



PORTUGUESE RENEWABLE ELECTRICITY REPORT

DECEMBER 2020



APREN Associação
de Energias
Renováveis

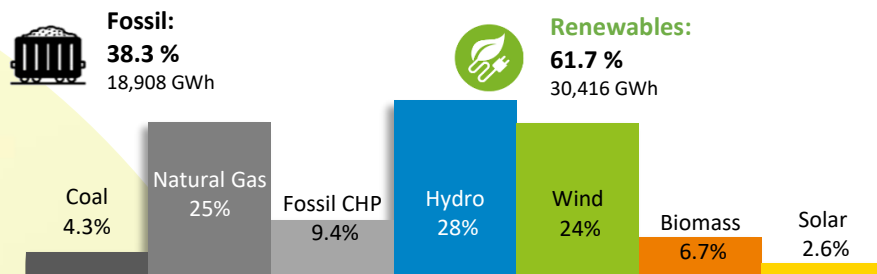
EXECUTIVE SUMMARY

61.7 %

Renewable electricity generation

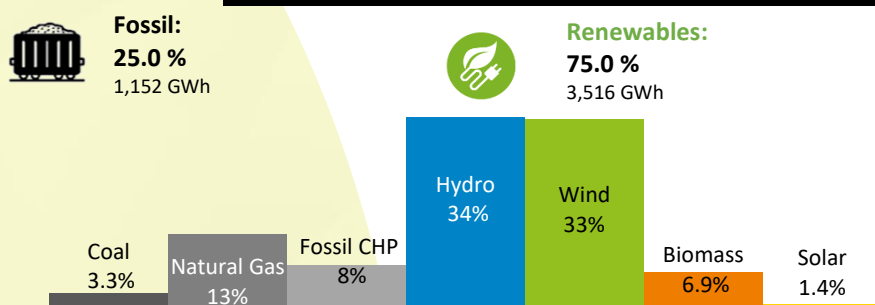
(January to December 2020)

CUMULATIVE ON DECEMBER 2020 (JAN-DEC)



Source: REN, APREN analysis

DECEMBER 2020



Soucer: REN, APREN analysis

GENERATION

49,324
GWh

CO₂ PRICE

24.7
€/tCO₂

CO₂ EMISSIONS

8.0
MtCO₂

PT MIBEL PRICE

34.1
€/MWh

IMPORTS

6,397 GWh

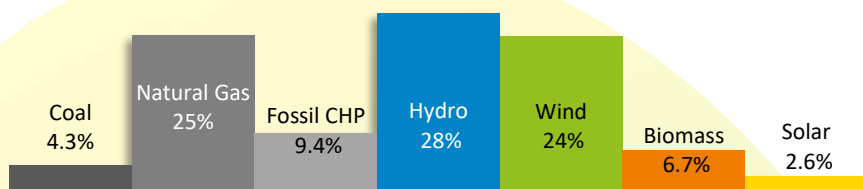
EXPORTS

4,942 GWh

Note: Cumulative values from January to December 2020

ELECTRICITY GENERATION: MAINLAND PORTUGAL

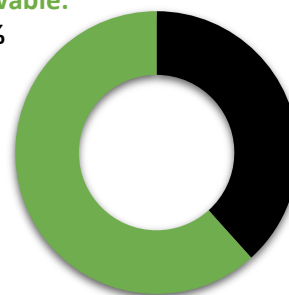
CUMULATIVE ON DECEMBER 2020 (JAN-DEC)



