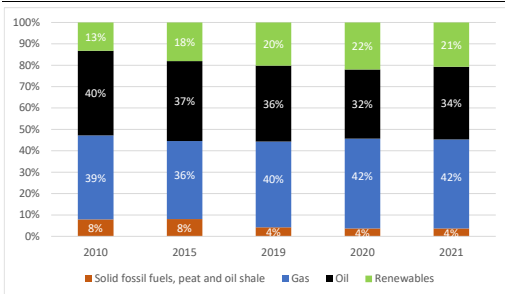


# State of the Energy Union 2023 Italy

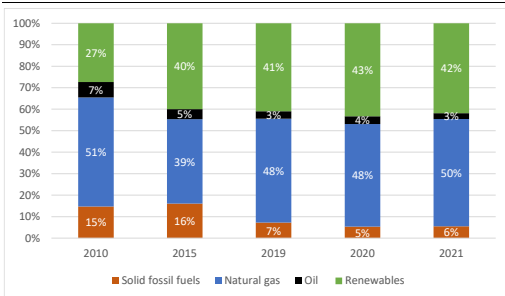
## Key energy figures

Graph 1: Energy mix



Source: Eurostat

Graph 2: Electricity mix



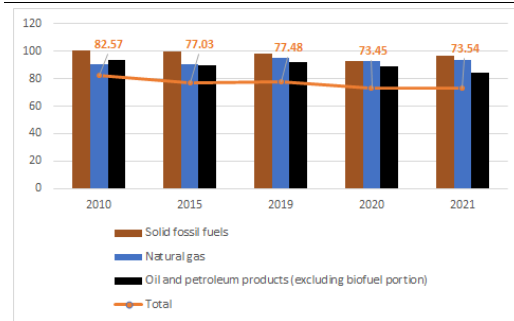
Source: Eurostat

- **Imported fossil fuels** made up the bulk of Italy's energy mix, although the share of renewable energy is very slowly increasing.
- Italy's electricity production mix comprised a share of **42% from renewable sources** in 2021, with hydropower being the leading source, and the remaining part coming from fossil fuels, mainly **natural gas (50%)**.

## 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

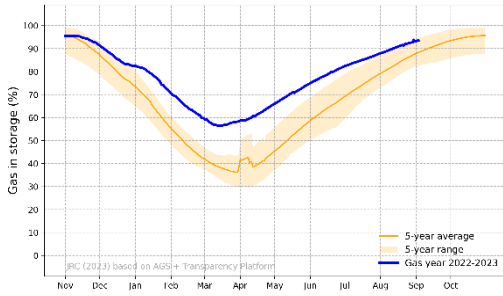
(3) The total amount takes into consideration the energy mix of the country

Source: Eurostat

- Italy is progressing with its efforts to **reduce dependency on Russian fossil fuels**, but important challenges on the electricity transmission and distribution system, on the increase of renewable capacity and the reduction of the energy demand still need to be addressed.
- Despite its high dependence on Russian gas and the 'Early Warning' issued in February 2022, Italy showed a **good level of gas supply security in light of challenging circumstances**.

## 2. FLEXIBILITY OF THE ENERGY SYSTEM

Graph 4: Gas storage levels



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

- Italy has **nine gas storage fields** with a total capacity of around **19.8 bcm**.
- On 16 October, the country's storage capacity was filled to **97.89%**.

