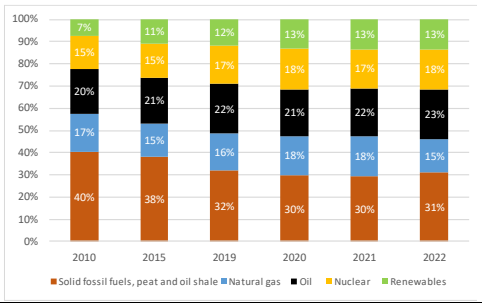
REPowerEU Two Years on_Czechia

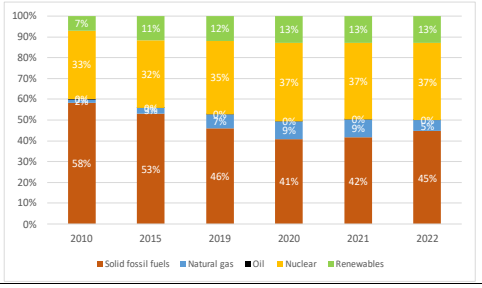
Key energy figures

Graph 1: **Energy mix**



Source: Eurostat

Graph 2: **Electricity mix**



Source: Eurostat

Save energy

1. KEY ENERGY SAVINGS MEASURES

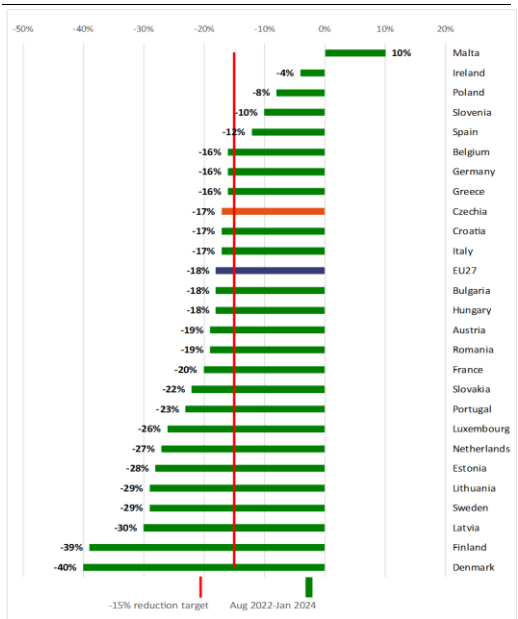
Czechia is implementing energy efficiency measures to contribute to energy security further, such as:

- Quick **information campaigns** and guidelines for public buildings.
- New **Green Savings Programme** has been one of the most effective programmes for energy savings in family houses and apartment buildings. It supports the reduction of energy intensity in residential buildings, the construction of houses with very low energy intensity, the environmentally friendly and efficient use of energy sources and renewable energy sources.
- New **Green Savings Light Programme** intended to support simple measures to reduce energy consumption and support insulation in low-income households.

2. GAS DEMAND REDUCTION

Czechia has reduced its gas consumption by **17%** in the period **August 2022 – January 2024**, below 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

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

Diversify energy supplies

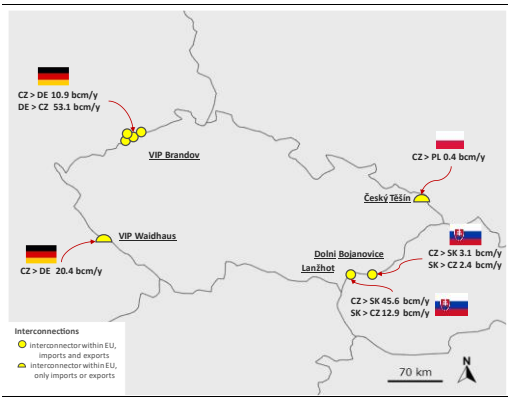
1. KEY ACTIONS

Czechia's energy mix remains dominated by fossil fuels, although the country plans to phase out coal by 2033. Fossil fuels are representing 70.4% of gross available energy in 2022. Natural gas holds a slightly less prominent position in comparison to the EU average, constituting 15% of the overall energy mix and of the electricity mix in 2023. Before the war in Ukraine, Czechia had a relatively high import dependence on Russia, reaching 25.4% in 2021, mainly for oil, liquid fuels and natural gas.

