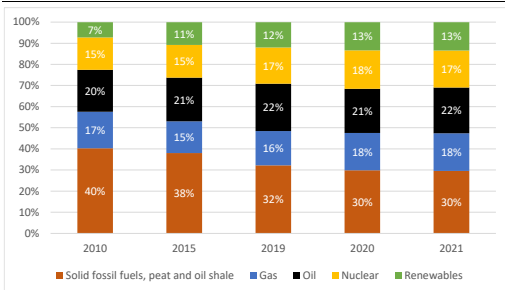


State of the Energy Union 2023 Czechia

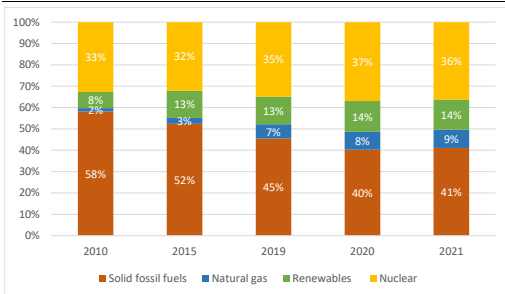
Key energy figures

Graph 1: Energy mix



Source: Eurostat

Graph 2: Electricity mix



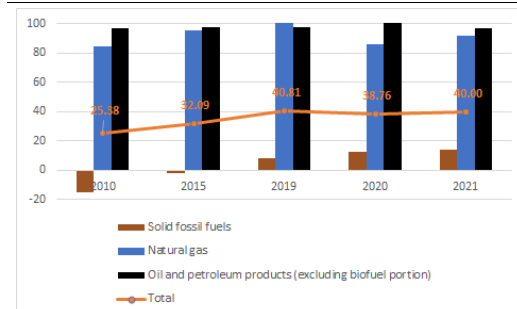
Source: Eurostat

- **Fossil fuels still play a major role in Czechia's energy mix.** While the share of coal in the energy mix has been decreasing in the last decade, the share of gas has been kept quite stable. The share of renewable sources has been increasing but at a very slow rate and nuclear will play a role in the decarbonisation of the country.
- **Fossil fuels, particularly coal also dominate the electricity generation mix.** The commitment to phase out coal by 2033 means that the electricity system will face significant challenges.

Security, solidarity and trust

1. DIVERSIFICATION OF ENERGY SOURCES AND REDUCTION OF IMPORT DEPENDENCY

Graph 3: Import dependency on fossil fuels



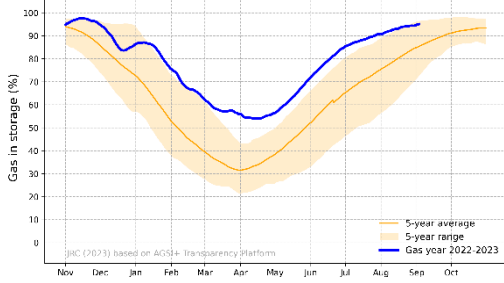
- (1) In percentages (%)
- (2) Combustible renewables and electricity are excluded
- (3) The total amount takes into consideration the energy mix of the country

Source: Eurostat

- Being fully dependent on Russian gas before Russia's invasion of Ukraine, Czechia **decreased Russian gas dependence significantly** and aims to be independent from Russian energy supplies in the short term.
- Increasing the pace at which **renewable energy is deployed is crucial to decarbonising Czechia's energy system.**

2. FLEXIBILITY OF THE ENERGY SYSTEM

Graph 4: Gas storage levels



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

- Czechia has **eight underground gas storage facilities** with a total capacity of around **3.54 bcm**.
- On 16 October, the country's storage capacity was filled to **98.86%**.

