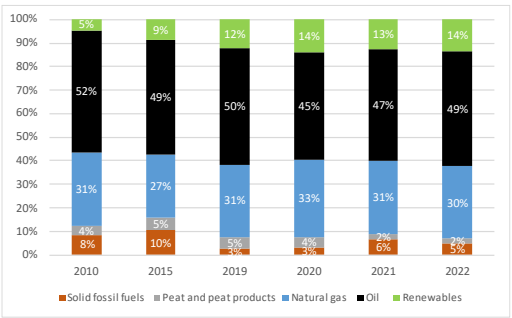
State of the Energy Union 2024: Ireland

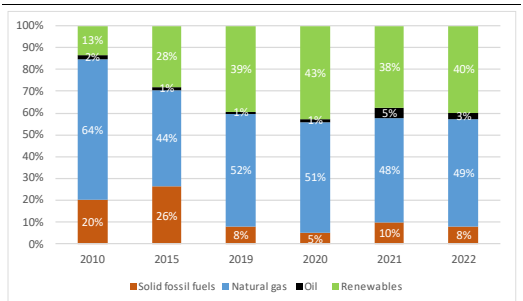
Key energy figures

Graph 1: **Energy mix**



(1) The 2022 gross inland energy consumption was 613 173 TJ. (1.1% of the total EU consumption).
Source: Eurostat

Graph 2: **Electricity mix**



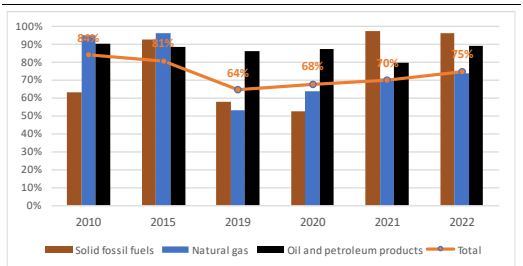
(1) The 2022 gross electricity production was 33.6 TWh. (1.2% of the total EU production).
Source: Eurostat

- Fossil fuels account for 86.4% of Ireland´s **energy mix** (compared to 69% at EU level). The share renewables was 13.6%.
- The **electricity mix** of Ireland is dominated by fossil fuels with 60.2%. Renewable energy accounts for the remaining 39.8% (similarly to 39.4% 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

- Ireland **has no underground gas storage facility** and is exempted from the regulation on gas storage[(1)].

Integrated internal energy market

1. ELECTRICITY INTERCONNECTIVITY

Table 1: **Electricity interconnectivity**

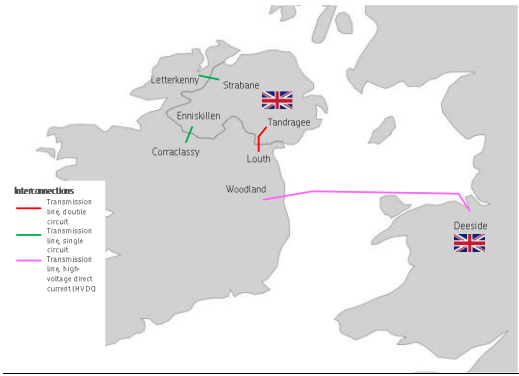
2024	2030 target
0.0 %	At least 15%

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

(1) 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.

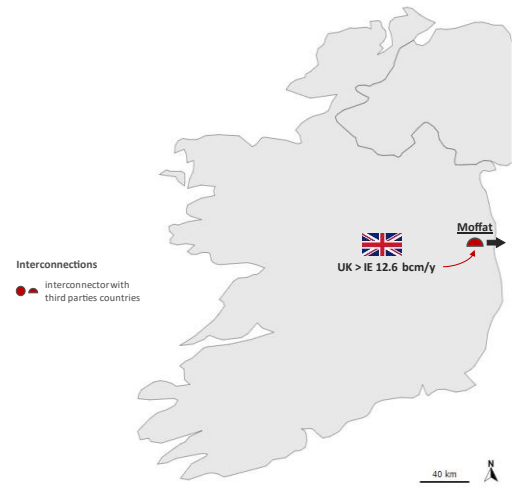
2. ENERGY TRANSMISSION INFRASTRUCTURE

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

- The latest ACER/CEER Market Monitoring Report indicates that Ireland has a 69% smart meter rollout with consumers having access to near real time consumption data possible at a 30-minutes interval.[2]