## Integrated internal energy market

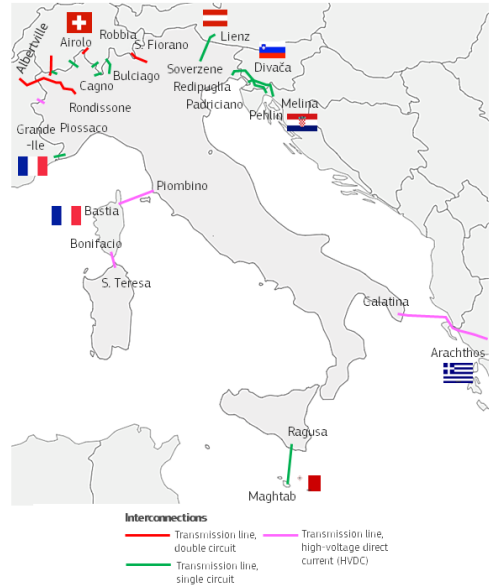
### 1. ELECTRICITY INTERCONNECTIVITY

2023	2030 target
4.58%	At least 15%

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

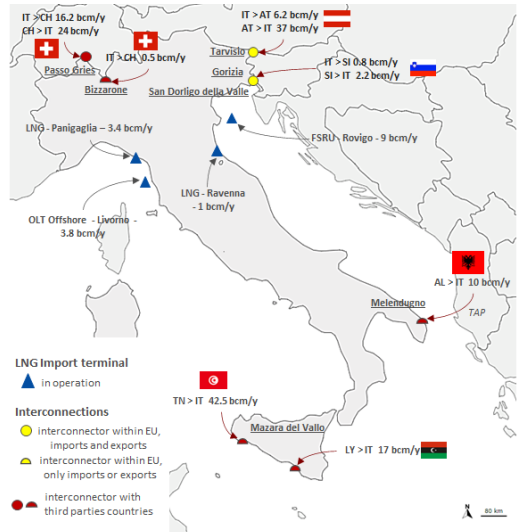
## 2. ENERGY TRANSMISSION INFRASTRUCTURE

Map 1: Cross-border electricity interconnections



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

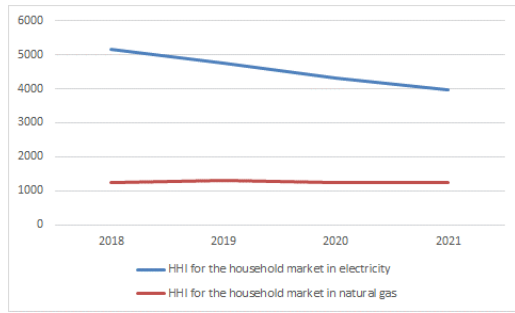
Map 2: Cross-border gas interconnections



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 and natural gas household markets in 2022

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

- Data regarding the market share of the three largest suppliers in the market in 2022 is not available.

#### Rollout of electricity smart meters

- Italy had a **high electricity smart meter rollout**, with 97.5% of household consumers being equipped with smart meters in 2022. <sup>(1)</sup>

### 4. ENERGY POVERTY AND JUST TRANSITION

Table 1: Energy poverty

	Italy			EU		
	2020	2021	2022	2020	2021	2022
Arrears on utility bills (households %)	6.0%	6.5%	5.0%	6.5%	6.4%	6.9%
Inability to keep home adequately warm (household %)	8.3%	8.1%	8.8%	7.5%	6.9%	9.3%
Population living in dwelling with presence of lead, damp and rot (population %)	19.6%	:	:	14.8%	:	:

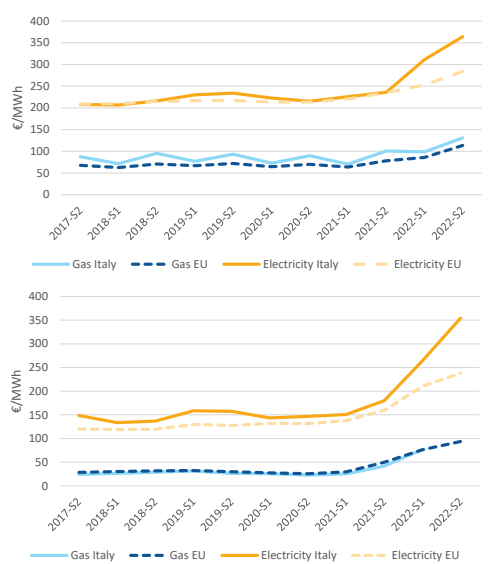
Source: Eurostat

- Just transition plan:** The Italian Territorial Just Transition Plan (JTTP) outline the transition away from coal in the areas of Taranto (Apulia) and Sulcis-Iglesiente (Sardinia). The plan sets out how the Just Transition Fund (JTF), with a national allocation of 1.029€ billion, will support the conversion of fossil fuel power plants, workers, and local communities. Coal phase-out commitment in 2025.

