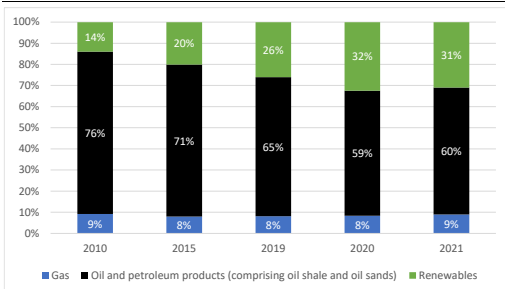


State of the Energy Union 2023 Estonia

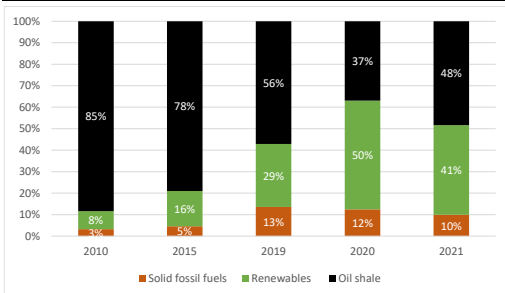
Key energy figures

Graph 1: Energy mix



Source: Eurostat

Graph 2: Electricity mix



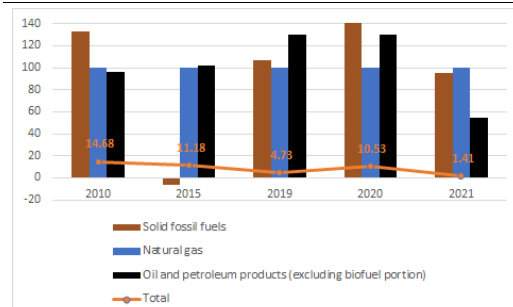
Source: Eurostat

- In 2021, oil products still represented more than half of Estonia's energy mix, while renewables share of the gross inland consumption has stalled.

Security, solidarity and trust

1. DIVERSIFICATION OF ENERGY SOURCES AND REDUCTION OF IMPORT DEPENDENCY

Graph 3: Import dependency on fossil fuels



- In percentages
- Combustible renewables and electricity are excluded
- The total amount takes into consideration the energy mix of the country

Source: Eurostat

- Before Russia invaded Ukraine, Estonia was **highly dependent on Russian gas and refined oil**, even though gas represented a relatively small share of its energy, amounting to 8% in 2021.
- Estonia has **acted to reduce the curtailment risks** after it stopped buying Russian gas, notably by cooperating with Finland and benefiting from the Finnish Inkoo terminal, as well by **extremely reducing the national natural gas consumption** by 36% between August 2022 and March 2023 compared to the previous 5-years average.

2. FLEXIBILITY OF THE ENERGY SYSTEM

- Energy storage:** Estonia does not have a domestic underground gas storage facility but cooperates with Latvia and stores gas volumes in the Inčukalns facility.