Integrated internal energy market

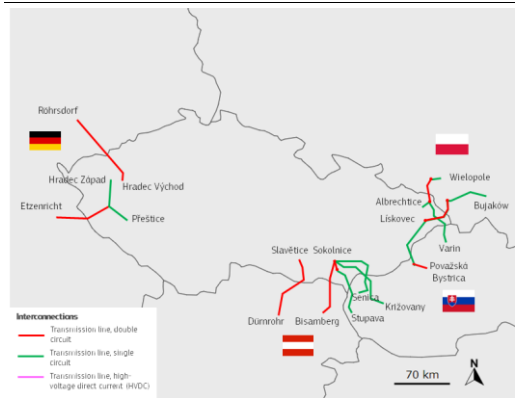
1. ELECTRICITY INTERCONNECTIVITY

2023	2030 target
25.32%	At least 15%

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

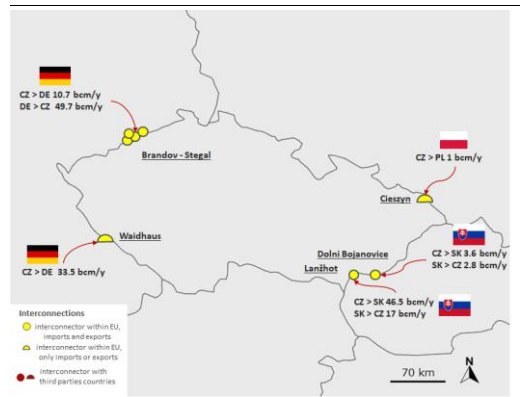
2. ENERGY TRANSMISSION INFRASTRUCTURE

Map 1: Cross-border electricity interconnections



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

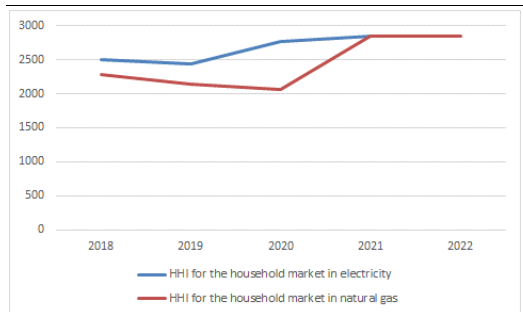
Map 2: Cross-border gas interconnections



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 Czechia, the market share of the three largest suppliers reached 76.5% for natural gas.

Rollout of electricity smart meters

- Data on the % of household consumers equipped with smart meters in 2022 is not available. In Czechia, there is no positive roll out decision made yet.⁽¹⁾

4. ENERGY POVERTY AND JUST TRANSITION

Table 1: Energy poverty

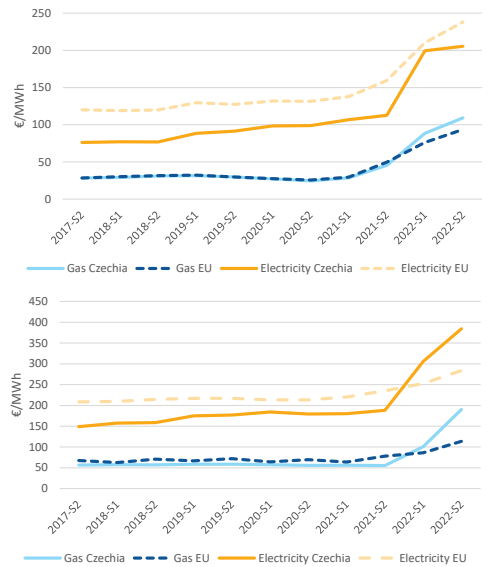
	Czechia			EU		
	2020	2021	2022	2020	2021	2022
Arrears on utility bills (households %)	1.9%	1.5%	1.9%	6.5%	6.4%	6.9%
Inability to keep home adequately warm (household %)	2.2%	2.2%	2.9%	7.5%	6.9%	9.3%
Population living in dwelling with presence of lead, damp and rot (population %)	6.8%	:	:	14.8%	:	:

Source: Eurostat

- **Just transition plan:** The Czech Just Transition Territorial Plans outline the move away from coal for the three coal regions of Usti, Moravian-Silesian and Karlovy Vary. The Just Transition Fund (JTF) Programmes will provide Czechia with 1.64€ billion in EU grants to support the country's efforts to phase out coal-fired power by 2033.

