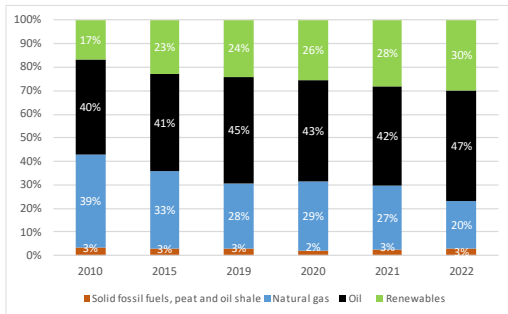




State of the Energy Union 2024: Lithuania

Key energy figures

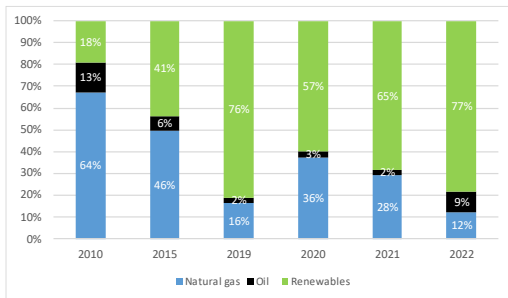
Graph 1: **Energy mix**



(1) The 2022 gross inland energy consumption was 263 693 TJ. (0.5% of the total EU consumption).

Source: Eurostat

Graph 2: **Electricity mix**



(1) The 2022 gross electricity production was 4.2 TWh. (0.2% of the total EU production).

Source: Eurostat

- Fossil fuels account for 70.1% of Lithuania's **energy mix** (similarly to 69% at EU level). The share of renewables was 29.9%.
- The **electricity mix** of Lithuania is dominated by renewable energy with 77.4% (compared to 39.4% at EU level). Another 21.1% came

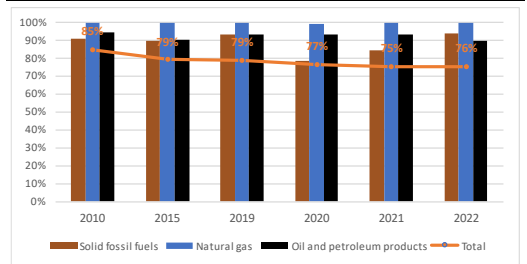
(1) Report from the Commission to the European Parliament and the Council of 27 February 2024 on certain aspects concerning gas storage based on Regulation (EU) 2017/1938 of the European Parliament and of the Council.

from fossil fuels (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

- Lithuania **has no underground gas storage facility** but cooperates with Latvia and stores gas volumes in their facility, in accordance with the burden-sharing mechanism⁽¹⁾.

Integrated internal energy market

1. ELECTRICITY INTERCONNECTIVITY

Table 1: Electricity interconnectivity

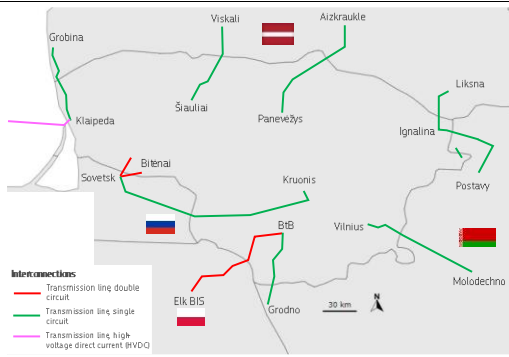
| 2024 | 2030 target |
|--------|--------------|
| 41.0 % | At least 15% |

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

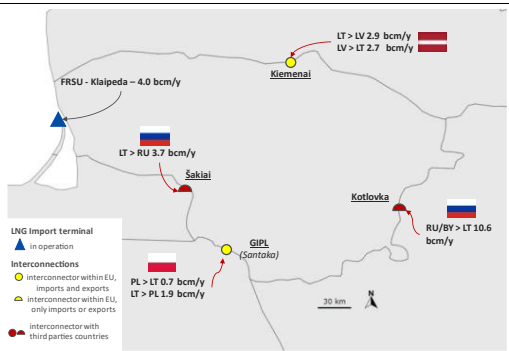
2. ENERGY TRANSMISSION INFRASTRUCTURE

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)

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

3. MARKET INTEGRATION

Rollout of electricity smart meters

- The latest ACER/CEER Market Monitoring Report indicates that Lithuania has a 58 % smart meter roll out with consumers having access to near real time consumption data possible at a 15-minutes interval. (2)

