Electricity generation in Germany in 2025

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www.energy-charts.info

Agenda

1. Summary
2. Electricity generation, share of renewable energy, full-load hours
3. Imports and exports
4. Prices
5. Installed capacity
6. Emissions and climate data
7. Electricity generation in Europe
8. Appendix and explanations

Net electricity generation in 2025

Renewable energy: solar and wind

Wind power plants produced about 132 TWh in 2025 and were about 3.2 % below the production level of 2024. The share of onshore wind was about 106 TWh, and offshore wind generated about 26.1 TWh. Wind energy was once again the largest source of net electricity generation of the year, followed by solar, lignite, natural gas, biomass, hard coal, and hydropower. The maximum output from onshore wind was about 46.4 GW on 26.10.2025 from 17:45 to 18:00 o'clock. Offshore wind reached a maximum of 8.0 GW on 30.12.2025 from 00:15 to 00:30 o'clock.

Solar installations generated around 87 TWh of electricity in 2025. Of this, approximately 71 TWh was fed into the public grid and 16.9 TWh was self-consumed. Total production increased compared to the previous year by about 15 TWh, or 21 %. In public net electricity generation, solar overtook lignite for the first time and moved up to second place. The maximum solar power fed into the grid was about 50.4 GW on 20.06.2025 from 12:45 to 13:00 o'clock. At that time, the share of solar energy in the public load was 98.6 %, i.e. almost as much solar power was fed into the grid as electricity was consumed from the public grid. On 21.06.2025, solar energy reached its maximum share of the total daily load at 41.2 %.

1 TWh = 1 terawatt-hour = 1000 gigawatt-hours (GWh) = 1 million megawatt-hours (MWh) = 1 billion kilowatt-hours (kWh)

Net electricity generation in 2025

Renewable energy: hydropower, biomass and share of load

Hydropower generated about 17.8 TWh, compared to 22.3 TWh in 2024. The reason for the sharp decline is the low amount of precipitation in 2025. Installed capacity is around 5.9 GW and has changed little compared to previous years.

About 41.1 TWh of electricity was produced from **biomass**, of which 36.0 TWh was fed into the grid and 5.1 TWh was self-consumed. Production is therefore 0.3 TWh lower than in 2024. Installed capacity is 9.0 GW.

Altogether, the **renewable energy sources** solar, wind, hydro, biomass, and geothermal produced about 278 TWh in 2025, of which 256 TWh was fed into the public power grid and 22 TWh was self-consumed. Compared to the previous year, generation increased by 6 TWh. The share of renewable energies fed into the public power grid in the load, i.e. the electricity mix that actually comes out of the socket, was 55.9 %.

Total net electricity generation includes, in addition to public net electricity generation, solar self-consumption and self-generation by industrial and commercial companies. This is mainly based on natural gas.

The share of renewable energies in total German net electricity generation, including the power plants of "manufacturing industry as well as mining and quarrying," was about 57.1 %, compared to 55.9 % in 2024.

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Net electricity generation in 2025

Relation to the targets of the EEG 2023 (expansion and electricity generation pathway for renewables)

The **EEG 2023** defines both expansion pathways for installed capacity (§ 4) and target values for electricity generation from renewable energy (§ 4a).

For the end of 2025, 76.5 GW of **onshore wind** capacity were planned, but only 68.1 GW have been installed. The target was missed by 8.4 GW. By contrast, the **photovoltaic** target of 108 GWp was slightly exceeded with 116.9 GWp.

At the same time, renewable net electricity generation at 282.2 TWh falls well short of the target of 346 TWh set for 2025. The main reason is the failure to meet expansion targets for onshore and offshore wind: because of different full-load hours, missing capacity in onshore wind has roughly a twofold effect on electricity volumes, and in offshore wind around a 3.5-fold effect.

In addition, there are high self-consumption shares for photovoltaics and increasingly suboptimal orientations (e.g., east–west), which improve grid compatibility but reduce specific yield. Self-consumption is estimated, but many energy volumes are not recorded and it can be assumed that not all energy volumes are taken into account.

Energy volumes curtailed due to grid bottlenecks (approximately 6.7 TWh) are currently available up to the end of September and play only a minor role. In addition, curtailment during negative electricity prices can be estimated for this period at roughly 6.0 TWh using the TSOs' grid feed-in potential values.

Net electricity generation in 2025

Non-renewable generation

Lignite power plants produced 67.2 TWh net for public electricity consumption and 1.5 TWh for industrial self-consumption. That is 3.9 TWh less than in 2024. Gross electricity generation fell to the level of 1961.

Net production from **hard coal power plants** amounted to 26.7 TWh. This was 2.4 TWh higher than in 2024. Gross electricity generation from hard coal was at the level of 1952.

Fossil gas-fired power plants produced 52.4 TWh net for public electricity supply and 26.1 TWh for industrial self-consumption. In addition, 4.1 TWh was produced from coal-derived gas. This put them 3.7 TWh above the level of the previous year.

Lignite and hard-coal power plants generated more electricity than usual in 2022 due to the outage of many French nuclear power plants and high gas prices. From 2023 onward, the electricity market situation eased again, leading to a strong reduction in coal-fired generation.

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Net electricity generation in 2025

Import and export

In 2025, Germany's **electricity exchange** (planned / scheduled) showed imports of 76.2 TWh, exports of 54.3 TWh, and a net import surplus of about 21.9 TWh. This is a decrease of 6.4 TWh compared to 2024. The reasons for the slightly lower imports were the low gas prices and the higher wholesale electricity prices in Germany and neighboring countries, which led to more domestic generation from natural gas. Most of the imports came from Denmark (12.4 TWh), France (11.2 TWh), the Netherlands (8.4 TWh), and Norway (7.0 TWh). Germany was a net exporter of electricity to Austria (12.2 TWh), the Czech Republic (4.2 TWh), Luxembourg (3.5 TWh), and Poland (3.4 TWh).

In 2022, high wholesale electricity prices led to a large amount of electricity being produced from coal and natural gas for export, resulting in a net export surplus of 26.8 TWh.

The **physical flows** show imports of 76.5 TWh, exports of 55.3 TWh, and a net import surplus of 21.3 TWh compared to 24.8 TWh in 2024. Physical power flows do not indicate whether the electricity was actually consumed in the country or whether it was passed on to neighboring countries as transit electricity. Therefore, an analysis by individual countries makes little sense here.

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Net electricity generation in 2025

Load, exchange electricity prices and market value

The **load** in the public power grid amounted to 465 TWh and was therefore roughly at the level of 2024.

The load includes electricity consumption from the grid and grid losses, but not pumping electricity consumption, the internal consumption of conventional power plants, or self-consumption from solar installations.

Total load amounted to 495 TWh. It also includes self-consumption of solar electricity amounting to 16.9 TWh and industrial self-generation from gas-fired power plants amounting to 26.1 TWh. Total load was therefore also roughly at the level of 2024.

The average volume-weighted **day-ahead** wholesale electricity price was 86.55 €/MWh or 8.65 Cent/kWh. This is 10.9 Prozent higher than in 2024 (78.01 €/MWh).

The average volume-weighted **intraday** hourly price was 89.38 €/MWh or 8.94 Cent/kWh. In 2024 it was 82.25 €/MWh.

Due to the COVID-19 pandemic, 2020 should not be used for price comparisons. 2022 is also not suitable for price comparisons due to gas shortages and the unavailability of many French nuclear power plants.

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Installed generation capacity in 2025

Solar, wind, battery storage

At the end of 2025, **installed solar capacity** amounted to 116.9 GWp in module capacity (DC) and 106.7 GWp in inverter capacity (AC). Net additions in 2025 were about 16.3 GWp DC and 14.4 GWp AC.

At the end of 2025, **installed onshore wind capacity** stood at 68.1 GW. Net additions in 2025 were 4.5 GW. **Installed offshore wind capacity** at the end of 2025 was 9.5 GW. Net additions amounted to 0.29 GW.

Total installed battery capacity at the end of 2025 was about 24 GWh. Of this, around 19.6 GWh was home storage, 1.1 GWh commercial storage, and 3.7 GWh large-scale battery storage. The capacity of large-scale battery storage increased over the course of the year from 2.3 GWh to 3.7 GWh, corresponding to an increase of about 57 %. Installed battery power at the end of 2025 amounted to 16 GW.

In addition, the Market Master Data Register (Marktstammdatenregister) lists a further 11.5 GWh of battery storage with a planned commissioning date. Results from Fraunhofer ISE's REMod energy system model indicate, depending on the scenario, a storage requirement of 100 to 170 GWh by 2030.

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Energy-meteorological data and emissions in 2025

Air temperature, precipitation, sunshine duration, carbon dioxide emissions

The average air temperature in Germany in 2025 was 10.1 °C. That is 1.9 °C higher than the long-term average (1961–1990) of 8.2 °C.

According to initial analyses by the German Weather Service (DWD), 655 liters per square meter (l/m²) of precipitation fell in 2025. That was 27% less than in 2024 (902 l/m²) and 17% less than the average of the 1961–1990 reference period (789 l/m²).

In 2025, the average sunshine duration in Germany was 1,945 hours. That is 16% more than in 2024 and 26% more than in the reference period (1,544 hours, 1961–1990).

The data for average global radiation and average wind speed in 2025 will not be published until March 2026.

According to initial estimates, carbon dioxide emissions from German electricity generation were 160 million tonnes—about the same as in 2024, but 58% lower than at the start of the data series in 1990.

Emissions from coal-fired electricity generation fell by 4% compared with the previous year and by 69% compared with 1990.

