

February

BULLETIN

2021

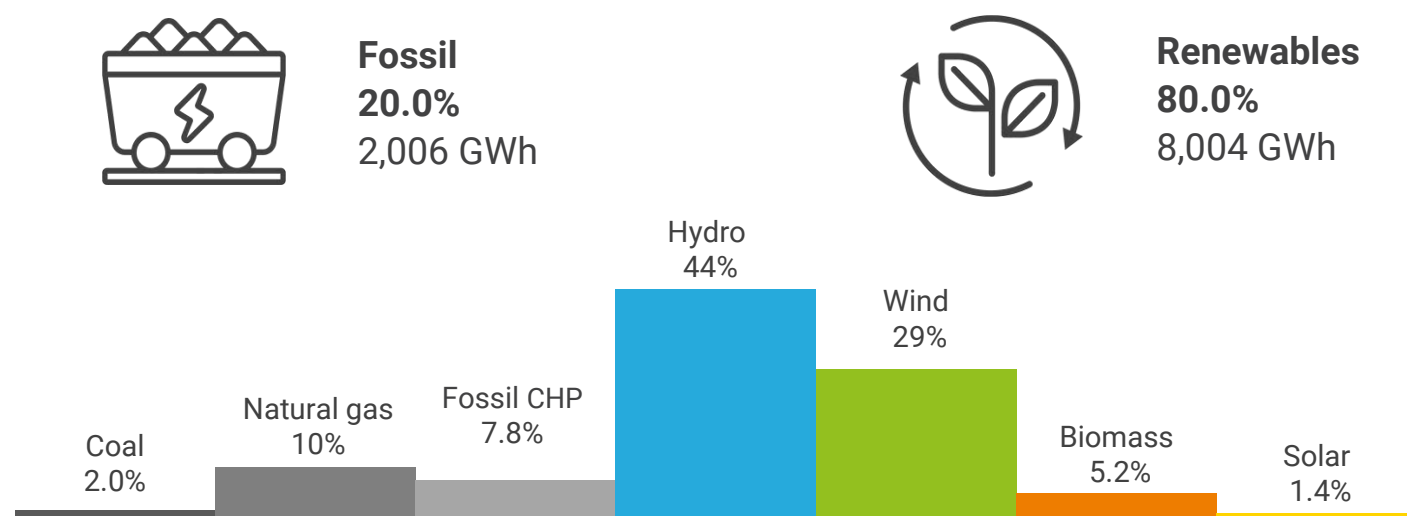
Renewable Electricity



APREN Associação de Energias Renováveis

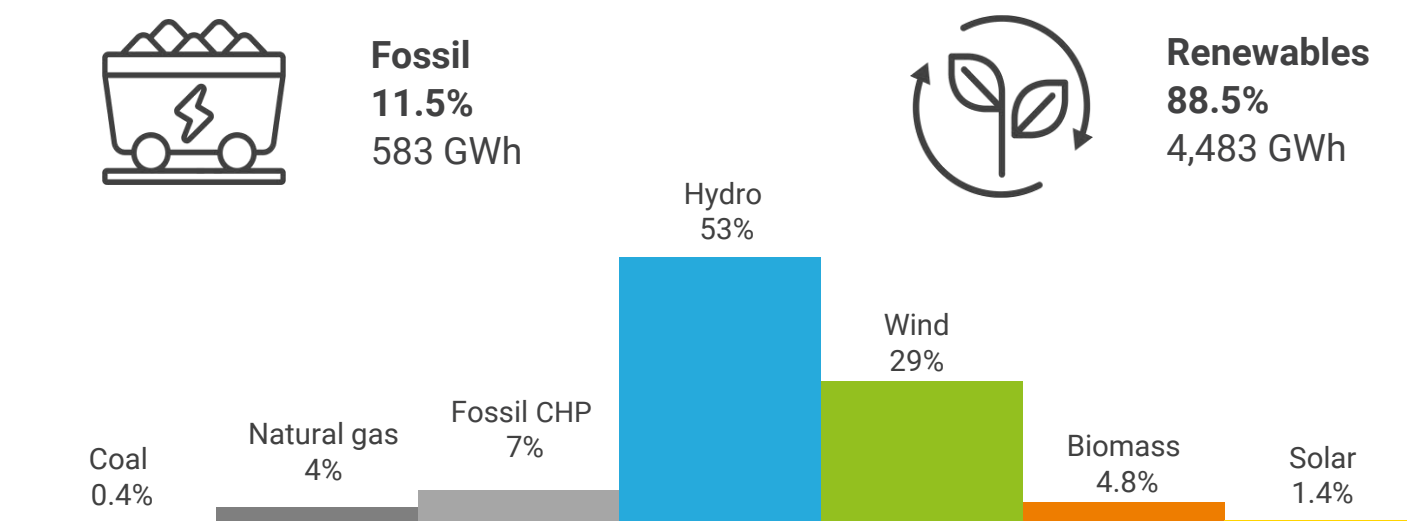
Executive Summary

Accumulated February 2021 (Jan-Feb)



Source: REN, Analysis APREN

February 2021



Source: REN, Analysis APREN


Electricity sector indicators (accumulated Jan-Feb)

 **10,010 GWh**
Generation

 **€35.7 /tCO₂**
CO₂ Price

 **€44.5 /MWh**

 **0.8 MtCO₂eq**
CO₂ Emissions

 **-574 GWh**
Price MIBEL PT
Import balance

 **82 gCO₂eq/kWh**
CO₂ specific emissions

Electricity Generation: Mainland Portugal

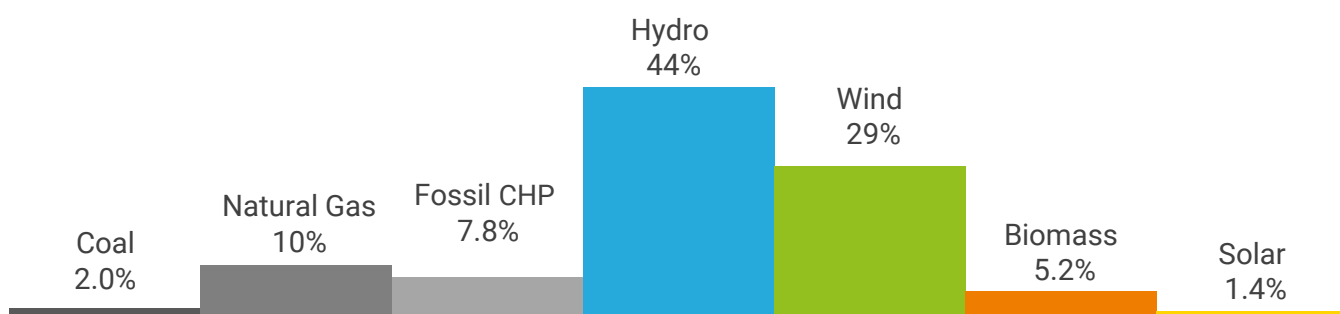
Accumulated February 2021 (Jan-Feb)



Fossil
20.0%
2,006 GWh



Renewables
80.0%
8,004 GWh



Source: REN, Analysis APREN

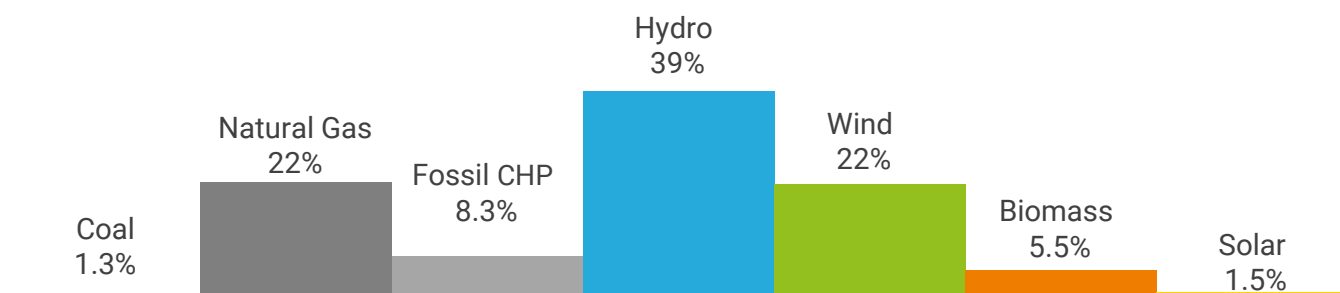
Accumulated February 2020 (Jan-Feb)



