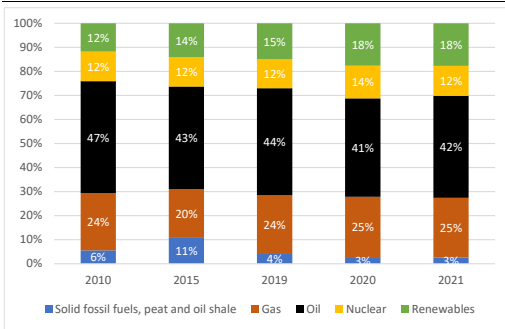


State of the Energy Union 2023 Spain

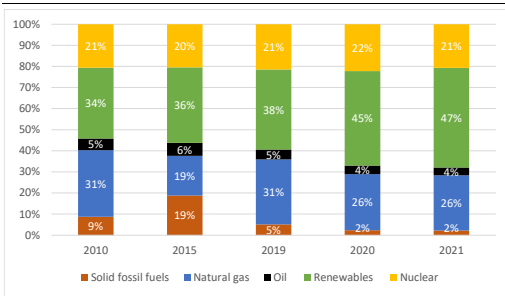
Key energy figures

Graph 1: Energy mix



Source: Eurostat

Graph 2: Electricity mix



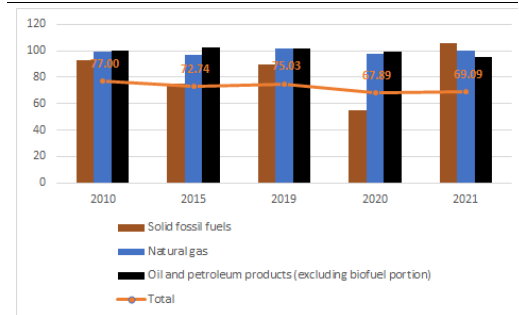
Source: Eurostat

- Fossil fuels still make up a significant share of Spain's energy mix, but renewable energy is growing fast.
- Spain's electricity mix is already highly decarbonised, with 48% coming from renewable sources in 2021.

Security, solidarity and trust

1. DIVERSIFICATION OF ENERGY SOURCES AND REDUCTION OF IMPORT DEPENDENCY

Graph 3: Import dependency on fossil fuels



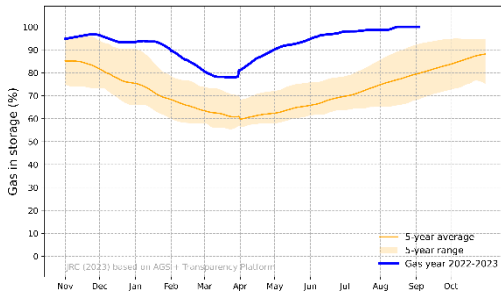
- (1) In percentages (%)
- (2) Combustible renewables and electricity are excluded
- (3) The total amount takes into consideration the energy mix of the country

Source: Eurostat

- Before Russia invaded Ukraine, Spain had limited exposure to Russian gas and oil, well below the EU average. However, it is **highly dependent on imported fossil fuels in general**. This makes its economy particularly sensitive to global price developments, requiring it to step up efforts on the energy transition.
- **Security of gas supply has been ensured in Spain in challenging circumstances**; moreover, its gas infrastructure can contribute to the overall security of supply in Europe.

2. FLEXIBILITY OF THE ENERGY SYSTEM

Graph 4: Gas storage levels



Source: JRC calculation based on AGSI+ Transparency Platform, 2023

- Spain has **four underground gas storage facilities** with a total capacity of around **3.4 bcm**.
- On 16 October, the country's storage capacity was filled to **100%**.