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

### 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

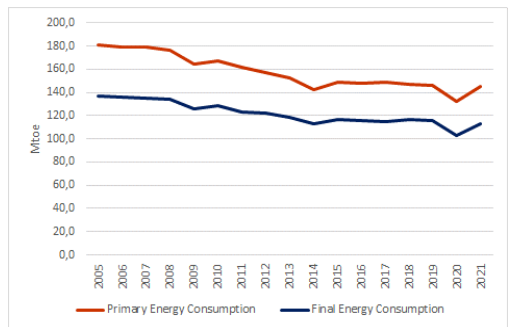
(2) On gas, the band consumption is D2 for households and I4 for industry

Source: Eurostat

## Energy efficiency

### 1. ENERGY EFFICIENCY

Graph 7: Primary and final energy consumption



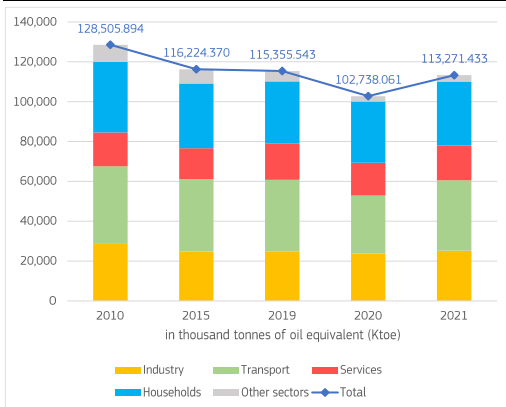
Source: Eurostat

- In 2021, Italy's **Primary Energy Consumption (PEC)** amounted to 143.31 Mtoe, 0.4% lower than in 2019, while its **Final Energy Consumption (FEC)** amounted to 113.27 Mtoe, 1.8% lower than in 2019, despite the COVID-19 crisis recovery.

increase of **35%** compared to 2021, as per the European Heat Pump Association (EHPA).

## Decarbonisation and climate action

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

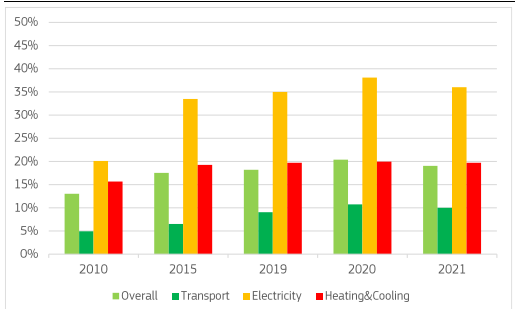


(1) Final energy consumption excludes consumption of the energy sector (including transformation and distribution losses) and non-energy use of energy carriers.

Source: Eurostat

## 1. SECTORAL SHARE OF RENEWABLE ENERGY

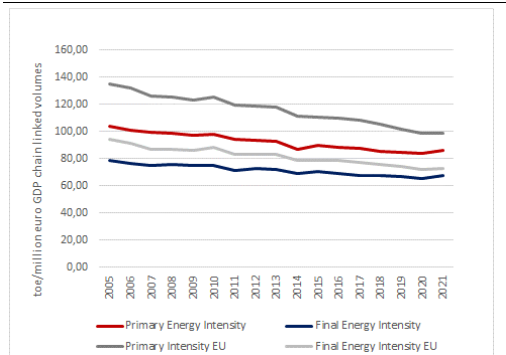
Graph 10: **Share of renewable energy sources**



