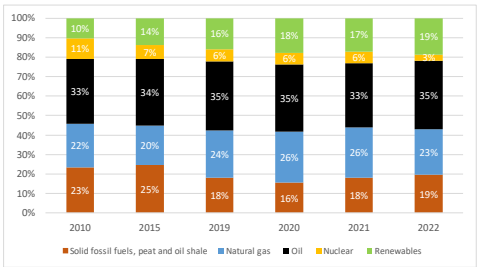
REPowerEU Two Years on_Germany

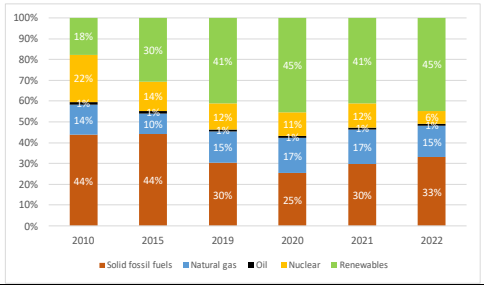
Key energy figures

Graph 1: **Energy mix**



Source: Eurostat

Graph 2: **Electricity mix**



Source: Eurostat

Save energy

1. KEY ENERGY SAVINGS MEASURES

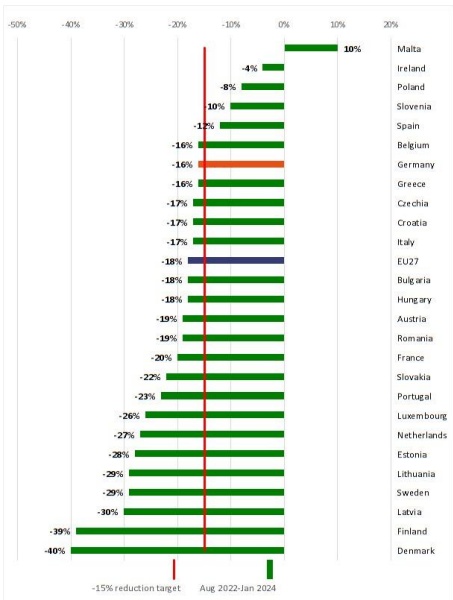
Germany is implementing energy efficiency measures to contribute to energy security further, such as:

- **Federal funding measures for energy and resource efficiency**: highly efficient technologies are supported in the latest revision, including further substantial improvements e.g. for process heat.
- **Energy Efficiency Act** is the first cross-sectoral legal framework for greater energy efficiency.
- In 2023, **Germany passed a "Building Energy Act"** which requires that new buildings be equipped with a heating system powered at least 65% by renewable energy.
- **Federal Support for Efficient Buildings** combines previous support programs for promoting energy efficiency and renewable energies in the building sector.

2. GAS DEMAND REDUCTION

Germany has reduced its gas consumption by **16%** in the period **August 2022 – January 2024**, below the decrease achieved at EU level (18%) but surpassing 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

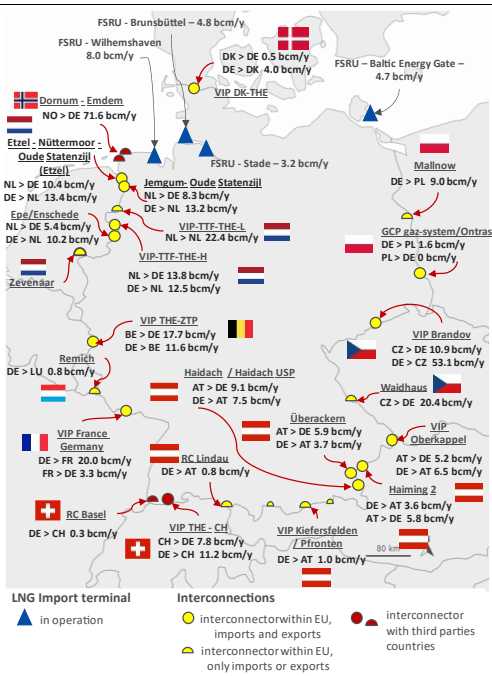
1. KEY ACTIONS

Germany continues to increase the security of its gas supply, having diversified away from Russian gas by increasing imports from Norway, the Netherlands and Belgium, as well as by commissioning its first LNG infrastructure in Wilhelmshaven, in December 2022, enabling LNG imports.

