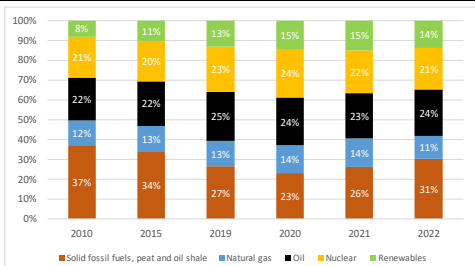


REPowerEU Two Years on_Bulgaria

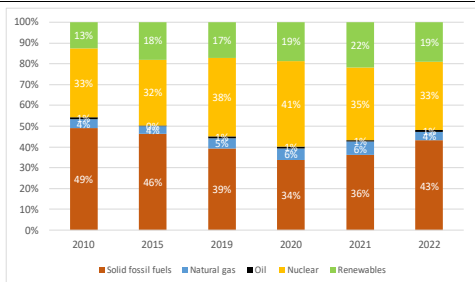
Key energy figures

Graph 1: Energy mix



Source: Eurostat

Graph 2: Electricity mix



Source: Eurostat

Save energy

1. KEY ENERGY SAVINGS MEASURES

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

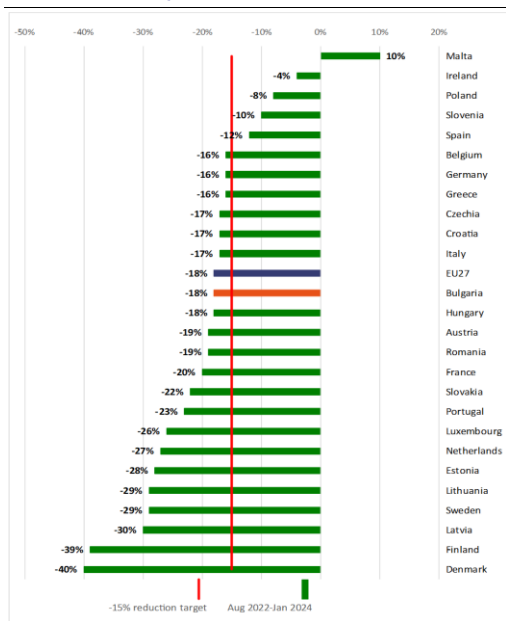
- The RRP targets **energy efficiency measures in state-owned or municipal buildings**, including schools, kindergartens and universities.

(1) Council Regulation (EU) 2023/706 of 30 March 2023, amending Regulation (EU) 2022/1369

2. GAS DEMAND REDUCTION

Bulgaria has reduced its gas consumption by **18%** in the period **August 2022 – January 2024**, in line with the decrease achieved at EU level (18%) but surpassing the 15% voluntary gas demand reduction agreed at the EU level ⁽¹⁾.

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

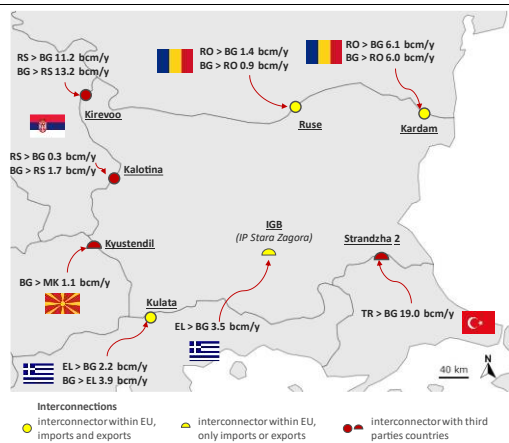
In **2022-2023 Bulgaria showed strong progress in diversifying away from Russian gas**, including by completing the Project of Common Interest (PCI) Greece-Bulgaria gas interconnector (ICGB).

2. GAS INFRASTRUCTURE DEVELOPMENTS

Its further expansion from 3 to 5 bcm/year will further increase security of supply for the region.

In 2023 the Bulgaria-Serbia gas interconnector PCI was inaugurated and is expected to become operational in 2024.

Map 1: Cross-border gas infrastructure



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

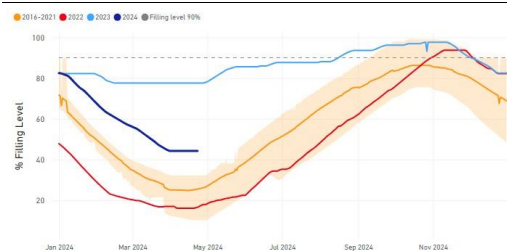
3. GAS STORAGE

Bulgaria operates one underground storage facility in Chiren with a total capacity of 0.55 bcm, representing around 20% of its total yearly demand and currently under expansion as a PCI.

Bulgaria fulfilled its gas storage obligations last winter, reaching 97.6% by 1 November 2023⁽²⁾, and ended the winter season with a storage filled at 44.22% by 1 April 2024.

⁽²⁾ 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 Bulgaria



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

4. NUCLEAR FUEL DIVERSIFICATION

The nuclear fuel diversification process is well advanced. In December 2022, Bulgaria's VVER-1000 Kozloduy nuclear power plant operator signed a contract with Westinghouse Electric Sweden for an alternative supply of nuclear fuel for Unit 5, which licencing is planned to be finalised by mid-2024. Another contract has been signed with French company Framatome (on 24 March 2023) envisaging delivery of fresh fuel for Unit 6.

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 **Bulgaria** aggregated gas demand of **0.81 bcm** in 2023 under the EU Energy Platform. This represents the equivalent of 29.86% of the country's yearly gas consumption.