Integrated internal energy market

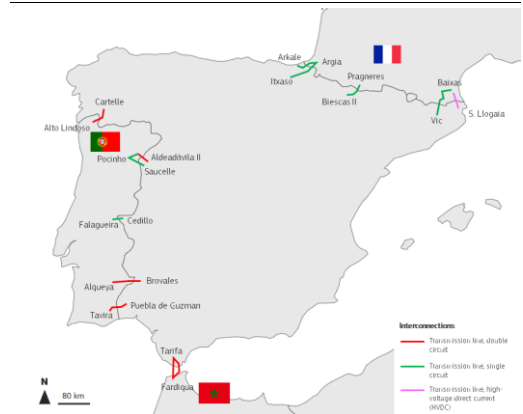
1. ELECTRICITY INTERCONNECTIVITY

2023	2030 target
4.42%	At least 15%

Source: DG ENER's own calculation based on ENTSO-E

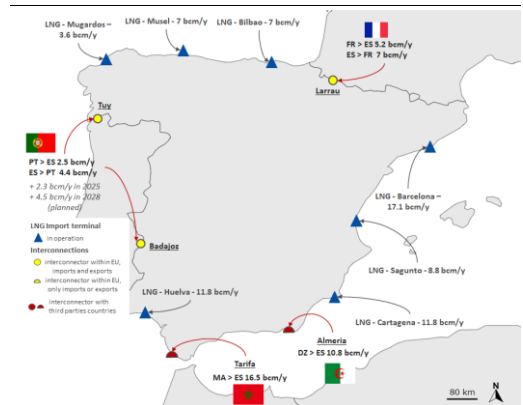
2. ENERGY TRANSMISSION INFRASTRUCTURE

Map 1: Cross-border electricity interconnections



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

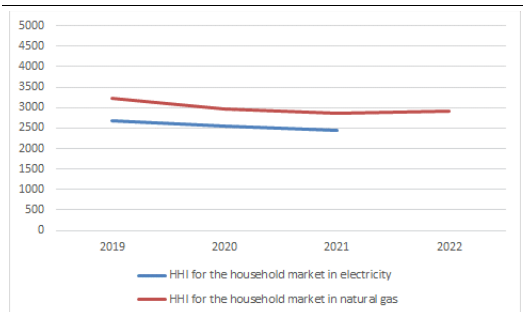
Map 2: Cross-border gas interconnections



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

3. MARKET INTEGRATION

Graph 5: Index of concentration (HHI) for the household markets in electricity and natural gas



(1) No data available for HHI in electricity household markets in 2022

Source: CEER 2023 out of ACER's Energy Retail and Consumer Protection 2023 Market Monitoring Report

- In 2022, in Spain the market share of the three largest suppliers reached 62.57% for natural gas.

Rollout of electricity smart meters

- Spain had a **high electricity smart meter rollout**, with 99.0% of household consumers being equipped with smart meters in 2022. ⁽¹⁾

4. ENERGY POVERTY AND JUST TRANSITION

Table 1: **Energy poverty**

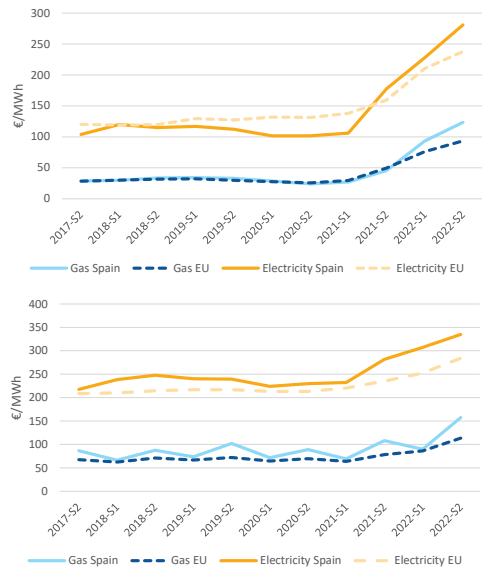
	Spain			EU		
	2020	2021	2022	2020	2021	2022
Arrears on utility bills (households %)	9.6%	9.5%	9.2%	6.5%	6.4%	6.9%
Inability to keep home adequately warm (household %)	10.9%	14.2%	17.1%	7.5%	6.9%	9.3%
Population living in dwelling with presence of lead, damp and rot (population %)	19.7%	:	:	14.8%	:	:

Source: Eurostat

- Just transition plan:** The Spanish Territorial Just Transition Plans (TJTP) outline the transition away from coal and fossil fuel based industry in the autonomous regions of Asturias, the province of A Coruña in Galicia, the provinces of Teruel in Aragón, León, and Palencia in Castilla y León, Almería, Cádiz, and Córdoba in Andalusia; and a group of municipalities around Alcúdia on the island of Mallorca. The plans set out how the Just Transition Fund (JTF), with a national allocation of 868€ million, will support the development of renewable energy sources, economic diversification, and modernisation of industries. Coal phase-out commitment 2030.

