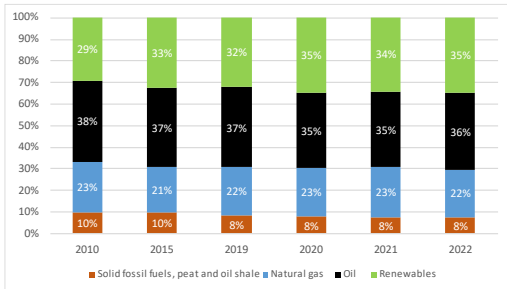


State of the Energy Union 2024: Austria

Key energy figures

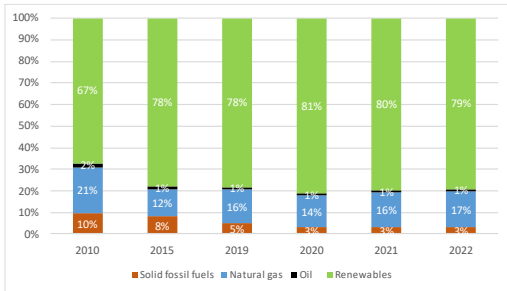
Graph 1: **Energy mix**



(1) The 2022 gross inland energy consumption was 1.3 million TJ. (2.3% of the total EU consumption).

Source: Eurostat

Graph 2: **Electricity mix**



(1) The 2022 gross electricity production was 64.7 TWh. (2.3% of the total EU production).

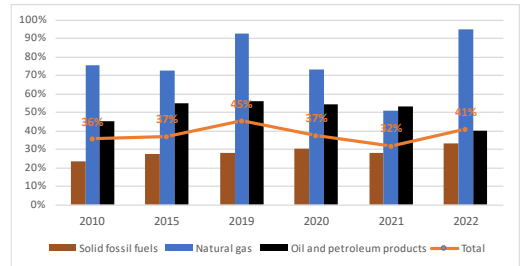
Source: Eurostat

- Fossil fuels account for almost two thirds (65.3%) of Austria's **energy mix** (compared to 69% at EU level). The renewables account for the remaining 34.7%.
- The **electricity mix** of Austria is dominated by renewable energy with 79.1% (compared to 38.6% at EU level). Fossil fuels account for 20.1% (compared to 38.6% at EU level).

Security, solidarity and trust

1. DIVERSIFICATION OF ENERGY SOURCES AND REDUCTION OF IMPORT DEPENDENCY

Graph 3: **Import dependency on fossil fuels**



(1) The graph shows the Member States' import dependency on third countries by fuel type.

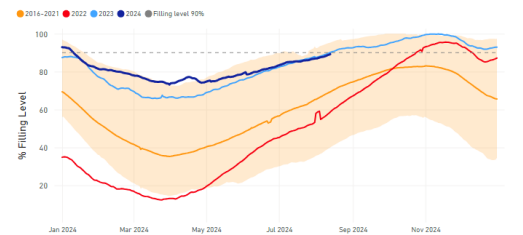
(2) Combustible renewables and electricity are excluded.

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

Source: Eurostat

2. FLEXIBILITY OF THE ENERGY SYSTEM

Graph 4: **Storage levels in Austria**



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

- Austria has **nine underground gas storage facilities** with a total capacity of **9.16 bcm**, representing 112% of its annual gas consumption in 2022.
- On 17 August 2024, the country's storage capacity was filled to 90.32%.

Integrated internal energy market

1. ELECTRICITY INTERCONNECTIVITY

Table 1: Electricity interconnectivity

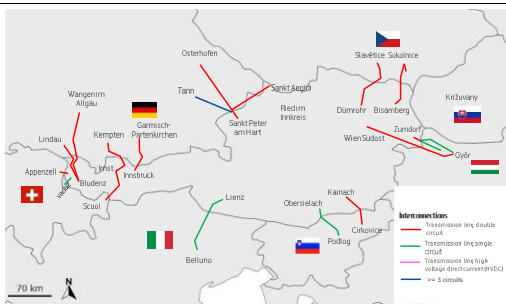
| 2024 | 2030 target |
|--------|--------------|
| 29.0 % | At least 15% |

1) The electricity interconnectivity is a ratio of electricity import capacity of a given Member State (sum of net transfer capacities of interconnectors with neighbouring Member States) and its total power generation capacity. The 2030 level represents the general interconnectivity target of 15%.