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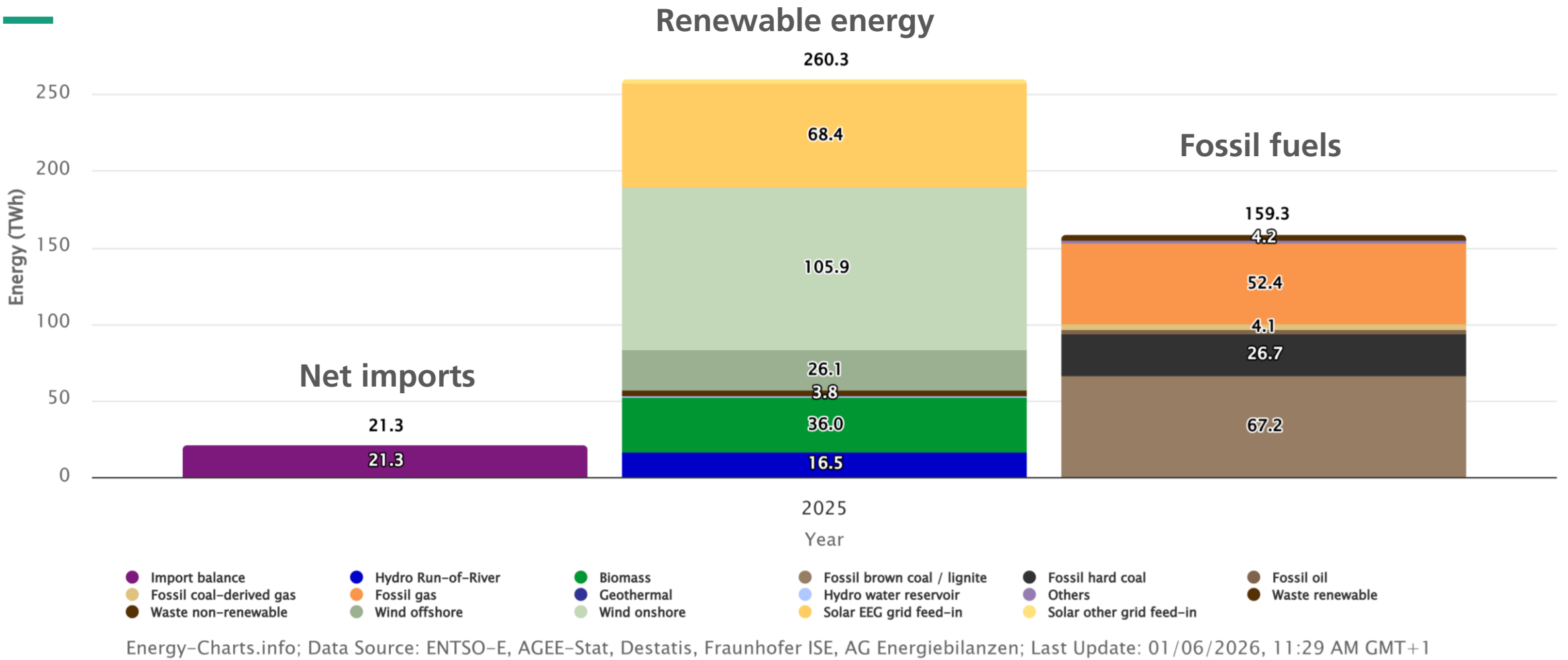
Public net electricity generation

Year 2025



Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&legendItems=0xfvnu&year=2025

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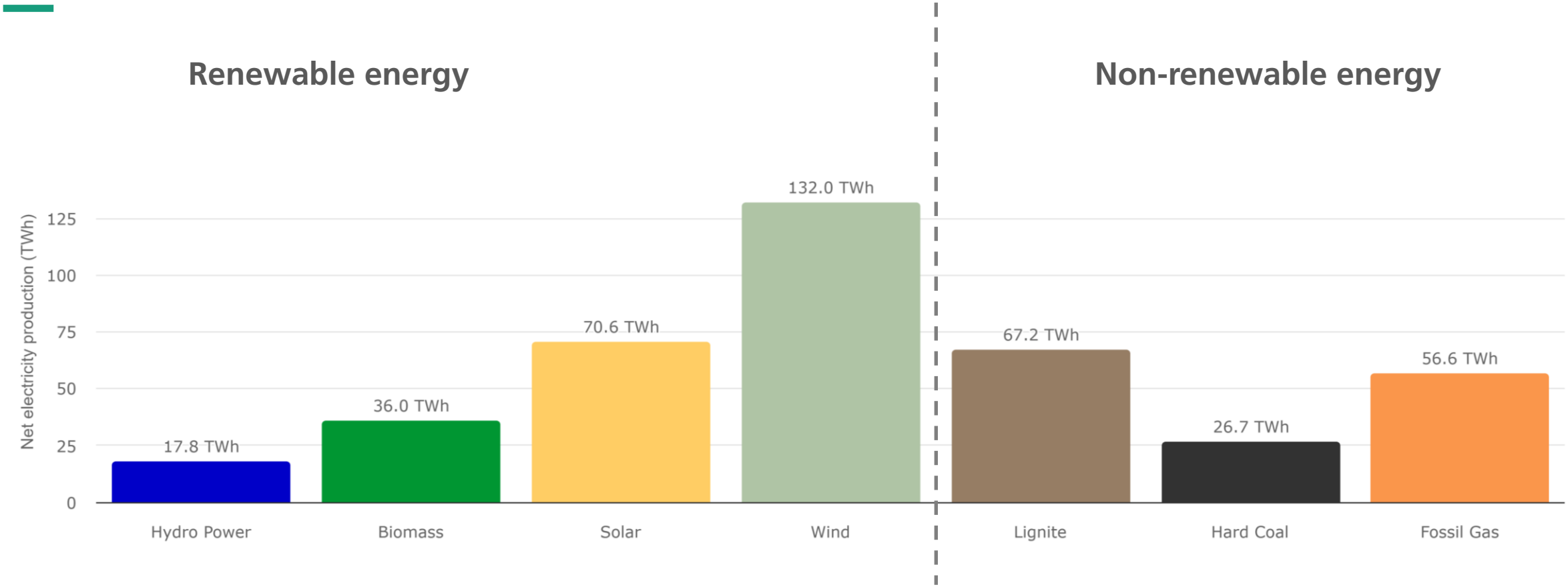
Public net electricity generation

Year 2025



The chart shows net electricity generation from power plants for public power supply. This is the electricity mix that actually comes from the socket. Self-consumption of solar power and generation from power plants of "enterprises in manufacturing as well as in mining and quarrying," i.e., industrial generation for own consumption, are not included in this presentation.

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&legendItems=0x7i0u&year=2025&stacking=single

Absolute change in public net electricity generation

Year 2025 compared with 2024

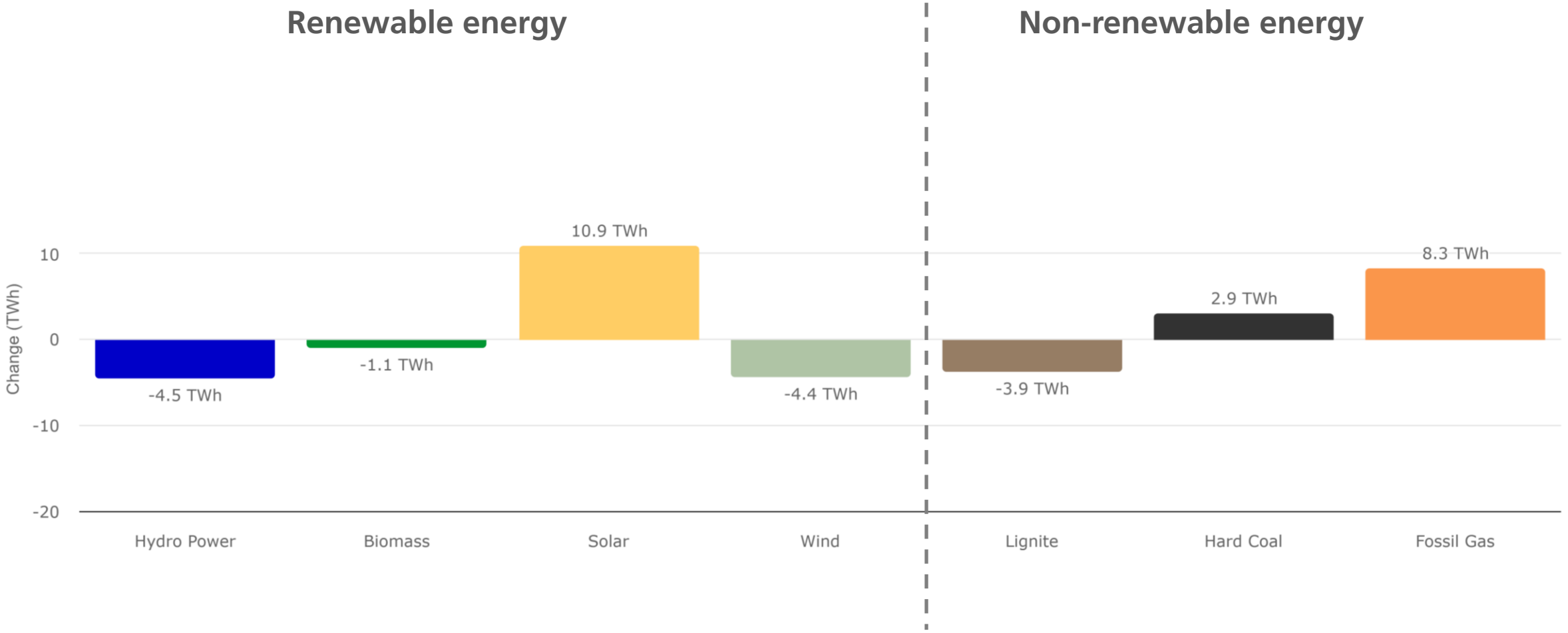


Chart: B. Burger, Fraunhofer ISE; Data: DESTATIS and Leipzig power exchange EEX, energy-corrected values