5. ENERGY PRICES

Graph 6: **Energy retail prices for industry (top) and households (bottom)**



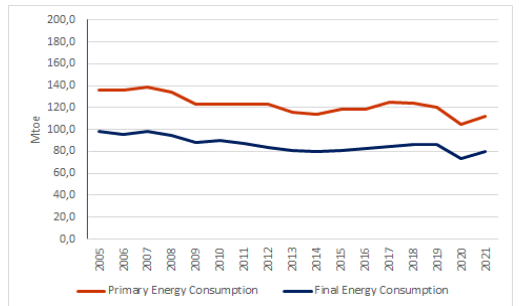
- (1) On electricity, the band consumption is for DC households and ID for industry
- (2) On gas, the band consumption is D2 for households and I4 for industry

Source: Eurostat

Energy efficiency

1. ENERGY EFFICIENCY

Graph 7: **Primary and final energy consumption**



Source: Eurostat

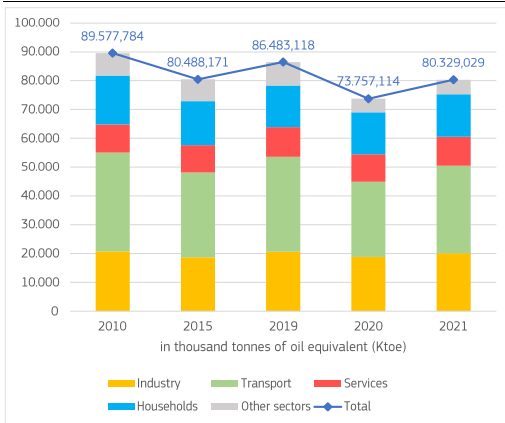
⁽¹⁾ ACER, CEER. Energy Retail and Consumer Protection, 2023 Market Monitoring Report

- In 2021, Spain's **Primary Energy Consumption (PEC)** amounted to 112.14 Mtoe, 7% lower than in 2019, while its **Final Energy Consumption (FEC)** amounted to 80.33 Mtoe, 7.1% lower than in 2019, despite the COVID-19 crisis recovery.

increase of **24%** compared to 2021, as per the European Heat Pump Association (EHPA).

Decarbonisation and climate action

Graph 8: **Final energy consumption per sector**

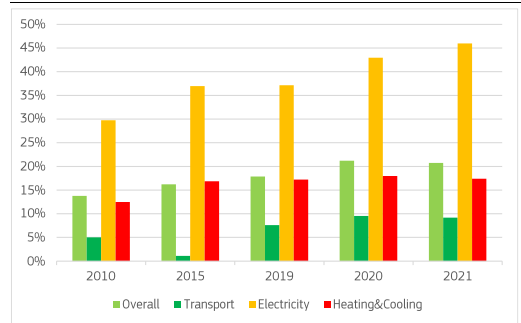


(1) Final energy consumption excludes consumption of the energy sector (including transformation and distribution losses) and non-energy use of energy carriers.

Source: Eurostat

1. SECTORAL SHARE OF RENEWABLE ENERGY

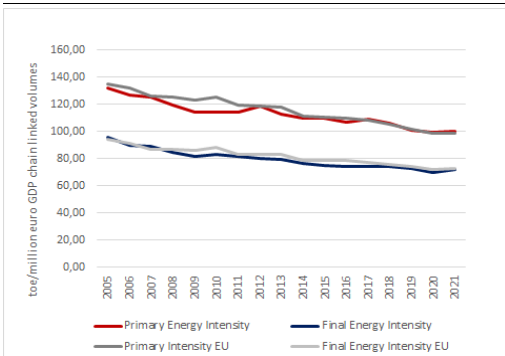
Graph 10: **Share of renewable energy sources**