Source: European Commission's own calculations based on the ENTSO-E Winter Outlook 2023-2024 data

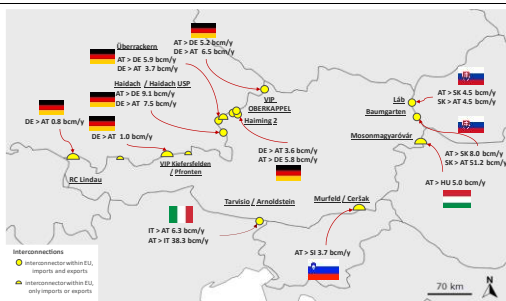
2. ENERGY TRANSMISSION INFRASTRUCTURE

Map 1: Cross-border electricity infrastructure



Source: DG ENER map recreation (based on ENTSO-E)

Map 2: Cross-border gas infrastructure



(1) The capacities are based on ENTSO-G 2024 capacity dataset (as of 11 January 2024) and the ENTSO-G Transparency Platform. Source: DG ENER map recreation (based on ENTSO-G)

3. MARKET INTEGRATION

Rollout of electricity smart meters

- Austria has reached 80% coverage for the roll-out of smart meters, with a near real-time access to consumption data based on a 15-minute interval⁽¹⁾.

⁽¹⁾ ACER, 2024 Retail Market Monitoring Report, Energy retail and decarbonisation (forthcoming).

Diversification of gas supplies

- In 2023, Austria had 5 natural gas supply sources, compared to 4 in 2021. Its three largest suppliers accounted for 94%, with Russia being the main supplier, holding a share of 44%. In 2021, Russia with 86%, Germany with 12%, and its own domestic production (2%) were Austria's biggest natural gas supply sources.⁽²⁾

4. ENERGY POVERTY, SOCIAL CLIMATE PLAN AND JUST TRANSITION

Table 2: Energy poverty

| Indicator | % | Evolution compared to | | EU average |
|--|------|-----------------------|----------|------------|
| | | 2021 | 2017 | |
| EED NECPs four main indicators | 2023 | 2021 | 2017 | |
| Inability to keep home adequately warm | 3.9 | + 2.2 pp | + 1.5 pp | 10.6 |
| Arrears on utility bills | 5.5 | + 3.1 pp | + 1.9 pp | 6.9 |
| Share of pop. With leak, damp or rot in dwelling | 10.5 | + 1.4 pp (2020) | - 1.4 pp | 15.5 |
| ARDP (At risk of poverty) | 14.9 | + 0.2 pp | + 0.5 pp | 16.2 |

Source: Eurostat

Social Climate Plan

- Member States need to submit these plans to the European Commission by June 2025.
- Maximum financial allocation for Austria: EUR 643 million or 0.89 % of total SCF.

Just Transition Plan

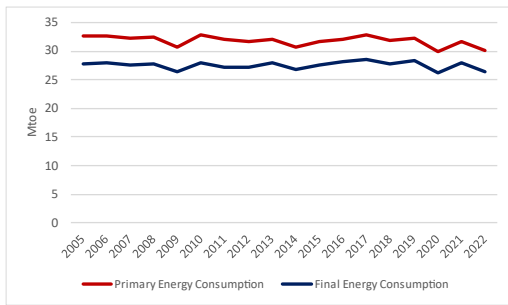
- The Austrian Territorial Just Transition Plans (TJTP) outline the transition towards climate neutrality in the carbon-intensive regions of Upper Austria, Carinthia, Lower Austria, and Styria. The plans set out how the Just Transition Fund (JTF), with a national allocation of EUR 135 million, will support the development of greener and sustainable business models, proactively accompanying companies in their transition process.

⁽²⁾ ACER-CEER Annual Report Monitoring: The Internal Gas Market in 2022 and 2023.

Energy efficiency

1. ENERGY EFFICIENCY

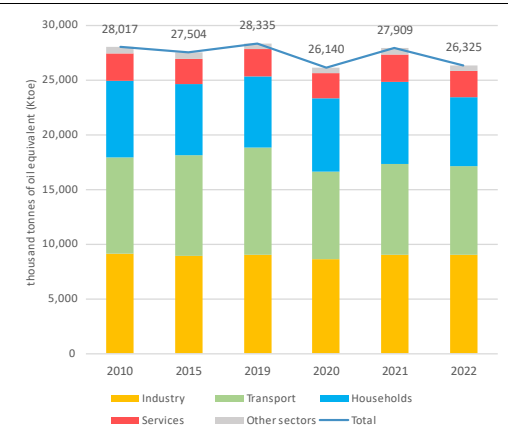
Graph 5: Primary and final energy consumption



Source: Eurostat

- In 2022, Austria's **Primary Energy Consumption (PEC)** amounted to 30.2 Mtoe, 4.6% lower than in 2021, while its **Final Energy Consumption (FEC)** amounted to 26.3 Mtoe, 5.6% lower than in 2021.