Fossil
31.8%
3,074 GWh



Renewables
68.2%
6,606 GWh



Source: REN, Analysis APREN

Main indicators



10,010 GWh
Total generation



3.3 %
compared to Feb 2020



1.14
Wind index



80.0 %
Renewable incorporation



11.7 %
compared to Feb 2020



1.39
Hydro index



9,436 GWh
Consumption¹



1.1 %
compared to Feb 2020

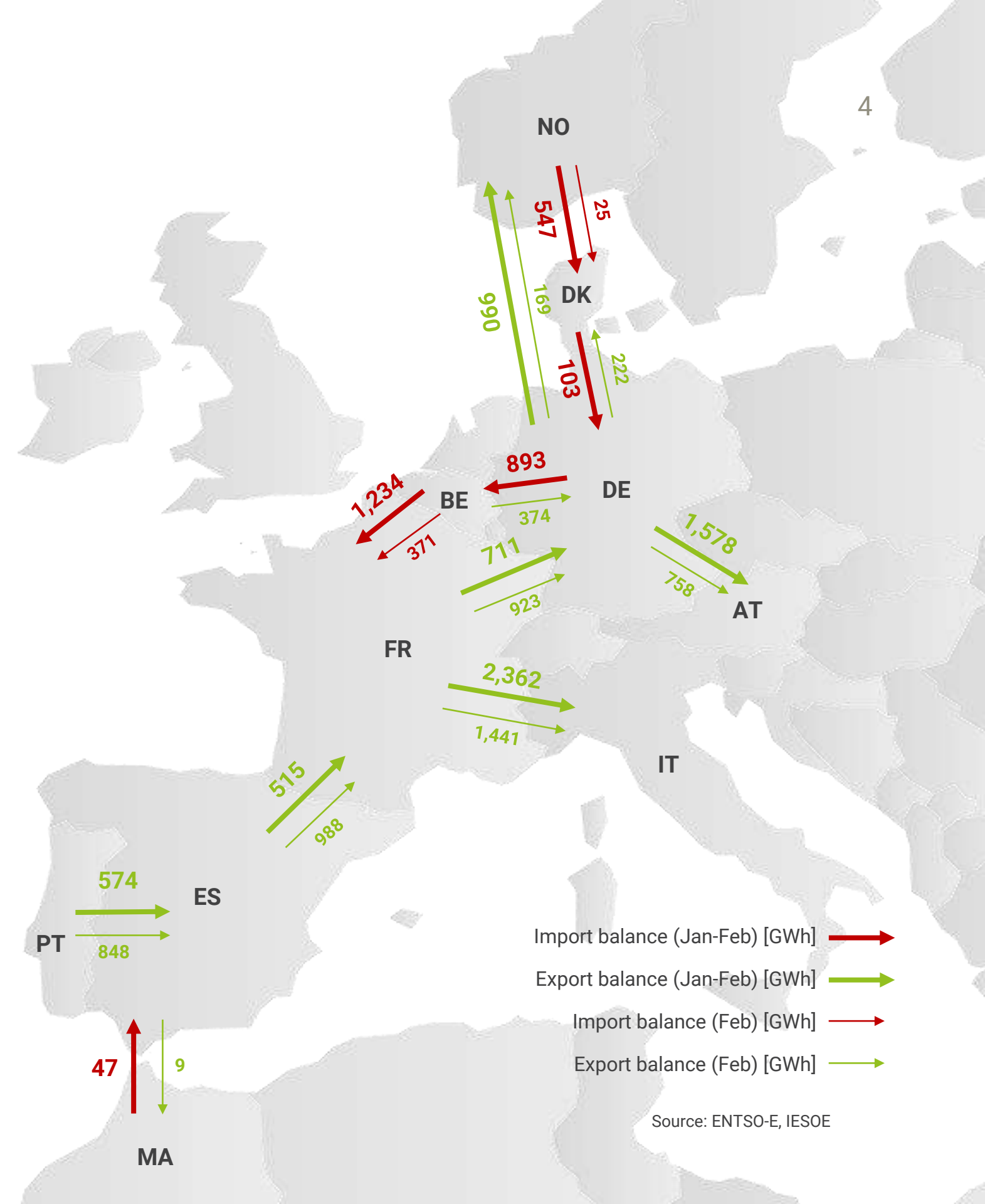
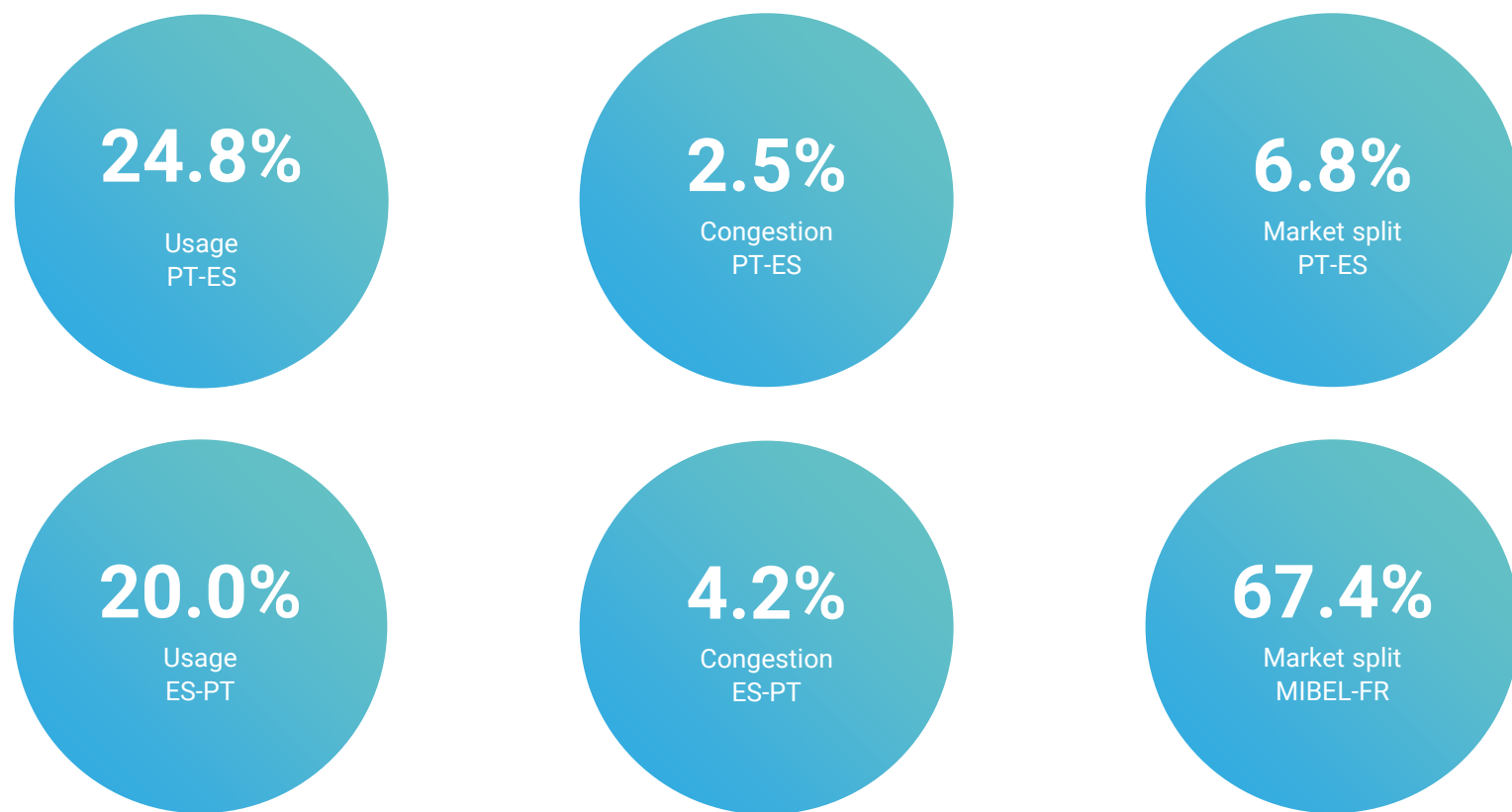
¹ «Consumption» refers to the net power generation from power plants, bearing in mind the balance of import-export.
Source: REN, Analysis APREN

