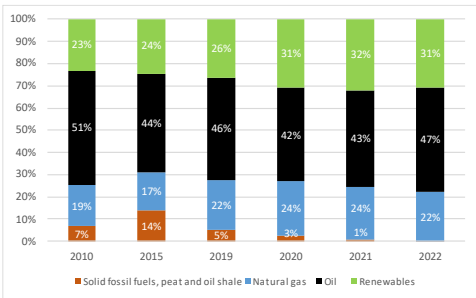
# REPowerEU Two Years on_Portugal

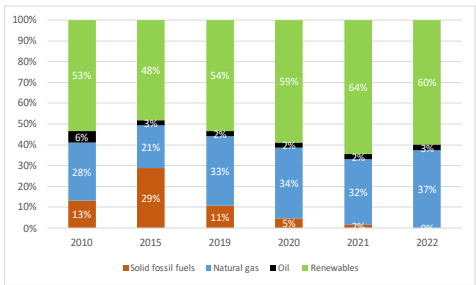
## Key energy figures

Graph 1: **Energy mix**




**Source:** Eurostat

Graph 2: **Electricity mix**




**Source:** Eurostat

## Save energy

### 1. KEY ENERGY SAVINGS MEASURES

Portugal is implementing energy efficiency measures to contribute to energy security further, such as:

- Portugal approved a **special plan for energy savings for 2022-2023**, which is complementary to Portuguese measures being adopted to structurally reduce energy demand. The programme was extended until March 2024[(1)].
- Some of the most relevant actions include **switching off lights in the evening in public and private buildings**, **communication and awareness campaigns** aimed at public administration, and additional professional training and capacity building to increase expertise of public servants.
- The preliminary report of the programme for more sustainable buildings 2021/2022[(2)] indicates that more than 70.000 applications have been accepted (23.8% were efficient windows, 26.1% on heat pumps and 37.2% on photovoltaic systems).

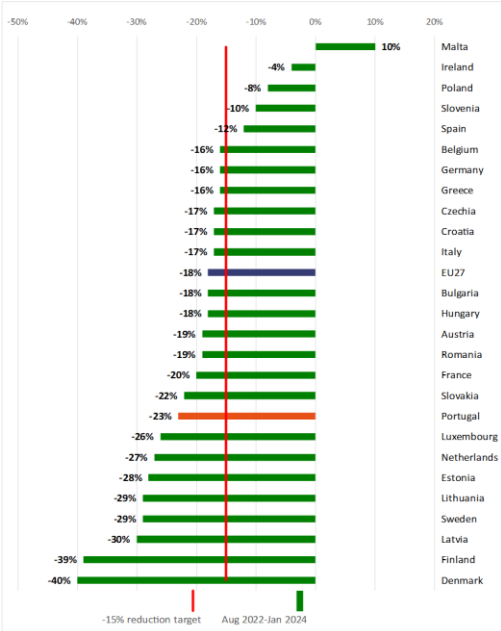
(1) Source: Despacho n.º 1572/2024 | DR (diariodarepublica.pt)

(2) Source: relatorio-final-paes-ii_9fev_f_c-anexos1.aspx (fundoambiental.pt)

## 2. GAS DEMAND REDUCTION

Portugal has reduced its gas consumption by **23%** in the period **August 2022 – January 2024**, above the decrease achieved at EU level (18%) and the 15% voluntary gas demand reduction agreed at the EU level [3].

