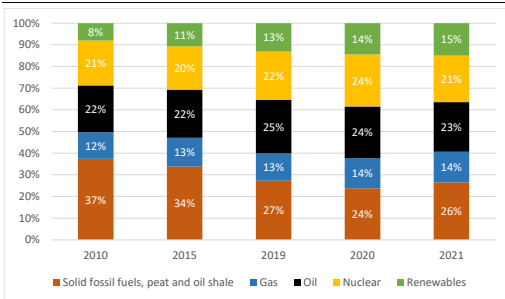


State of the Energy Union 2023 Bulgaria

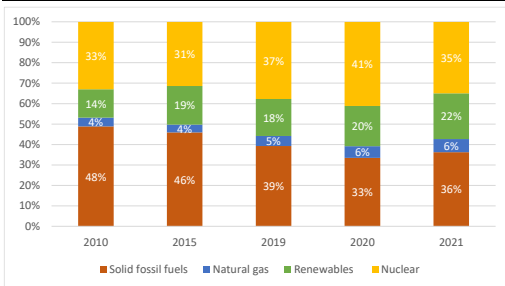
Key energy figures

Graph 1: Energy mix



Source: Eurostat

Graph 2: Electricity mix



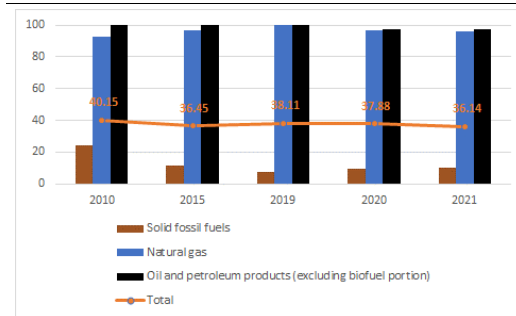
Source: Eurostat

- **Fossil fuels still play a major role in Bulgaria's energy mix.** In 2021, coal accounted for 26% of Bulgaria's energy mix, and natural gas for 14%, while 15% came from renewable sources.

Security, solidarity and trust

1. DIVERSIFICATION OF ENERGY SOURCES AND REDUCTION OF IMPORT DEPENDENCY

Graph 3: Import dependency on fossil fuels



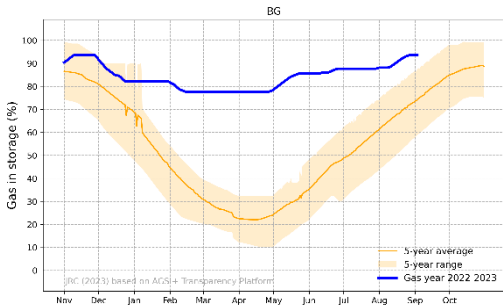
- (1) In percentages (%)
- (2) Combustible renewables and electricity are excluded
- (3) The total amount takes into consideration the energy mix of the country

Source: Eurostat

- Following Russia's invasion of Ukraine, **Bulgaria diversified its gas suppliers**, however it continues to depend heavily on fossil fuels.
- From a country highly dependent on Russian gas, Bulgaria had its gas supplies from Russia cut unilaterally in 2022 and now receives **gas via a pipeline from Azerbaijan and the remainder via liquefied natural gas (LNG), via Greece.**

2. FLEXIBILITY OF THE ENERGY SYSTEM

Graph 4: Gas storage levels



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

- Bulgaria has **one underground gas storage facility** with a total capacity amounting to **0.59 bcm**.
- On 16 October, the country's storage capacity was filled to **96.94%**.

Integrated internal energy market

1. ELECTRICITY INTERCONNECTIVITY

2023	2030 target
21.21%	At least 15%

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

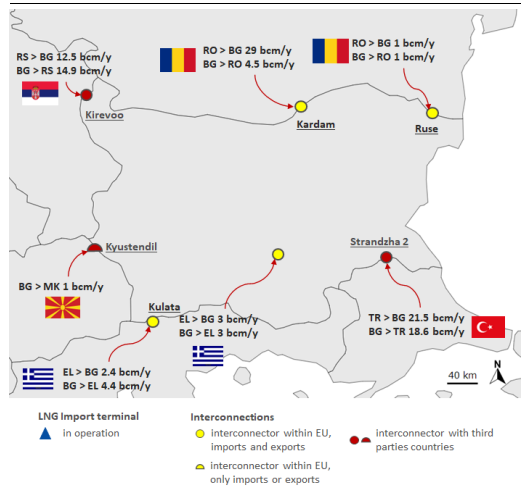
2. ENERGY TRANSMISSION INFRASTRUCTURE

Map 1: Cross-border electricity interconnections



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

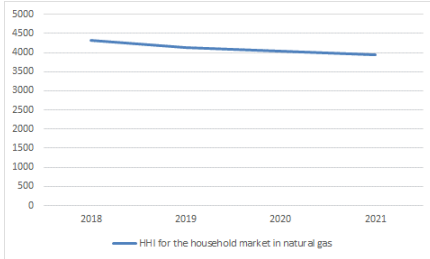
Map 2: Cross-border gas interconnections



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

3. MARKET INTEGRATION

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



(1) Data regarding HHI for electricity, and natural gas market in 2022, is not available.