Integrated internal energy market

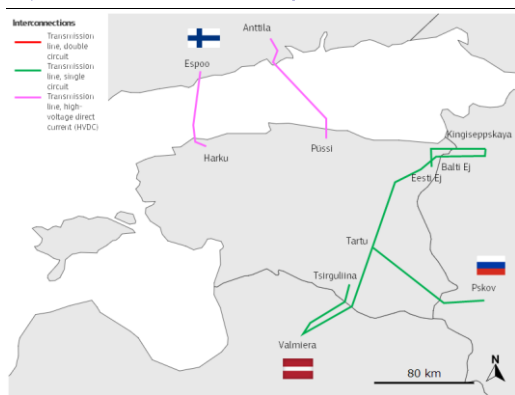
1. ELECTRICITY INTERCONNECTIVITY

2023	2030 target
96.41%	At least 15%

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

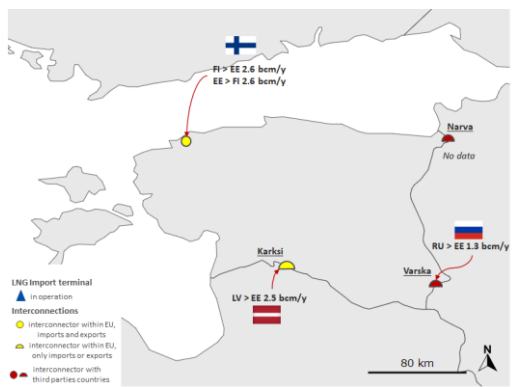
2. ENERGY TRANSMISSION INFRASTRUCTURE

Map 1: Cross-border electricity interconnections



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

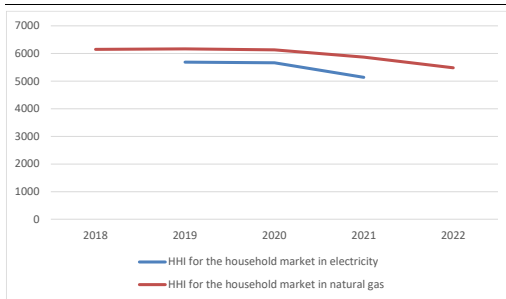
Map 2: Cross-border gas interconnections



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

3. MARKET INTEGRATION

Graph 4: Index of concentration (HHI) for the household markets in electricity and natural gas



(1) No data available for HHI in electricity markets in 2018 and 2022

Source: CEER 2023 out of ACER's Energy Retail and Consumer Protection 2023 Market Monitoring Report.

- In 2022, in Estonia the market share of the three largest suppliers reached 84% for natural gas.

Rollout of electricity smart meters

- Estonia had a high electricity smart meter rollout, with 99.8% of household consumers being equipped with smart meters in 2022. 80% of consumers are planned to be equipped with smart meters later than 2024, which is completed for Estonia.⁽¹⁾

4. ENERGY POVERTY AND JUST TRANSITION

Table 1: Energy poverty

	Estonia			EU		
	2020	2021	2022	2020	2021	2022
Arrears on utility bills (households %)	5.0%	4.1%	4.4%	6.5%	6.4%	6.9%
Inability to keep home adequately warm (household %)	2.7%	2.0%	3.4%	7.5%	6.9%	9.3%
Population living in dwelling with presence of lead, damp and rot (population %)	10.2%	:	:	14.8%	:	:

Source: Eurostat

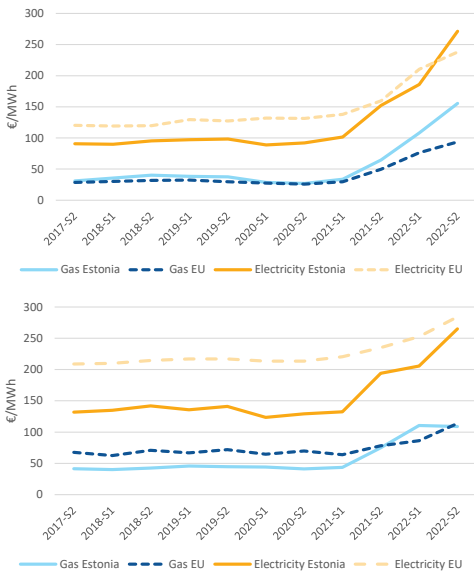
- **Just transition plan:** Estonia's Territorial Just Transition Plan focuses on the Ida-Viru region, which is heavily dependent on oil shale mining and power generation. The plan sets out how the Just Transition Fund, with a national allocation of €353 million, will support activities on economic diversification through SME development and start-ups, investments into clean energy, upskilling and reskilling of

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

workers, of the activities. The Government of Estonia set an objective in 2021 to cease electricity production from oil shale by 2035 and phase out of oil shale in energy production by 2040 at the latest.