5. ENERGY PRICES

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



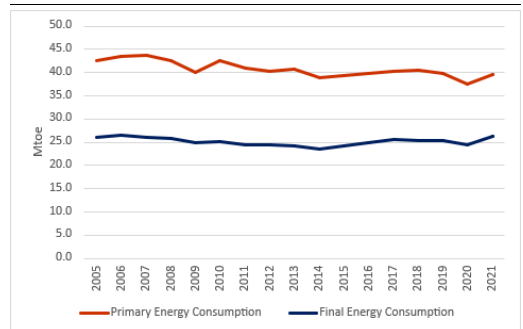
- (1) On electricity, the band consumption is for DC households and ID for industry
- (2) On gas, the band consumption is D2 for households and I4 for industry

Source: Eurostat

Energy efficiency

1. ENERGY EFFICIENCY

Graph 7: Primary and final energy consumption



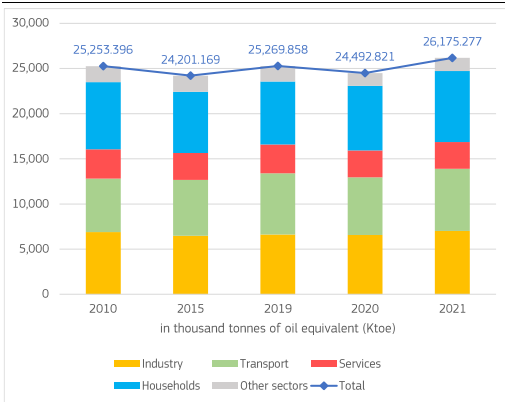
Source: Eurostat

- In 2021, Czechia's **Primary Energy Consumption (PEC)** amounted to 39.57 Mtoe, 0.4% lower than in 2019, while its **Final**

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

Energy Consumption (FEC) amounted to 26.18 Mtoe, 3.6% higher than in 2019.

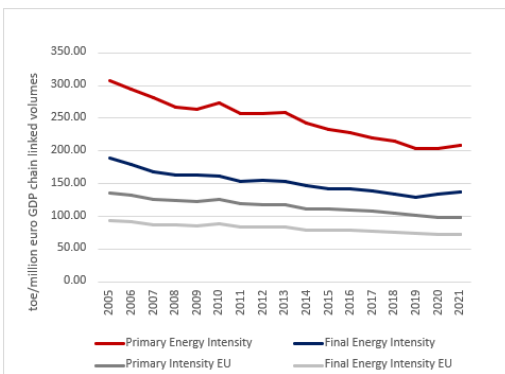
Graph 8: **Final energy consumption per sector**



(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

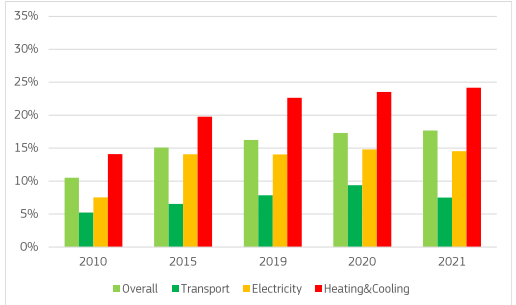
2. ENERGY SAVINGS IN BUILDINGS

- In 2020 there were **1.76 million** of **residential buildings** in **Czechia**.
- As per its 2020 Long Term Renovation Strategy (LTRS), **Czechia** targets to achieve **-8%** of energy savings **by 2030** compared to **2020** in the building sector.
- In 2021, the final energy consumption of residential buildings **decreased by 1.93%** compared to 2019.
- The sales of heat pumps amounted to **62.609 units** in 2022 representing an increase of **109%** compared to 2021, as per the European Heat Pump Association (EHPA).