2. GAS INFRASTRUCTURE DEVELOPMENTS

The interruption of Russian gas supply due to the war in Ukraine prompted Czechia to diversify its supply channels, prioritising securing alternative sources for oil and gas. Czechia could rely on robust gas infrastructure with neighbouring countries, in particular with Germany and Slovakia, that allowed the country to cover its gas consumption with non-Russian gas. Czechia also has gas storage capacity, with a technical capacity of 44.8731 TWh, which was 81% full in mid-January 2024.

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



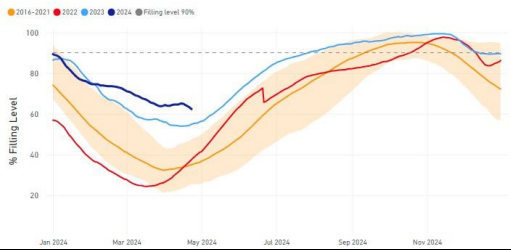
Source: European Commission map recreation (based on ENTSO- G)

3. GAS STORAGE

Czechia has eight underground **storage facilities**[2] with a total capacity of around 4.17 bcm, representing a bit more than half of its total yearly consumption. Since 2022, the underground storage facility in Dolni Bojanovice, which previously only supplied Slovakia, is now connected to the Czech gas market.

Czechia fulfilled its gas storage obligations last winter, reaching 99% by 1 November 2023[3], and ended the winter season with a storage filled at 64.29% by 1 April 2024.

Graph 4: **Storage levels in Czechia**



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

4. NUCLEAR FUEL DIVERSIFICATION

The nuclear fuel diversification process is progressing well. Czech utility ČEZ already signed two contracts with Westinghouse for alternative fuel supplies for the Temelin VVER-1000 nuclear power plant (NPP) and the Dukovany VVER-440 NPP. For the Temelin NPP, an alternative fuel contract was also signed with France's Framatome.

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 **Czechia** aggregated gas demand of **11.95 bcm** in 2023 under the EU Energy Platform. This represents the equivalent of

[2] Czechia has eight underground storage facilities managed by four storage system operators: Dambořice (managed by Moravia Gas Storage), Uhřice (managed by MND Energy Storage), Háje, Třanovice, Štramberk, Tvrdonice, Dolni Dunajovice, Lobodice (managed by RWE Gas Storage) and Dolni Bojanovice (managed by SPP Storage).

[3] 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.

156.96% of the country's yearly gas consumption.

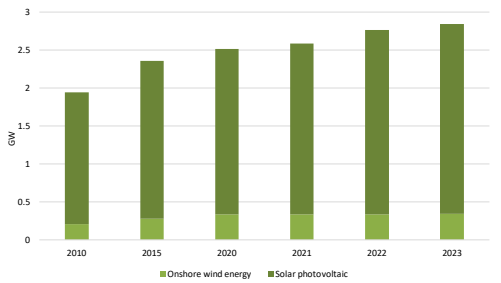
Produce clean energy

1. INSTALLED RENEWABLE ELECTRICITY CAPACITY, IN WIND AND SOLAR

In **2023**, Czechia installed 89 MW of renewable electricity capacity, bringing the total to **4.8 GW** (vs. 4.6 GW in 2021).

In **2023**, the annual growth rate of installed renewables power capacity stood at **1.9%** compared to 2.3 % in 2021 [4].

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



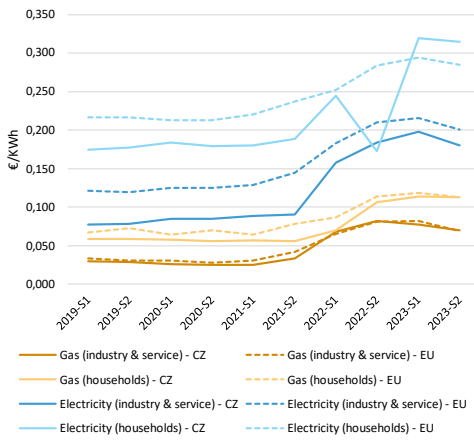
(1) The renewable power capacity data reflects the capacity installed and connected at the end of the calendar year.
(2) In 2023, Czechia installed 4.3 MW of wind power capacity (vs. 0 MW in 2021).
(3) In 2023, Czechia installed 79 MW of solar photovoltaic capacity (vs. 74 MW in 2021).
Source: IRENA, Renewable capacity statistics, 2024