Diversification of gas supplies

- In 2023, Ireland had 2 natural gas supply sources, the same as in 2021. Its two largest suppliers accounted for 100%, with the United Kingdom being the main supplier, holding a share of 80%. In 2021, the United Kingdom with 70% and its own domestic production (30%) were Ireland'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
EED NECPs four main indicators	2023	2021	2017	
Inability to keep home adequately warm	7.2	+3.8 pp	+2.8 pp	10.6
Arrears on utility bills	7.6	+0.3 pp	-2.3 pp	6.9
Share of pop. With leak, damp or rot in dwelling	N/A 16.3 (2020)	-	+3.7 pp	15.5
AROP (At risk of poverty)	12	-0.8 pp	-3.6 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 Ireland: EUR 737 million or 1.02 % of total SCF.

Just Transition Plan

- The Irish Territorial Just Transition Plans (TJTP) outline the transition away from peat extraction for energy production in the Midlands region. The plans set out how the Just Transition Fund (JTF), with a national allocation of EUR 84 million, will support the development of renewable energy sources, economic diversification, and modernisation of industries, as well as the establishment of a Just Transition Commission, which will advise and support the Government in long-term just transition planning. Coal phase-out commitment in 2025.

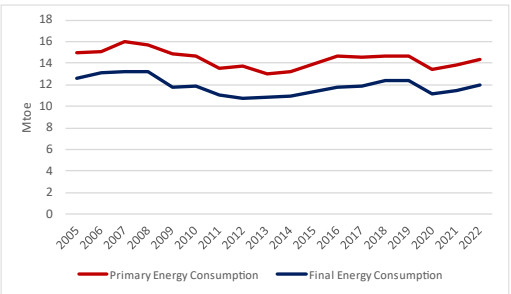
(2) ACER, 2024 Retail Market Monitoring Report, Energy retail and decarbonisation (forthcoming).

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

Energy efficiency

1. ENERGY EFFICIENCY

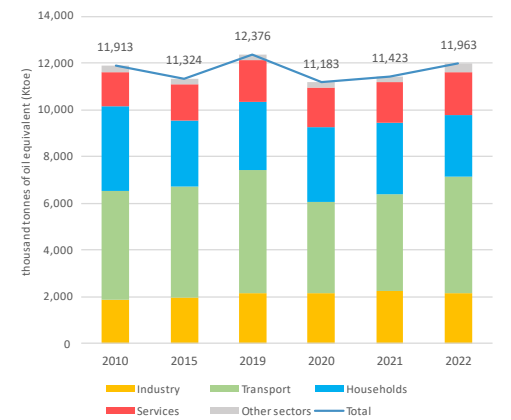
Graph 4: **Primary and final energy consumption**



Source: Eurostat

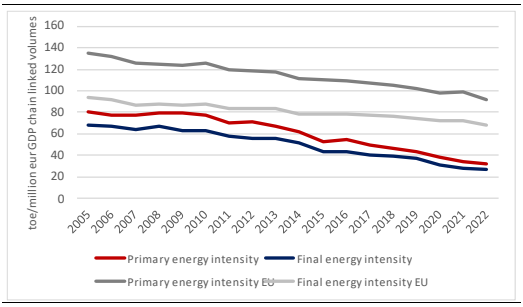
- In 2022, Ireland's **Primary Energy Consumption (PEC)** amounted to 14.2 Mtoe, 3.7% higher than in 2021, while its **Final Energy Consumption (FEC)** amounted to 12 Mtoe, 4.7% higher than in 2021.