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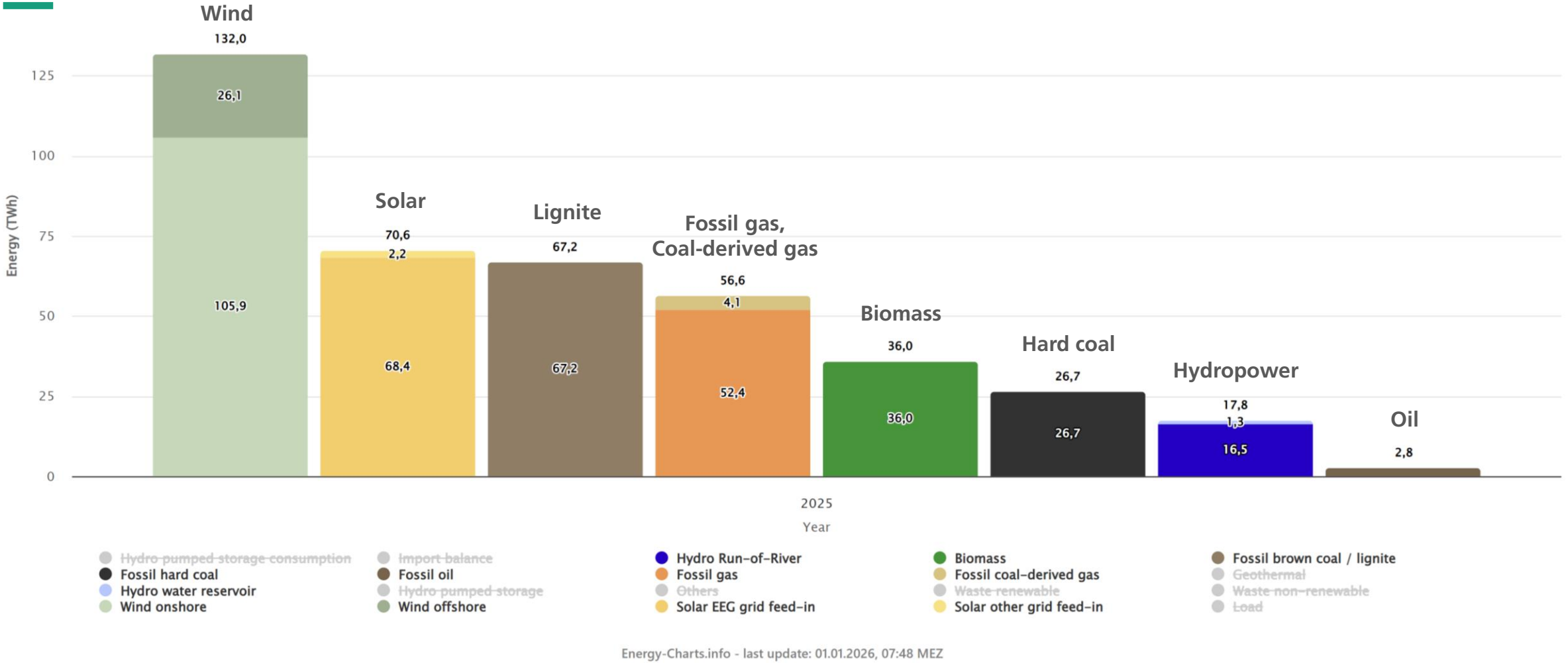
Public net electricity generation

Year 2025



Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&chartColumnSorting=descending&legendItems=0x7ugu&partsum=1

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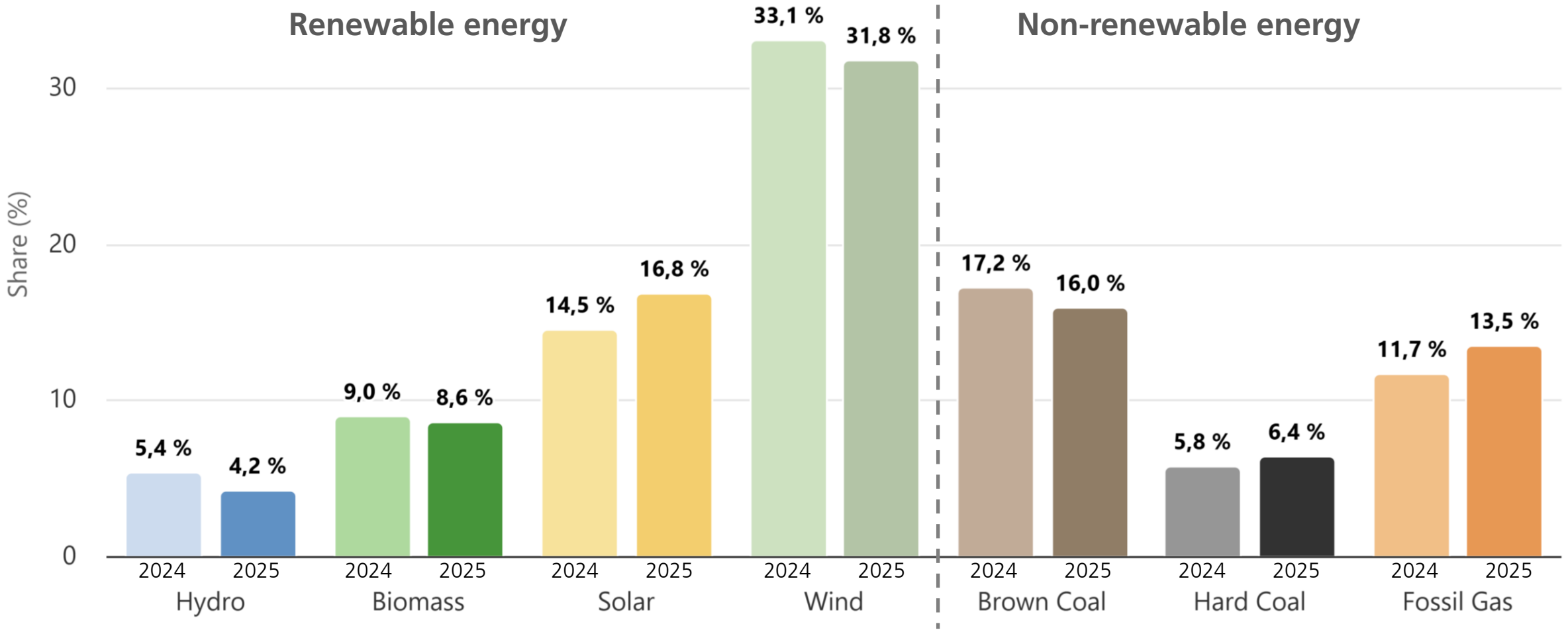
Shares in public net electricity generation

Year 2024 and 2025



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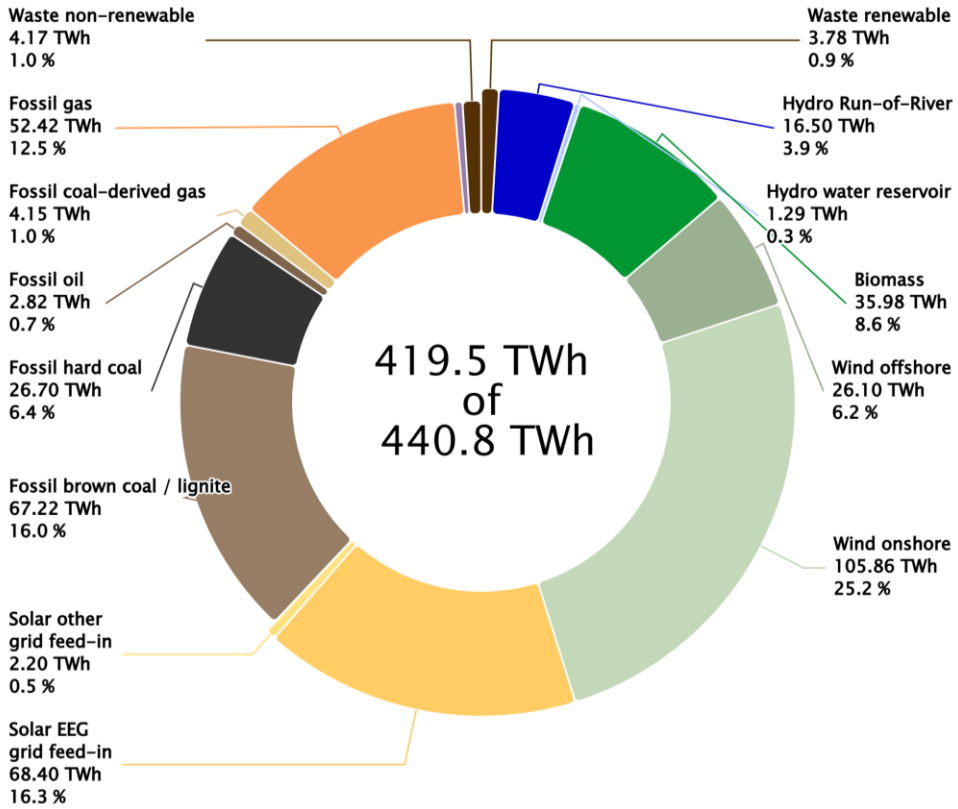
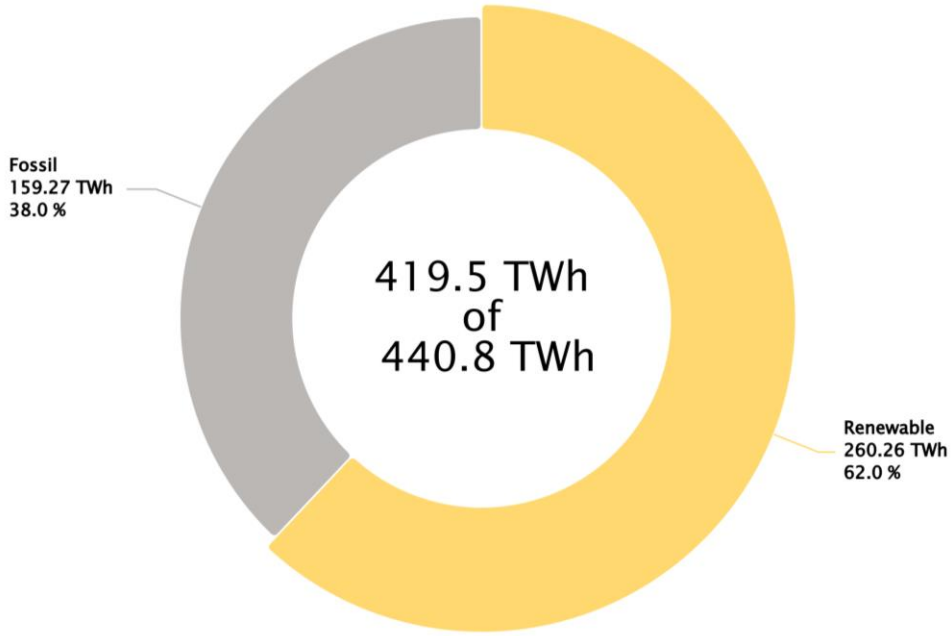
Public net electricity generation

