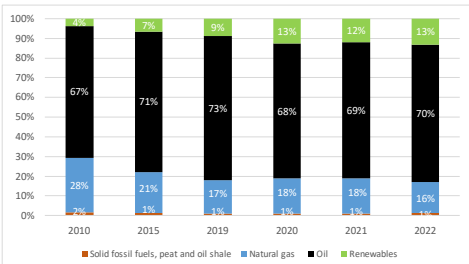




REPowerEU Two Years on_Luxembourg

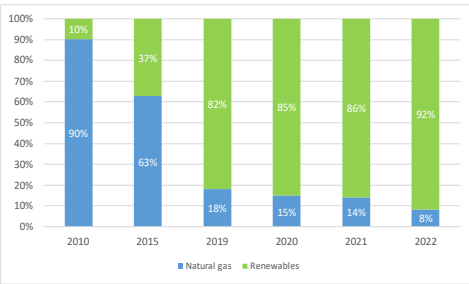
Key energy figures

Graph 1: Energy mix



Source: Eurostat

Graph 2: Electricity mix



Source: Eurostat

Save energy

1. KEY ENERGY SAVINGS MEASURES

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

- An information campaign by means of an official website on energy savings and building renovation.
- A subsidy programme for insulation works called “Klimabonus” and

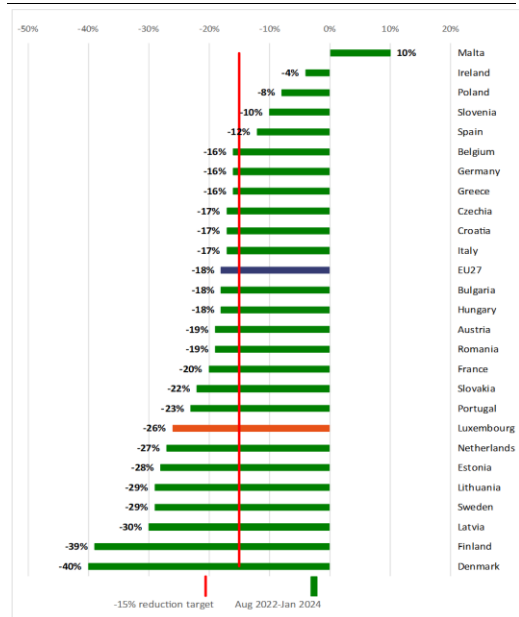
(1) Council Regulation (EU) 2023/706 of 30 March 2023, amending Regulation (EU) 2022/1369

- The switch to highly efficient fossil-free heating systems with a top-up possibility (up to 100% subsidy) for low-income households.

2. GAS DEMAND REDUCTION

Luxembourg has reduced its gas consumption by **26%** 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

Diversify energy supplies

1. KEY ACTIONS

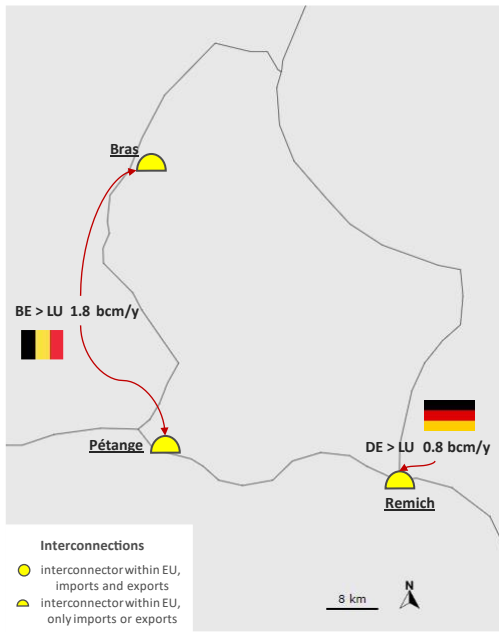
The importance of natural gas is relatively moderate in Luxembourg’s energy system; in 2022 it accounted for 15% of gross available energy and for 4% of gross electricity production⁽²⁾.

(2) Eurostat.

2. GAS INFRASTRUCTURE DEVELOPMENTS

Luxembourg is fully dependent on imports for its gas consumption, and it shares a common market area with Belgium. Most of the gas it consumes comes by pipeline from Norway and the Netherlands and transits through Belgium. It also consumes LNG delivered at the Belgian port of Zeebrugge. Luxembourg does not have any gas storage capacity, nor solidarity arrangements with other Member States.

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



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

3. GAS STORAGE

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

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

⁽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.

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 **Luxembourg** aggregated gas demand of **0.22 bcm** in 2023 under the EU Energy Platform. This represents the equivalent of 37.13% of the country's yearly gas consumption.

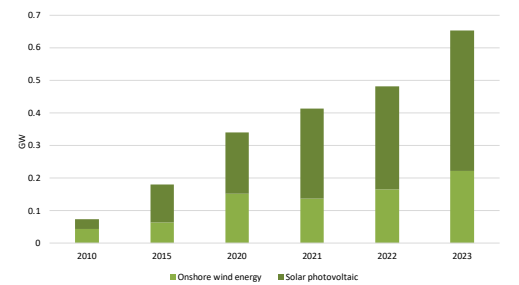
Produce clean energy

1. INSTALLED RENEWABLE ELECTRICITY CAPACITY, IN WIND AND SOLAR

In **2023**, Luxembourg installed 210 MW of renewable electricity capacity, bringing the total to **782 MW** (vs. 504 MW in 2021).