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

Graph 6: **Primary and final energy intensity**



Source: Eurostat

2. ENERGY PERFORMANCE OF BUILDINGS

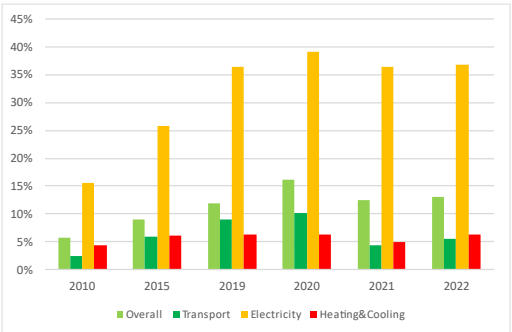
- In 2022, Final Energy Consumption (FEC) in the Irish **residential sector** was **2.7 Mtoe**, representing **a reduction of 12.7%** compared to 2021. In the **services sector**, FEC was **1.8 Mtoe**, with an **6.8% increase** compared to 2021. However, climate corrected data[(4)] show a **residential FEC decrease of 8.6%** 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 **79%** of the country's residential final energy consumption, with renewables supplying approximately **6%** of the gross final energy consumption for heating and cooling. Almost 33,000 were sold in 2023, reaching a total stock of around 117,000 installed heat pumps, as per the European Heat Pump Association (EHPA).
- In 2023, **7.6%** of the total population was experiencing difficulties on paying their utility bills while **7.2%** was not able to keep their home adequately warm over the cold periods of the year (growing from 2021, when such figures were, respectively, 7.3% and 3.4%). This underlines the importance to increase rate and depth of building renovation, specifically of worst-performing buildings.

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

Decarbonisation and climate action

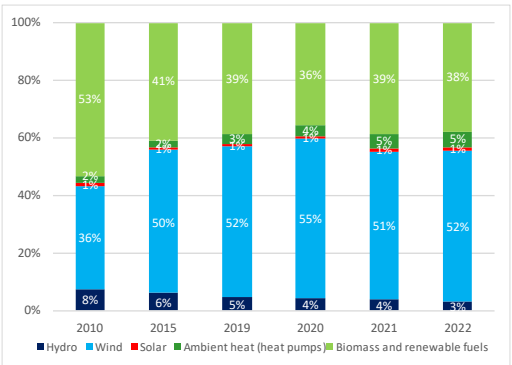
1. SECTORAL SHARE OF RENEWABLE ENERGY

Graph 7: **Share of renewable energy sources**



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

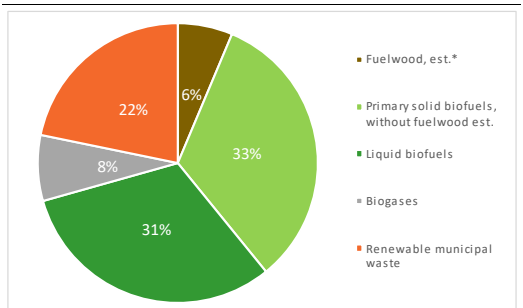
Graph 8: **Renewable energy mix**



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

2. BIOENERGY MIX

Graph 9: **Bioenergy mix**

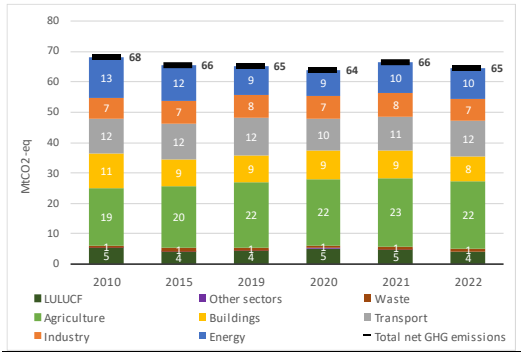


(1) In % of gross final consumption of energy (2022).
(2) * Fuelwood estimate, based on the Primary solid biofuels consumption in Other sectors, Eurostat and industry secondary data, DG ENER estimations.
Source: Eurostat and DG ENER

- For more information see the dedicated website on biomethane country fiches.

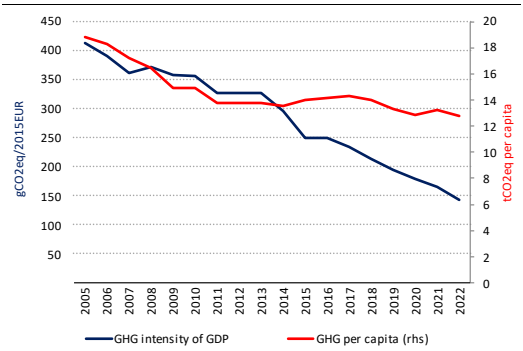
3. GREENHOUSE GAS EMISSIONS

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).