Source: REN, APREN analysis

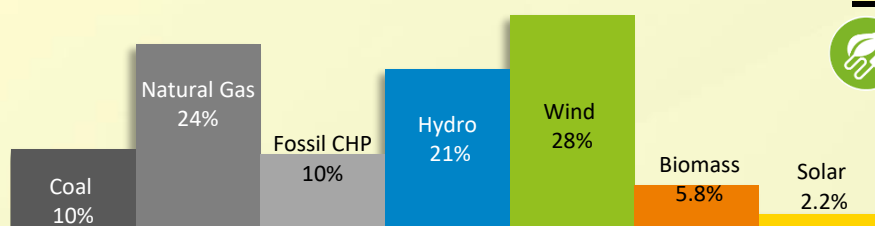


Renewable:
61.7 %



Fossil:
38.3 %

CUMULATIVE ON DECEMBER 2019 (JAN-DEC)



Source: REN, APREN analysis



Renewable:
56.0 %



Fossil:
44.0 %

MAIN INDICATORS:

CUMULATIVE ON DECEMBER (JAN-DEC)

	2020	2019	
% renewable generation	61.7%	56.0%	↑5.6%
Total Generation [GWh]	49,324	48,759	↑1.1%
Demand ¹ [GWh]	50,779	52,154	↓2.7%
Wind index	0.94	1.07	
Hydro index	0.97	0.81	

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

Source: REN, APREN analysis

INTERNATIONAL TRADE

Between January 1st and December 31st of 2020, the Portuguese Mainland electricity system recorded electricity imports of 6,397 GWh and exports of 4,942 GWh, resulting in an import balance of 1,455 GWh, 57 % lower than the import balance registered in the same period of 2019.

Source: REN, ENTSO-E, APREN analysis

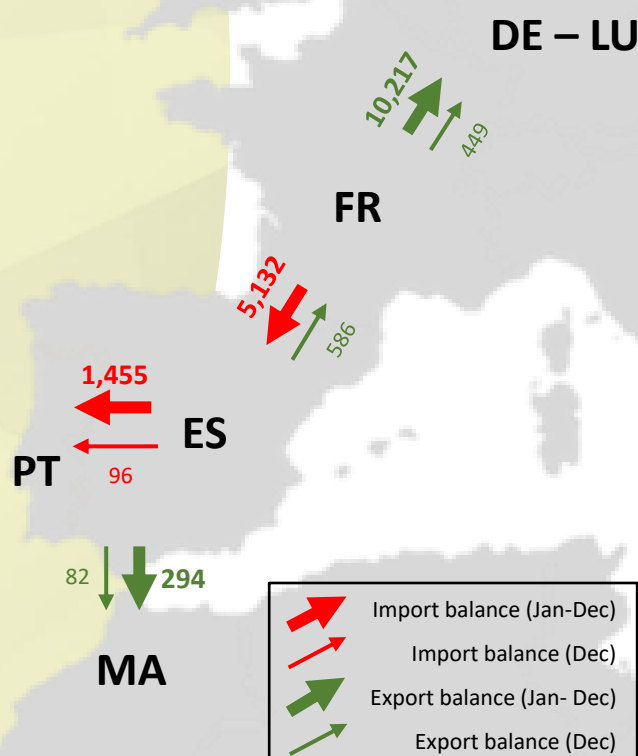


Figure 1. Import-export balance PT-ES, ES-MA, ES-FR and FR-(DE-LU) [GWh]. Source: ENTSO-E, IESOE

ELECTRICITY MARKET

Between January 1st and December 31st of 2020, the average electricity market price within the Iberian Electricity Market (MIBEL) for Portugal was 34.1 €/MWh², a 29 % reduction in comparison to the same period of 2019. In fact, this year registered the lowest average price in the history of MIBEL, a consequence of the drop in consumption due to the COVID-19 pandemic, in parallel with an average year in terms of renewable generation in the system. This price reduction in the electricity market was seen across the entire European market.

Also, it was recorded 689 non-consecutive hours in which renewable electricity generation was sufficient to meet the demand in Mainland Portugal, with an average MIBEL price of 30.4 €/MWh.

December registered an average hourly price of 42.0 €/MWh, the second highest figure seen in 2020, which represents an increase of 25% over the same period last year.