2. ELECTRICITY INFRASTRUCTURE DEPLOYMENT

Although Czechia is well connected with its neighbours, the electricity network (and especially the regional distribution systems) needs to be modernised and digitalised, to remove severe bottlenecks in the grids and maximise the additional technical capacity for integrating renewables. Czechia has included specific reforms and investment in this area in the REPowerEU chapter of its recovery and resilience plan. Further reinforcements of the transmission grid are planned, to keep the adequate connectivity level and ensure the reliability of the grid in the future. Some of these projects have received PCI status, namely the cluster of internal lines in the northwest-south and southwest-east corridors and a new interconnector with Slovakia. Other electricity projects focus on modernising the distribution grid: Gabreta Smart Grids (Czechia, Germany) and ACON - Again COnnected Networks (Czechia, Slovakia).

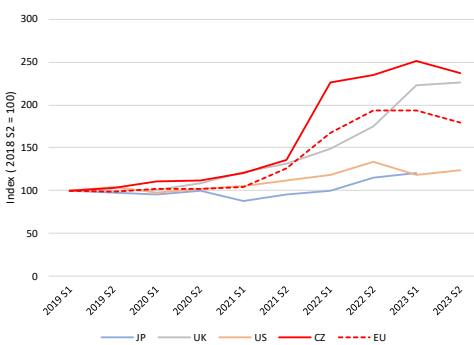
Energy price developments

Graph 6: **Czechia'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 CZ), 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

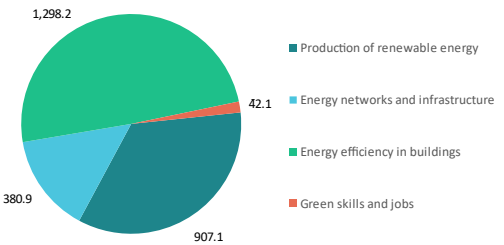
[4] International Renewable Energy Agency (2024). Renewable capacity statistics 2024

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 9.2 billion
- Amount allocated for energy: EUR 2.6 billion
- Climate tagging: RRP: 43 %; REPowerEU chapter: 98.6 %

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



Source: European Commission

Tangible results: reforms & investments

- **Energy Efficiency**: at least 620 public building renovation projects; modernisation of district heating infrastructure.
- **Renewables**: New capacity of photovoltaic energy sources of 494,7 MW installed and put into operation; Introduction of one-stop-shops. LEX RES 2, a reform that is addressing permitting procedures and energy sharing.
- **Infrastructure:** At least 1777 MW of cumulative additional capacity for connection of renewable energy sources to the distribution networks in Czechia.
- **Hydrogen:** Revision of the Czech Hydrogen Strategy.

Highlights of the National Energy and Climate Plan

- The **draft updated NECP** was submitted to the European Commission in October 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

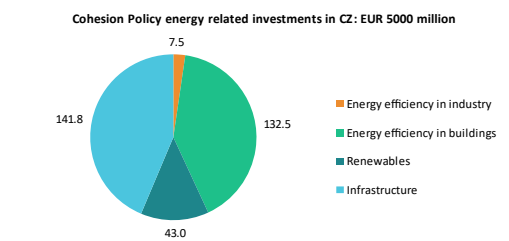
Czechia remains highly dependent on non-EU countries for clean energy technologies, though it has demonstrated progress in battery manufacturing and has a foothold in the wind supply chain. For wind, Czechia has manufacturing facilities for onshore wind towers and the related machinery in Chrudim and Běrunice. Regarding battery facilities, the first lithium-ion battery manufacturing facility was opened in Ostrava in 2017, and a second manufacturing plant opened in the Karvina region in 2020, with an annual production capacity of 1200 MWh. The envisaged large-scale lithium mining project in Cínovec, home to one of the largest lithium deposits in Europe, could significantly bolster Czechia's battery manufacturing supply chain.

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[5]

(5) https://cohesiondata.ec.europa.eu/d/hgyj-gyin