(1) In % of gross final consumption of energy

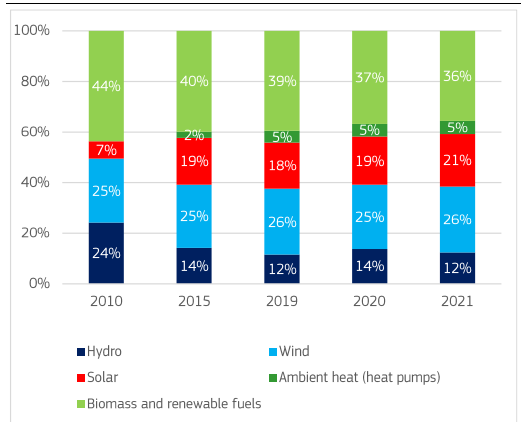
Source: Eurostat

Graph 9: **Primary and final energy intensity**



Source: Eurostat

Graph 11: **Renewable energy mix**



(1) In % of gross final consumption of energy

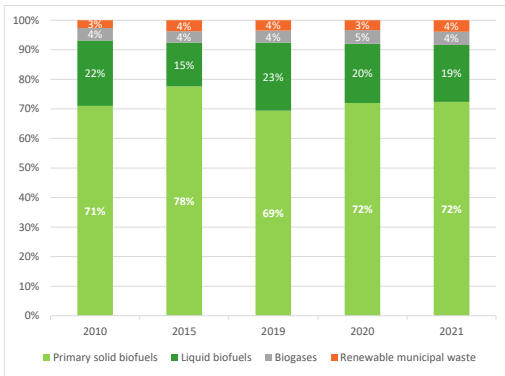
Source: Eurostat

2. ENERGY SAVINGS IN BUILDINGS

- In 2020, there were **18.53 million** of **dwellings in Spain**.
- As per its 2020 Long Term Renovation Strategy (LTRS), **Spain** targets to achieve **-14%** of energy savings **by 2030** compared to **2020** in the building sector.
- In 2021, the final energy consumption of residential buildings **increased by 2.53%** compared to 2019.
- The sales of heat pumps amounted to **184.950 units** in 2022 representing an

2. BIOENERGY DEMAND

Graph 12: Bioenergy mix

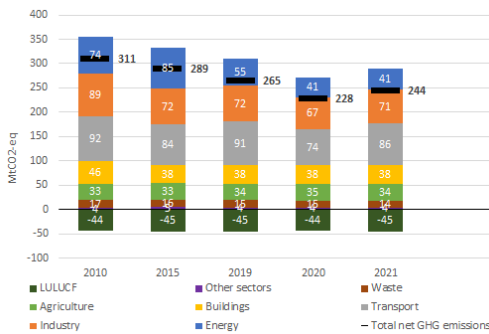


(1) Composition of bioenergy, in % of gross inland consumption of energy

Source: Eurostat

3. GREENHOUSE GAS EMISSIONS

Graph 13: Greenhouse gas emissions by sector



(1) Energy sector refers to electricity and heat production and petroleum refining.

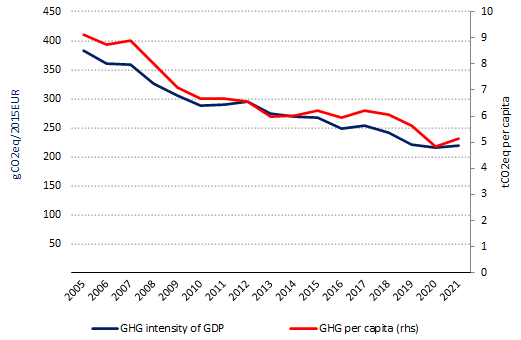
(2) Industry includes fuel combustion in manufacturing and construction and emissions in industrial processes and product use.

(3) Buildings include emissions from energy use in residential and tertiary buildings, and energy use in agriculture and fishery sectors.

(4) Total net GHG emission including LULUCF and excluding international aviation.

Source: EEA

Graph 14: GHG per capita and GHG intensity of GDP



(1) Total greenhouse gas emissions, including LULUCF and excluding international aviation.

Sources: Greenhouse gas inventory 1990-2021 (EEA). Real GDP in 2015-prices (AMECO, European Commission). Population (Eurostat).

- With 219 gCO2eq/2015EUR, Spain lies below the EU average in terms of GHG intensity of GDP.
- With 5 tonnes of CO2 equivalent per capita, Spain is below the EU average in terms of GHG emissions per capita.
- For more detailed information on country profiles see [Progress made in cutting emissions \(europa.eu\)](https://europea.eu).

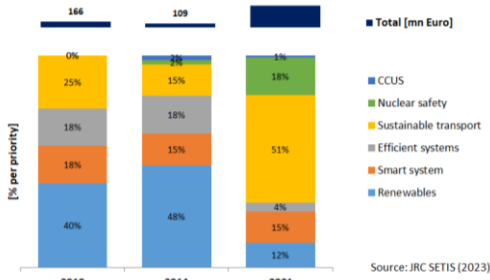
Research, innovation and competitiveness

1. INVESTMENT IN R&I

- Public investment in research and innovation (R&I) in Energy Union priorities⁽²⁾ increased from 0.011% in 2014 to 0.053% in 2021 (share of GDP).

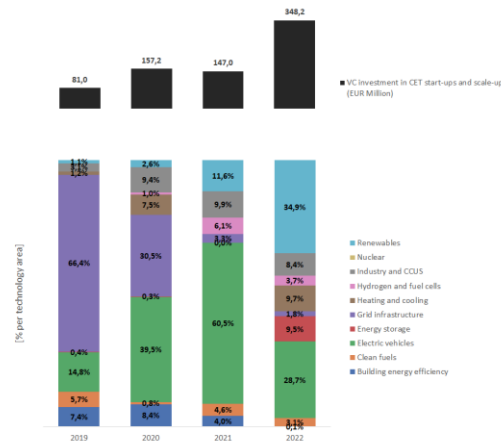
⁽²⁾ Renewables, smart system, efficient systems, sustainable transport, CCUS and nuclear safety, COM(2015) 80 final ('Energy Union Package').