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

- In 2022 in Bulgaria, the market share of the three largest suppliers reaches 84% for natural gas.⁽¹⁾

Rollout of electricity smart meters

- Data on the % of household consumers equipped with smart meters in 2022 is not available.⁽²⁾

4. ENERGY POVERTY AND JUST TRANSITION

Table 1: **Energy poverty**

	Bulgaria			EU		
	2020	2021	2022	2020	2021	2022
Arrears on utility bills (households %)	22.2%	19.2%	18.8%	6.5%	6.4%	6.9%
Inability to keep home adequately warm (household %)	27.5%	23/7%	22.5%	7.5%	6.9%	9.3%
Population living in dwelling with presence of lead, damp and rot (population %)	11.0%	:	:	14.8%	:	:

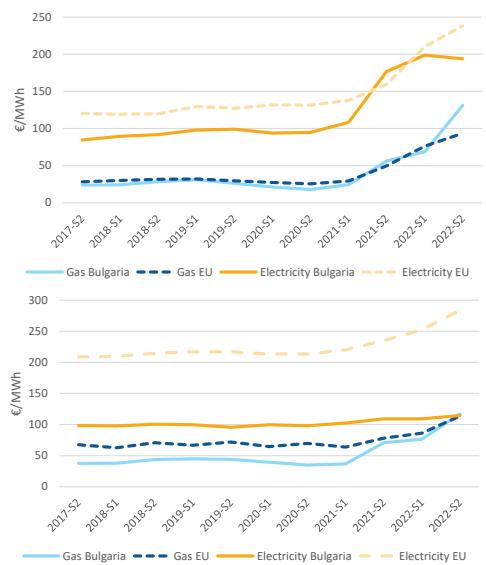
Source: Eurostat

- Just transition plan:** Bulgaria is finalising the territorial just transition plans outlining the move away from coal for three regions Kyustendil, Pernik and Stara Zagora. The Just Transition Fund (JTF) Programmes has allocated for Bulgaria 1.12€ billion that will support sustainable energy solutions, social and employment measures, diversification of the local economy. Bulgaria committed to phase out coal in 2038.

⁽¹⁾ CEER 2023 out of ACER’s 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

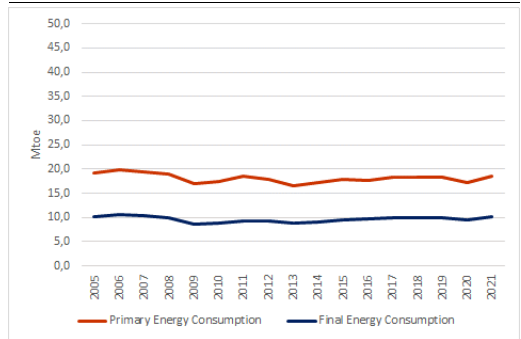
(2) On gas, the band consumption is D2 for households and I4 for industry

Source: Eurostat

Energy efficiency

1. ENERGY EFFICIENCY

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



Source: Eurostat

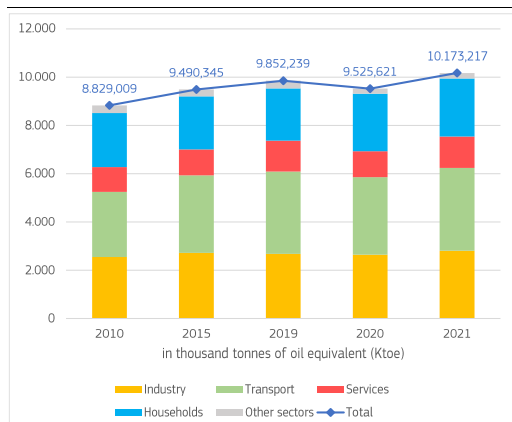
- In 2021, Bulgaria’s **Primary Energy Consumption (PEC)** amounted to 18.58 Mtoe,

⁽²⁾ ACER, CEER. Energy Retail and Consumer Protection, 2023 Market Monitoring Report

2% higher than in 2019, while its **Final Energy Consumption (FEC)** amounted to 10.17 Mtoe, 3.3% higher than in 2019, to a large extent due to the COVID-19 crisis recovery.