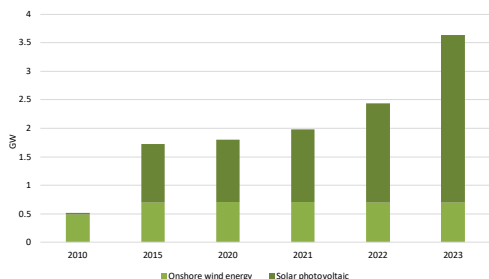
Produce clean energy

1. INSTALLED RENEWABLE ELECTRICITY CAPACITY, IN WIND AND SOLAR

In **2023**, Bulgaria installed around 1.2 GW of renewable electricity capacity, bringing the total to **6.2 GW** (vs. 4.5 GW in 2021).

In **2023**, the annual growth rate of installed renewables power capacity rose to **23.9%** compared to 3.9% in 2021⁽³⁾.

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, Bulgaria installed 0 MW of wind power capacity (vs. 1.6 MW in 2021).
- (3) In 2023, Bulgaria installed 1.2 GW of solar photovoltaic capacity (vs. 175 MW in 2021).

Source: IRENA, Renewable capacity statistics, 2024

2. ELECTRICITY INFRASTRUCTURE DEPLOYMENT

Despite strong electricity interconnection with its neighbours, including a new 400 kV line with Greece (PCI Maritsa East-Nea Santa), Bulgaria needs to improve its transmission and distribution grids. In 2023 requests to connect renewable sources to the grid reached 40 000 MW. To free grid capacity, Bulgaria introduced a ~25 000 EUR reservation charge for each MW of planned projects.

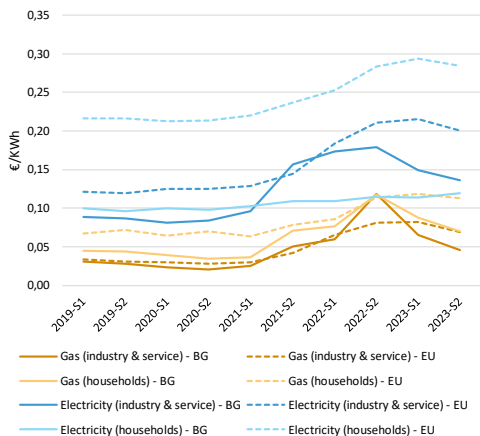
As part of its recovery and resilience plan, Bulgaria will develop an additional 1 200 MW of interconnection capacity with Romania and Greece by 2025 and will carry out investment to facilitate the integration of new renewable sources with 4 500 MW of capacity.

Bulgaria received EUR 197 million under the EU Modernisation Fund to upgrade its distribution grids and accelerate the deployment of smart meters. The Chaira pump hydro storage plant has a capacity of about 800 MW but has not been online since 2022, following an outage.

⁽³⁾ International Renewable Energy Agency (2024). Renewable capacity statistics 2024

Energy price developments

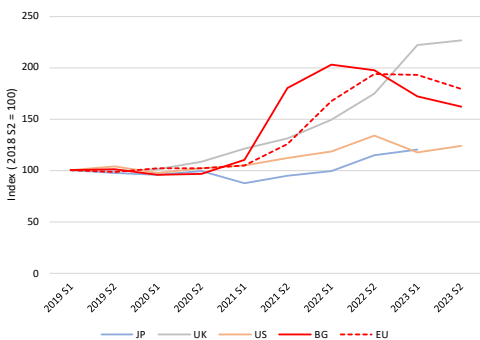
Graph 6: **Bulgaria's energy retail prices for households and industry & service**



- (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 BG), 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): (without a REPowerEU chapter)

- Approved by Council: on 8 December 2023
- Total amount: EUR 5.7 billion
- Amount allocated for energy: EUR 2.9 billion
- Climate tagging: 57.5 %

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



Source: European Commission

Tangible results: reforms & investments

- **Energy efficiency:** Renovation of at least 3.6 million m² in residential buildings and at least 1.4 million m² in non-residential buildings leading to savings of 30% in primary energy demand.
- **Renewables and storage:** Funding for at least 1 425 MW of renewables power production capacity co-located with at least 350 MW of energy storage systems. Support for at least 10 000 households for two measures: (1) install solar systems for domestic hot water supply and (2) install photovoltaic systems of up to 10 kWp, including electricity storage.
- **Infrastructure and storage:** Grid-scale electricity storage facilities with 3000 MWh of usable energy capacity.
- **Hydrogen and renewable gases:** Grants for the installation of green hydrogen production capacities of at least 55 MW in electrolyzers, producing at least 7 800 tonnes of hydrogen per year from renewable sources.

Highlights of the National Energy and Climate Plan

- The **draft updated NECP** was submitted to the European Commission in February 2024.
- 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

Bulgaria has a track record of exporting batteries and shows potential in this sector.

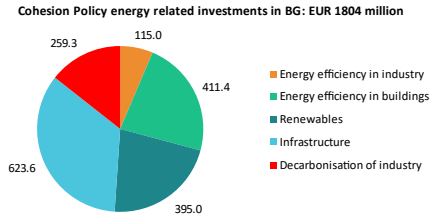
Two lead-acid battery manufacturing plants and one recycling facility (38400 t/y) are in operation under a Bulgarian battery producer. The company operating them has unveiled plans to establish a 1 GW bipolar lead-acid manufacturing plant. A Belgian battery producer has expressed an interest in developing a lithium-ion battery manufacturing facility (10 GW/y), a R&D centre and a recycling plant (50 000 t/y) in Bulgaria. And a Bulgarian-German joint-venture plans to create a Tier-1 PV panel manufacturing plant with an output capacity of 1 GW. Bulgaria also has a 1020 MW manufacturing capacity for alkaline electrolyzers.

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⁽⁴⁾

⁽⁴⁾ <https://cohesiondata.ec.europa.eu/d/hgyj-gyin>