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

AND ON THE REST OF EUROPE?

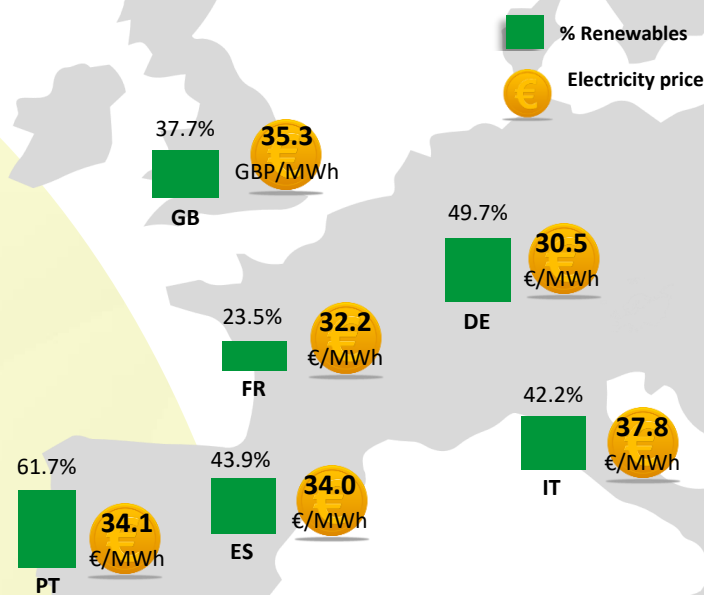


Figure 2. Renewable electricity generation share and average hourly electricity market price, between January and December 2020. Source: REN, Fraunhofer, REE, Terna, National Grid, ENTSO-E, APREN analysis