Decarbonisation and climate action

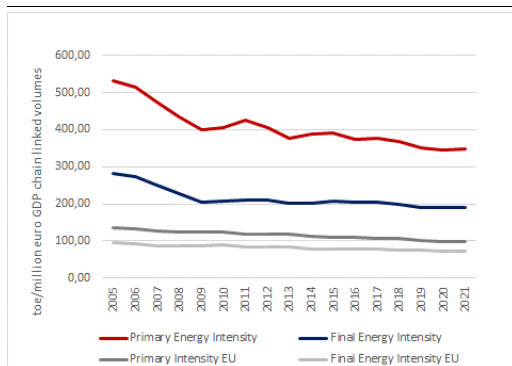
Graph 8: **Final energy consumption per sector**



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

Source: Eurostat

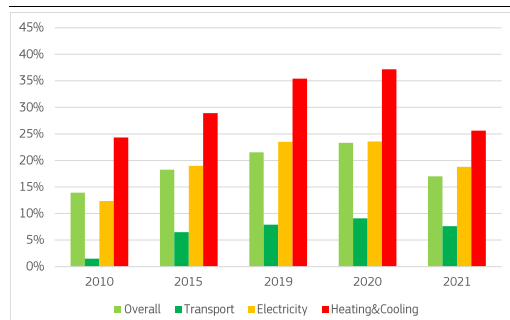
Graph 9: **Primary and final energy intensity**



Source: Eurostat

1. SECTORAL SHARE OF RENEWABLE ENERGY

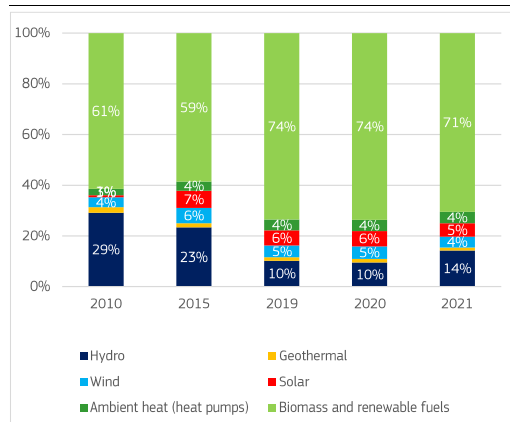
Graph 10: **Share of renewable energy sources**



(1) In % of gross final consumption of energy

Source: Eurostat

Graph 11: **Renewable energy mix**



(1) In % of gross final consumption of energy

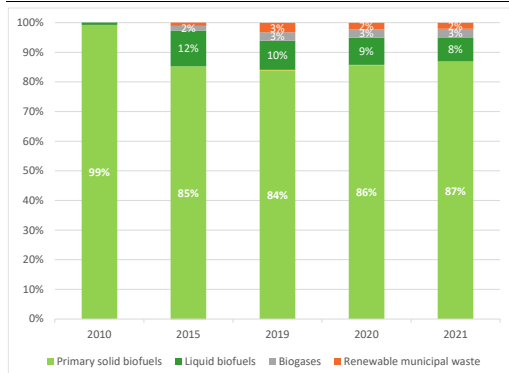
Source: Eurostat

2. ENERGY SAVINGS IN BUILDINGS

- In 2020 there were **1.36 million** of **residential buildings** in **Bulgaria**.
- As per its 2020 Long Term Renovation Strategy (LTRS), **Bulgaria** targets to save **251 ktoe by 2030** compared to **2020** in the building sector.
- In 2021, the final energy consumption of residential buildings **decreased by 4.45%** compared to 2019.
- As per the European Heat Pump Association (EHPA), there are no data available for Bulgaria.

2. BIOENERGY DEMAND

Graph 12: Bioenergy mix

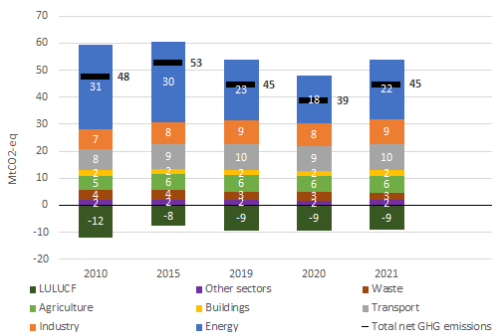


(1) Composition of bioenergy, in % of gross inland consumption of energy

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.