(1) In % of gross final energy consumption

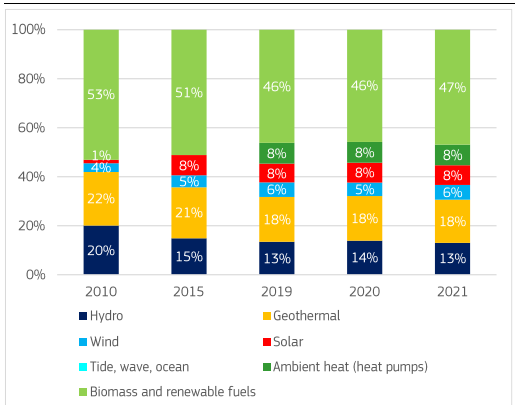
Source: Eurostat

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



Source: Eurostat

Graph 11: **Renewable energy mix**



(1) In % of gross final consumption of energy

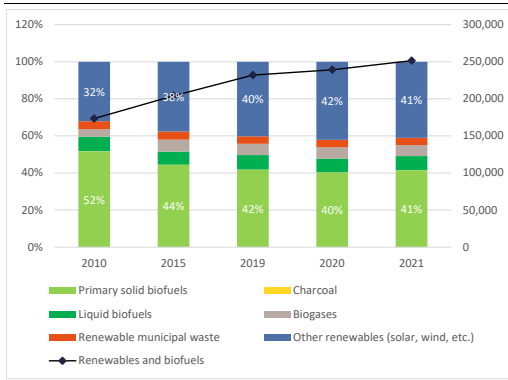
Source: Eurostat

## 2. ENERGY SAVINGS IN BUILDINGS

- In 2020, there were **12.42 million** of **residential buildings** in Italy.
- As per its 2020 Long Term Renovation Strategy (LTRS), **Italy** targets to achieve **-12%** of energy savings **by 2030** compared to **2020** in the building sector.
- In 2021, the final energy consumption of residential buildings **decreased by 2.66%** compared to 2019.
- The sales of heat pumps amounted to **513.535 units** in 2022 representing an

## 2. BIOENERGY DEMAND

Graph 12: Bioenergy mix

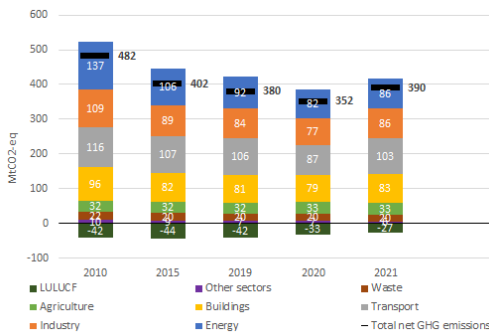


(1) Composition of bioenergy, in % of gross inland consumption of energy

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.

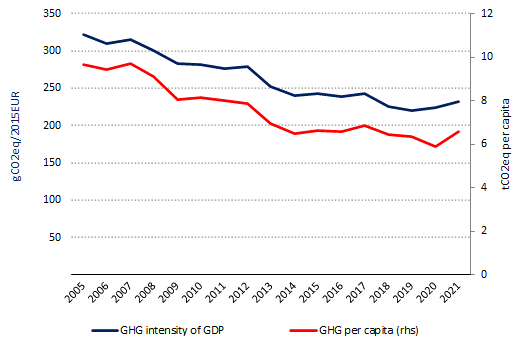
(2) Industry includes fuel combustion in manufacturing and construction and emissions in industrial processes and product use.

(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.

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

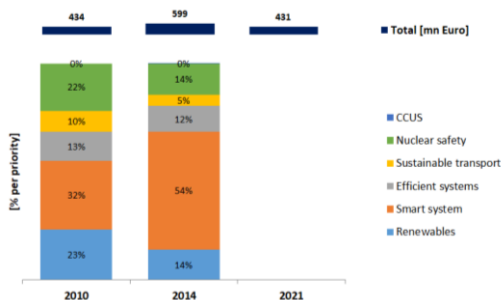
- With 232 gCO<sub>2</sub>eq/2015EUR, Italy lies below the EU average in terms of GHG intensity of GDP.
- With 7 tonnes of CO<sub>2</sub> equivalent per capita, Italy is within the EU average in terms of GHG emissions per capita.
- For more detailed information on country profiles see [Progress made 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<sup>(2)</sup> decreased from 0.037% in 2014 to 0.024% in 2021 (share of GDP).