International trade

Between the 1st of January and the 28th of February 2021, the electricity system of Mainland Portugal registered electricity imports equivalent to 828 GWh and exports of 1,403 GWh, resulting in an import balance of -574 GWh, 64% higher than the balance verified in the same period of 2020 (-349 GWh).

Source: REN, Analysis APREN

Main interconnection indicators PT-ES



Source: ENTSO-E, IESOE

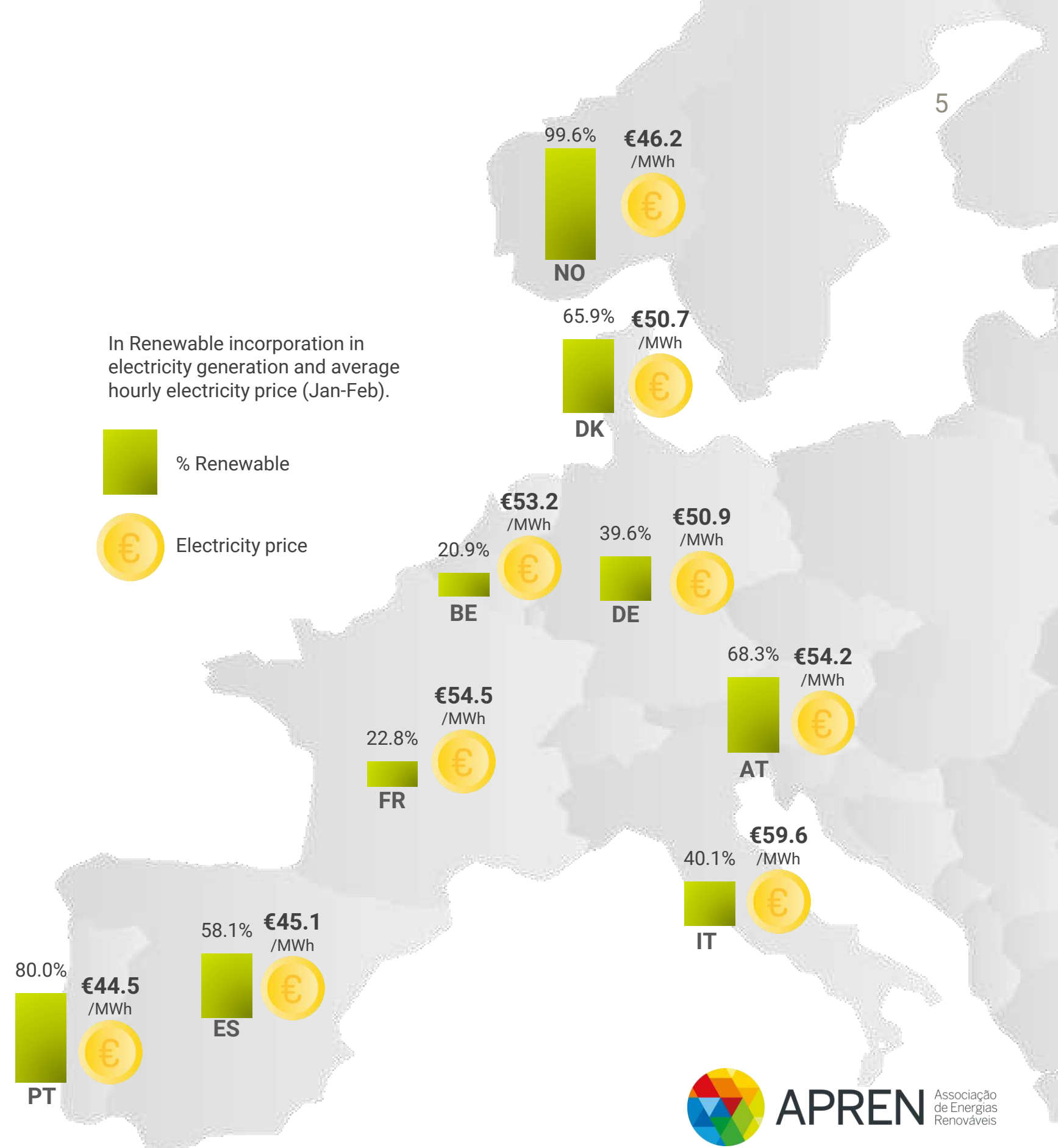
Accumulated Electricity Market - Europe

Between the 1st of January and the 28th of February 2021, there was an average hourly price in the Iberian Electricity Market (MIBEL) in Portugal of €44.5 /MWh², result of a high renewable incorporation. The lowest price, compared to the other countries, is shown on the right. Portugal was the second country with the largest renewable incorporation in electricity generation, lagging behind Norway which obtained 99.6% of its electricity from RES.

