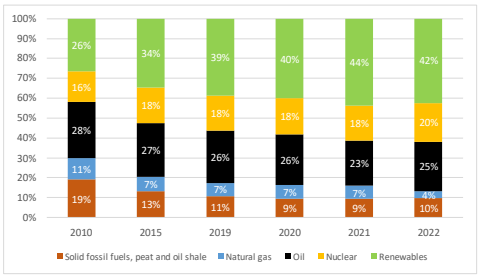
REPowerEU Two Years on_Finland

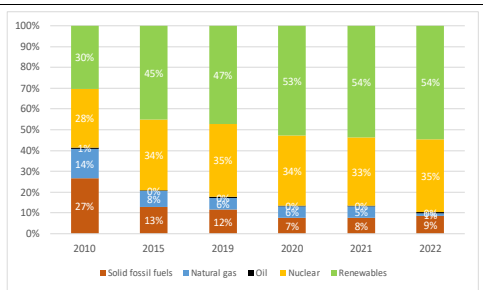
Key energy figures

Graph 1: **Energy mix**



Source: Eurostat

Graph 2: **Electricity mix**



Source: Eurostat

Save energy

1. KEY ENERGY SAVINGS MEASURES

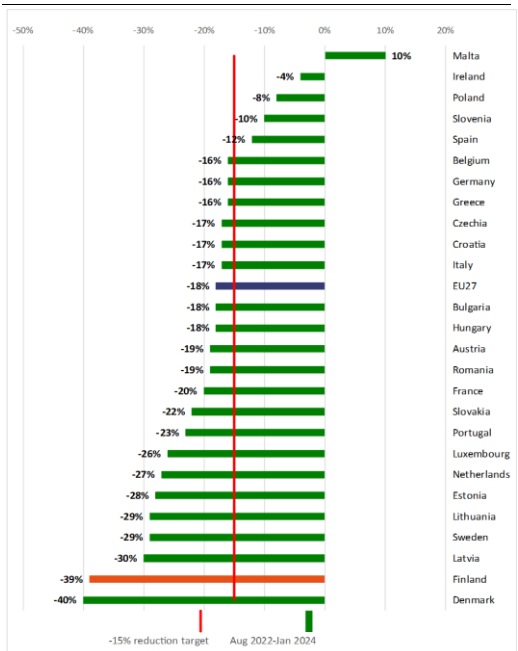
Finland is implementing energy efficiency measures to contribute to energy security further, such as:

- The Finnish government took additional decisions to add funding of EUR 200 million for **energy renovations and electric vehicle recharging stations**. The funding comprises of a loan guarantee model to support climate-friendly investments in houses that significantly improve the energy efficiency of buildings or renew heating systems to make use of renewable energy.
- **Information and communication campaigns to citizens**: a new extensive communication campaign has been launched in September 2022 to run until spring 2023.

2. GAS DEMAND REDUCTION

Finland has reduced its gas consumption by **39%** in the period **August 2022 – January 2024**, above the decrease achieved at EU level (18%) and the 15% voluntary gas demand reduction agreed at the EU level [1].

Graph 3: **Natural gas demand reduction (August 2022 – January 2024)**



(1) Cyprus does not use natural gas
Source: Eurostat, DG ENER calculations

(1) Council Regulation (EU) 2023/706 of 30 March 2023, amending Regulation (EU) 2022/1369

Diversify energy supplies

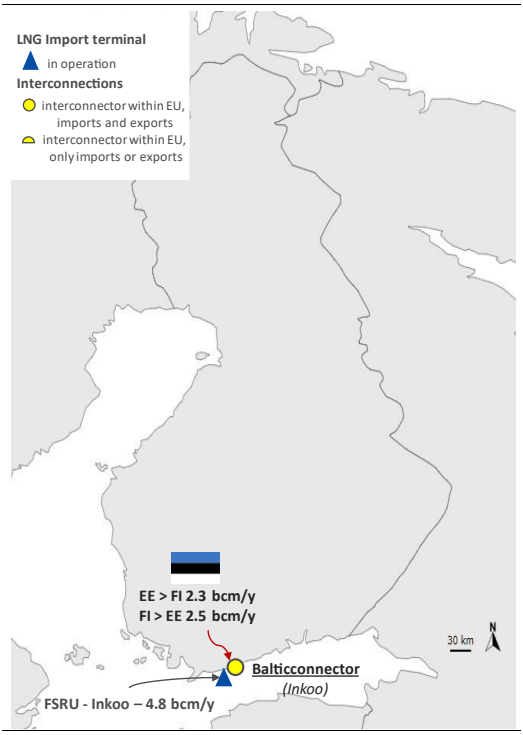
1. KEY ACTIONS

Finland has substantially reduced its energy dependence on non-EU countries. Around a third of Finland's energy supply (including 75% of its gas in 2021) used to come from Russia before Russia's full-scale invasion of Ukraine, but energy imports from Russia have been phased out since summer 2022 (except for some small amounts of nuclear fuel to the Loviisa nuclear power plant and some LNG). However, Finland declared an early warning under the Gas Security of Supply Regulation on 6 May 2022 and activated the alert level on 27 October 2023, following the disruption of the Balticconnector pipeline, which restarted operations in April 2024.