5. ENERGY PRICES

Graph 5: **Energy retail prices for industry (top) and households (bottom)**



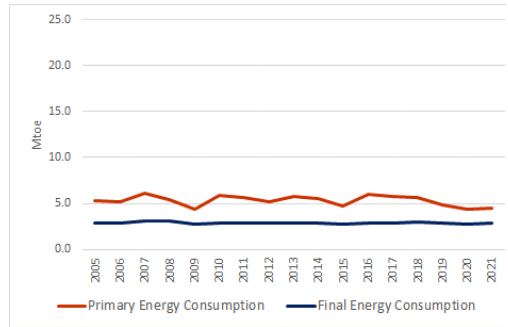
- (1) On electricity, the band consumption is for DC households and ID for industry
- (2) On gas, the band consumption is D2 for households and I4 for industry

Source: Eurostat

Energy efficiency

1. ENERGY EFFICIENCY

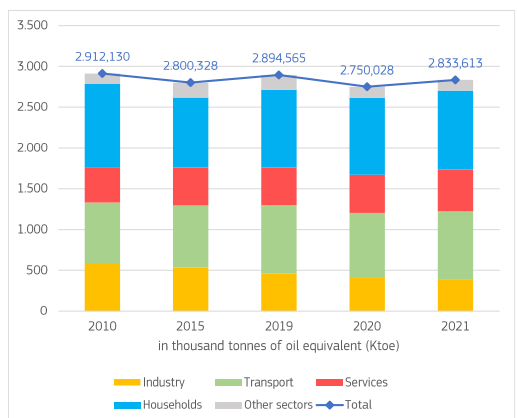
Graph 6: **Primary and final energy consumption**



Source: Eurostat

- In 2021, Estonia's **Primary Energy Consumption (PEC)** amounted to 4.45 Mtoe, 7.1% lower than in 2019, while its **Final Energy Consumption (FEC)** amounted to 2.83 Mtoe, 2.1% lower than in 2019, despite the COVID-19 crisis recovery.

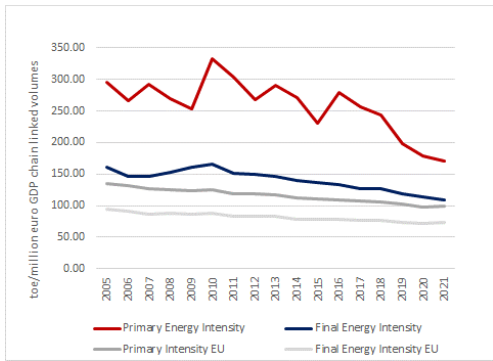
Graph 7: **Final energy consumption per sector**



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

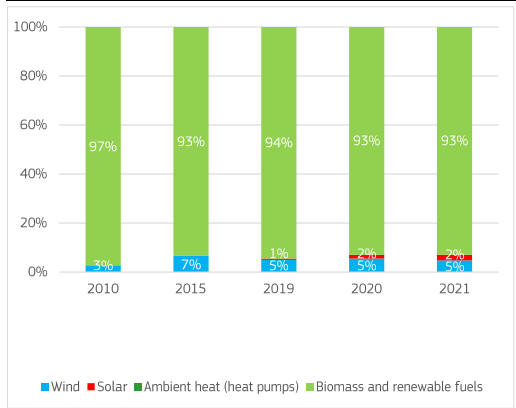
Source: Eurostat

Graph 8: **Primary and final energy intensity**



Source: Eurostat

Graph 10: **Renewable energy mix**



(1) In % of gross final consumption of energy

Source: Eurostat

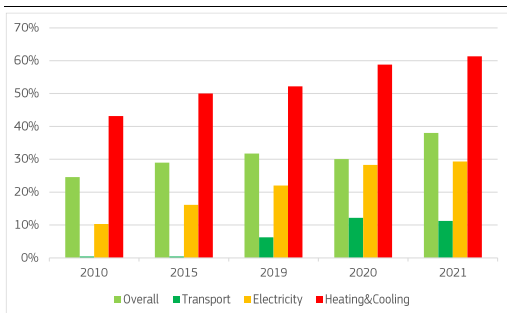
2. ENERGY SAVINGS IN BUILDINGS

- In 2020, there were **177.750 thousand of residential buildings in Estonia**.
- **Estonia did not set a 2030 target** in terms of **energy savings** in their 2020 Long Term Renovation Strategy (LTRS).
- In 2021, the final energy consumption of residential buildings **decreased by 8.02%** compared to 2019.
- The sales of heat pumps amounted to **21.766 units** in 2022 representing an increase of **4%** compared to 2021, as per the European Heat Pump Association (EHPA).