RENEWABLE GENERATION, DEMAND AND MIBEL PRICE

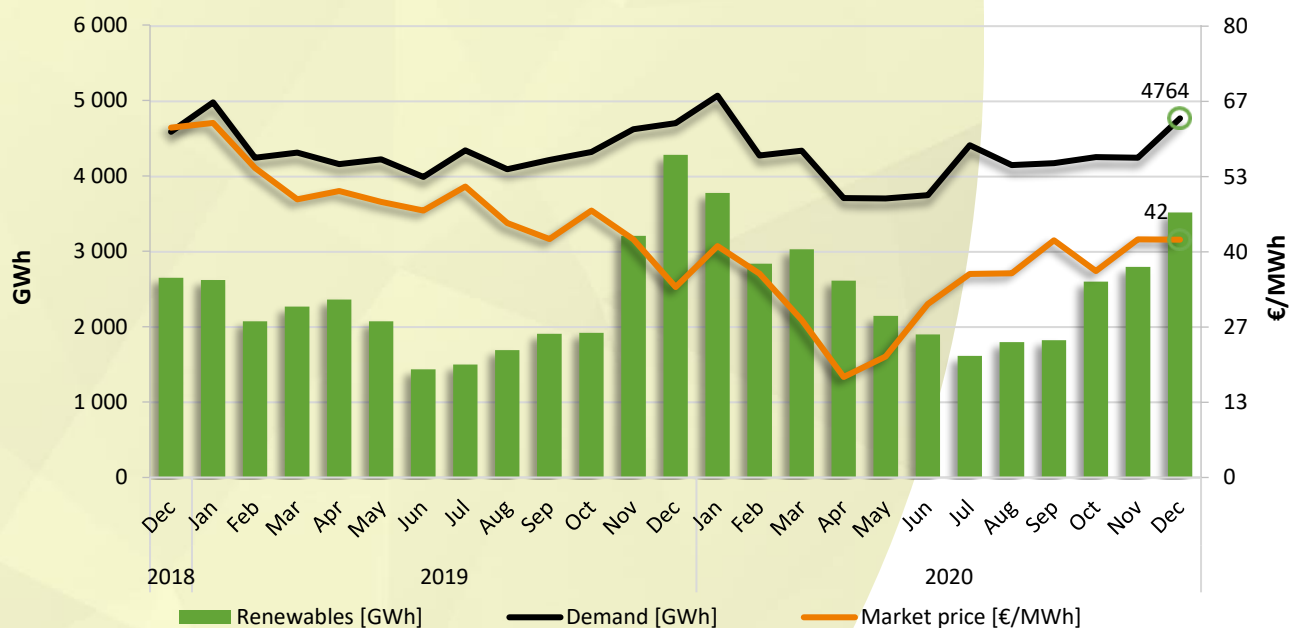


Figure 3. Market price, electricity demand and renewable electricity generation (Dec-2018 to Dec-2020). Source: OMIE, REN, APREN analysis

POWER SECTOR EMISSIONS

The table aside identifies the savings achieved between January 1st and December 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 8.0 MtCO₂. Regarding the emission allowances, the European Emissions Trading Systems (EU-ETS), registered an average price of 24.7 €/tCO₂.

December recorded an average price for CO₂ emission allowances of 30.9 €/tCO₂, an increase of 18.4 % compared to December 2019. Despite the impact of the COVID-19 pandemic on the carbon market, mainly in the months of March and April, the average allowances price recovered quickly, having registered a record value in December of 3 €/tCO₂, above the second highest peak ever (27.9 €/tCO₂ in July 2019).

Source: SendeCO2

IN 2020 RENEWABLES AVOIDED...

Fossil fuel imports



645 M€

Jan-Dec

CO₂ emissions



17.8 MtCO₂

Jan- Dec

CO₂ allowances



440 M€

Jan- Dec

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

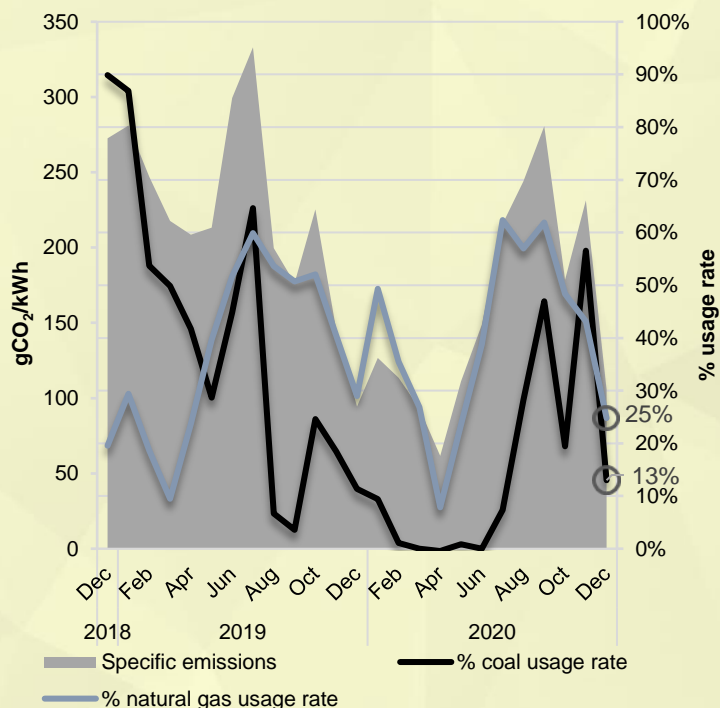


Figure 4. Specific emissions from the power sector in Mainland Portugal, % usage rate of coal and natural gas power plants (Dec-2018 to Dec-2020).
Source: REN, DGEG, ERSE, APREN analysis.