Graph 3: **Natural gas demand reduction (August 2022 – January 2024)**




(1) Cyprus does not use natural gas
**Source:** Eurostat, DG ENER calculations

# Diversify energy supplies

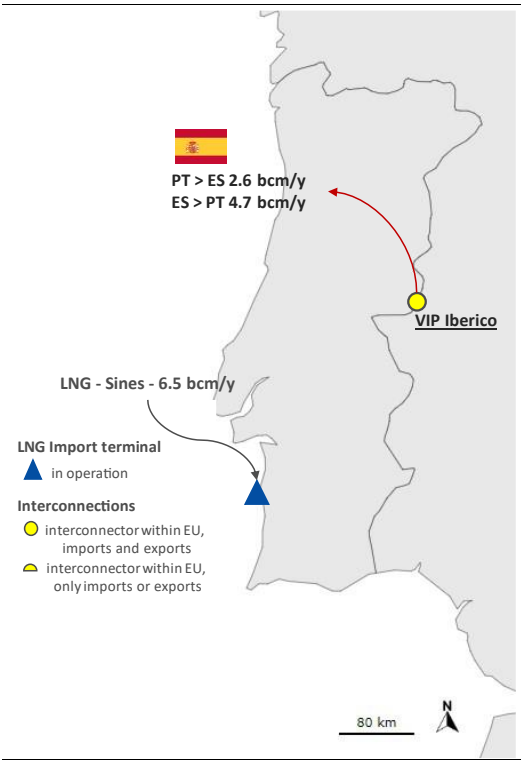
## 1. KEY ACTIONS

Portugal has strengthened the security of its gas supply while increased renewables in the energy mix has limited its energy imports dependency. Portugal has reduced its energy dependency on non-EU countries, from 70% in 2013 to 59% in 2021. Fossil fuels represented over 69% of the national energy mix in 2022 and their share in the electricity mix reduced from 40% in 2022 to 27% in 2023 ([4]).

## 3. GAS INFRASTRUCTURE DEVELOPMENTS

With the commissioning of the Sines LNG terminal and the increase in the underground storage capacity of Carriço, Portugal has accelerated the diversification of its portfolio of suppliers and now relies mostly on the US and Nigeria for its gas supplies and, to a limited extent, Russia.

Map 1: **Cross-border gas infrastructure**




**Source:** European Commission map recreation (based on ENTSO- G)

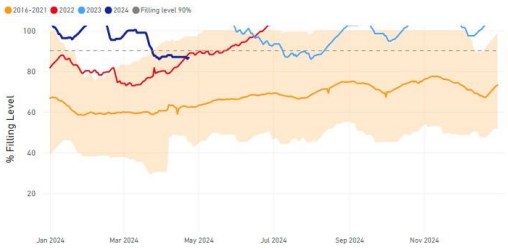
## 2. GAS STORAGE

Portugal has 3.57 TWh of underground gas storage at the Carriço facility [5], with a total capacity of around 0.32 bcm, representing almost 6% of its annual gas consumption in 2022.

Portugal fulfilled its gas storage obligations last winter, reaching 107% by 1 November 2023 [6], and ended the winter season with a storage filled at 86.91% by 1 April 2024.

[3] Council Regulation (EU) 2023/706 of 30 March 2023, amending Regulation (EU) 2022/1369
[4] Ember data on electricity mix.
[5] The Carriço UGS facility is managed by REM Armazenagem and it is composed by six salt caverns.
[6] Regulation (EU) 2022/1032 of the European Parliament and of the Council of 29 June 2022 amending Regulations (EU) 2017/1938 and (EC) No 715/2009 with regard to gas storage.

Graph 4: **Storage levels in Portugal**




**Source:** JRC calculation based on AGSI+ Transparency Platform, 2024

# Energy platform

- In the **four EU tenders** for joint gas purchase organised **under AggregateEU in 2023**, 113 companies across the EU expressed gas demand of over 54 bcm. 48 suppliers replied with bids of more than 61 bcm, resulting in **over 42 bcm of demand matched**.
- In the **first mid-term tender of 2024**, 19 companies expressed 34 bcm of gas demand for the next 5 years, with **97.4 bcm offered by suppliers**.
- According to the indicative data obtained through AggregateEU, companies from **Portugal** aggregated gas demand of **0.04 bcm** in 2023 under the EU Energy Platform. This represents the equivalent of 0.72% of the country's yearly gas consumption.

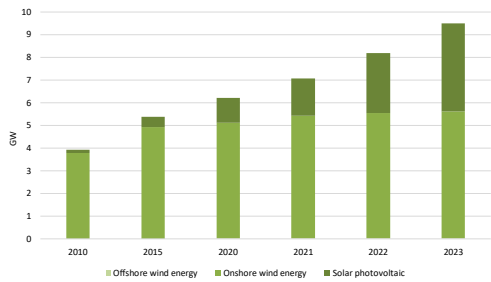
# Produce clean energy

### 1. INSTALLED RENEWABLE ELECTRICITY CAPACITY, IN WIND AND SOLAR

In **2023**, Portugal installed around 1.3 GW of renewable electricity capacity, bringing the total to **18.4 GW** (vs. 15.1 GW in 2021).