Diversification of gas supplies

- In 2023, Lithuania had 4 natural gas supply sources, compared to 3 in 2021. Its three largest suppliers accounted for 95%, with Norway being the main supplier, holding a share of 47%. In 2021, Norway with 55%, Russia with 27%, and the United States (5%) were Lithuania's biggest natural gas supply sources. (3)

4. ENERGY POVERTY, SOCIAL CLIMATE PLAN AND JUST TRANSITION

Table 2: Energy poverty

| Indicator | Evolution compared to | | | EU average |
|--|-----------------------|-----------------|----------|------------|
| | 2023 | 2021 | 2017 | |
| EED NECPs four main indicators | | | | |
| Inability to keep home adequately warm | 20.0 | - 2.5 pp | - 8.9 pp | 10.6 |
| Arrears on utility bills | 6.5 | + 1 pp | - 1.4 pp | 6.9 |
| Share of pop. With leak, damp or rot in dwelling | 8.6 | - 2.3 pp (2020) | - 7.1 pp | 15.5 |
| AROP (At risk of poverty) | 20.6 | + 0.6 pp | - 2.3 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 Lithuania: EUR 738 million or 1.02 % of total SCF.

Just Transition Plan

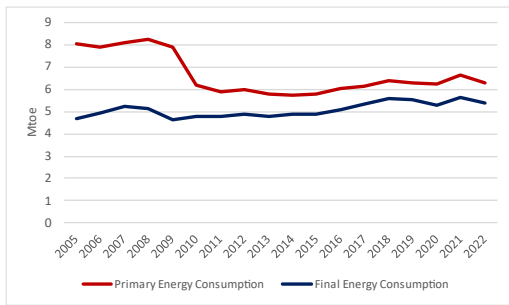
- Lithuania's Territorial Just Transition Plan (TJTP) outlines transition away from fossil fuel-based industries in Kaunas, Telsiai and Siauliai regions. The plan sets out how the Just Transition Fund (JTF), with a national allocation of EUR 273 million will support SME development, energy efficient and greener production processes, rejuvenation of industrial lands and reskilling of the workforce.

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

Energy efficiency

1. ENERGY EFFICIENCY

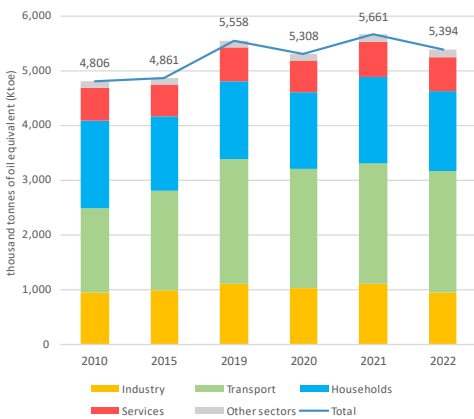
Graph 4: Primary and final energy consumption



Source: Eurostat

- In 2022, Lithuania's **Primary Energy Consumption (PEC)** amounted to 6.3 Mtoe, 4.8% lower than in 2021, while its **Final Energy Consumption (FEC)** amounted to 5.4 Mtoe, 4.7% lower/higher than in 2021.

Graph 5: Final energy consumption by sector

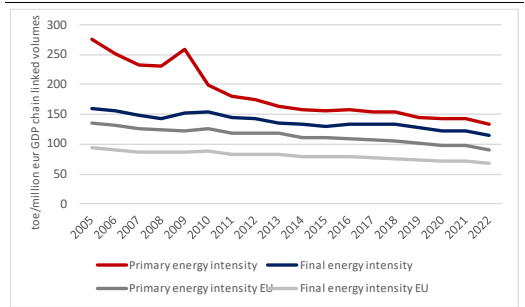


(1) Final energy consumption excludes consumption of the energy sector (including transformation and distribution losses) and non-energy use of energy carriers.