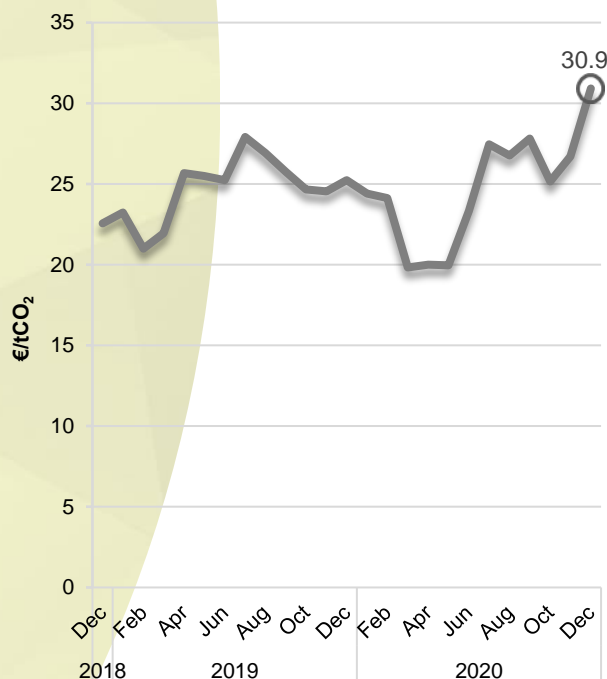


Figure 5. CO₂ allowances price (Dec-2018 to Dec-2020).
Source: SendeCO₂.

MONTHLY ANALYSIS: DECEMBER

In December, renewable electricity generation represented 75.3 % of the overall electricity generation in Mainland Portugal (4,668 GWh). There was a slight decrease in the renewables share compared to the 77.3 % from the overall electricity generation (5,541 GWh) registered in December 2019.

Renewable generation was sufficient to supply electricity consumption in Mainland Portugal for 169 non-consecutive hours, equivalent to 7 days, representing 25% of the total annual hours in which renewable generation was higher than or equal to the demand.

Concerning the PT-SP electricity trade in December, Portugal was an importer, registering a balance of 96 GWh, 89% lower than in December 2019.