Graph 6: Final energy consumption by sector

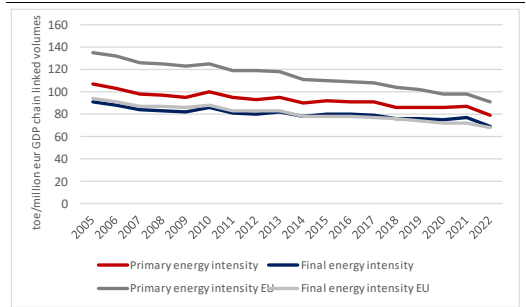


(1) Final energy consumption excludes consumption of the energy sector (including transformation and distribution losses) and non-energy use of energy carriers.

Source: Eurostat

(3) Following JRC's methodology (see for reference "Energy Consumption and Energy Efficiency trends in the EU, 2000 – 2020).

Graph 7: Primary and final energy intensity



Source: Eurostat

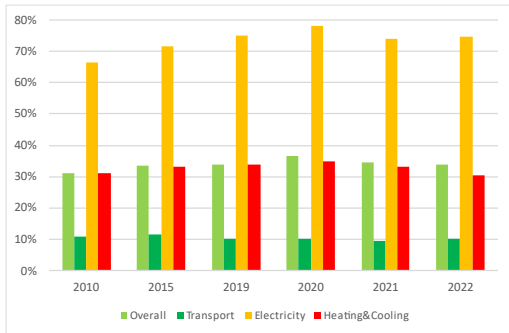
2. ENERGY PERFORMANCE OF BUILDINGS

- In 2022, Final Energy Consumption (FEC) in the Austrian **residential sector** was **6.4 Mtoe**, representing a **reduction of 15.4%** compared to 2021. In the **services sector**, FEC was **2.3 Mtoe**, with an **6.0% decrease** compared to 2021. However, climate corrected data⁽³⁾ show a **residential FEC decrease of 4.2%** from 2021 to 2022, indicating that the above reduction is partially climate-related (e.g. milder winter) rather than linked with an improvement of the building stock.
- Heating and cooling account for around **83%** of the country's residential final energy consumption, with renewables supplying approximately **31%** of the gross final energy consumption for heating and cooling. Around 55,000 heat pumps were sold in 2023, representing a decrease of 9% compared to the sales of the previous year, reaching a total stock of around 486,000 installed heat pumps, as per the European Heat Pump Association (EHPA).
- In 2023, **5.5%** of the total population was experiencing difficulties on paying their utility bills while **3.9%** was not able to keep their home adequately warm over the cold periods of the year (growing from 2021, when such figures were, respectively, 2.4% and 1.7%). This underlines the importance to increase rate and depth of building renovation, specifically of worst-performing buildings.

Decarbonisation and climate action

1. SECTORAL SHARE OF RENEWABLE ENERGY

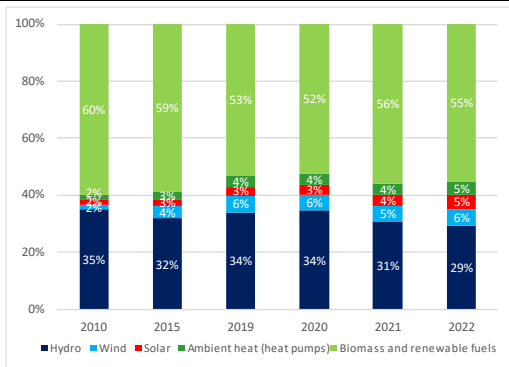
Graph 8: Share of renewable energy sources



(1) In % of gross final consumption of energy.

Source: Eurostat

Graph 9: Renewable energy mix

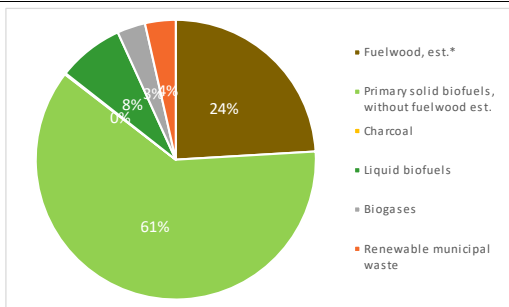


(1) In % of gross final consumption of energy.