Year 2025





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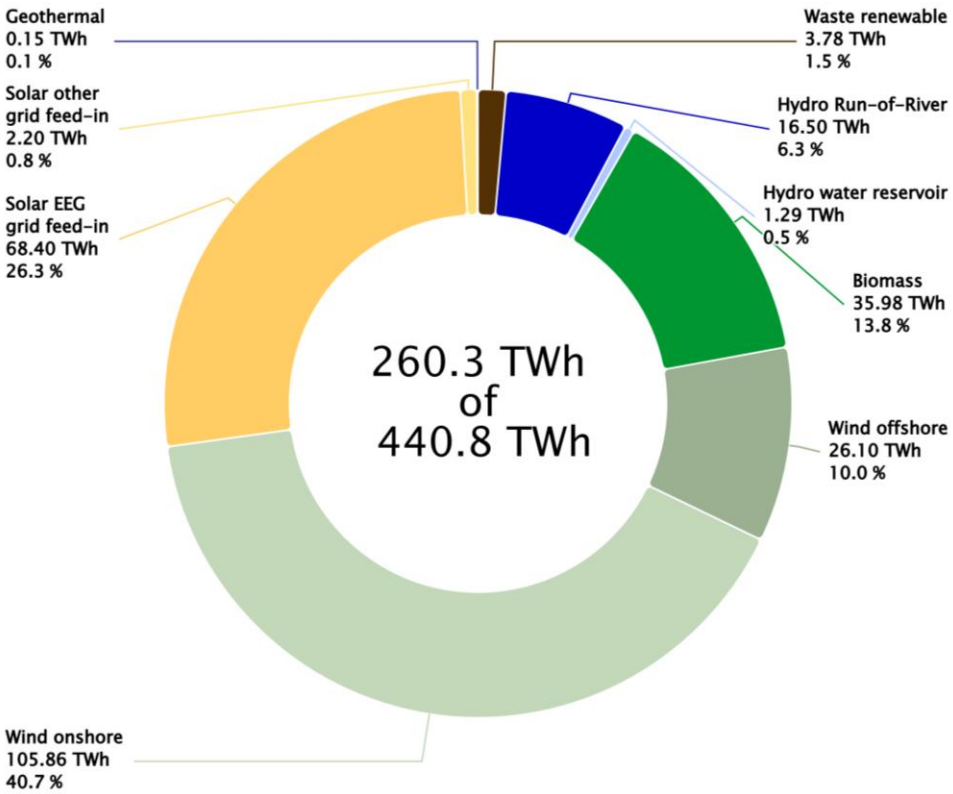
Source: https://www.energy-charts.info/charts/energy_pie/chart.htm?l=en&c=DE&interval=year&year=2025

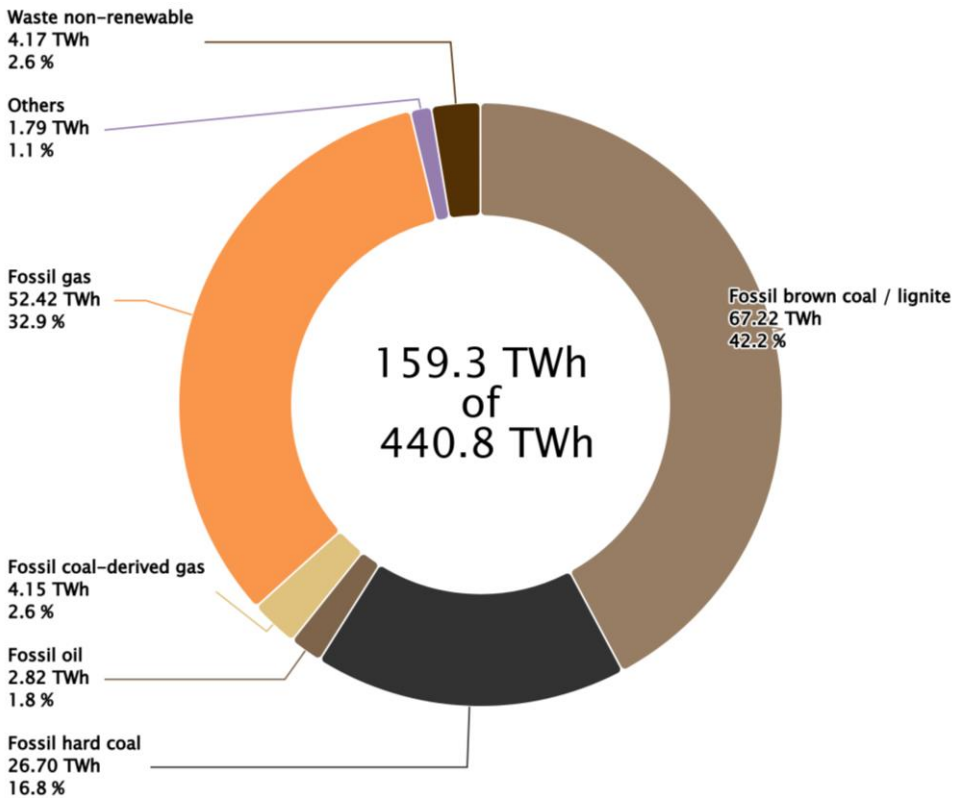
Public net electricity generation

Year 2025

Renewable energy



Non-renewable energy



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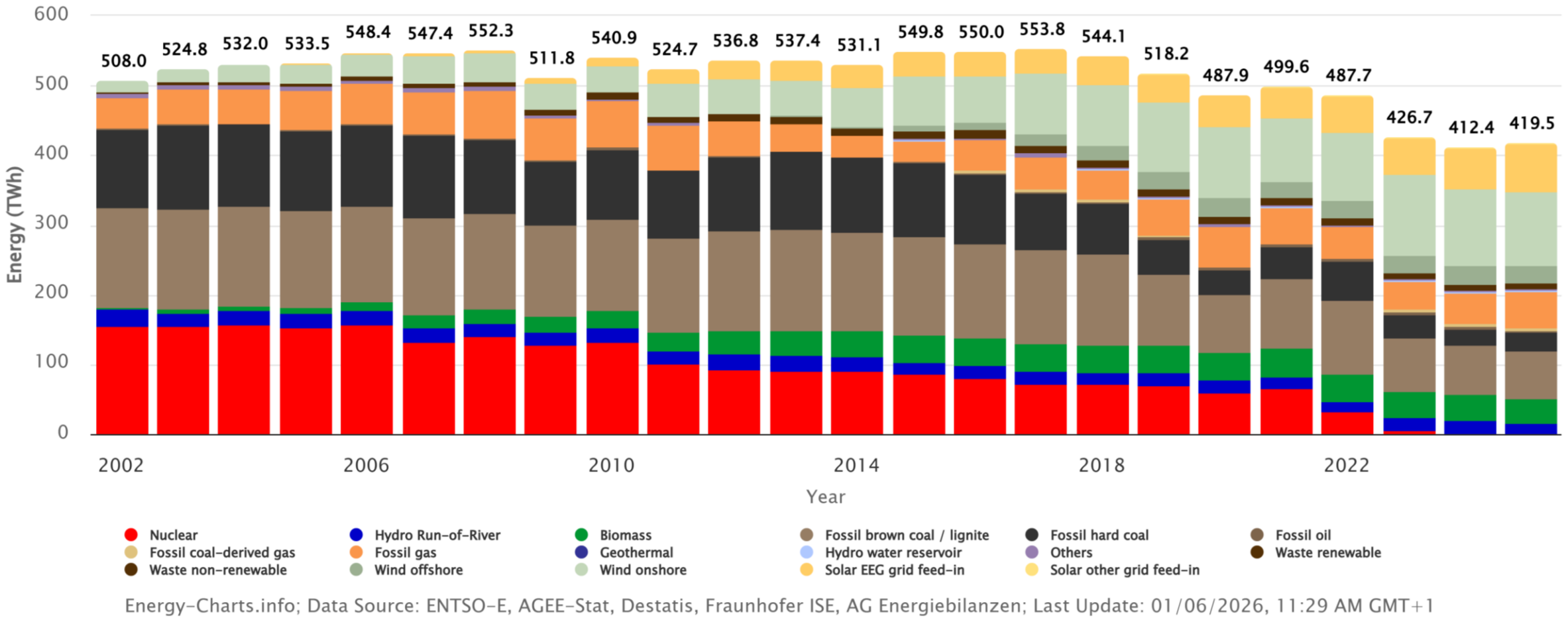
Public net electricity generation

Years 2002–2025



Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:29 AM GMT+1

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&chartColumnSorting=default&interval=year&year=-1