In **2023**, the annual growth rate of installed renewables power capacity rose to **7.6%** compared to 6.1% in 2021 [7].

Graph 5: **Installed solar and wind power capacity (in GW)**




(1) The renewable power capacity data reflects the capacity installed and connected at the end of the calendar year.
(2) In 2023, Portugal installed 79 MW of wind power capacity (vs. 305 MW in 2021.
(3) In 2023, Portugal installed 1.2 GW of solar photovoltaic capacity (vs. 0.5 GW in 2021)
**Source:** IRENA, Renewable capacity statistics, 2024

### 2. ELECTRICITY INFRASTRUCTURE DEPLOYMENT

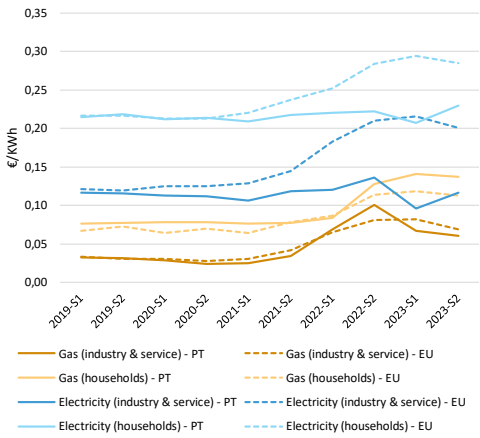
**Portugal may face short-term grid capacity challenges accommodating an increasing proportion of renewables.** Portugal's installed capacity is expected to increase by over 50% between 2025 and 2030 (from 30 to 47 GW) [8], but risks being partially curtailed if grid development does not speed up, including by reconductoring. The national transmission system operator points out to the lack of short-term grid capacity to accommodate the generation increase and aims to maximise the capacity the grid can absorb by maximising its interconnection capacity with Spain. In terms of interconnectivity, measured as a country's import capacity over its installed generation capacity, Portugal reached 10.9% in 2022 and 13.2% in 2023. This 2.3% increase was achieved while solar generation capacity increased and the availability of interconnection capacity decreased. Portugal is one of the EU Member States that most needs storage flexibility solutions by 2040.

[7] International Renewable Energy Agency (2024). Renewable capacity statistics 2024

[8] Portugal's draft National Energy and Climate Plan update, page 43, table 1100.

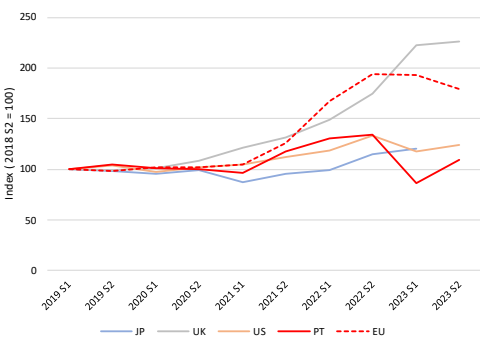
# Energy price developments

Graph 6: **Portugal's energy retail prices for households and industry & service**




(1) For industry, consumption bands are I3 for gas and IC for electricity, which refer to medium-sized consumers and provide an insight into affordability
(2) For households, the consumption bands are D2 for gas and DC for electricity
(3) Industry prices are shown without VAT and other recoverable taxes/levies/fees as non-household consumers are usually able to recover VAT and some other taxes
**Source:** Eurostat

Graph 7: **Trends in electricity prices for non-household consumers (EU and foreign partners)**



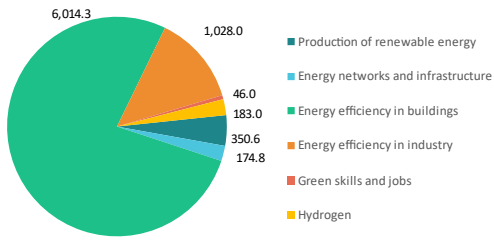

(1) For Eurostat data (EU and PT), the band consumption is ID referring to large-sized consumers with an annual consumption of between 2 000 MWh and 20 000 MWh, such as in electricity intensive manufacturing sectors, and gives an insight into international competitiveness
(2) JP = Japan
**Source:** Eurostat, IEA