Source: Eurostat

2. BIOENERGY MIX

Graph 10: Bioenergy mix



(1) In % of gross final consumption of energy (2022).

(2) * Fuelwood estimate, based on the Primary solid biofuels consumption in Other sectors, Eurostat and industry secondary data, DG ENER estimations.

Source: Eurostat and DG ENER

- For more information see the dedicated [website on biomethane country fiches](#).

3. HYDROGEN

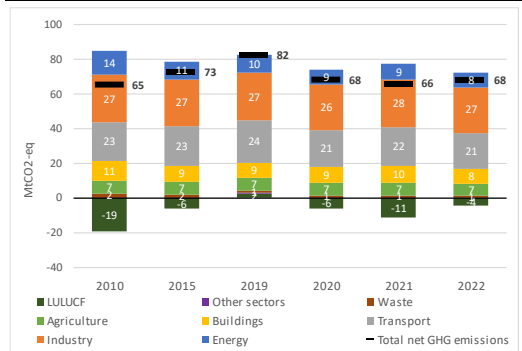
Table 3: Operational hydrogen projects

| Name | Description |
|---|------------------------------|
| H2FUTURE | 6 MW connected to the grid |
| Underground Sun Storage | 0.6 MW from solar PV |
| MPREIS Hydrogen (within "Demo4Grid") | 3.1 MW connected to the grid |
| Fronius Solhub - SAN Group Herzogenburg | 0.7 MW from solar PV |
| Energie Steiermark plant in Styria | 1 MW from solar PV |
| Renewable Gasfield | 300t H2/y |
| HySnowGroomer (within HyWest) | 0.35 MW from solar PV |
| Hotflex | 0.15 MW from hydropower |

Source: European Commission based on IEA data

4. GREENHOUSE GAS EMISSIONS

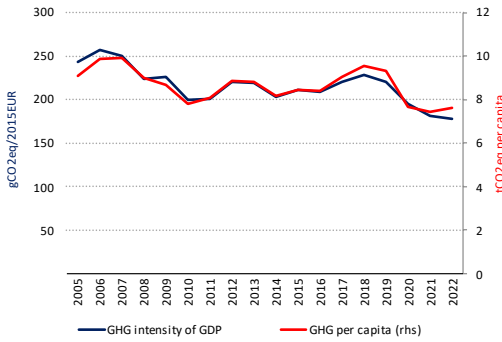
Graph 11: Greenhouse gas emissions by sector



Based on UNFCC GHG Inventory reporting as per the IPCC categories: (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: Greenhouse gas inventory 1990-2022 (EEA)

Graph 12: **GHG per capita and GHG intensity of GDP**



(1) Total greenhouse gas emissions, including LULUCF and excluding international aviation.

Source: Greenhouse gas inventory 1990-2022 (EEA). Real GDP in 2015-prices (AMECO, European Commission). Population (Eurostat).

- With 178 gCO₂eq/2015EUR, Austria lies below the EU average in terms of GHG intensity of GDP.
- With 8 tonnes of CO₂ equivalent per capita, Austria is above the EU average in terms of GHG emissions per capita.
- For more detailed information on country profiles see [Progress on climate action \(europa.eu\)](https://europa.eu).

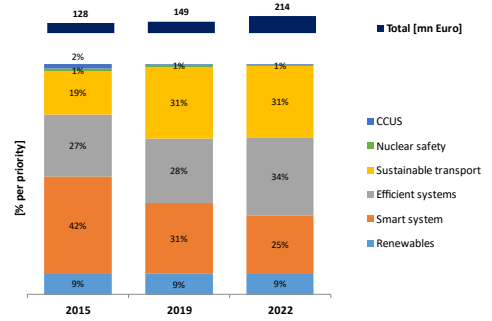
Research, innovation and competitiveness

1. INVESTMENT IN R&I

- Public investment in research and innovation (R&I) in Energy Union priorities⁽⁴⁾ increased from 0.037% in 2015 to 0.048% in 2022 (share of GDP).⁽⁵⁾