Source: Eurostat

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

Graph 6: Primary and final energy intensity



Source: Eurostat

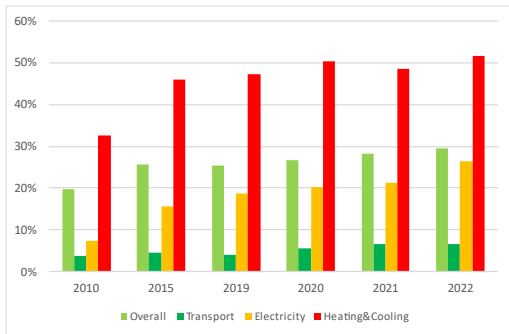
2. ENERGY PERFORMANCE OF BUILDINGS

- In 2022, Final Energy Consumption (FEC) in the Lithuanian **residential sector** was **1.5 Mtoe**, representing a **reduction of 5.8%** compared to 2021. In the **services sector**, FEC was **0.6 Mtoe**, with an **3.6% decrease** compared to 2021. However, climate corrected data⁽⁴⁾ show a **residential FEC increase of 1.8%** from 2021 to 2022, indicating that the above reduction is mostly climate-related (e.g. milder winter) rather than linked with an improvement of the building stock.
- Heating and cooling account for around **80%** of the country's residential final energy consumption, with renewables supplying approximately **52%** of the gross final energy consumption for heating and cooling. Almost 29,000 heat pumps were sold in 2023, reaching a total stock of around 150,000 installed heat pumps, as per the European Heat Pump Association (EHPA).
- In 2023, **6.5%** of the total population was experiencing difficulties on paying their utility bills while **20.0%** was not able to keep their home adequately warm over the cold periods of the year (with a mixed evolution compared to 2021, when such figures were, respectively, 5.5% and 22.5%). This underlines the importance to increase rate and depth of building renovation, specifically of worst-performing buildings.

Decarbonisation and climate action

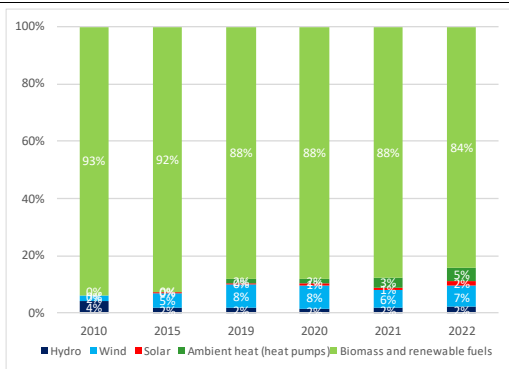
1. SECTORAL SHARE OF RENEWABLE ENERGY

Graph 7: Share of renewable energy sources



(1) In % of gross final consumption of energy.
Source: Eurostat

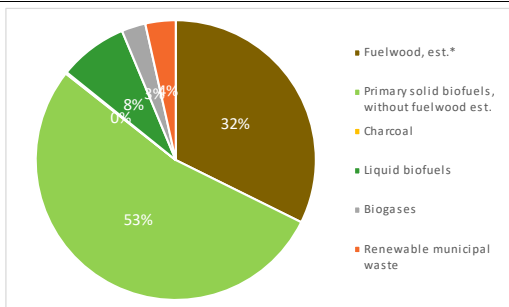
Graph 8: Renewable energy mix



(1) In % of gross final consumption of energy.
Source: Eurostat

2. BIOENERGY MIX

Graph 9: Bioenergy mix

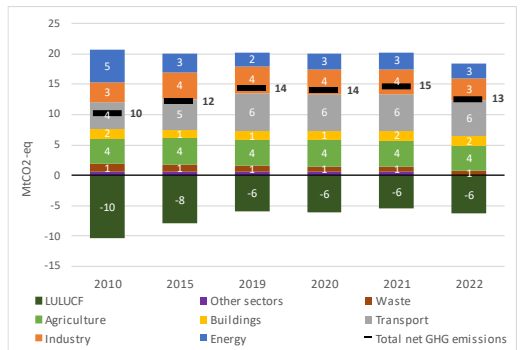


(1) In % of gross final consumption of energy (2022).
 (2) * Fuelwood estimate, based on the Primary solid biofuels consumption in Other sectors, Eurostat and industry secondary data, DG ENER estimations.
Source: Eurostat and DG ENER

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

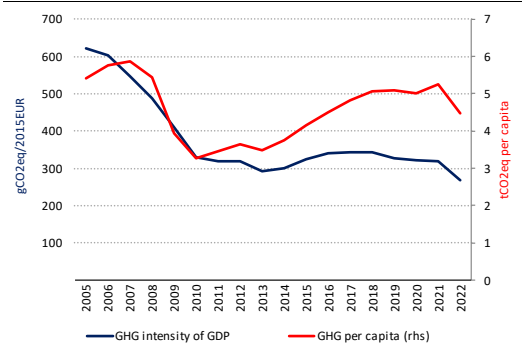
3. GREENHOUSE GAS EMISSIONS

Graph 10: 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 11: 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).