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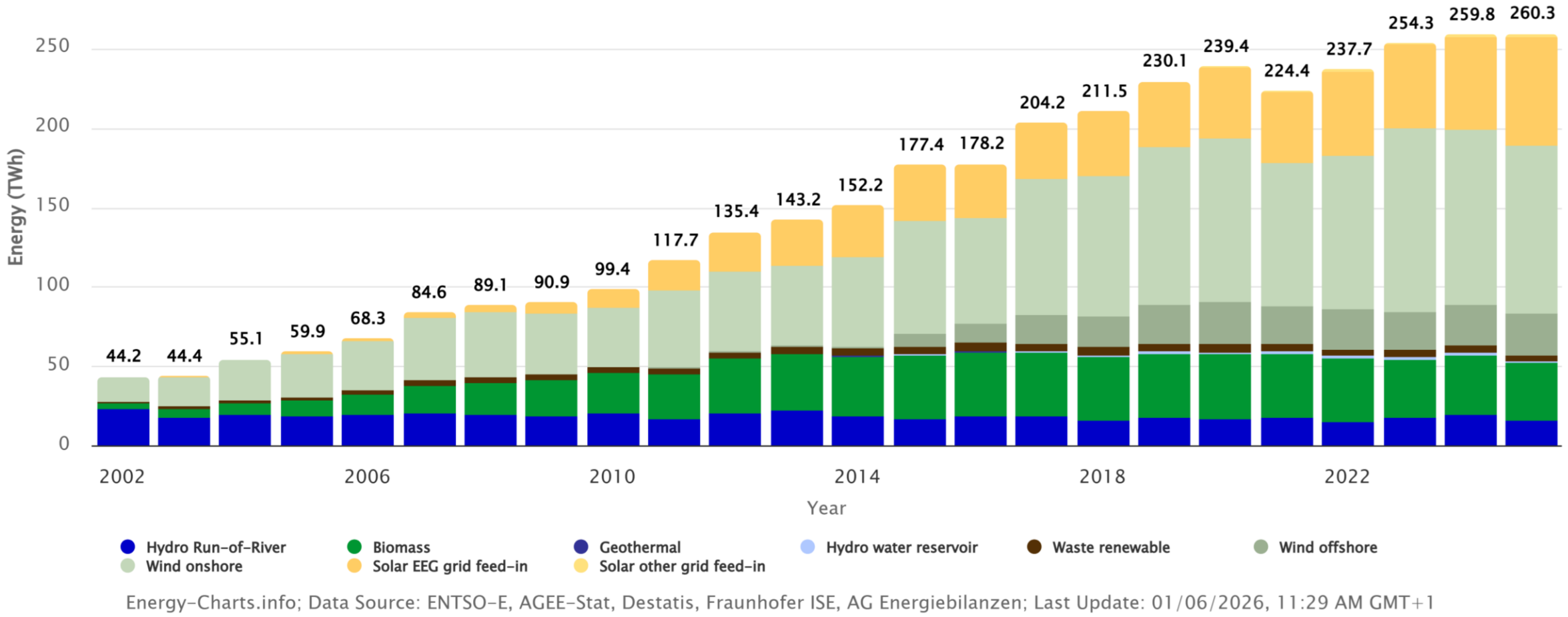
Public net electricity generation from renewable energy

Years 2002–2025



Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&chartColumnSorting=default&interval=year&year=-1&legendItems=4x061iu

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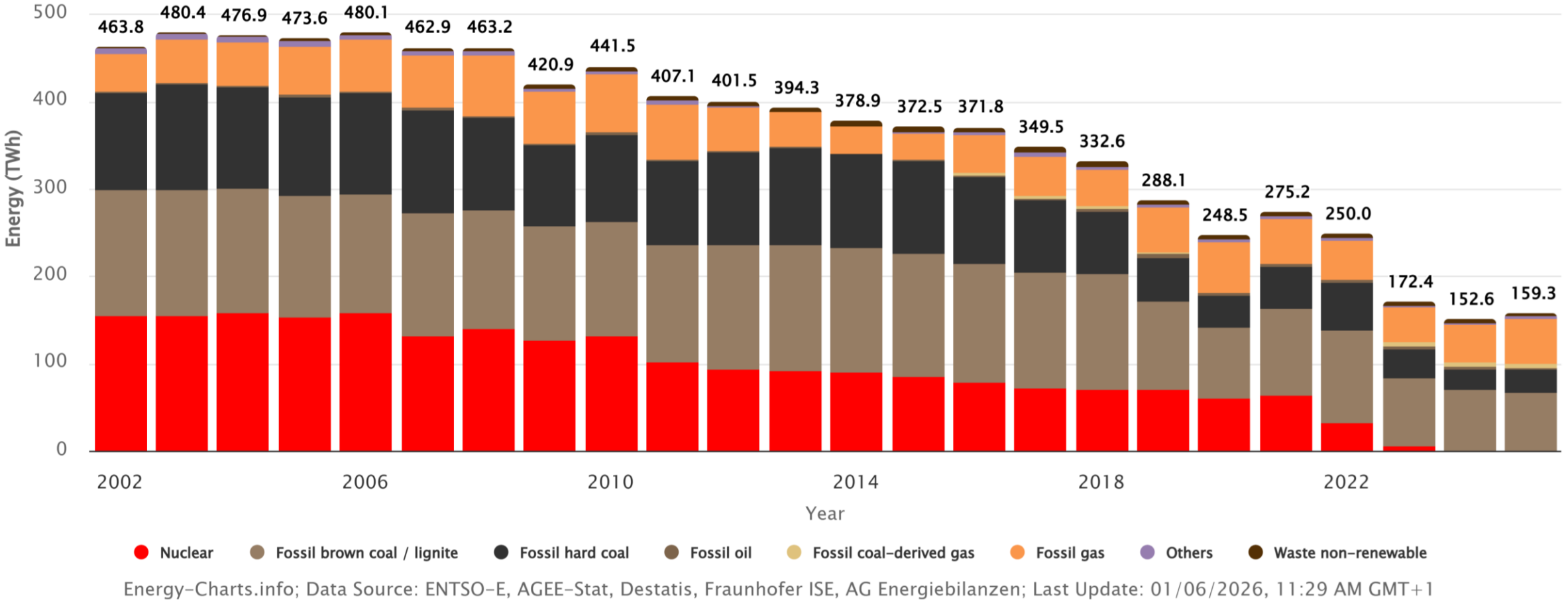
Public net electricity generation from non-renewable sources

Years 2002–2025



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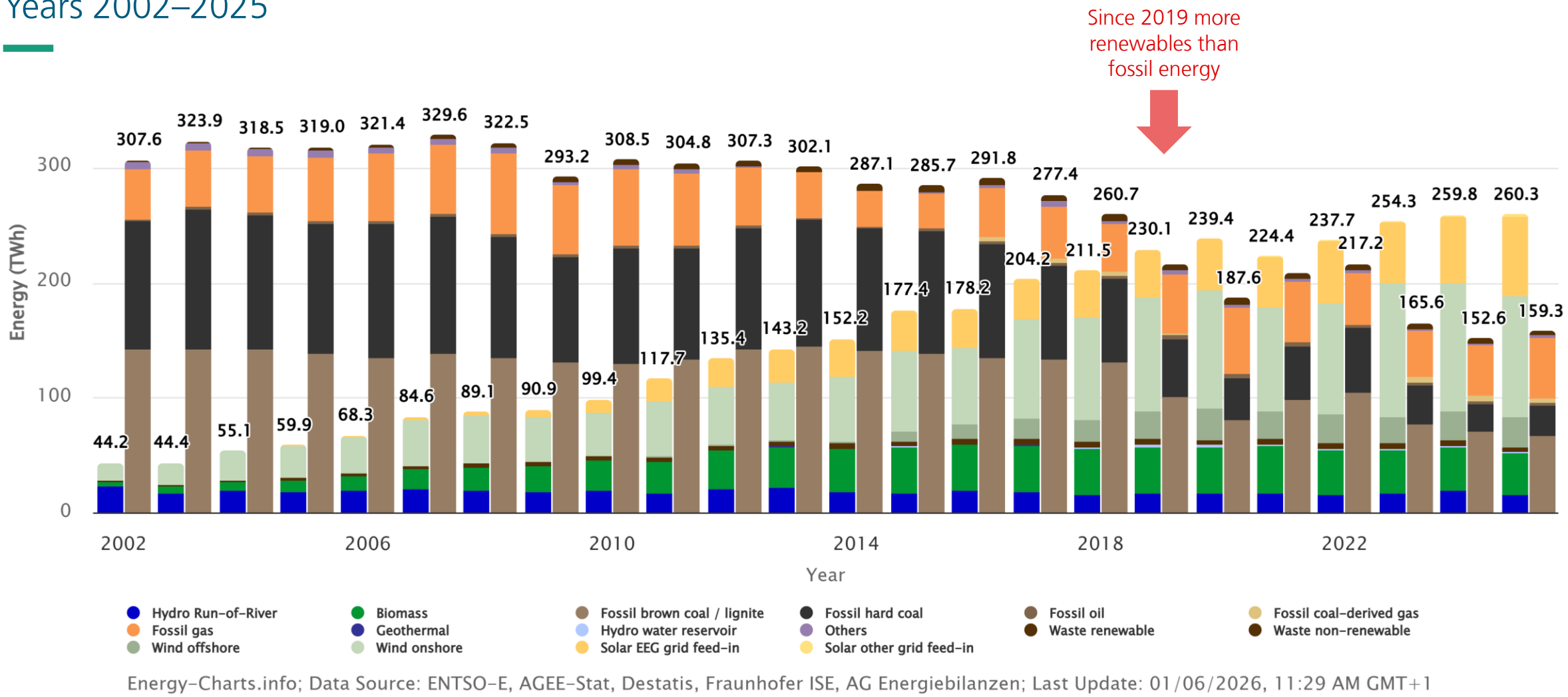
Public net electricity generation from renewable and fossil sources