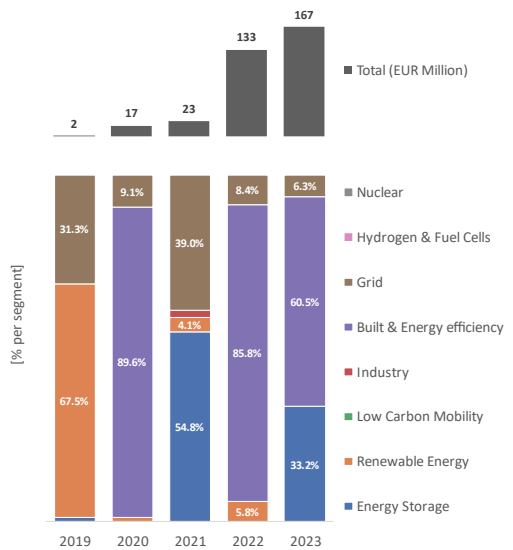
⁽⁴⁾ Renewables, smart system, efficient systems, sustainable transport, CCUS and nuclear safety, COM(2015) 80 final ('Energy Union Package').

Graph 13: **Public investment in Energy Union R&I priorities**



Source: JRC SETIS 2024

Graph 14: **Venture capital investment in net-zero 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 net-zero energy sector.

Source: JRC elaboration based on PitchBook data (08/2024)

2. NET-ZERO ENERGY TECHNOLOGIES

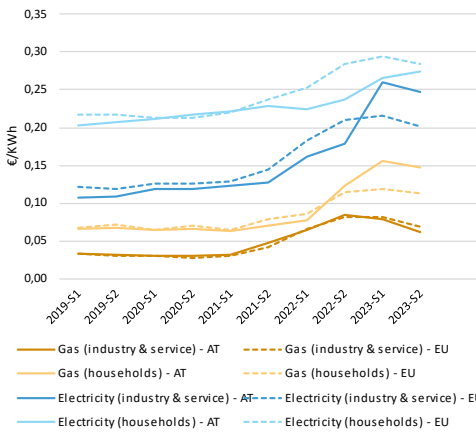
- Austria has a significant footprint in the solar industry and in the supply chain for battery manufacturing, with great potential for increasing capacity further. There are at least six manufacturers of PV modules operational in Austria, with an estimated manufacturing capacity close to 1 GW per year. Three of them specialise in flexible photovoltaic modules for building envelopes, devices and vehicles.

⁽⁵⁾ Source: JRC SETIS 2024

Austria is also among the leading inverter manufacturers in the EU. On wind, few Austrian companies are cooperating in the production of key wind turbine components such as transformers or main bearings for the global original equipment manufacturers. Regarding energy storage systems, Austria holds a strong position in redox flow batteries, being in the global top three, together with Japan and the US. This sector has great potential for lithium-ion technologies. In Wolfurt, there is a lithium-ion battery producer involved in pioneering energy storage systems utilising recycled lithium-ion EV batteries. The company plans to increase its production capacity to reach 1 GWh annually. Regarding electrolysers, Austria does not have manufacturing capacity per se but was granted in July 2022 EU funding under the framework for Important Projects of Common European Interest for the world's first 1 MW high-temperature solid oxide electrolyser based on metal-supported cells (MSCs).

3. ENERGY PRICES DEVELOPMENT

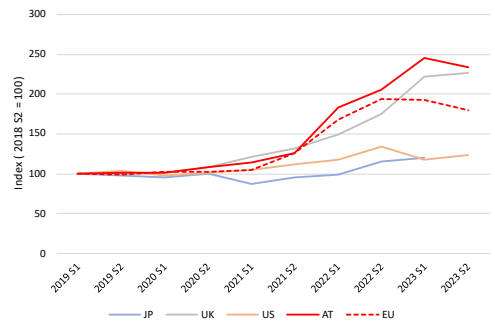
Graph 15: Austria's energy retail prices for households and industry & service



- (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 16: Trends in electricity prices for non-household consumers (EU and foreign partners)

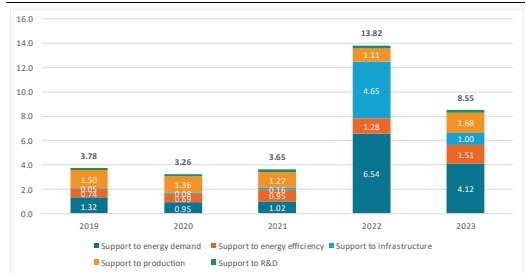


- (1) For Eurostat data (EU and AT), the band consumption is ID referring to large-sized consumers with an annual consumption of between 2 000 MWh and 20 000 MWh, such as in electricity intensive manufacturing sectors, and gives an insight into international competitiveness.
- (2) JP = Japan