Decarbonisation and climate action

1. SECTORAL SHARE OF RENEWABLE ENERGY

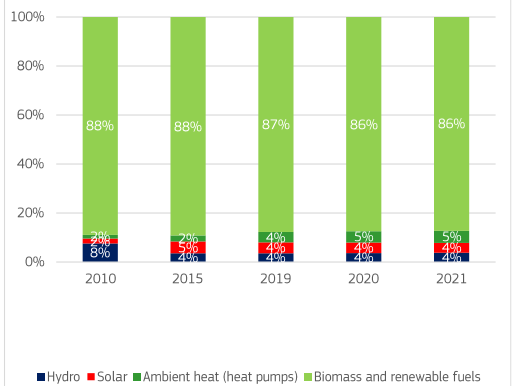
Graph 10: **Share of renewable energy sources**



(1) In % of gross final consumption of energy

Source: Eurostat

Graph 11: **Renewable energy mix**

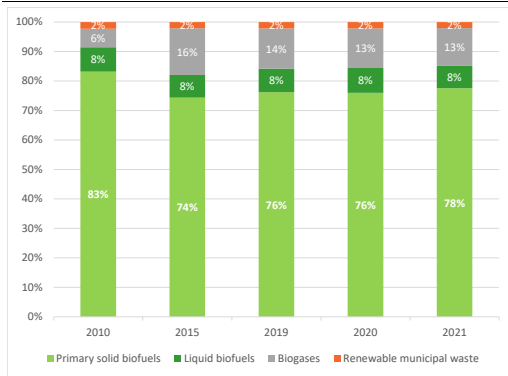


(1) In % of gross final energy consumption

Source: Eurostat

2. BIOENERGY DEMAND

Graph 12: Bioenergy mix

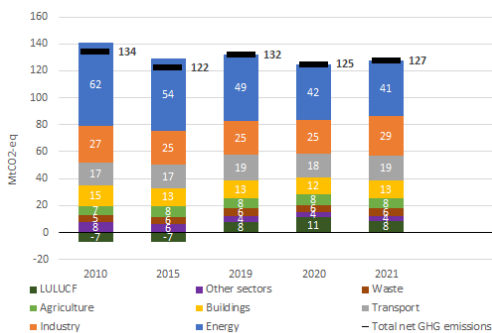


(1) Composition of bioenergy, in % of gross inland consumption of energy

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.

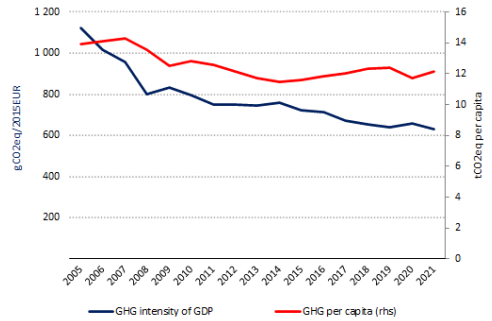
(3) Buildings include emissions from energy use in residential and tertiary buildings, and energy use in agriculture and fishery sectors.

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

Source: EEA

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

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).

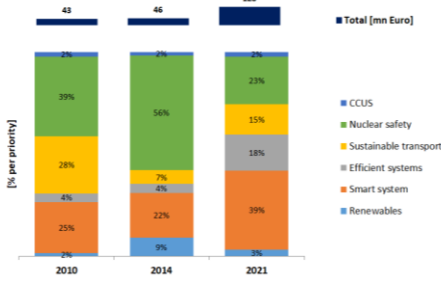
- With 629 gCO₂eq/2015EUR, Czechia lies above the EU average in terms of GHG intensity of GDP.
- With 12 tonnes of CO₂ equivalent per capita, Czechia is slightly above the EU average in terms of GHG emissions per capita.
- For more detailed information on country profiles see [Progress made in cutting emissions \(europa.eu\)](https://europea.eu).