2. GAS INFRASTRUCTURE DEVELOPMENTS

Finland does not produce any natural gas domestically. Gas accounted for around 3% of gross available energy in 2022 (6% in 2021) and 1.3% of gross electricity production (a decrease of 4% since 2021). Most of the gas demand comes from the industrial sector (55% in 2022) and the electricity and heat generation sector (27% in 2022). The resilience of Finland's gas system has been considerably improved in recent years by the commissioning of the Balticconnector; the creation of a regional gas market for the Baltic states; the construction of a small-scale LNG terminal connected to the national grid in Hamina; and the joint rental with Estonia of a floating storage regasification unit (FSRU) in Inkoo [2].

Map 1: **Cross-border gas infrastructure**



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

3. GAS STORAGE

Finland does not operate any gas storage facility. The European Commission does not have additional information on arrangements between Finland and other Member States with existing facilities, in accordance with the burden-sharing mechanism [3].

4. NUCLEAR FUEL DIVERSIFICATION

Nuclear operator Fortum signed a contract with Westinghouse to supply alternative fuel for the Loviisa VVER-440 nuclear power station. In February 2023 the Finnish government approved the request for extending the operating licence of Units 1 and 2 of Loviisa NPP. Following Russia's aggression against Ukraine, Finland terminated the contract concluded with Rusatom Overseas to supply VVER-1200 reactor at Hanhikivi.

[2] The Balticconnector was damaged on 8th October 2023 and was consequently out of service during the winter of 2023-24. According to the ENTSOG winter supply outlook, this disruption did not pose a significant risk to the security of gas supplies in the region. The Balticonnector was repaired and came back online as of the 22nd of April 2024.

[3] 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.

Energy platform

- In the **four EU tenders** for joint gas purchase organised **under AggregateEU in 2023**, 113 companies across the EU expressed gas demand of over 54 bcm. 48 suppliers replied with bids of more than 61 bcm, resulting in **over 42 bcm of demand matched**.
- In the **first mid-term tender of 2024**, 19 companies expressed 34 bcm of gas demand for the next 5 years, with **97.4 bcm offered by suppliers**.
- According to the indicative data obtained through AggregateEU, companies from **Finland** aggregated gas demand of **0.45 bcm** in 2023 under the EU Energy Platform. This represents the equivalent of 33.63% of the country's yearly gas consumption.

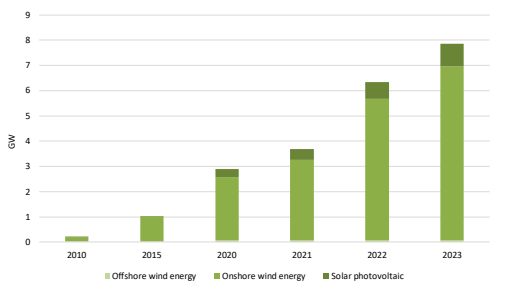
Produce clean energy

1. INSTALLED RENEWABLE ELECTRICITY CAPACITY, IN WIND AND SOLAR

In **2023**, Finland installed around 1.4 GW of renewable electricity capacity, bringing the total to **14.1 GW** (vs. 9.6 GW in 2021).

In **2023**, the annual growth rate of installed renewables power capacity rose to **10.9%** compared to 9% in 2021 [4].

Graph 4: **Installed solar and wind power capacity (in GW)**



(1) The renewable power capacity data reflects the capacity installed and connected at the end of the calendar year.
(2) In 2023, Finland installed 1.3 GW of wind power capacity (vs. 0.7 GW in 2021).
(3) In 2023, Finland installed 0.2 GW of solar photovoltaic capacity (vs. 0.1 GW in 2021).
Source: IRENA, Renewable capacity statistics, 2024

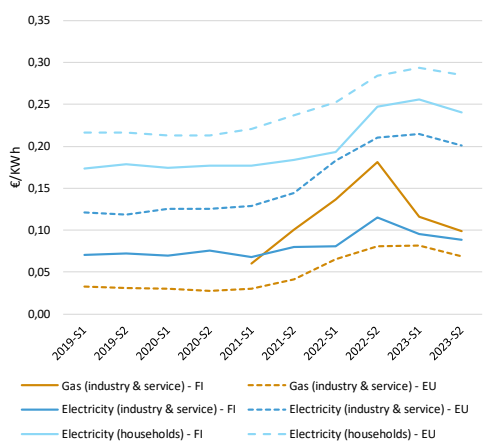
[4] International Renewable Energy Agency (2024). Renewable capacity statistics 2024

2. ELECTRICITY INFRASTRUCTURE DEPLOYMENT

Finland's grid development continues to be driven by the need to further strengthen the weak connections with the rest of the Nordic synchronous system and connect the production of renewables in the region. The first EU list of projects of common interest (PCIs) and projects of mutual interest (PMIs), which the Commission adopted on 28 November 2023, lists three projects promoted by the national transmission system operator (TSO): two interconnectors between Finland and Sweden ('Aurora Line' and 'Aurora Line 2') and one subsea cable with Estonia ('Estlink 3'). The two 400 kV transmission lines with Sweden will together increase Finland's capacity by 1 600 MW by 2025 and 2032 respectively, thus reducing the price differentials between the Nordic and Baltic regions and making the Nordic synchronous system more robust. In January 2023, Finland concluded a non-binding agreement under the revised TEN-E Regulation with the objective of having 1 GW installed offshore renewable capacity by 2030, 5 GW capacity by 2040 and 12 GW by 2050.