Source: Eurostat, IEA

4. ENERGY SUBSIDIES

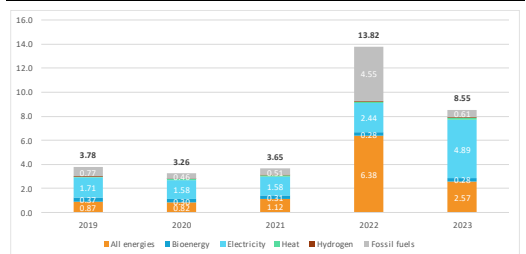
Graph 17: Energy subsidies by purpose



- (1) Subsidies in EUR 2023 billion
- (2) Some 2023 data were not fully available or validated at the time the study was completed (August 2024). For missing 2023 values, 2022 data were taken as a basis for an estimate.

Source: Enerdata. Inventory of energy subsidies in the EU27 – 2024 edition

Graph 18: Energy subsidies by carrier



- (1) Subsidies in EUR 2023 billion
- (2) Some 2023 data were not fully available or validated at the time the study was completed (August 2024). For missing 2023 values, 2022 data were taken as a basis for an estimate.

Source: Enerdata. Inventory of energy subsidies in the EU27 – 2024 edition

European Semester 2024

- **Country Specific Recommendation (Energy):** Improve energy security by accelerating the diversification of gas supply towards non-Russian sources. Further reduce emissions, in particular in the transport sector.⁽⁶⁾
- For more information see the [2024 European Semester Country Report](#).

National Energy and Climate Plan (NECP)

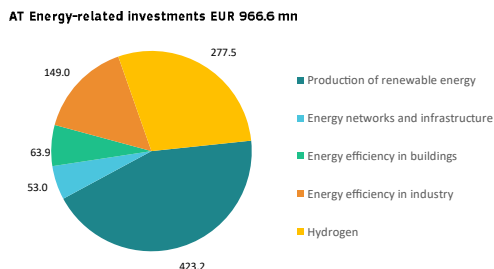
- The **draft updated NECP** was submitted to the European Commission in August 2024.
- Member States were due to submit their **final updated NECP by 30 June 2024**, taking into account the Commission recommendations.
- **The final updated NECP** was not submitted yet to the European Commission.
- For documents and information see the dedicated [webpage of the European Commission on the NECPs](#).

Recovery and Resilience Plan (RRP and REPowerEU chapter)

- The Austrian RRP has a total allocation of EUR 4 billion (only grants), with 56 % of available funds supporting climate objectives.
- **EUR 1 billion are allocated to energy-related measures**, with the largest amount for the **production of renewable energy** [EUR 423.2 million]:
 - **Investment in photovoltaic systems;**
 - **Exchange of oil and gas heating systems** for private individuals (at least 31 800 projects) to replace fossil-fuel heating system with biomass-based heaters and heat pumps;
 - **Green investments in enterprises** (at least 13 476 companies), in the production of renewable energy (PV and electricity storage systems).
- In 2023 the Commission disbursed the 1st payment of EUR 700 million to Austria. The 2nd payment request is likely to be submitted in

the Q3 2024, and possibly also a 3rd one, at the same time or soon afterwards.

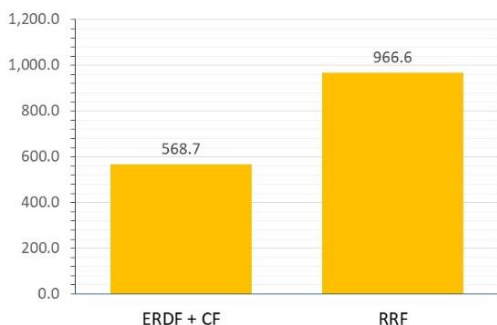
Graph 19: **Energy-related investments in the RRP (in EUR million)**



Source: European Commission

EU Funds supporting energy related investments

Graph 20: **Energy-related investments across EU funds (in EUR million) (*)**



(*) European Regional Development Fund (ERDF) + Cohesion Fund (CF): comprise EU grants & national cofinancing; RRF: comprise grants & loans. Investment categories can also differ across funds.

Source: European Commission

- **Innovation Fund: EUR 50.9 million.** For more information see the webpage [innovation-fund-projects-country_en](#).
- **CEF-Energy: EUR 23.5 million** (1.2% of total EU contribution, for 2021-2027). For more information see [CINEA's Project Portfolio dashboard](#).

⁽⁶⁾ Council of the European Union 11712/24.