Research, innovation and competitiveness

1. INVESTMENT IN R&I

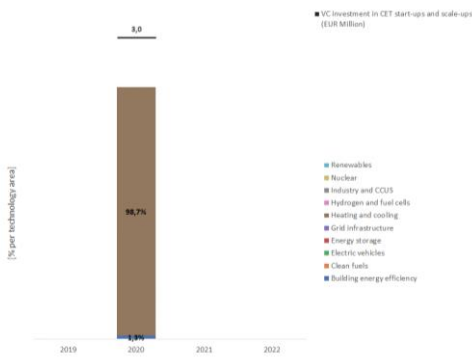
- Public investment in research and innovation (R&I) in Energy Union priorities⁽²⁾ increased from 0.029% in 2014 to 0.054% in 2021 (share of GDP).

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)

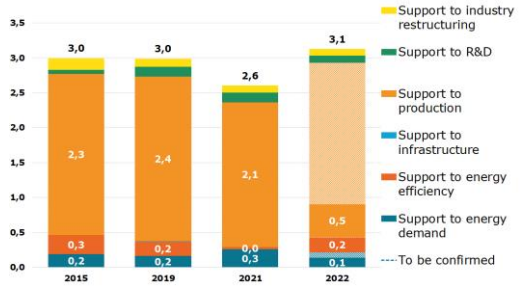


(1) Firms typically use venture capital to expand, break into new markets, and grow faster. Venture capital is essential for the growth of innovative firms and it is key to foster the EU's competitiveness and to strengthen the EU's technology sovereignty in the clean energy sector.

Source: JRC SETIS 2023

2. ENERGY SUBSIDIES

Graph 17: Energy subsidies by purpose

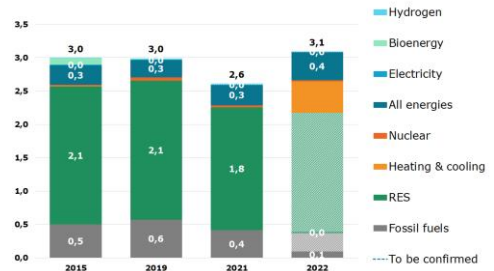


(1) Subsidies in EUR 2022 billion

(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. Increase the deployment of renewables with additional investments in electricity grids and direct deployment of renewable capacity. Streamline permitting procedures for renewables and make the grid fit to accommodate access to renewables through additional reforms, removing restrictions for small-scale renewables and setting up a one-stop shop, boosting grid flexibility and creating

conductive conditions for energy communities. Increase the energy efficiency of district heating systems and of the building stock by incentivising deep renovations and renewable heat sources, easing administrative access to subsidies for both households and industry, and capacity building and skills in public authorities. Promote the uptake of zero-emission vehicles and boost the availability of high-capacity charging and refuelling infrastructure through new reforms to create enabling conditions for and remove existing barriers to the deployment of vehicles and infrastructure. 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 not submitted yet to the European Commission.
- For more information see the dedicated [webpage of the European Commission on the NECPs](#).

Recovery and Resilience Plan (RRP) and REPowerEU chapter

- **The Czech RRP was approved by the Council on 8 September 2021.**
- The implementation of the measures proposed in the RRP would allow Czechia to access **EUR 7.1 billion in grants**.
- The Commission **disbursed so far EUR 1.84 billion to Czechia**. A 1st payment request was disbursed on 22 March 2023.
- On 30 June 2023 Czechia submitted a **request to revise its RRP**, adding a **REPowerEU chapter**.
- The REPowerEU chapter proposed by Czechia includes 15 **new reforms**, nine **new investments**.
- The amended RRP takes into account the **revised RRF grant allocation** for Czechia increased to EUR 7.67 billion. It includes also

the EUR 681 million **REPowerEU grant allocation** and EUR 55 million **voluntary transfer from the Brexit Adjustment Reserve**. Czechia has also requested EUR 818 million in **loans**. The **total amount available** is therefore EUR 9.2 billion.

- **42.9%** of these funds are **allocated** for measures contributing to **climate objectives**, up from the 42.4% in the original plan.
- 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](#).

⁽³⁾ Council of the European Union 9824/1/23