2. GAS INFRASTRUCTURE DEVELOPMENTS

Germany currently has three operational floating storage regasification units (FSRUs): Mukran, Brunsbüttel and Wilhelmshaven, with a total annual capacity in 2023 of approximately 9 bcm. Another three FSRUs are planned and are expected to be operational by mid-2024. This infrastructure could benefit regional security of supply.

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



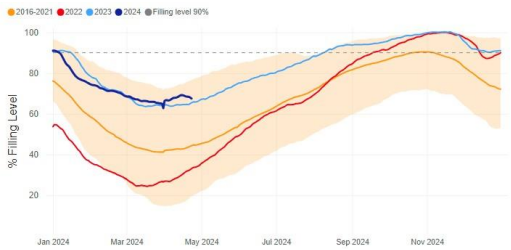
(1) Capacities at FSRU - Wilhemshaven refer to 01.01.2024. An increase in capacity is planned in 2024.
Source: European Commission map recreation (based on ENTSO- G)

3. GAS STORAGE

Germany has the largest underground gas storage capacity of the EU, with almost 23 bcm spread across 44 facilities, representing around 26% of its annual gas consumption in 2022.

Germany fulfilled its gas storage obligations last winter, reaching 99.77% by 1 November 2023 [2], and ended the winter season with a storage filled at 66.38% by 1 April 2024.

Graph 4: **Storage levels in Germany**



Source: JRC calculation based on AGSI+ Transparency Platform, 2024

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 **Germany** aggregated gas demand of **4.13 bcm** in 2023 under the EU Energy Platform. This represents the equivalent of 4.61% of the country's yearly gas consumption.

[2] 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.

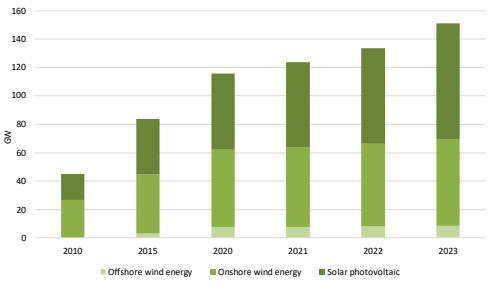
Produce clean energy

1. INSTALLED RENEWABLE ELECTRICITY CAPACITY, IN WIND AND SOLAR

In **2023**, Germany installed around 17.8 GW of renewable electricity capacity, bringing the total to **166.9 GW** (vs. 139.1 GW in 2021).

In **2023**, the annual growth rate of installed renewables power capacity rose to **11.9%** compared to 5.6% in 2021 [3].

Graph 5: **Installed solar and wind power capacity (in GW)**



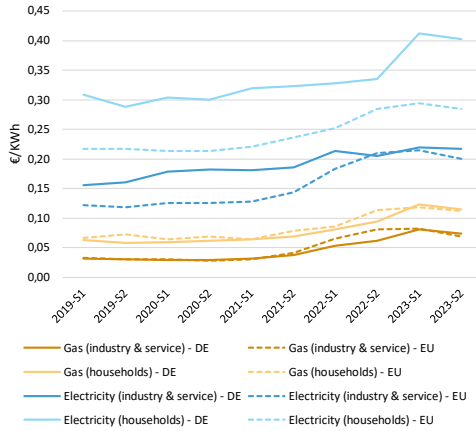
(1) The renewable power capacity data reflects the capacity installed and connected at the end of the calendar year.
(2) In 2023, Germany installed 3.3 GW of wind power capacity (vs. 1.5 GW in 2021).
(3) In 2023, Germany installed 14.3 GW of solar photovoltaic capacity (vs. 6.4 GW in 2021).
Source: IRENA, Renewable capacity statistics, 2024

2. ELECTRICITY INFRASTRUCTURE DEPLOYMENT

Germany has adopted measures to accelerate the construction of new transmission lines necessary to integrate renewable energy sources. New investments are foreseen for internal reinforcements as well as new interconnection projects including Projects of Common Interest (PCIs). The modernisation of the distribution grids will be important to integrate decentralised renewables.