# Smartly combine investments and reforms in the RRP

**Amended Recovery and Resilience Plan (RRP), including a REPowerEU chapter:**

- Approved by Council on 17 October 2023
- Total amount: EUR 22.2 billion
- Amount allocated for energy: EUR 7.79 billion
- Climate tagging: RRP: 41.2 %; REPowerEU chapter: 91.1 %

Graph 8: **Energy-related investments in the RRP (in EUR million)**




**Source**: European Commission

**Tangible results: reforms & investments**

- **Energy efficiency:** energy renovation of buildings, already exceeding the target set of 2 300 000 m² of public buildings and more than 7 500 000 m² of private residential buildings. The RRP also supports the renovation and construction of at least 26 000 households with the greatest needs and belonging to the most vulnerable groups[9] and 100 000 vouchers for households in energy poverty.
- **Renewable energy:** installation of additional 143.5 MW renewable energy production capacity mostly in the islands, including 17 MW of geothermal capacity, 10.2 MW of hydropower capacity and 7 MW of wind power capacity connected to the electricity grid. Simplification of regulatory framework applicable to renewable energy projects (UMER 2030) including a One-Stop-Shop digital platform for the permitting and monitoring of renewable energy projects.
- **Energy networks:** installation of at least 550 MW of electricity storage capacity and of 130 000 smart meters as well as an increase in the electricity network capacity to integrate renewables of at least 48 MW in two islands (Madeira and Porto Santo).

[9] This is a social housing measure that fulfils some energy efficiency criteria.

- **Hydrogen:** installation of at least 277 MW of additional renewable hydrogen and renewable gas production capacity.
- **Energy efficiency:** Establishment of a National Energy Poverty Observatory and support to citizens in the implementation of energy efficiency and energy savings measures with one-stop shops (Citizens Energy Spaces – Espaços Cidadão Energia).

## Highlights of the National Energy and Climate Plan

- The **draft updated NECP** was submitted to the European Commission in June 2023.
- Member States are due to submit their **final updated NECP by 30 June 2024**, taking into account the Commission recommendations.
- For more information see the dedicated webpage of the European Commission on the NECPs.

## Strengthening competitiveness with the Net Zero Industry Act

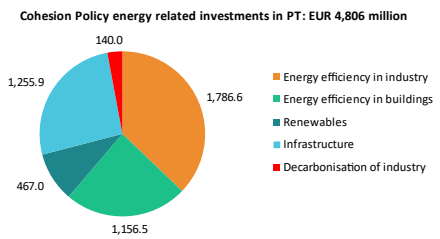
**Portugal remains highly dependent on non-EU countries for clean energy technologies, particularly components of solar modules.** There have been positive developments in electrolyser manufacturing and Portugal has a growing foothold in the wind supply chain. It also has a lot of battery manufacturing potential. It imports most of its solar photovoltaic modules from China and has limited manufacturing capabilities throughout the photovoltaic supply chain. For wind, Portugal has manufacturing facilities for blades, generators, nacelles, and onshore/offshore towers. In 2023, the application for classifying the 15GWh lithium battery factory construction project in Sines as a Project of National Interest was submitted to the AICEP. Two lithium mining projects and at least one unit for lithium conversion are currently in progress. In 2022, Portugal's first proton exchange membrane electrolyser manufacturing factory came online. The facility aims to reach 500 MW of annual productive output by the end of 2025.

## Other EU initiatives

Cohesion Policy provides significant support to REPowerEU in all EU MS, with a total of EUR 89 billion worth of investments focusing on regions most in need in the energy transition.

Most resources concentrate on energy efficiency in the buildings sector (i.e. 720 000 dwellings across the EU will be renovated and public buildings will decrease their energy consumption by 6000 GWh/year) and on energy infrastructure (i.e. 4.9 GWh of additional electricity storage deployed), followed by renewables (e.g. 9.5 GW of additional renewable energy capacities installed).

Graph 9: **2021-2027 energy-related investments in the Cohesion Funds supporting REPowerEU**




**Source**: Cohesion Open Data[10]

[10] https://cohesiondata.ec.europa.eu/d/hgvj-gyin