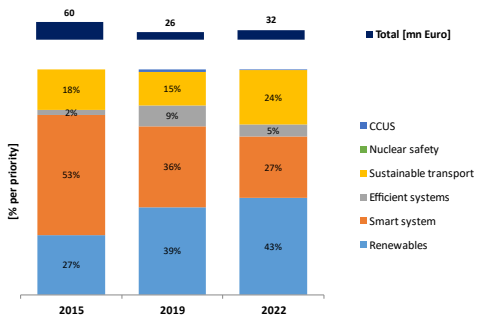
- With 143 gCO2eq/2015EUR, Ireland lies below the EU average in terms of GHG intensity of GDP.
- With 13 tonnes of CO2 equivalent per capita, Ireland is above the EU average in terms of GHG emissions per capita.
- For more detailed information on country profiles see Progress on climate action (europa.eu).

Research, innovation and competitiveness

1. INVESTMENT IN R&I

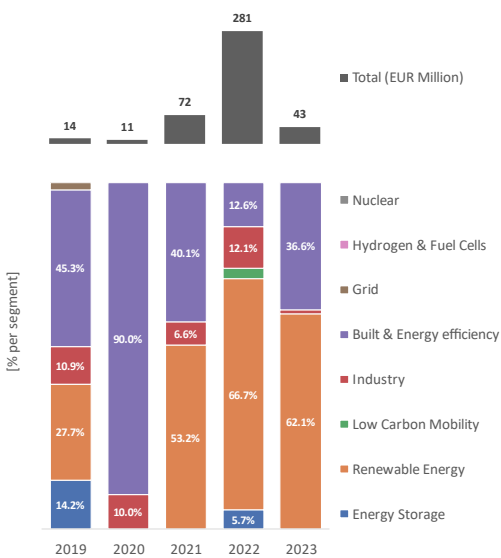
- Public investment in research and innovation (R&I) in Energy Union priorities[5] decreased from 0.023% in 2015 to 0.006% in 2022 (share of GDP).[6]

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)**



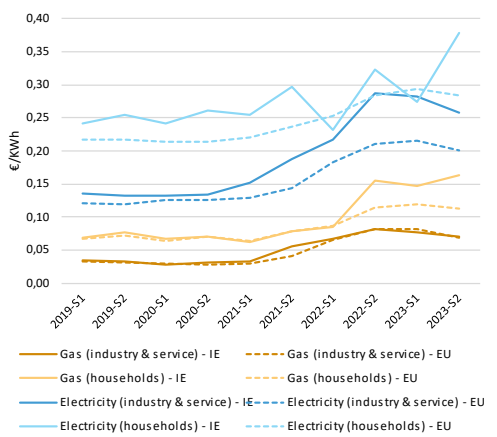
(1) Firms typically use venture capital to expand, break into new markets, and grow faster. Venture capital is essential for the growth of innovative firms and it is key to foster the EU's competitiveness and to strengthen the EU's technology sovereignty in the net-zero energy sector.
Source: JRC elaboration based on PitchBook data (08/2024)

2. NET-ZERO ENERGY TECHNOLOGIES

- Ireland has historically relied on imports for clean technologies. However, there are a few small-scale manufacturing units for batteries and positive developments in R&D initiatives, especially for offshore wind. In the wind supply chain, Ireland is involved in components testing and grid management software. Also, Dublin hosts a growing company focused on developing a modular floating offshore wind platform, with promising applications for deep-water deployment. Currently, manufacturing capacity in Ireland is confined to domestic-scale wind turbines, managed by an Irish company based in Galway. On energy storage, there are two small-scale lithium-ion battery producers operating in Tipperary and Galway, one of which specialises in the electrification of off highway electric vehicles such as construction dozers and mining trucks. For solar PV, a new Irish-Indian company unveiled plans to start Ireland's first solar module manufacturing plant in the Midlands. The EUR 24m plant will have a maximum rated output of 300 MW when fully operational.