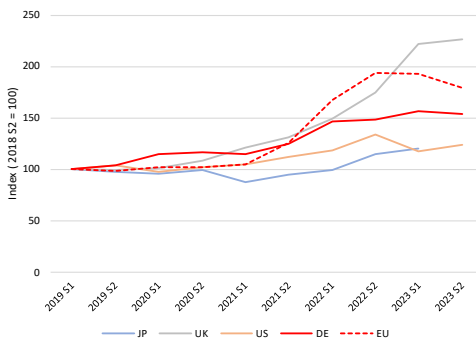
Energy price developments

Graph 6: **Germany'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 7: **Trends in electricity prices for non-household consumers (EU and foreign partners)**



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

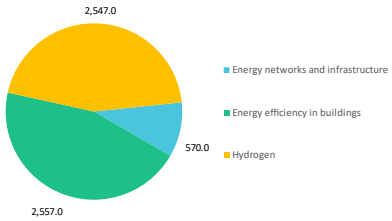
[3] International Renewable Energy Agency (2024). Renewable capacity statistics 2024

Smartly combine investments and reforms in the RRP

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

- Approved by Council: 8 December 2023
- Total amount: EUR 28 billion
- Amount allocated for energy: EUR 5.67 billion
- Climate tagging: 47 %
- REPowerEU chapter submitted on 30 April 2024

Graph 8: **Energy-related investments in the RRP (in EUR million)**



Source: European Commission

Tangible results: reforms & investments

- **Energy efficiency in buildings:** Renovating 40 000 housing units, regulations simplifying house construction.
- **Infrastructure:** district heating networks.
- **Energy efficiency in industry:** avoiding at least 1 million tonnes of CO2, Pilot scheme on Carbon Contracts for Difference for climate action.
- **Hydrogen:** 300 MW electrolysis capacity.

Highlights of the National Energy and Climate Plan

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

Germany has traditionally had a strong innovation performance and manufacturing base for clean energy technologies and their supply chains. But international competition is intensifying. The German PV sector, with its material producers, mechanical engineering, component manufacturers and R&D facilities still occupies a strong position in some segments of the value chain. Germany hosts the only solar-grade polysilicon supplier in Europe. In modules, Germany produces mainly for its domestic market, but lacks sufficient manufacturing capacity for PV ingots, wafers and cells.

Germany has a number of manufacturing facilities for the **main wind turbine components** (nacelle, blades and tower). Additionally, other German companies are providing components to the main global manufacturers, such as bearings, gear boxes and transformers.

In the **battery sector**, the leading cell producers in the EU are mostly the local subsidiaries of Far East (mainly Chinese) or US companies. EU owned companies, many of them German, are also active and/or are preparing a number of battery cell production facilities. Some of those are integrated into the value chain of German car manufacturers.

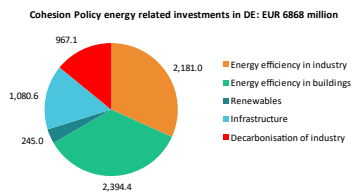
In Europe, Germany is currently the country with the highest installed **manufacturing electrolysis capacity**, in polymer electrolyte membrane (PEM) and alkaline.

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 9: **2021-2027 energy-related investments in the Cohesion Funds supporting REPowerEU**



Source: Cohesion Open Data [4]

[4] https://cohesiondata.ec.europa.eu/d/hgyj-gyin