Years 2002–2025



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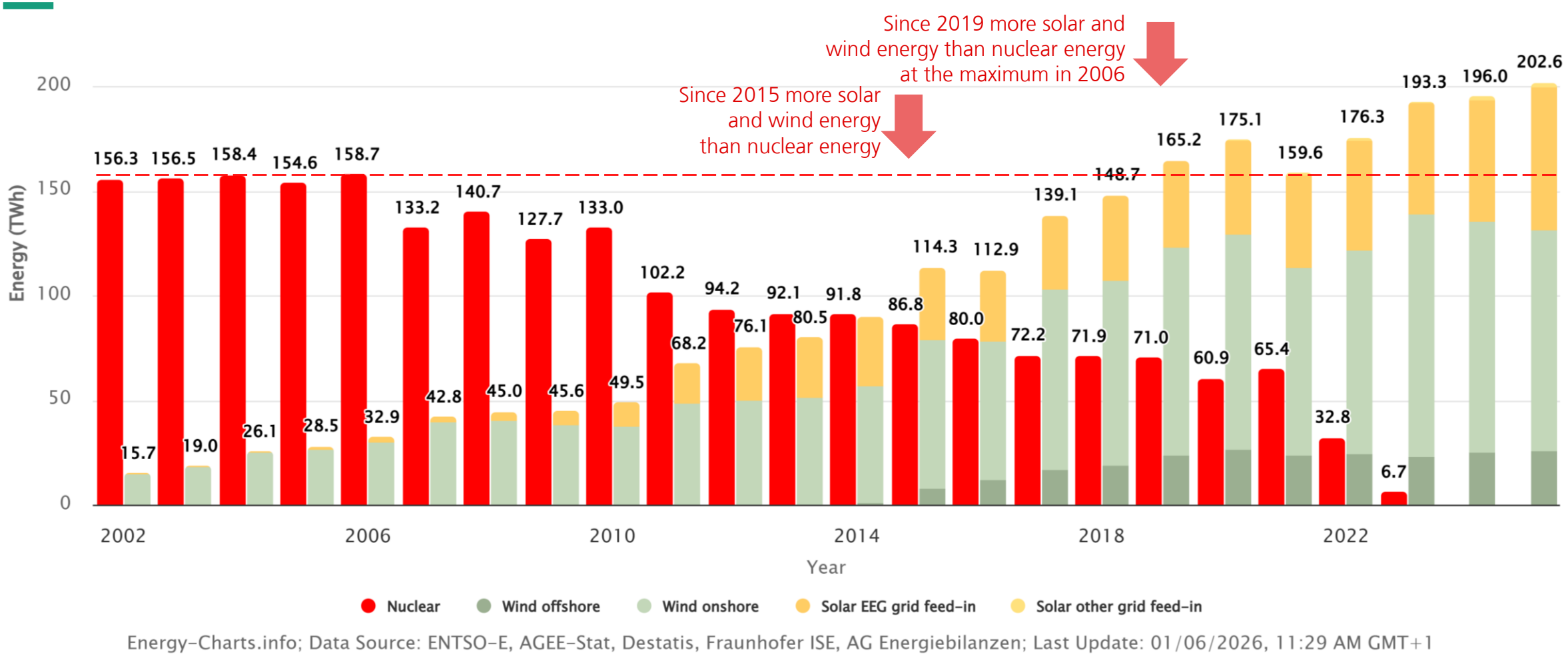
Public net electricity generation from nuclear energy, solar and wind energy

Years 2002–2025



Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:29 AM GMT+1

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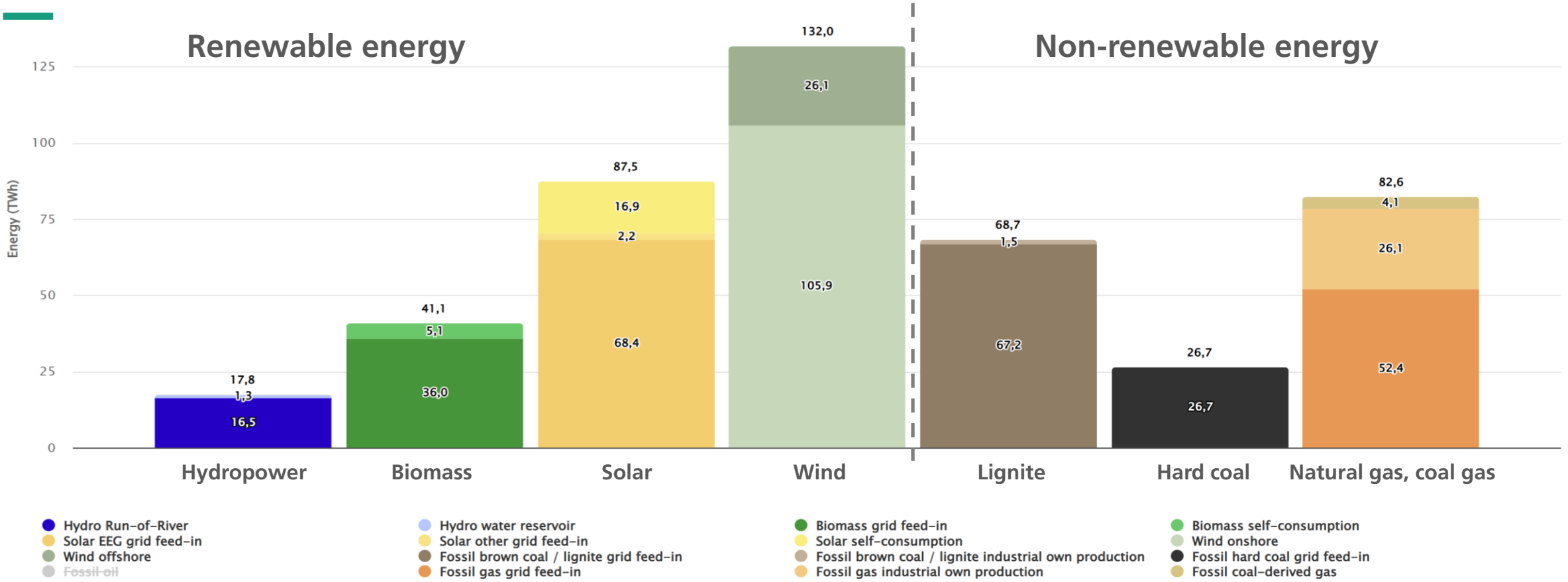
Total net electricity generation

Year 2025

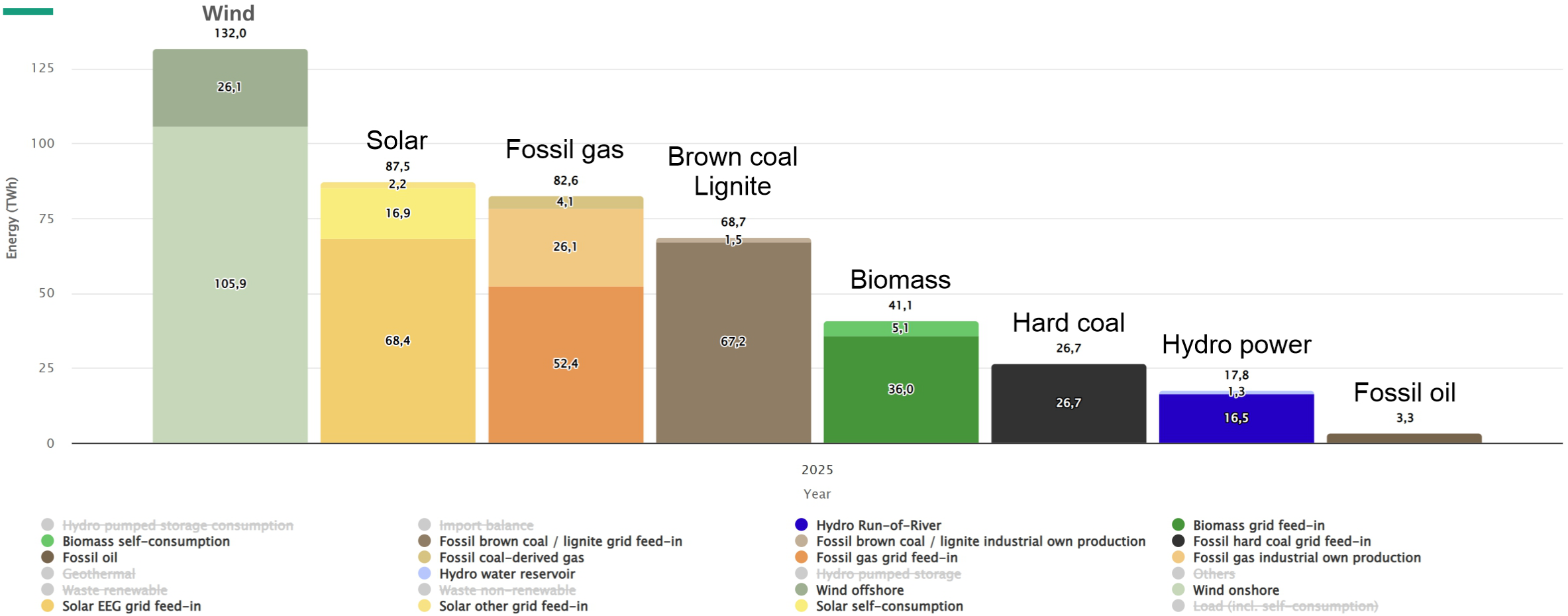


The chart shows total net electricity generation. This is the sum of public net electricity generation, self-consumption of solar power, and generation for own use by "enterprises in manufacturing as well as in mining and quarrying."