3. ENERGY PRICES DEVELOPMENT

Graph 14: **Ireland's energy retail prices for households and industry & service**

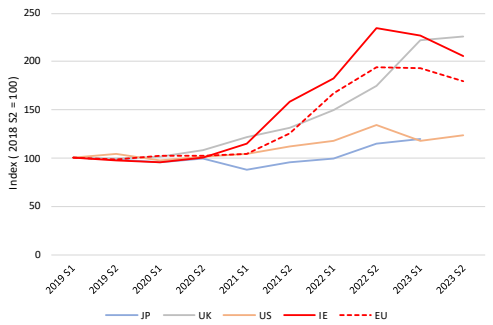


(1) For industry, consumption bands are I3 for gas and IC for electricity, which refer to medium-sized consumers and provide an insight into affordability.
(2) For households, the consumption bands are D2 for gas and DC for electricity.
(3) Industry prices are shown without VAT and other recoverable taxes/levies/fees as non-household consumers are usually able to recover VAT and some other taxes.
Source: Eurostat

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

[6] Source: JRC SETIS 2024

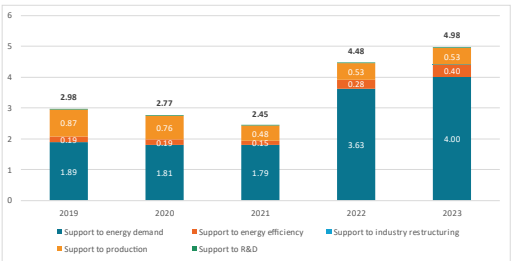
Graph 15: **Trends in electricity prices for non-household consumers (EU and foreign partners)**



(1) For Eurostat data (EU and IE), 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

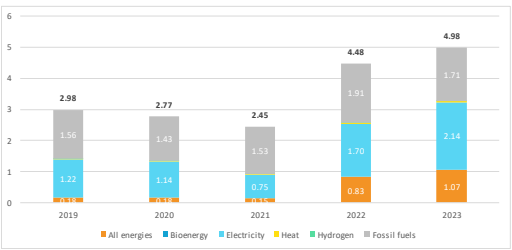
4. ENERGY SUBSIDIES

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 11699/24

European Semester 2024

- **Country Specific Recommendation (Energy):** Increase efforts to improve the flexibility of the electricity system and modernise and expand grid capacity. Develop and implement a strategy to promote demand-side response and streamline planning and permitting for electricity storage facilities and grid connectors. Increase efforts to improve energy performance of private buildings to reduce energy bills and energy system costs.[7]
- For more information see the 2024 European Semester Country Report.

National Energy and Climate Plan (NECP)

- 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 submitted to the European Commission in July 2024.
- For documents and information see the dedicated webpage of the European Commission on the NECPs.

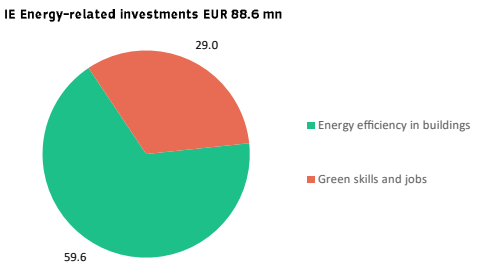
Recovery and Resilience Plan (RRP and REPowerEU chapter)

- The Irish RRP has a total allocation of EUR 1.15 billion (only in grants), with 50.2% of available funds supporting climate objectives.
- **EUR 88.6 million are allocated to energy-related measures[8],** with the largest amount for **energy efficiency in buildings** [EUR 59.6 million]:
  - The **Public Sector's Energy Retrofit Program** aims at fostering the **modernisation of public building stock** to reduce energy consumption and its carbon footprint, leading to the upgrade of at least 5 400 m² of public office accommodation. Additionally, 5 hospitals and Nursing units and at least 20 primary/post-primary schools shall be retrofitted.

(8) The allocation refers to the RRP as approved in 2023 (without the REPowerEU chapter).

- The Commission disbursed the 1st payment of EUR 324 million to Ireland in July 2024.

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



(*) The graph refers to the RRP as approved in 2023 (without the REPowerEU chapter).
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 43.7 million.** For more information see the webpage innovation-fund-projects-country_en.
- **CEF-Energy: EUR 4.3 million** (0.2% of total EU contribution, for 2021-2027). For more information see CINEA's Project Portfolio dashboard.