Graph 15: Public investment in Energy Union R&I priorities



Source: JRC SETIS 2023

Graph 16: Venture capital investment in clean energy technology (start-ups and scale-ups)

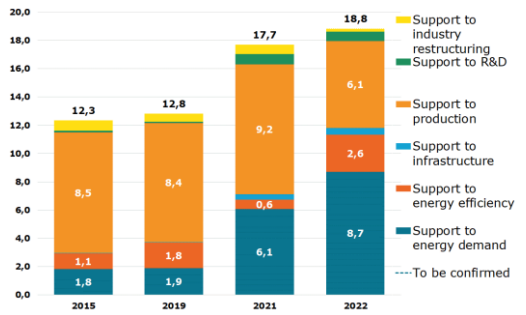


(1) Firms typically use venture capital to expand, break into new markets, and grow faster. Venture capital is essential for the growth of innovative firms and it is key to foster the EU's competitiveness and to strengthen the EU's technology sovereignty in the clean energy sector.

Source: JRC SETIS 2023

2. ENERGY SUBSIDIES

Graph 17: Energy subsidies by purpose

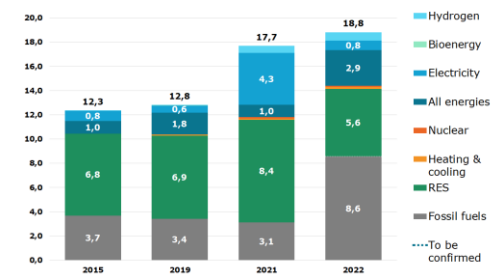


(1) Subsidies in EUR 2022 billion

(2) Some 2022 data were not fully available or validated at the time the study was completed (August 2023). For missing 2022 values, 2021 data were taken as a basis for an estimate. The estimated data are referred to as 'to be confirmed' in the graphs and indicated by hatching.

Source: Enerdata. Inventory of energy subsidies in the EU27 - 2023 edition

Graph 18: Energy subsidies by carrier



(1) Subsidies in EUR 2022 billion

(2) Some 2022 data were not fully available or validated at the time the study was completed (August 2023). For missing 2022 values, 2021 data were taken as a basis for an estimate. The estimated data are referred to as 'to be confirmed' in the graphs and indicated by hatching.

Source: Enerdata. Inventory of energy subsidies in the EU27 - 2023 edition

European Semester 2023

Country Specific Recommendation (Energy):

Reduce reliance on fossil fuels. Accelerate the deployment of renewable energy, including by further streamlining and digitalising permitting 15 procedures, supporting the work of permitting authorities, improving access to the grid and investing in energy storage, electricity transmission and distribution, and cross-border electricity interconnections. Increase the availability of social and affordable energy-efficient housing, including through renovation, accelerate the electrification of

buildings and the penetration of electromobility. Step up policy efforts aimed at the provision and acquisition of the skills needed for the green transition. ⁽³⁾

For more information see the [2023 European Semester Country Report](#)

National Energy and Climate Plan (NECP)

- **The draft updated NECP** was submitted to the European Commission in June 2023.
- For more information see the dedicated [webpage of the European Commission on the NECPs](#).

Recovery and Resilience Plan (RRP) and REPowerEU chapter

- **The Spanish RRP was approved by the Council on 13 July 2021.**
- The implementation of the measures proposed in the RRP would allow Spain to access **EUR 69.5 billion in grants**.
- The Commission **disbursed so far EUR 37.04 billion to Spain**. A 3rd payment request was disbursed on 31 March 2023.
- On 6 June 2023, Spain submitted a **request to revise its RRP**, adding a **REPowerEU chapter**.
- The REPowerEU chapter proposed by Spain includes one **new reform**, seven **new investments**, and one **scaled-up measure**.
- The amended RRP takes into account the **revised RRF grant allocation** for Spain increased to EUR 77.2 billion. It includes also the EUR 2.6 billion **REPowerEU grant allocation** and EUR 58 million **voluntary transfer from the Brexit Adjustment Reserve**. Spain has also requested EUR 83 billion in **loans**. The **total amount available** is therefore EUR 163 billion.
- **40%** of these funds are **allocated** for measures contributing to **climate objectives**, same as in the original RRP.

⁽³⁾ Council of the European Union 9830/1/23

- The **amended RRP, including the REPowerEU chapter, was approved by the Council** on 17 October 2023.
- For more information visit the [Recovery and Resilience Scoreboard](#).