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&source=total&partsum=1&year=2025&legendItems=1x3ud1u

Total net electricity generation

Year 2025



Source: https://energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&year=2025&source=total&legendItems=1x3vt1u&chartColumnSorting=descending

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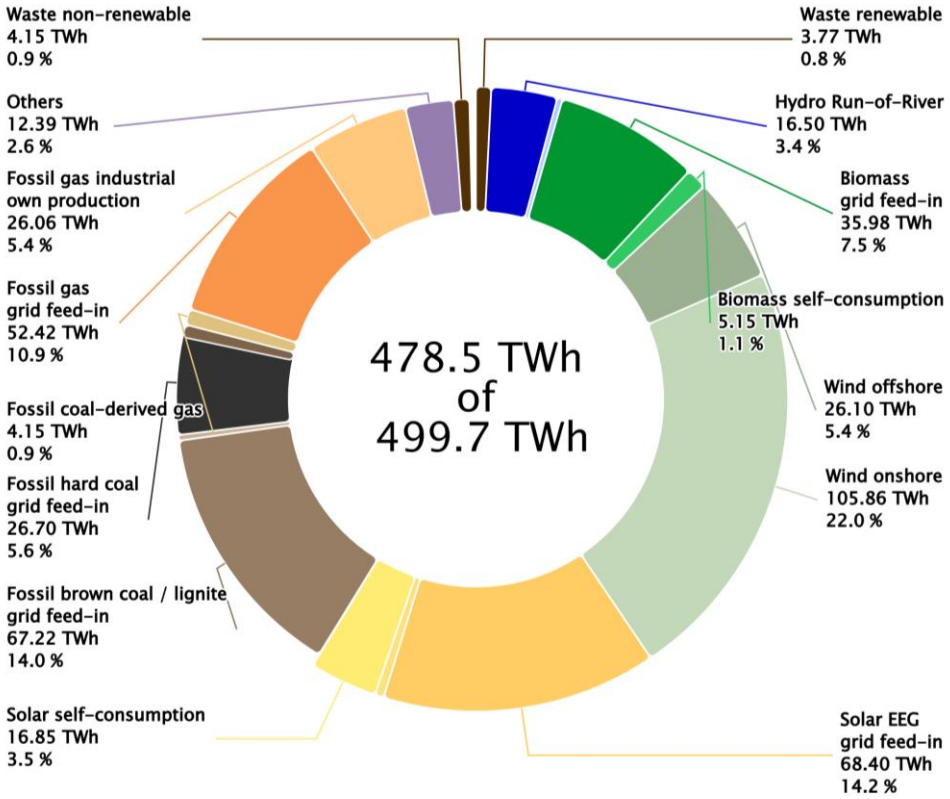
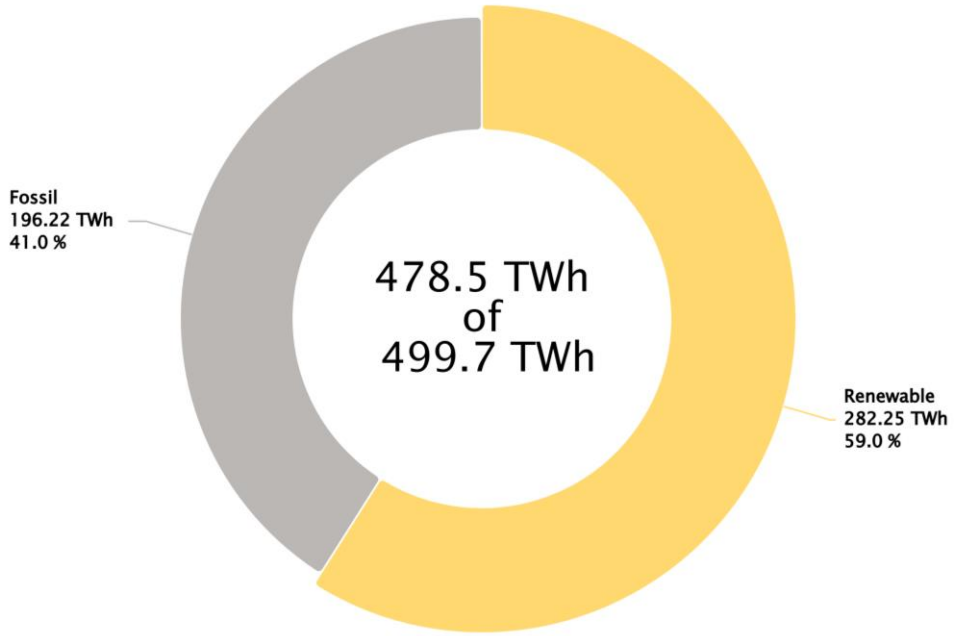
Total net electricity generation

Year 2025





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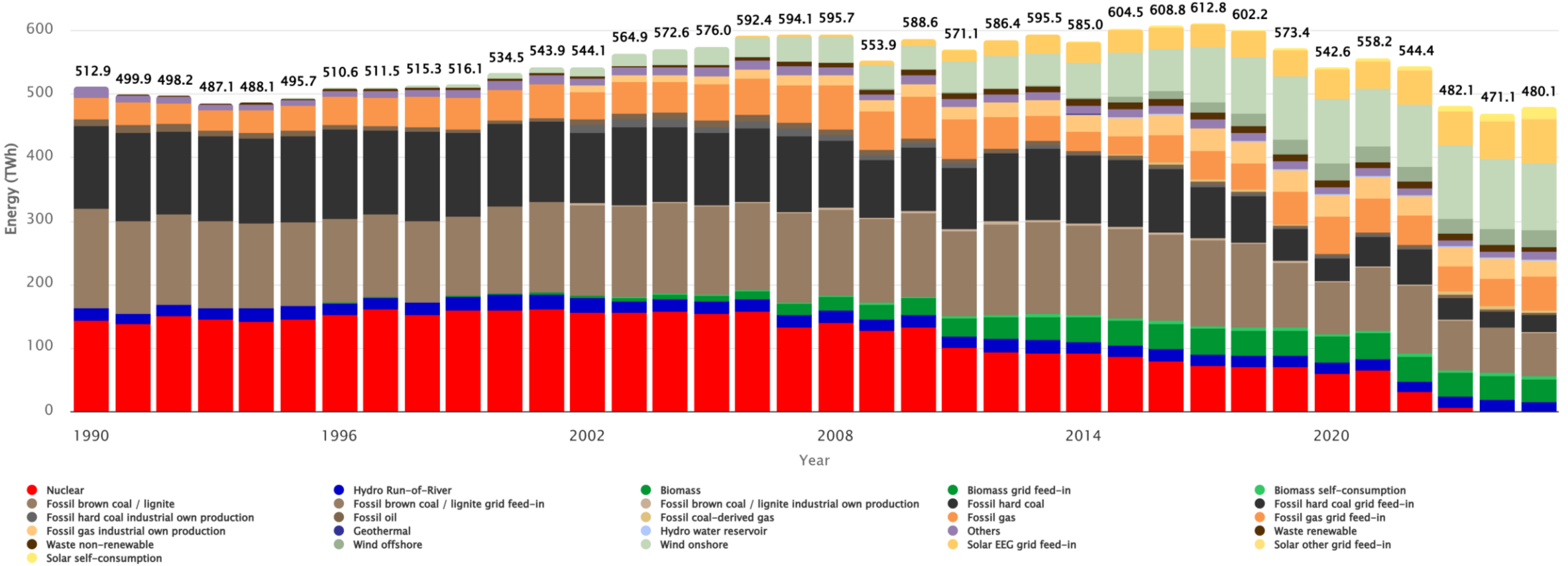
Total net electricity generation

Years 1990–2025



Energy-Charts.info; Data Source: ENTSO-E, AG Energiebilanzen, BDEW; Last Update: 01/06/2026, 11:21 AM GMT+1

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Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&year=-1&source=total

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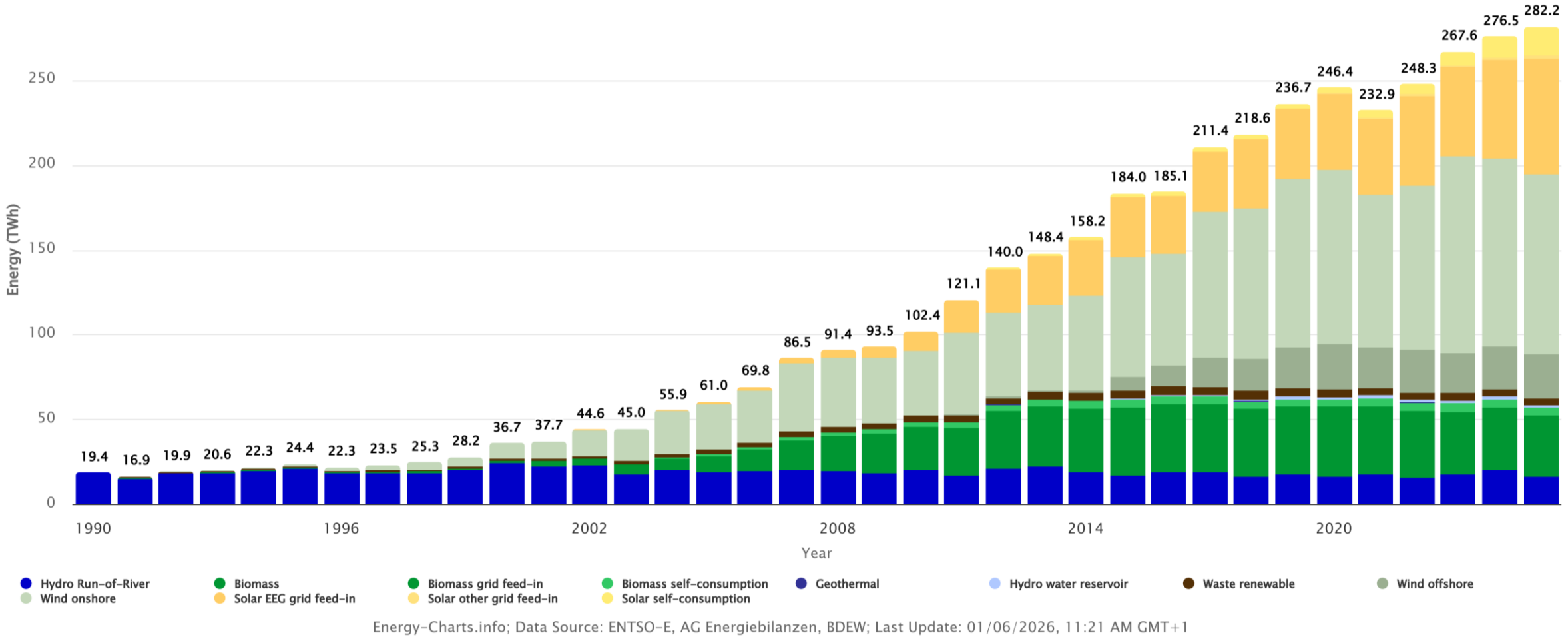
Total net electricity generation from renewable energy