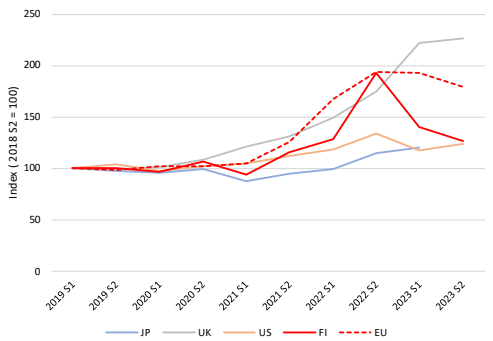
Energy price developments

Graph 5: **Finland'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 6: **Trends in electricity prices for non-household consumers (EU and foreign partners)**



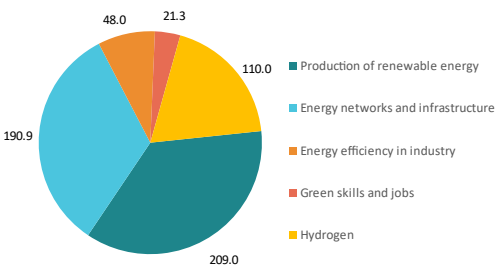
(1) For Eurostat data (EU and FI), the band consumption is ID referring to large-sized consumers with an annual consumption of between 2 000 MWh and 20 000 MWh, such as in electricity intensive manufacturing sectors, and gives an insight into international competitiveness
(2) JP = Japan
Source: Eurostat,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

Smartly combine investments and reforms in the RRP

Amended Recovery and Resilience Plan (RRP), including a REPowerEU chapter:

- Approved by Council on 8 December 2023
- Total amount: EUR 1.9 billion
- Amount allocated for energy: EUR 0.58 billion
- Climate tagging: RRP: 52.3%; REPowerEU chapter: 81.1 %

Graph 7: **Energy-related investments in the RRP (in EUR million)**



Source: European Commission

Tangible results: reforms & investments

- **Renewables, energy efficiency and hydrogen**: providing support to large-scale projects in the demonstration phase with a priority on technical feasibility, with a particular focus on renewable fuels in transport, non-combustion heat production, biogas, solar, energy storage and projects along the hydrogen value chain for clean hydrogen production. Direct funding for research organisations.
- **Renewables**: reform package in Åland and permitting reform covering all renewable energy-related procedures.
- **Infrastructure**: at least four projects shall be completed, as evidenced by project reports submitted by project beneficiaries.

Highlights of the National Energy and Climate Plan

- The **draft updated NECP** was submitted to the European Commission in June 2023.
- Member States are due to submit their **final updated NECP by 30 June 2024**, taking into account the Commission recommendations.
- For more information see the dedicated webpage of the European Commission on the NECPs.

Strengthening competitiveness with the Net Zero Industry Act

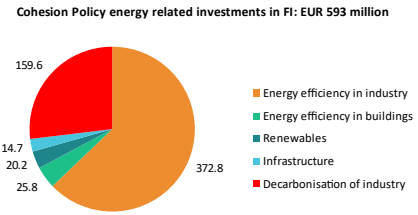
Finland remains highly dependent on non-EU countries for clean energy technologies but does have a few small-scale operations for PV and battery production. Finland is home to two solar module manufacturing plants in Juva and Salo. Finland also has a lithium-ion battery manufacturing unit in Varkaus with an output of 100 MWh. It is a key Member State in the transition from an EU economic security perspective: it has the largest deposit of nickel in the EU (3.8 Mt) and the only two cobalt-producing mines in the EU.

Other EU initiatives

Cohesion Policy provides significant support to REPowerEU in all EU MS, with a total of EUR 89 billion worth of investments focusing on regions most in need in the energy transition.

Most resources concentrate on energy efficiency in the buildings sector (i.e. 720 000 dwellings across the EU will be renovated and public buildings will decrease their energy consumption by 6000 GWh/year) and on energy infrastructure (i.e. 4.9 GWh of additional electricity storage deployed), followed by renewables (e.g. 9.5 GW of additional renewable energy capacities installed).

Graph 8: **2021-2027 energy-related investments in the Cohesion Funds supporting REPowerEU**



Source: Cohesion Open Data[5]

(5) https://cohesiondata.ec.europa.eu/d/hgyj-gyin