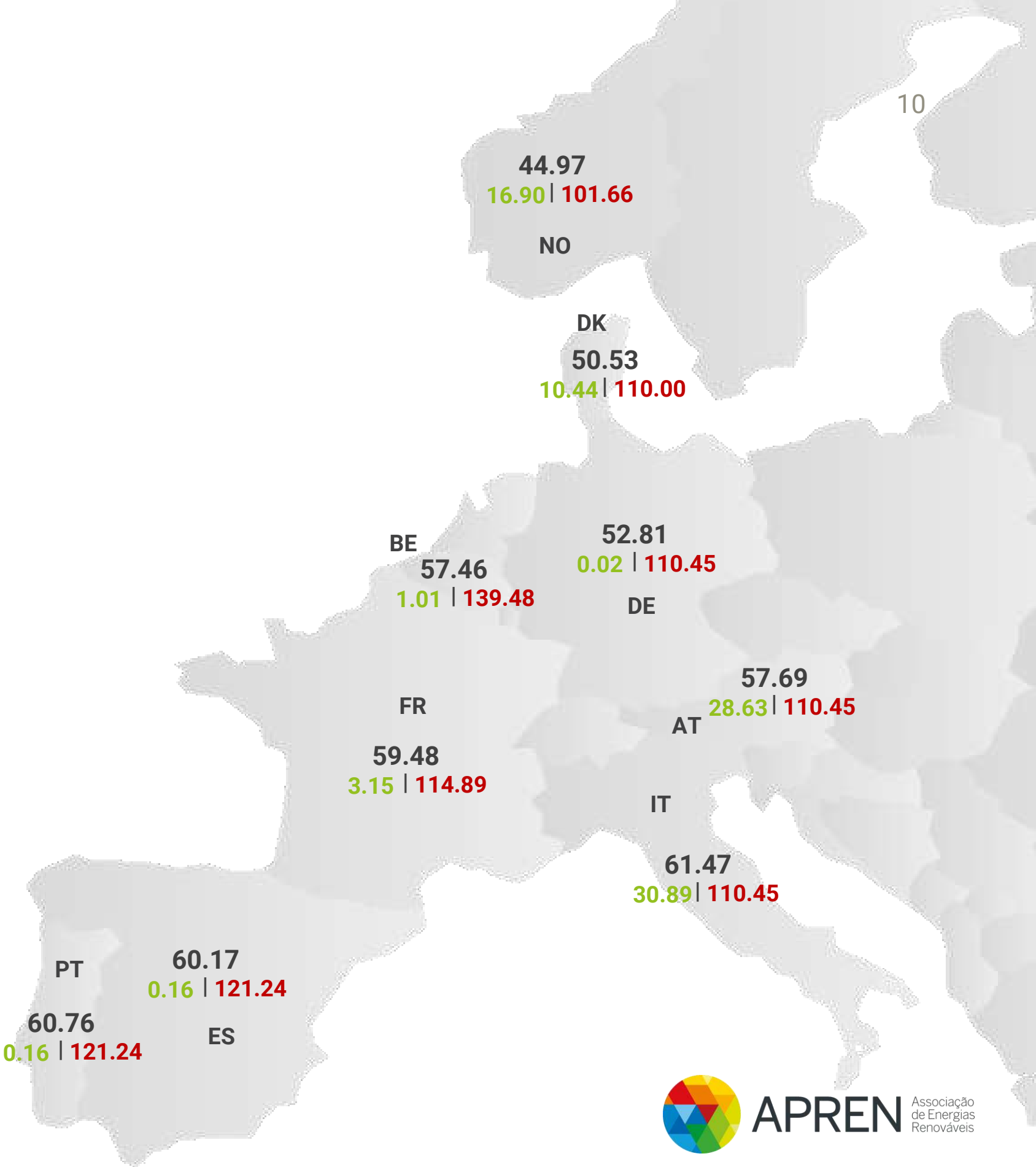
In this analysis, only European countries with influence in the Portuguese market were taken into account.