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

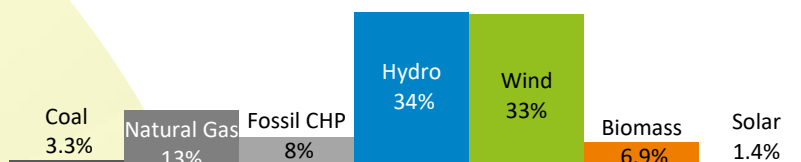
Source: REN, APREN analysis

MAIN INDICATORS

GENERATION

Total generation: 4,668 GWh

Renewables share: 75.3 %



Fonte: REN, Análise APREN

OTHER INDICATORS

Demand: 4,768 GWh

Wind index: 1.15

Hydro index: 0.95

Source: REN, APREN analysis

LOAD DIAGRAM FOR DECEMBER 2020

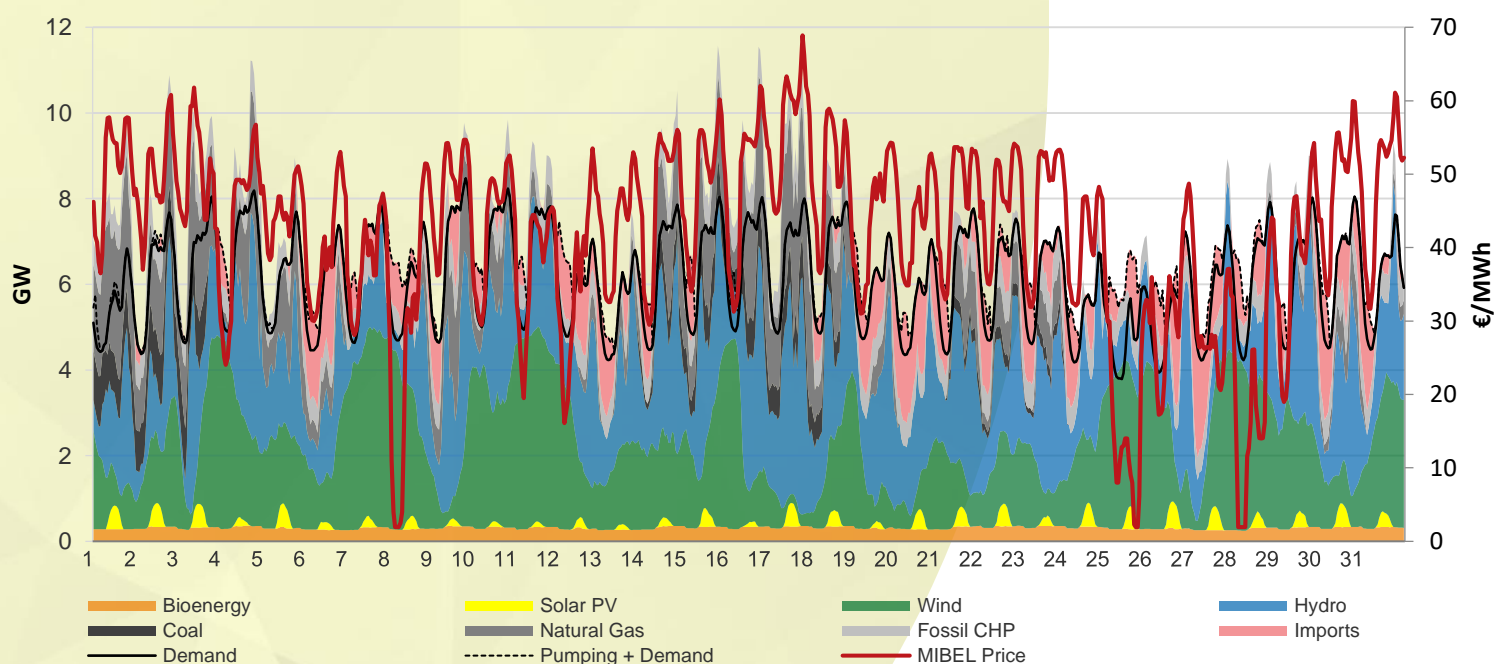


Figure 6. Load Diagram for Mainland Portugal (Dec-2020). Source: REN, APREN analysis.

FINAL REMARKS

National Regulation

Extension of the Competitive Procedure terms

On December 15th, a Dispatch was published by the Assistant Secretary of State for Energy, to determine the 6-month extension to the deadlines established in Clause 7th of the Tender Specifications of the Competitive Procedure for the allocation of Injection Capacity Reserve in the Public Service Electricity Network (RESP) for Photovoltaic Solar Energy opened by the Dispatch No. 5532-B/2019, of June 6th of 2019.

Agreements with the Network Operator

On December 30th, a Clarification and amendment of the Terms of Reference (TR) was published on the portal of the Directorate General for Energy and Geology (DGEG) for the Agreements provided for in the Decree-Law No. 172/2006, for the RESP reinforcement, as well as, a document with clarifications (FAQ) about the Agreements. These documents clarify the application of the terms of reference and the methodology for prioritizing and selecting projects, based on the weighting factors set out in Annex II.

Urban Solid Waste Recovery Plants

On December 30th, the Ordinance No. 308-C/2020 was published amending the article 2nd of the Ordinance No. 244/2020, which sets the tariff applicable to power generation plants that use urban waste as a source for electricity production in energy recovery plants, in terms of burning undifferentiated urban solid waste from urban waste management systems. This new Ordinance extends the transitional regime applicable to these power plants, until December 31st, 2024.

Commercial Relations in the Electricity and Gas Sectors

On December 30th, the Regulation No. 112/2020 was published, which approves the Regulation on Commercial Relations in the Electricity and Gas Sectors and revokes the Regulation No. 561/2014, of December 22nd, and Regulation No. 416/2016, of April 9th. This Regulation materializes the reformulation and merge of the Commercial Relations Regulations for the Electricity and Natural Gas sectors in a single diploma.