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

² Arithmetic average of hourly prices

Source: ENTSO-E, OMIE, Analysis APREN



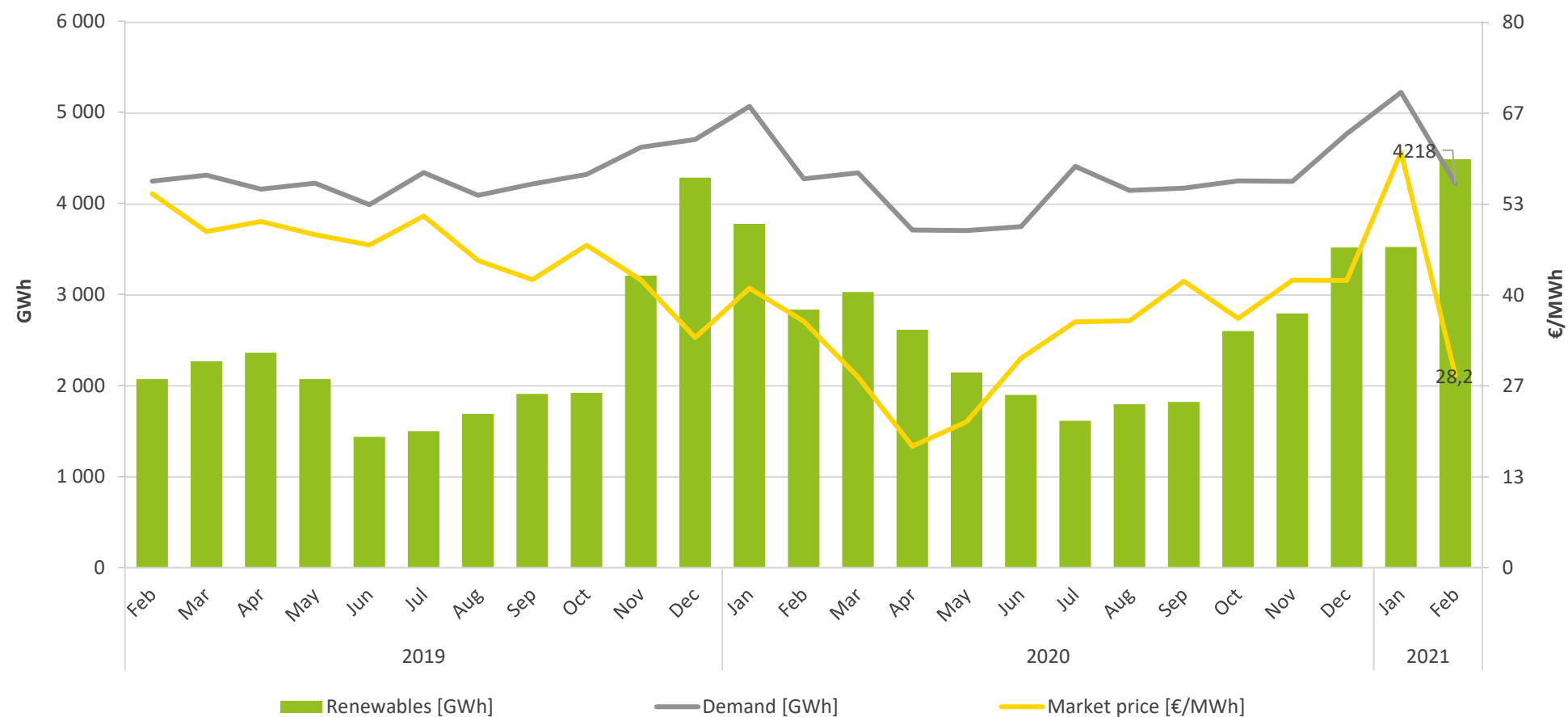
Source: REN, Fraunhofer, REE, Terna, National Grid, ENTSO-E, Analysis APREN

Accumulated Electricity Market - Portugal

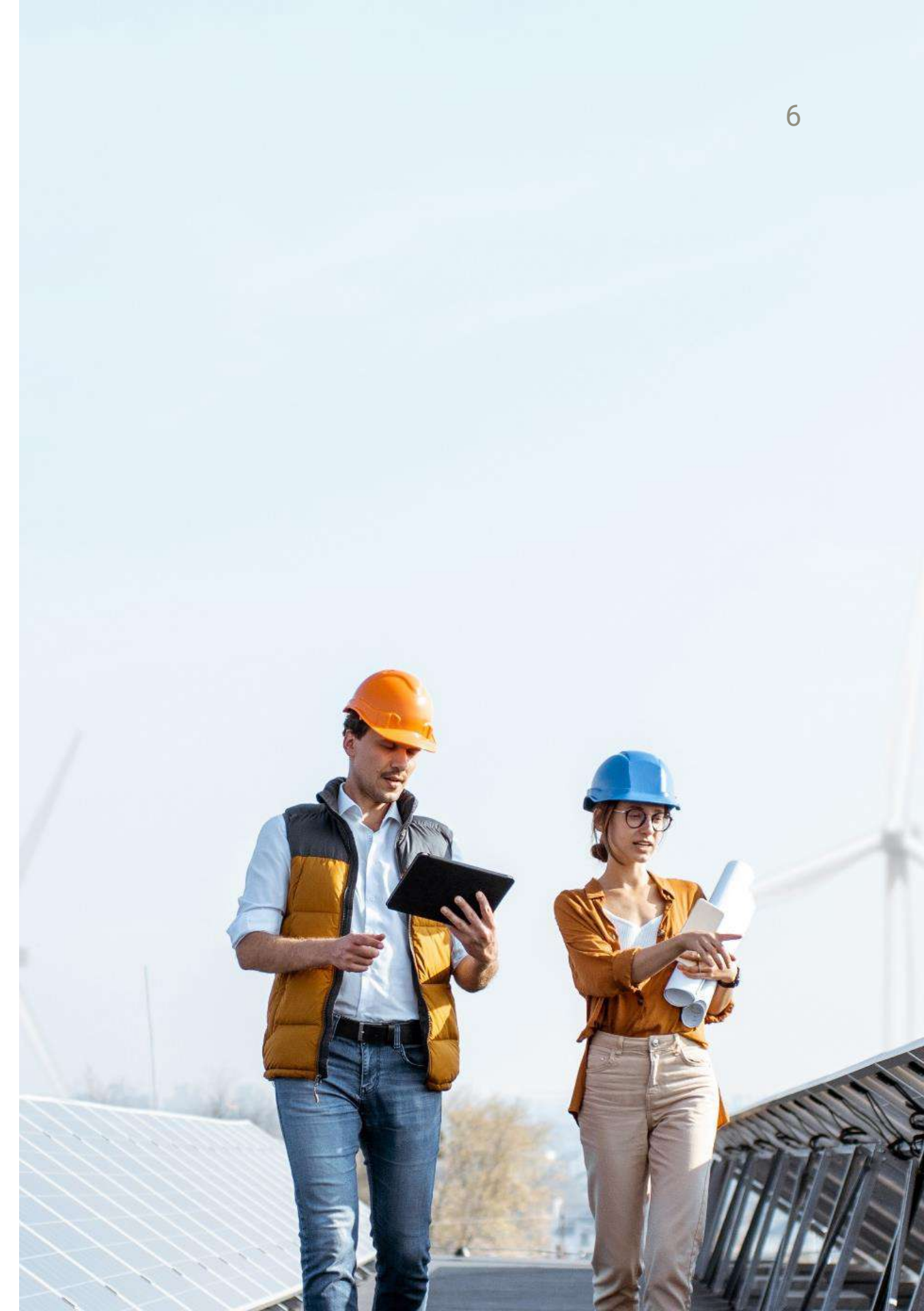
Between the 1st of January and the 28th of February 2021, the average hourly price registered at MIBEL in Portugal (€44.5 /MWh²) represents an increase of 15.6 %, in comparison to the same period from last year.

In the same period, 662 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 €27.15 /MWh.