In **2023**, the annual growth rate of installed renewables power capacity rose to **36.7%** compared to 17.3% in 2021⁽⁴⁾.

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



- The renewable power capacity data reflects the capacity installed and connected at the end of the calendar year.
- In 2023, Luxembourg installed 56 MW of wind power capacity (vs. a reduction of 16.3 MW in 2021).
- In 2023, Luxembourg installed 115 MW of solar photovoltaic capacity (vs. 91 MW in 2021).

Source: IRENA, Renewable capacity statistics, 2024

2. ELECTRICITY INFRASTRUCTURE DEPLOYMENT

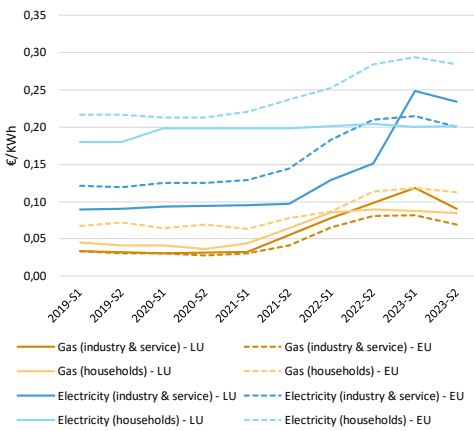
Luxembourg is highly interconnected in terms of both power and gas and is highly dependent on its neighbours to meet its energy needs. In anticipation of growing renewable generation and power demand, the grid operator is planning to further develop the high

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

voltage grid and improve interconnections, with Germany in particular, between now and 2040. According to the national transmission systems operator (TSO) about 75% of the total import and transmission capacity is already used during peak import. The TSO sees a need to both increase and modernize the electrical energy import transmission capacities. Even if Luxembourg is involved in various forms of regional energy co-operation in the EU, it is not involved in any Projects of Common Interest under the TEN-E regulation as of today.

Energy price developments

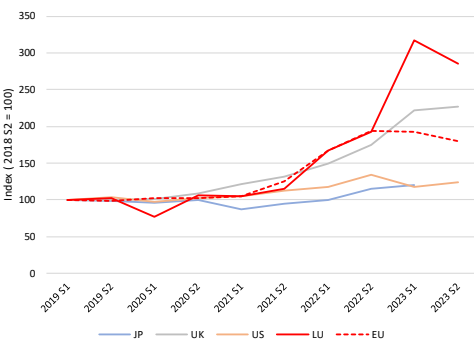
Graph 5: Luxembourg's energy retail prices for households and industry & service



- (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 LU), 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

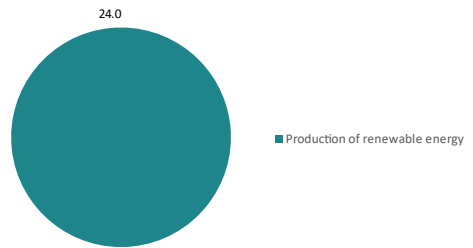
Source: Eurostat, IEA

Smartly combine investments and reforms in the RRP

Amended Recovery and Resilience Plan (RRP) (without a REPowerEU chapter):

- Approved by Council on 17 January 2023
- Total amount: EUR 83 billion
- Amount allocated for energy: EUR 24 million
- Climate tagging: 68.8 %

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



Source: European Commission

Tangible results: reforms & investments

- **Renewables:** supplying a new housing district built on a former industrial site with heat and electricity produced from renewables. A total of 8 000 m² of photovoltaic panels installed and made operational.
- **Energy efficiency:** The 'Housing Pact 2.0' reform shall put in place a reference framework to encourage municipalities to mobilise land for construction, and dwellings for renovation, in order to increase social housing in view of the lack of affordable housing.

Highlights of the National Energy and Climate Plan

- The **draft updated NECP** was submitted to the European Commission in July 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

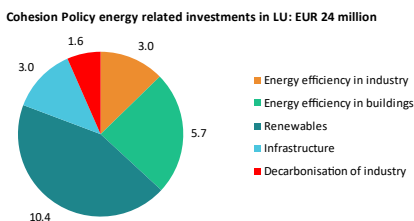
Luxembourg lacks manufacturing capacity for clean technologies and has historically relied on imports for renewable energy deployment. However, promising initiatives have recently emerged, especially in the PV and battery sector. A solar panel manufacturing factory came online in late 2023. The facility has a maximum rated output of 100 MW a year (nearly 200 000 panels). Full capacity is expected to be achieved by 2026 with production levels projected to remain below 100 000 panels per year until that time. Some lithium-sulphur batteries related ventures are also implementing their activities in Luxembourg, to conduct R&D activities and eventually industrial pilots.

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-qyin>