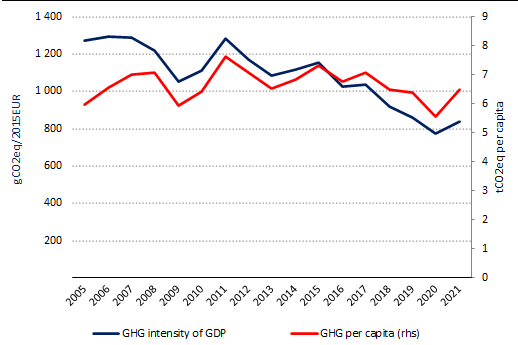
(2) Industry includes fuel combustion in manufacturing and construction and emissions in industrial processes and product use.

(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).

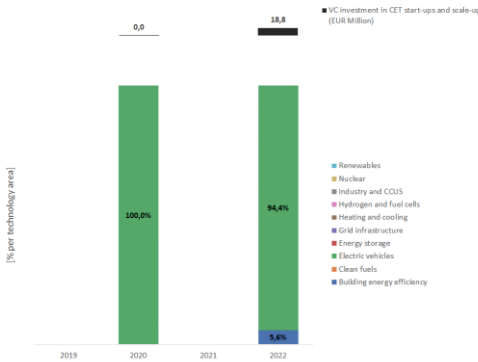
- With 837 gCO₂eq/2015EUR, Bulgaria lies above the EU average in terms of GHG intensity of GDP.
- With 6 tonnes of CO₂ equivalent per capita, Bulgaria is slightly below the EU average in terms of GHG emissions per capita.
- For more detailed information on country profiles see [Progress made in cutting emissions \(europa.eu\)](https://progress.made.in.cutting.emissions.europa.eu).

Research, innovation and competitiveness

1. INVESTMENT IN R&I

- Data related to public investment in Energy Union R&I priorities are not available.

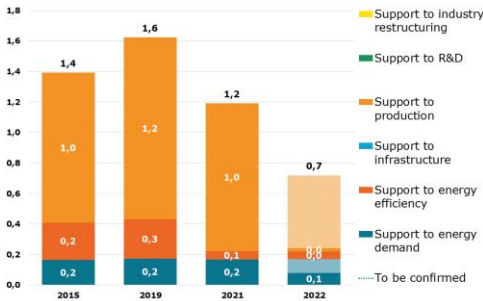
Graph 15: **Venture capital investment in clean energy technology (start-ups and scale-ups)**



(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

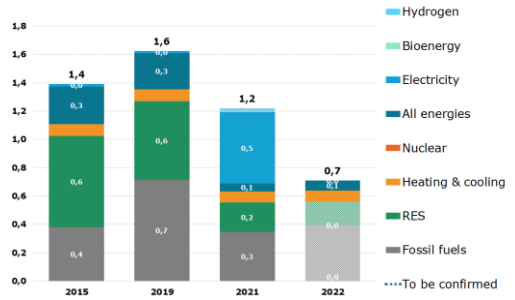
2. ENERGY SUBSIDIES

Graph 16: **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 17: **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 and accelerate the clean energy transition through faster deployment of renewable energy sources, together with storage capacities to increase the flexibility of the energy system. Strengthen the electricity grid infrastructure and improve its management by streamlining the connection procedures and introducing smart grid elements. Continue efforts to increase interconnection with neighbouring countries. Accelerate building renovation to incentivise energy efficiency and address energy poverty. Promote new future-proof solutions in district heating and 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 for Bulgaria](#).

National Energy and Climate Plan (NECP)

- **The draft updated NECP** was not submitted yet to the European Commission.

⁽³⁾ Council of the European Union 9823/1/23

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

Recovery and Resilience Plan (RRP) and REPowerEU chapter

- **The Bulgarian RRP was approved by the Council on 4 May 2022.**
- The implementation of the measures proposed in the RRP would allow Bulgaria to access **EUR 6.27 billion in grants**.
- **58.9%** of these funds are **allocated** for measures contributing to **climate objectives**.
- **The Commission disbursed so far EUR 1.37 billion to Bulgaria.** A 2nd payment request was submitted on 9 October 2023 and it's currently under assessment
- On 29 September 2023 Bulgaria submitted a **request to revise its RRP**, and yet has to submit the **REPowerEU chapter**.
- The amended RRP takes into account the **revised RRF grant allocation** for Bulgaria decreased to EUR 5.69 billion.
- For more information visit the [Recovery and Resilience Scoreboard \(europa.eu\)](#).