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



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

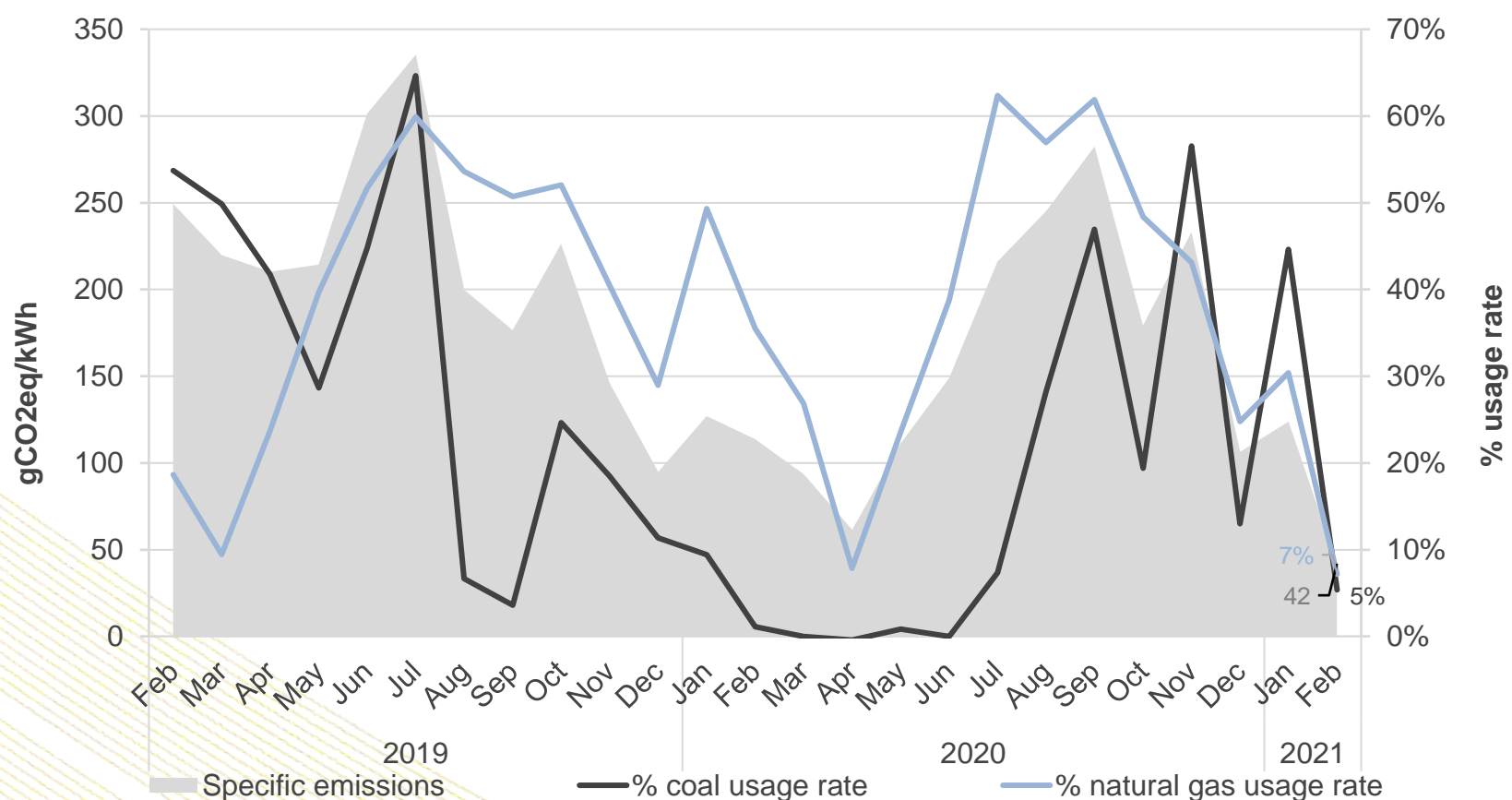


Power sector emissions

Between the 1st of January and the 28th of February 2021, specific emissions reached a total of 82 gCO₂eq/kWh, influenced by last month's high renewable incorporation.

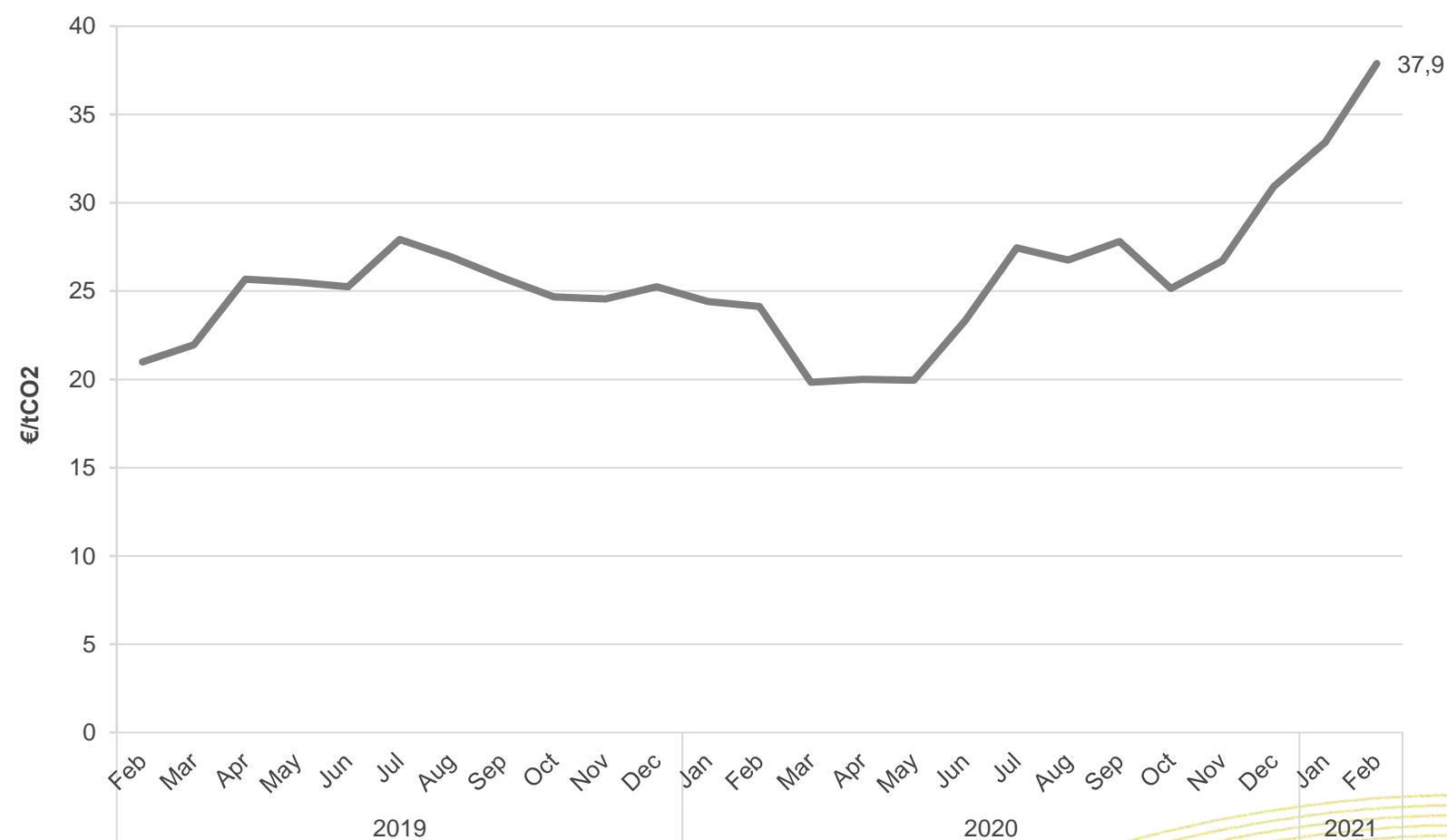
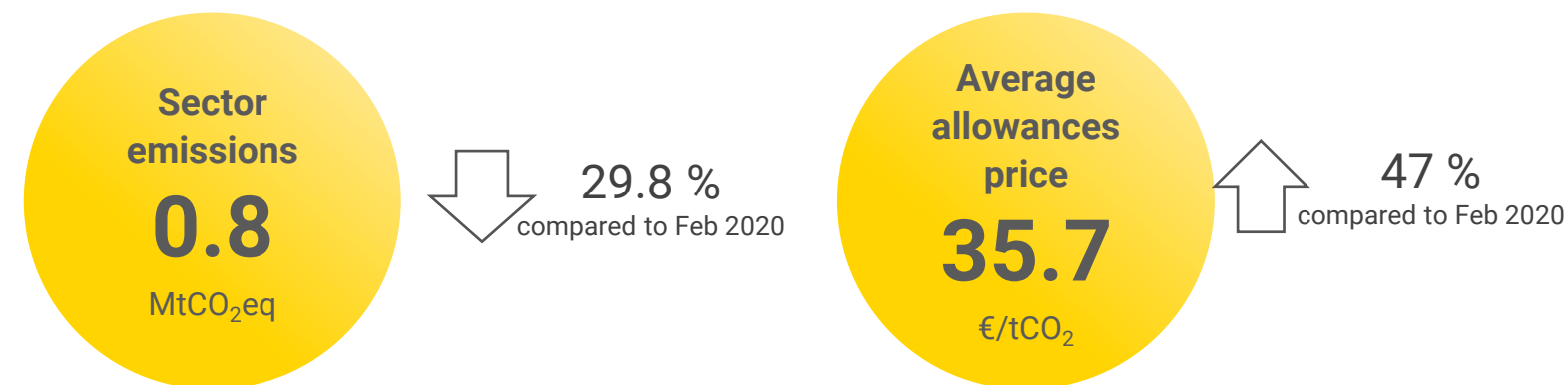
During the same period, the European Emissions Trading System (EU-ETS) recorded an average price of €35.7 /tCO₂, which represents an increase of 47 %, in comparison to the same period of 2020. Despite the decrease at the beginning of 2020, the average monthly allowances price recovered quickly, having registered this month the highest value ever.