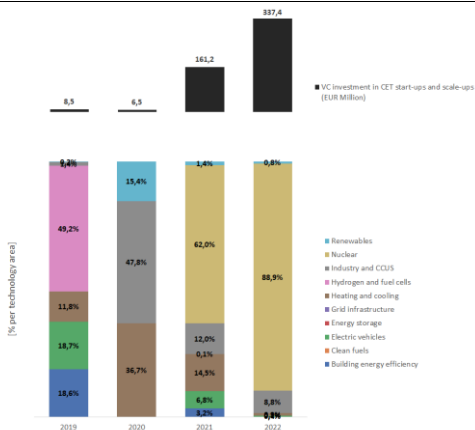
Graph 15: Public investment in Energy Union R&I priorities<sup>(3)</sup>



(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

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

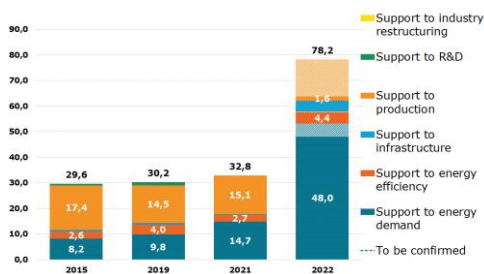


Source: JRC SETIS 2023

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

## 2. ENERGY SUBSIDIES

Graph 17: Energy subsidies by purpose

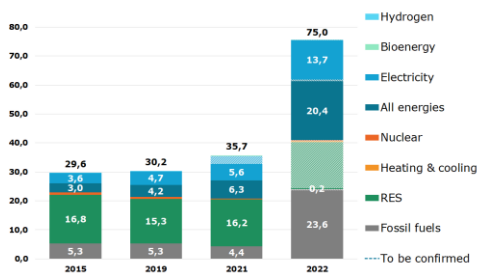


(1) Subsidies in EUR 2022 billion

(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 the reliance on fossil fuels. Streamline the permitting procedures to accelerate the production of additional renewable energy and develop electricity interconnections to absorb it. Increase the capacity for internal gas transmission to

<sup>(3)</sup> For 2021, there is no breakdown in Energy Union priorities available.

diversify energy imports and strengthen security of supply. Increase energy efficiency in the residential and corporate sectors, including through better targeted incentive schemes, addressing in particular the most vulnerable households and the worst-performing buildings. Promote sustainable mobility, including by removing environmentally harmful subsidies and speeding up the roll-out of charging stations. Step up policy efforts aimed at the provision and acquisition of the skills needed for the green transition.<sup>(4)</sup>

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 July 2023.
- For more information see the dedicated [webpage of the European Commission on the NECPs](#).

## Recovery and Resilience Plan (RRP) and REPowerEU chapter

- **The Italian RRP was approved by the Council on 13 July 2023.**
- The implementation of the measures proposed in the RRP would allow Italy to access **EUR 68.9 billion in grants** and **EUR 122.6 billion in loans**.
- **37.5%** of these funds are **allocated** for measures contributing to **climate objectives**.
- The Commission **disbursed so far EUR 85,44 billion to Italy**. A 4<sup>th</sup> payment request was submitted on 22 September 2023 and it's currently under assessment.
- On 7 August 2023 Italy submitted a **request to revise its RRP**, adding a **REPowerEU chapter**.
- The amended RRP takes into account the **revised RRF grant allocation** for Italy increased to EUR 69 billion. It includes also the EUR 2.76 billion **REPowerEU grant allocation**. Moreover, Italy have decided to

utilize 3 billion from cohesion funds 2021-2027 to fund REPowerEU measure.

- For more information visit the [Recovery and Resilience Scoreboard](#).

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<sup>(4)</sup> Council of the European Union 9837/1/23