Decarbonisation and climate action

1. SECTORAL SHARE OF RENEWABLE ENERGY

Graph 9: **Share of renewable energy sources**

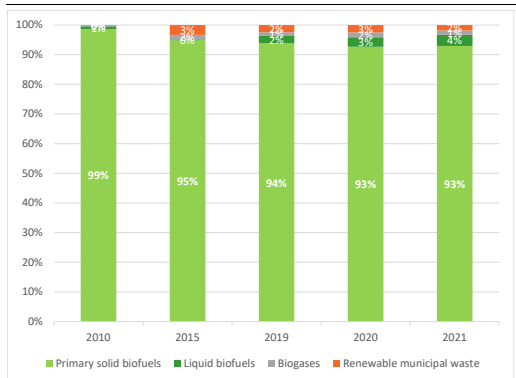


(1) In % of gross final consumption of energy

Source: Eurostat

2. BIOENERGY DEMAND

Graph 11: **Bioenergy mix**

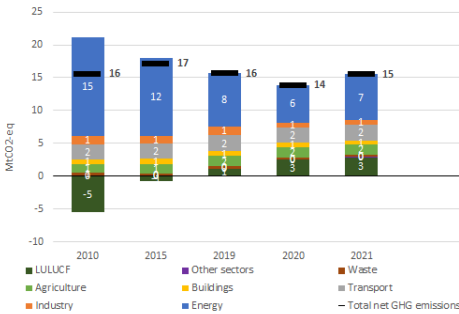


(1) Composition of bioenergy, in % of gross inland consumption of energy

Source: Eurostat

3. GREENHOUSE GAS EMISSIONS

Graph 12: Greenhouse gas emissions by sector



(1) Energy sector refers to electricity and heat production and petroleum refining.

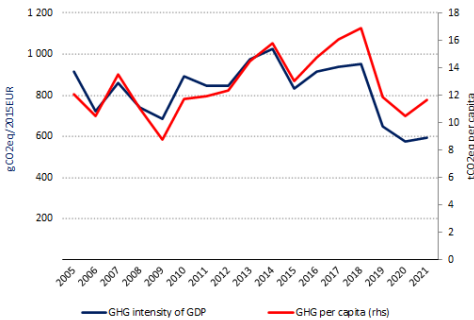
(2) Industry includes fuel combustion in manufacturing and construction and emissions in industrial processes and product use.

(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

Graph 13: 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 595 gCO₂eq/2015EUR, Estonia lies above the EU average in terms of GHG intensity of GDP.
- With 12 tonnes of CO₂ equivalent per capita, Estonia is above the EU average in terms of GHG emissions per capita.
- For more detailed information on country profiles see [Progress made in cutting emissions \(europa.eu\)](#).

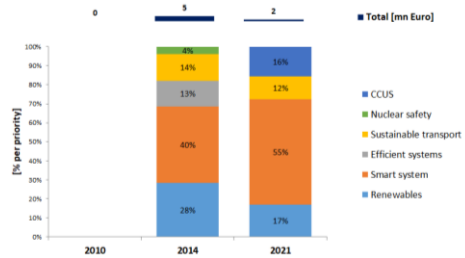
(2) Renewables, smart system, efficient systems, sustainable transport, CCUS and nuclear safety, COM(2015) 80 final ('Energy Union Package').