Source: SendeCO2



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

Source: REN, DGEG, ERSE, Analysis APREN



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

Environmental Service

The indicators below identify the savings achieved between 1st of January and 28th of February 2021 in fossil fuels, CO₂ emissions and CO₂ emission allowances, resulting from the renewable incorporation in the electricity generation.

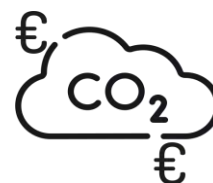
This analysis is based on the assumption that, in the absence of renewables, production would be ensured firstly by natural gas, followed by coal and finally the use of imports.

Renewables avoided ...



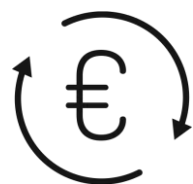
€172 M

Imported fossil fuels (Jan-Feb)



2.5 MtCO₂eq

CO₂ emissions (Jan-Feb)



€133 M

Imported electricity (Jan-Feb)



€76 M

CO₂ allowances (Jan-Feb)

Source: REN, SendeCO2, WorldBank, DGEG, ERSE, Analysis APREN.

Note: Coal prices were considered until November 2019, due to unavailability of data.

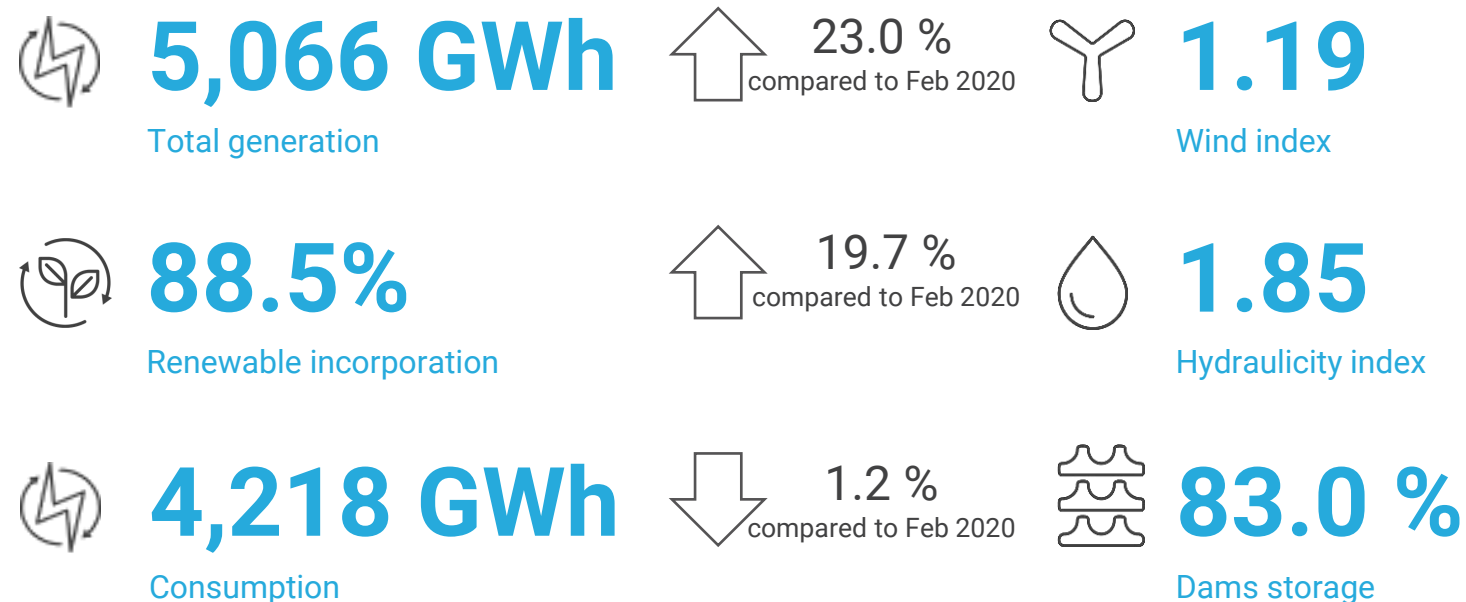
Monthly analysis in Portugal: February

In February, the generation of renewable electricity represented 88.5 % of the total generated electricity in Mainland Portugal (4,483 GWh), being the highest incorporation since March 2018, when renewable generation reached 98.1 % (4,808 GWh). February recorded a total of 495 non-consecutive hours, in which renewable generation was sufficient to supply electricity consumption in Mainland Portugal.

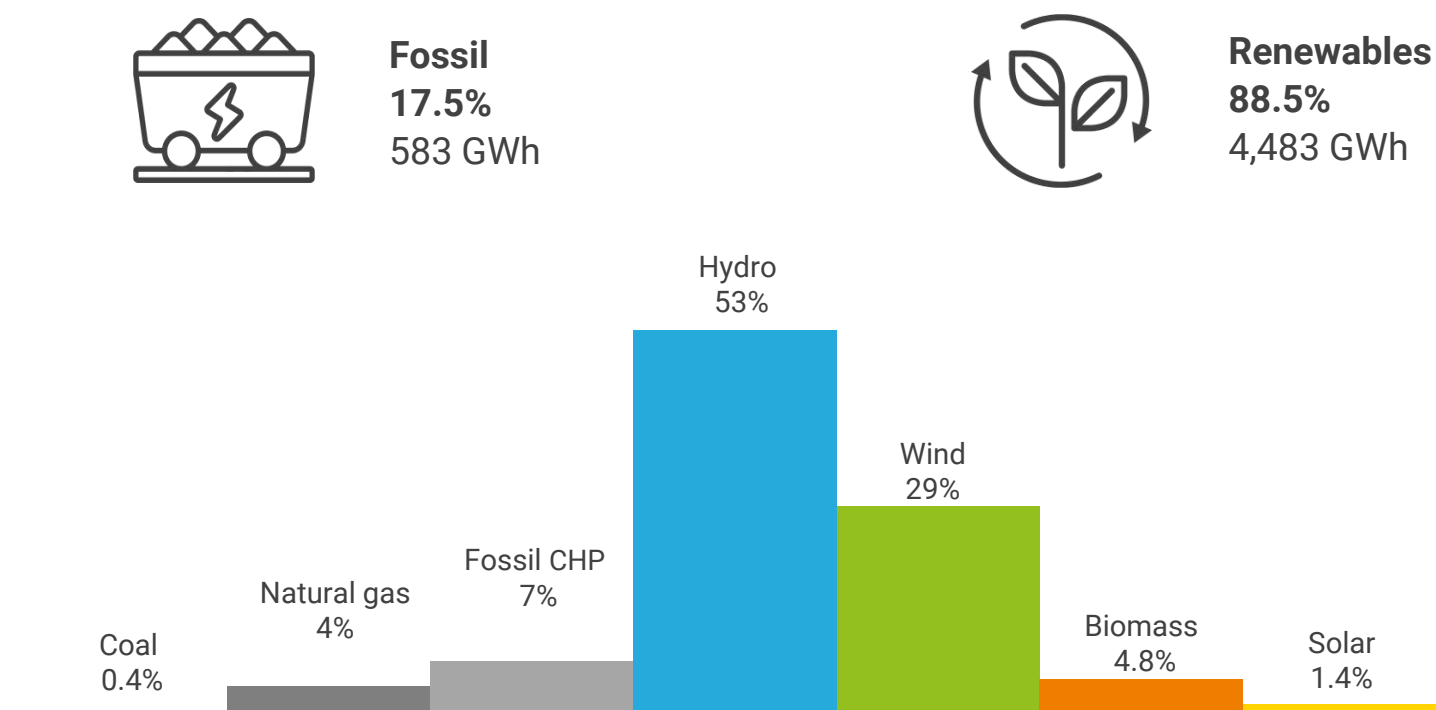
With regard to February international exchanges, it should be noted that Mainland Portugal was an exporter, registering a balance of -848 GWh, a significant increase in the export balance compared to the import balance recorded in February 2020 (148 GWh).