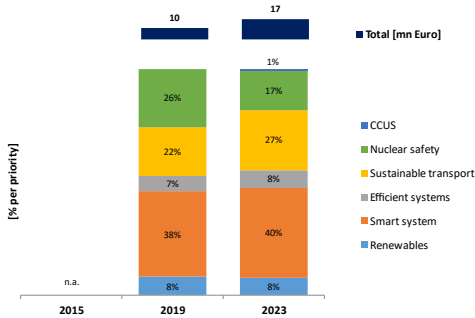
- With 268 gCO2eq/2015EUR, Lithuania lies above the EU average in terms of GHG intensity of GDP.
- With 4 tonnes of CO2 equivalent per capita, Lithuania is below the EU average in terms of GHG emissions per capita.
- For more detailed information on country profiles see [Progress on climate action \(europa.eu\)](#).

Research, innovation and competitiveness

1. INVESTMENT IN R&I

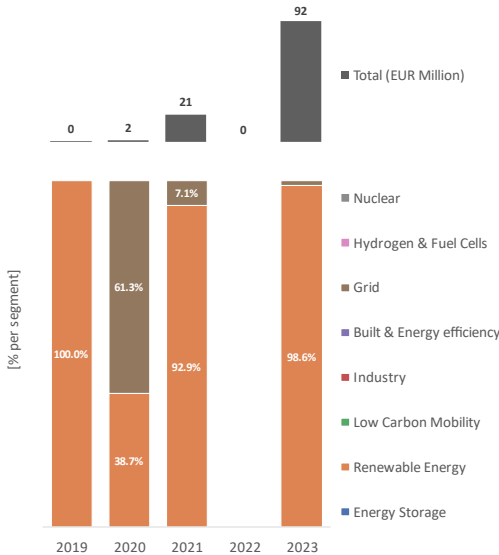
- Public investment in research and innovation (R&I) in Energy Union priorities⁽⁵⁾ increased from 0.0203% in 2019 to 0.0243% in 2023 (share of GDP).⁽⁶⁾

Graph 12: Public investment in Energy Union R&I priorities



Source: JRC SETIS 2024

Graph 13: 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)

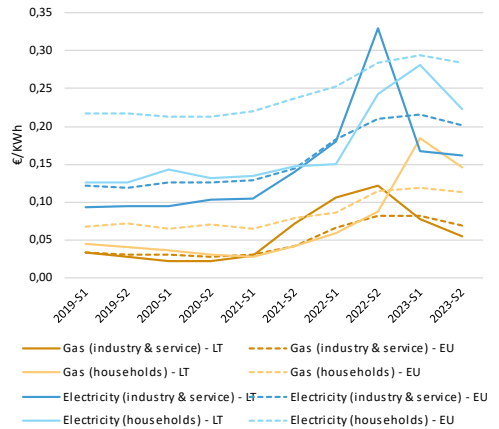
⁽⁵⁾ Renewables, smart system, efficient systems, sustainable transport, CCUS and nuclear safety, COM(2015) 80 final ('Energy Union Package').

2. NET-ZERO ENERGY TECHNOLOGIES

- Lithuania remains dependent on non-EU countries for clean energy technologies, and other EU Member States for wind energy, but is a regional leader in PV cells and modules. Lithuania presents good and steadily increasing developments in PV manufacturing and offers innovative PV solutions. The country hosts several modules and cell manufacturing facilities and particularly increased its production capacity in 2023. Regarding batteries, a few lithium batteries and energy flow management systems production facilities are located in Lithuania. On wind, Lithuania hosts some industrial capacity supplying the wind industry.

3. ENERGY PRICES DEVELOPMENT

Graph 14: Lithuania'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.

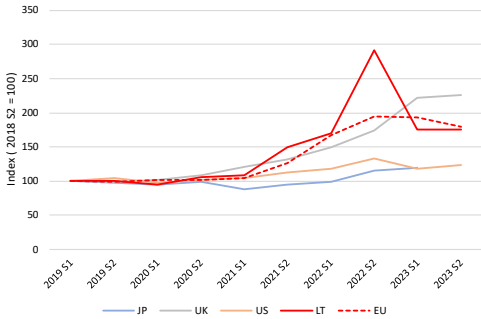
(2) For households, the consumption bands are D2 for gas and DC for electricity.