Source: ENTSO-E, OMIE, APREN analysis

Prices in €/MWh

- Highest
- Lowest
- Average

Source: ENTSO-E, IESOE



European Policy and Regulation

State support

The European Commission (EC) [has approved](#) 2.9 billion euros of public support from twelve Member States to a second pan-European research and innovation project across the battery value chain. Public funding is expected to unlock an additional € 9 billion in private investments, i.e., more than three times public support.

Energy Efficiency

The EC made [new funds](#) available, continuing the funding commitment for energy efficiency in urban areas, through the European Local Energy Assistance Mechanism (ELENA), implemented by the European Investment Bank (EIB). Under the new agreement, the initiative will support sustainable energy projects (€ 30 million) and sustainable transportation (€ 5 million).

Projects of Common Interest (PCI) – electricity and gas infrastructure

The [Consultation](#) on the list of candidates for the 5th edition of the PCI in electricity and gas infrastructure is open until April 8, with the aim of obtaining an opinion on specific candidate projects in the electricity sector and their contributions to market integration, sustainability, security of supply and competition from the perspective of EU energy policy.

EU renewable energy financing mechanism

It is open, until February 15, a [survey](#) for potential participants as private investors in the European Union's renewable energy financing mechanism, now in the implementation phase. At the end of last year, the Commission invited EU countries to express their interest in participating in the mechanism as a host or contributor.

National Policy and Regulation

Self-consumption - Autonomous Region of Madeira

The [Regional Legislative Decree no.1/2021/M](#) was published on January 6. The document adapts the Decree-Law No. 162/2019, of 25th October, to the Autonomous Region of Madeira. The document approves the legal regime applicable to self-consumption of renewable energy.

Tariffs and Prices

On the 8th January, the Regulatory Entity for the Energy Sector (ERSE) published the [Directive No. 1/2021](#), which approves the tariffs and prices for electricity and other services in 2021.

Gases from renewable sources

On January 13 the [Ordinance No. 13/2021](#) was published. It sets the fees due in the scope of administrative procedures related to the production of gases of renewable origin, low carbon gases as well as gas commercialization, repealing Ordinance No. 83/2013, from the 26th February.

Self-consumption

On January 15, the [Decree-Law No. 6-E/2021](#) was published. It sets support mechanisms within the scope of the state of emergency, namely waiving the need for prior inspections for power generation centers and production units for self-consumption from renewable energy sources, up to 1 MW of installed power.

National Policy and Regulation

Unceased CAE

The [Directive No. 2/2021 from ERSE](#), published on the 19th January, approves the incentive for the optimized management of unceased CAE, which is the case of the thermoelectric plants from Pego and Tapada do Outeiro.

Prior assessment of legislative impact on climate action

On January 19, the [Resolution of the Council of Ministers No. 5/2021](#) was published. It approves the pilot project model for prior legislative impact assessment on climate action.

Goals for incorporating biofuels

On the 20th January the [Decree-Law No. 8/2021](#) was published. The document updates the goal of incorporating biofuels into fuels for consumption (11%) in the country for 2021.

EIA legal regime (Environmental Impact Assessment)

On the 21st January the [Dispatch No. 883/2021](#) was published. The document clarifies the legal regime for environmental impact assessment (EIA), approved by the Decree-Law No. 151-B / 2013, of October 31, in its current wording.

European Barometer



State support

The European Commission (EC) has approved € 2.9 billion in public support from twelve Member States for a second pan-European research and innovation project across the battery value chain.



Energy Efficiency

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Offshore wind investment

Europe invested a record 26 billion euros in new offshore wind power generation centers, with 2.9 GW of installed power, reaching a total of 25 GW.

National Barometer



Self-consumption - Autonomous Region of Madeira

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Prior assessment of legislative impact on climate action

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Goals for incorporating biofuels

On January 20, the Decree-Law No. 8/2021 was published, which proceeds to update the goal of incorporating biofuels in fuels for consumption (11%) in the national territory for 2021.



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APREN | Technical and Communication Department

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

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