Source: REN, Analysis APREN

Electricity sector indicators



Source: REN, Analysis APREN

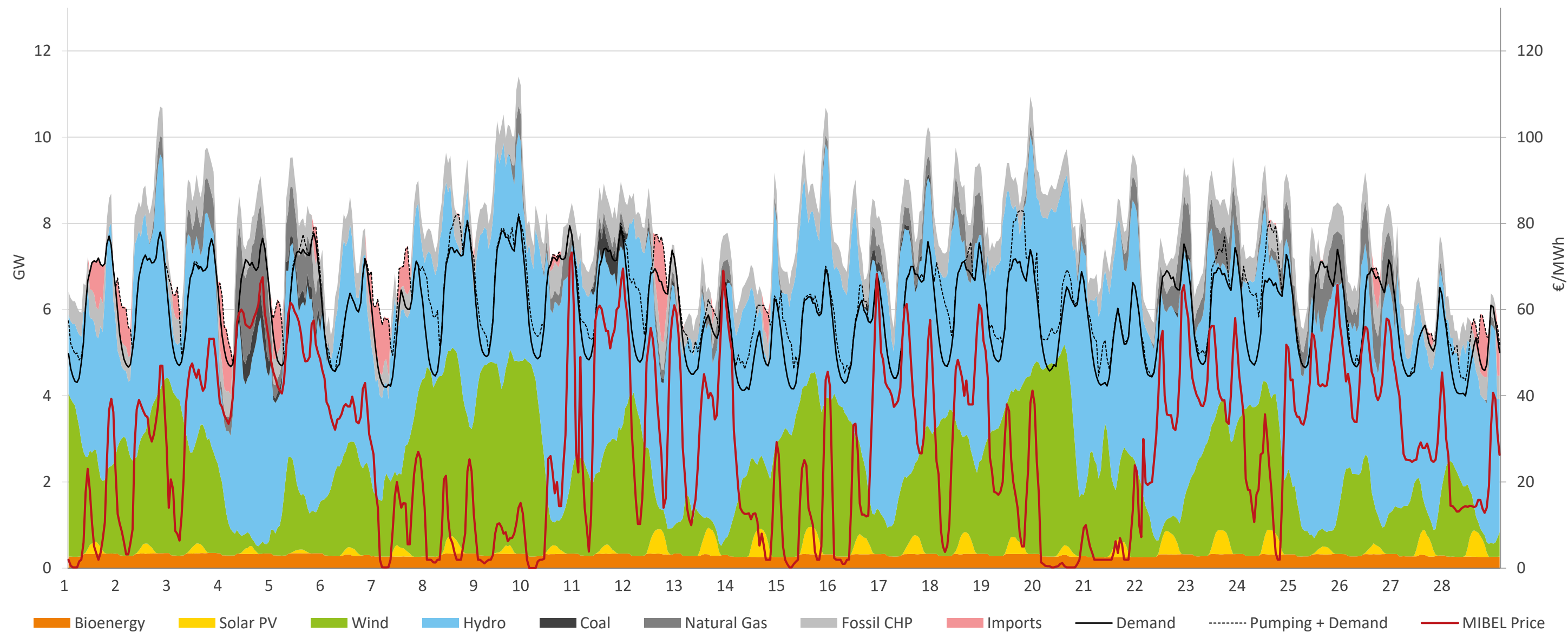


Source: REN, Analysis APREN



Monthly analysis in Portugal: February

Load diagram from February 2021



Source: REN, Analysis APREN

Monthly analysis in Portugal: February

Electricity market in Europe

For February 2021, there was an average hourly price at MIBEL, in Portugal, of €28.19 /MWh, which represents a 21.8% reduction compared to February 2020.

There was a minimum hourly price at MIBEL in Portugal of €0.00 /MWh and in Spain of €0.16 /MWh, resulting from a high renewable incorporation in consumption. Of the countries shown on the right, the lowest price found was €-8.63 /MWh in Belgium. Germany, Austria and France also had negative hourly minimum prices. Denmark had the highest hourly maximum price, reaching €187.71 /MWh.

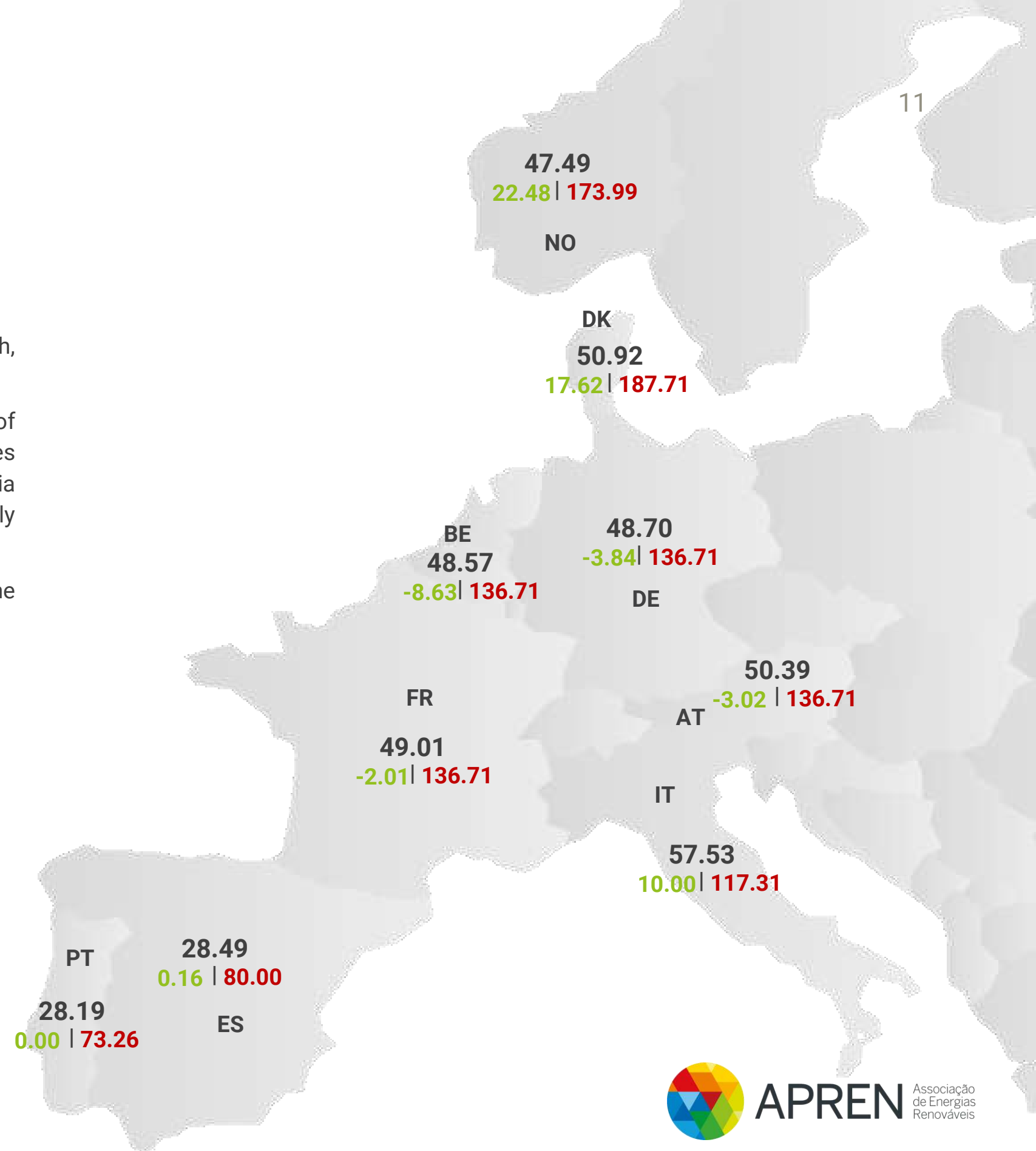
This analysis only took into account European countries with major influence in the Portuguese market.