European Regulation

The European Commission (EC) presented, on December 10th, an initiative that aims to modernize the EU legislation on batteries, implementing the first of the actions announced in the new Circular Economy Action Plan. According to this initiative, batteries placed on the EU market must be sustainable, highly efficient and safe throughout their life cycle.

A new website was launched by the EC for the Energy Efficiency Financial Institution Group (EEFIG), a UN initiative jointly with the EU, which aims to address the lack of investment in energy efficiency.

The EC has presented the proposal to revise the European Union (EU) rules for Trans-European Energy Networks ("TEN-E Regulation") to better support the modernization of Europe's cross-border energy infrastructure and achieve the objectives European Green Deal.

The EP has set a more ambitious target for cutting greenhouse gas emissions, reducing them by 55% by 2030, measured against 1990 CO₂ emissions, rather than 40%.

NATIONAL POLICY AND REGULATION – 2020 SUMMARY



Important Project of Common European Interest (IPCEI) Hydrogen



Within the scope of the National Hydrogen Strategy, it was opened, in June, a period for expressions of interest for participation in the future Hydrogen Important Project of Common European Interest (IPCEI).



NECP 2030



On July 10th, it was published the Council of Ministers Resolution which approves the National Energy and Climate Plan for 2030 (NECP 2030).



National Hydrogen Strategy



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



Capacity Auctions



On August 24th and 25th, it took place the auction to allocate connection capacity to the RESP for the injection of electricity produced by solar photovoltaic plants, including, besides the two existing models, a third new remuneration model (Fixed Premium for Flexibility). A total of 670 MW was allocated.



State Budget 2021 (OE 2021)



In November, the State Budget for 2021 was approved, which includes a long-awaited measure in the energy sector, the reinforcement of human resources in the administrative entities DGEG and APA for 2021. Mainly, 93 workers are expected to join DGEG in 2021.



Portugal 2030 Strategy



On November 13th, the Portugal 2030 Strategy was approved, which is guided by the following agendas: a) People first; b) Digitalization, innovation and qualifications as main development drivers; c) Climate transition and resource sustainability; d) A competitive country externally and cohesive internally.



Smoothing Mechanism for the cost of energy



On October 1st, it was published the Decree-Law No. 79/2020, which extends the application of the smoothing mechanism for the cost of energy purchased from producers under special regime, which is now applied for a maximum period of five years.



Clawback



On October 22nd, it was published the Dispatch No. 10177/2020, which determines the final compensation to be applied for the year 2019 within the scope of the competitive balancing mechanism, ensuring the balance of competition in the wholesale electricity market in Portugal, in the amount of 2.24 €/MWh for renewable powerplants covered by this mechanism.

EUROPEAN POLICY AND REGULATION – 2020 SUMMARY



Final wording of the Green Deal resolution approved in the EP

On January 15th, the final wording of the Green Deal resolution was agreed in the European Parliament (EP).



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.



Economic recovery package for the EU

On May 27th, the EC presented the awaited European Strategy for economic recovery in response to the crisis and recession caused by the COVID-19 outbreak. This strategy is essentially made up of two distinct elements, a new European Union Budget for the period 2021-2027 and a new economic recovery fund, the “Next Generation EU”, which add up to a total investment of 1.85 trillion euros.



European Strategies for Hydrogen and Energy System Integration

The EC 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.



Reduction of greenhouse gas emissions

The EP has set a more ambitious target for cutting greenhouse gas emissions, reducing them by 55% by 2030, measured against 1990 CO₂ emissions, rather than 40%.



NECP Assessment

The EC has published its assessment on the Portuguese NECP. In it, the EC states, among other recommendations, that Portugal should apply a higher target, both for GHG emissions reduction and for renewables incorporation in the heating and cooling. It also recommends the country to consider more ambitious measures towards energy efficiency.

Information available in:

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