Research, innovation and competitiveness

1. INVESTMENT IN R&I

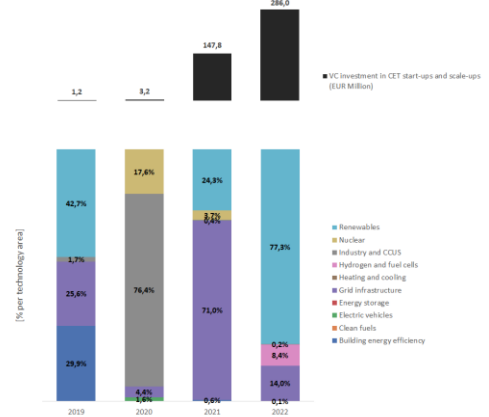
- Public investment in research and innovation (R&I) in Energy Union priorities⁽²⁾ decreased from 0.026% in 2014 to 0.006% in 2021 (share of GDP).

Graph 14: Public investment in Energy Union R&I priorities



Source: JRC SETIS 2023

Graph 15: Clean energy technology (start-ups and scale-ups) in energy union R&I priorities

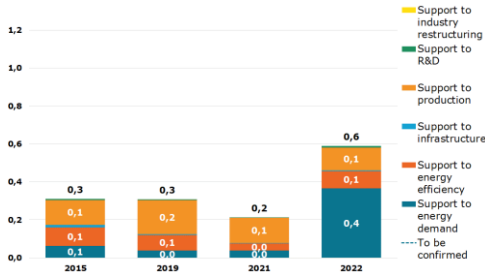


(1) Firms typically use venture capital to expand, break into new markets, and grow faster. Venture capital is essential for the growth of innovative firms and it is key to foster the EU's competitiveness and to strengthen the EU's technology sovereignty in the clean energy sector.

Source: JRC SETIS 2023

2. ENERGY SUBSIDIES

Graph 16: Energy subsidies by purpose

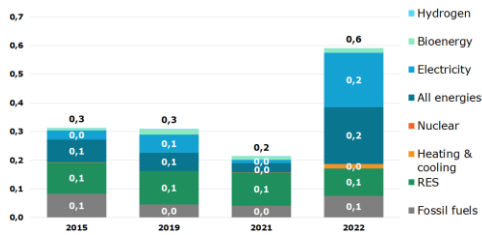


(1) Subsidies in EUR 2022 billion

(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 17: Energy subsidies by carrier



(1) Subsidies in EUR 2022 billion

Source: Enerdata. Inventory of energy subsidies in the EU27 - 2023 edition

European Semester 2023

Country Specific Recommendation (Energy):

Reduce overall reliance on fossil fuels, accelerate the deployment of renewable energy sources, including by strengthening the domestic electricity grid capacity. Ensure sufficient capacity of electricity interconnections to increase the security of supply and continue the synchronisation with the EU electricity grid. Strengthen energy efficiency through new financing and support measures to meet the targets of the long-term renovation strategy. Continue efforts to increase the share of sustainable transport by electrifying the rail network and through taxation that incentivises the gradual renewal of the vehicle stock towards zero- or low-emission vehicles. Step up policy efforts

(3) Council of the European Union 9827/1/23

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 submitted to the European Commission in August 2023.
- For more information see the dedicated [webpage of the European Commission on the NECPs](#).

Recovery and Resilience Plan (RRP) and REPowerEU chapter

- The Estonian RRP was approved by the Council on 29 October 2021.
- The implementation of the measures proposed in the RRP would allow Estonia to access EUR 969.3 million in grants.
- The Commission disbursed so far EUR 126.01 million to Estonia. A 1st payment request was submitted on 30 June 2023 and it's currently under assessment.
- On 9 March 2023, Estonia submitted a request to revise its RRP, adding a REPowerEU chapter.
- The REPowerEU chapter proposed by Estonia includes one new reform, two new investments.
- The amended RRP takes into account the revised RRF grant allocation for Estonia decreased to EUR 863 million. It includes also the EUR 83.4 million REPowerEU grant allocation and EUR 6.6 million voluntary transfer from the Brexit Adjustment Reserve. The total amount available for Estonia is therefore EUR 953 million.
- 59% of these funds are allocated for measures contributing to climate objectives, up from the 41.5% of the original plan.

- The **amended RRP, including the REPowerEU chapter, was approved by the Council** on 16 June 2023.
- For more information visit the [Recovery and Resilience Scoreboard](#).