(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

⁽⁶⁾ Source: JRC SETIS 2024

Graph 15: Trends in electricity prices for non-household consumers (EU and foreign partners)



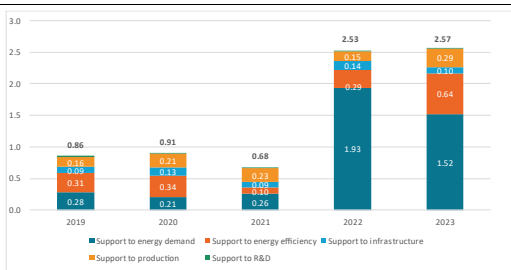
(1) For Eurostat data (EU and LT), the band consumption is ID referring to large-sized consumers with an annual consumption of between 2 000 MWh and 20 000 MWh, such as in electricity intensive manufacturing sectors, and gives an insight into international competitiveness.

(2) JP = Japan

Source: Eurostat, IEA

4. ENERGY SUBSIDIES

Graph 16: Energy subsidies by purpose

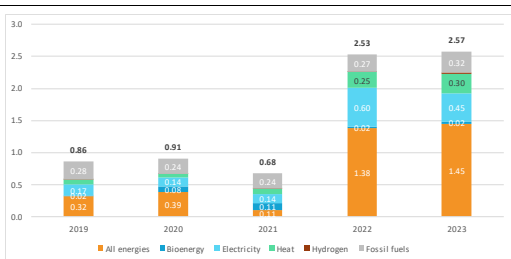


(1) Subsidies in EUR 2023 billion

(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 17: 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

(7) Council of the European Union 11707/24.

European Semester 2024

- **No Country Specific Recommendation for Energy⁽⁷⁾**
- For more information see the [2024 European Semester Country Report](#).

National Energy and Climate Plan (NECP)

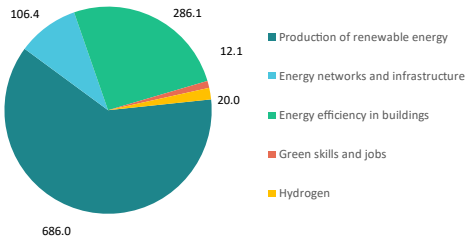
- The **draft updated NECP** was submitted to the European Commission in July 2023.
- Member States were due to submit their **final updated NECP by 30 June 2024**, taking into account the Commission recommendations.
- **The final updated NECP** was not submitted yet to the European Commission.
- For documents and information see the dedicated [webpage of the European Commission on the NECPs](#).

Recovery and Resilience Plan (RRP and REPowerEU chapter)

- The Lithuanian RRP has a total allocation of EUR 2.3 billion grants and EUR 1.6 billion loans, with 37% of available funds supporting climate objectives.
- **EU 1.1 billion are allocated to energy-related measures**, with the largest amount for the **production of renewable energy** [EUR 686 million]:
 - **Creation of a facility**, in cooperation with Lithuanian state-fund INVEGA as the implementing partner, **to improve access to finance for the Lithuanian renewables sector** (onshore solar and wind generation, aiming at developing at least 225 MW).
- The Commission disbursed the 2nd payment of EUR 360 million to Lithuania in March 2024.

Graph 18: **Energy-related investments in the RRP (in EUR million)**

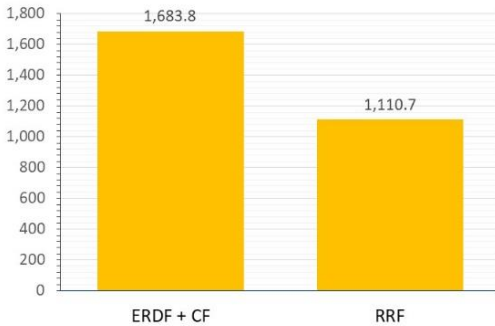
LT Energy-related investments EUR 1,110.7 mn



Source: European Commission

EU Funds supporting energy related investments

Graph 19: **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 2.6 million.** For more information see the webpage [innovation-fund-projects-country_en](#).
- **Modernisation Fund: EUR 183.0 million** (approved and/or confirmed Investments from 2021-2024). For more information see the webpage [modernisationfund.eu](#).
- **CEF-Energy: EUR 30.7 million** (1.6% of total EU contribution, for 2021-2027). For more information see [CINEA's Project Portfolio dashboard](#).