Source: ENTSO-E, IESOE, Analysis APREN

Prices in €/MWh

- Highest
- Lowest
- Average

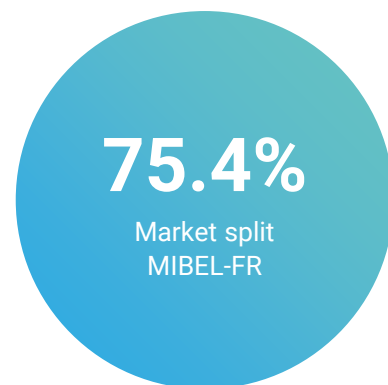
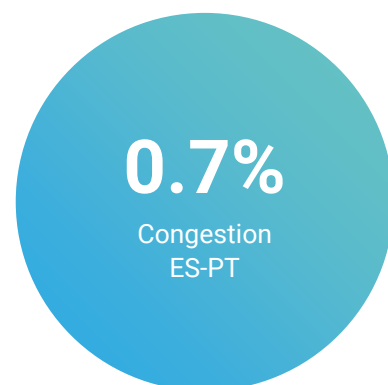
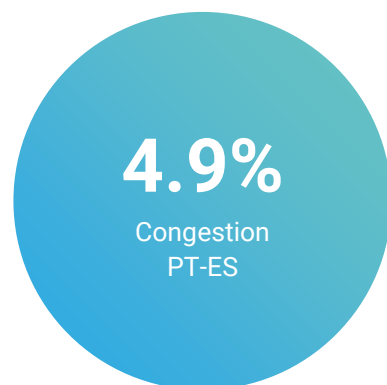
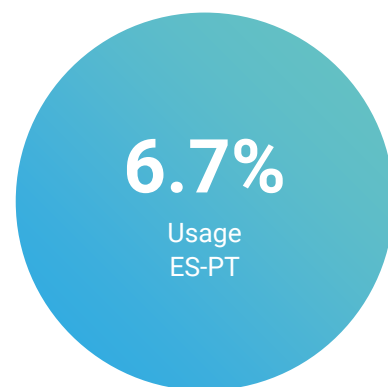
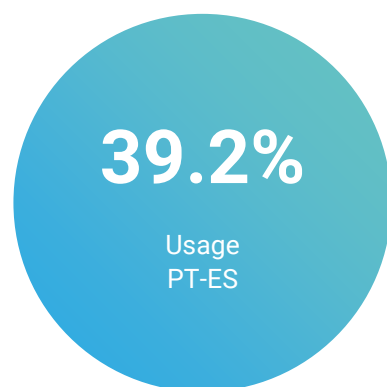
Source: ENTSO-E, IESOE



Monthly market analysis:

February

Electricity market in Portugal



European Policy and Regulation

European Agricultural Fund for Rural Development

The EAFRD budget for the period of 2014-2020, amounting to around 100 billion euros, was extended through the implementation of rural development programmes that will last until the end of 2023. These funds can be used to promote the efficient use of resources and support the transition to a low-carbon and climate-resilient economy in the agricultural, food and forestry sectors.

ACER and CEER *WHITE Paper* on Networks and Hydrogen

Publication of the White Paper “When and How to Regulate Hydrogen Networks?”, which provides the views of Europe's energy regulators represented by ACER and CEER. In order to develop the infrastructure for hydrogen transport, the questions about the possible regulation around this infrastructure remain open. The White Paper evaluates options for the development of pure hydrogen networks as part of the preparation for legislation on hydrogen and integration of energy systems.

Investment in electricity networks

“The EU needs to invest heavily in power grids”, warns Frans Timmermans. In a conversation with the Jacques Delors Institute, the executive vice president of the European Green Deal highlighted the need to increase investment in power grids to help meet the green objectives of the EU.

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

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

National Policy and Regulation

Environmental Fund 2021

On February 19, the [Dispatch No. 1897/2021](#) was published, approving the budget of the Environmental Fund for the year 2021. According to this document, the Environmental Fund will have a total of €53 M available for allocation to new projects and notices, of which €32 M will be for direct support to projects defined by the order and €21 M will be for notices for the submission of applications.

Energy Charter

On February 24 the [Resolution of the Assembly of the Republic No. 67/2021](#) was published. It recommends the Government to reject an Energy Charter Treaty incompatible with environmental commitments and the interests of the people.

Charges borne by Special Regime Producers (PRE) in the market

On the 24th of February ERSE published the [Directive No. 5/2021](#), approving the definition of the parameter of charges borne by the PRE within the scope of the transitional rule of article 8 of DL No. 76/2019.

Sustainable use of forest biomass

The [Resolution of the Assembly of the Republic No. 42/2021](#) published on the 3rd of February, recommends the Government to reformulate the model of public support to be attributed to forest biomass power plants.

Long-Term Strategy for Renovation of Buildings

On the 3rd of February the [Resolution of the Council of Ministers No. 8-A/2021](#) was published. It approves the Long-Term Strategy for Renovation of Buildings.

European Barometer



European Agricultural Fund for Rural Development

The EAFRD budget for the period 2014-2020, which amounts to around € 100 billion, has been extended through the implementation of rural development programmes that will last until the end of 2023.



ACER and CEER White Paper on Networks and Hydrogen

The publication of the White Paper “When and How to Regulate Hydrogen Networks?”, which provides the views of Europe's energy regulators, represented by ACER and CEER. It would have been beneficial if the White Paper had been published earlier, as it evaluates options for the development of pure hydrogen networks as part of the preparation for legislation on hydrogen and integration of energy systems.



PCI – electricity and gas infrastructures

The Consultation on the list of candidates for the 5th edition of the PCIs in electricity and gas infrastructures is open until April 8. It intends to obtain an opinion on specific candidate projects in the electricity sector and their respective contributions to market integration, sustainability, security of supply and competition from an EU energy policy perspective.

National Barometer



Prior assessment of legislative impact on climate action

On January 19, the Resolution of the Council of Ministers No. 5/2021 was published, which approves the model of the pilot project related to the previous assessment of the legislative impact on climate action.



EIA legal regime

On January 21, the Order No. 883/2021 was published, which clarifies the legal regime for environmental impact assessment (EIA), approved by the Decree-Law No. 151-B/2013, from October 31, at its current wording.



Long-Term Strategy for Renovation of Buildings

On February 3, the Resolution of the Council of Ministers No. 8-A/2021 was published, approving the Long-Term Strategy for the Renovation of Buildings.



Charges borne by PRE in the market

On February 24, ERSE Directive No. 5/2021 was published, approving the definition of the parameter of charges borne by the PRE within the scope of the transitional rule of article 8 from DL No. 76/2019.

APREN | Technical and Communication Department

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

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