Years 1990–2025



Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&year=-1&source=total&legendItems=0x3o035u

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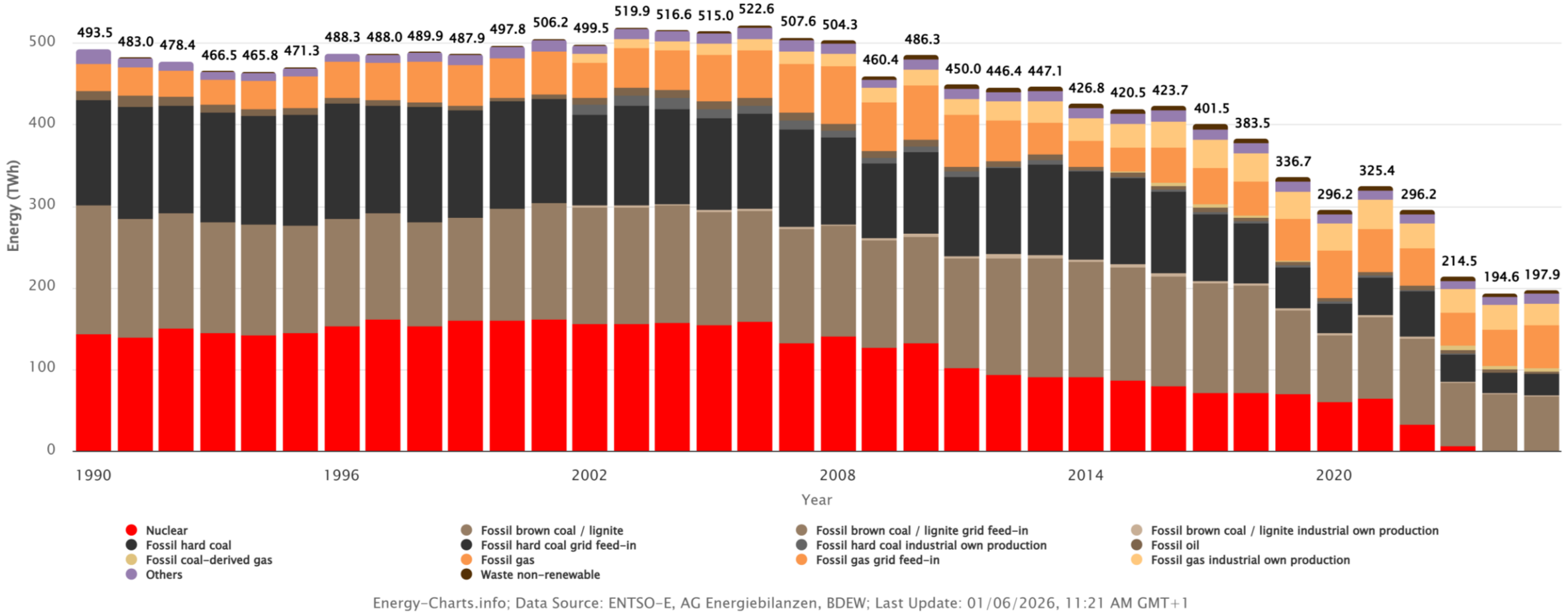
Total net electricity generation from non-renewable sources

Years 1990–2025



Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&year=-1&source=total&legendItems=0x47vsa0

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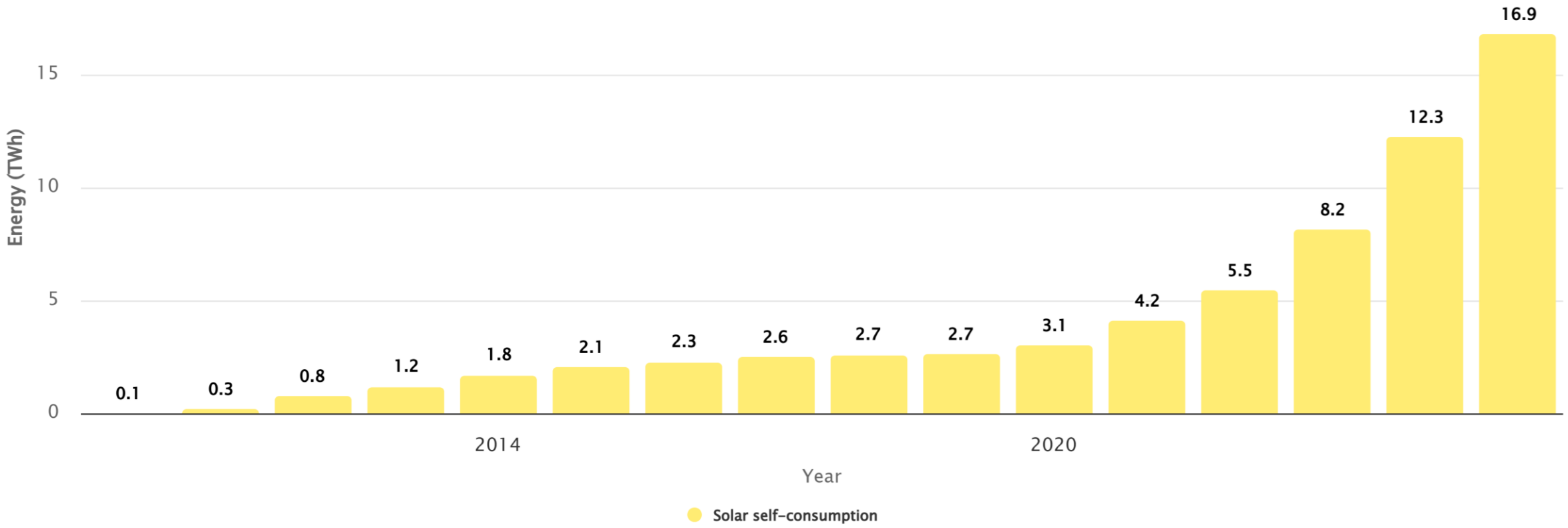
Solar self-consumption

Years 2010–2025



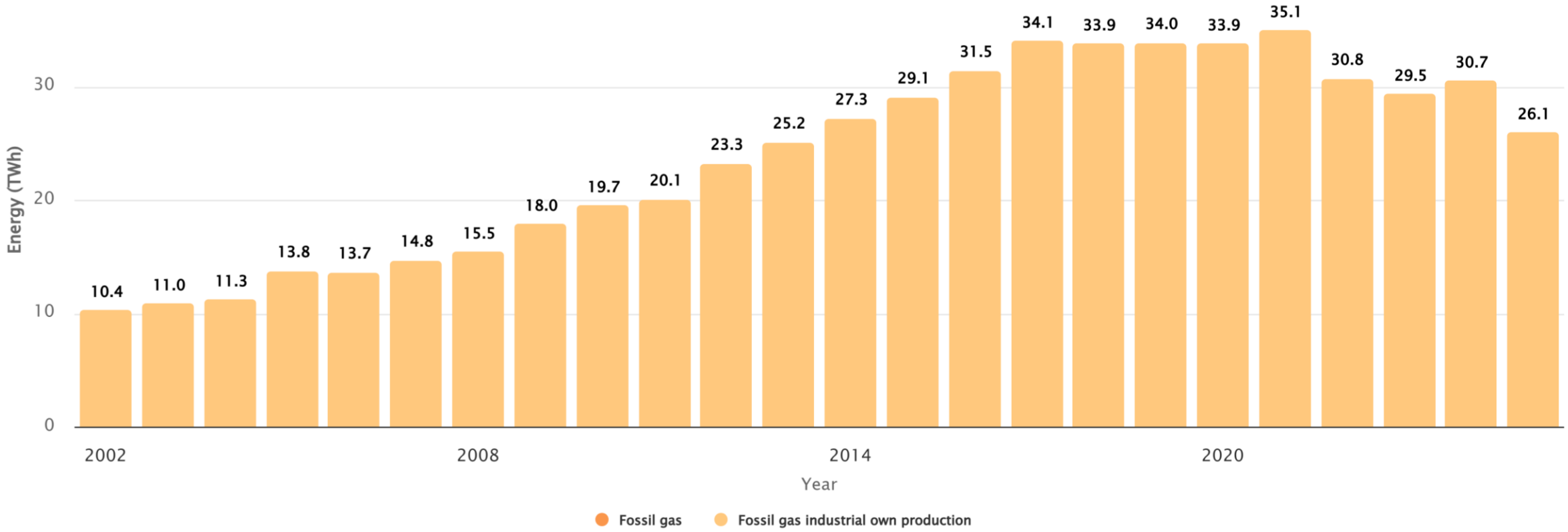
Energy-Charts.info; Data Source: ENTSO-E, AG Energiebilanzen, BDEW; Last Update: 01/06/2026, 11:21 AM GMT+1

Solar self-consumption is not fed into the public power grid but consumed directly. It therefore does not count toward public net electricity generation, but it is part of total net electricity generation.

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&source=total&year=-1&legendItems=uys&timeslider=0&min=20&max=35

Industrial self-generation from natural gas

Years 2002–2025



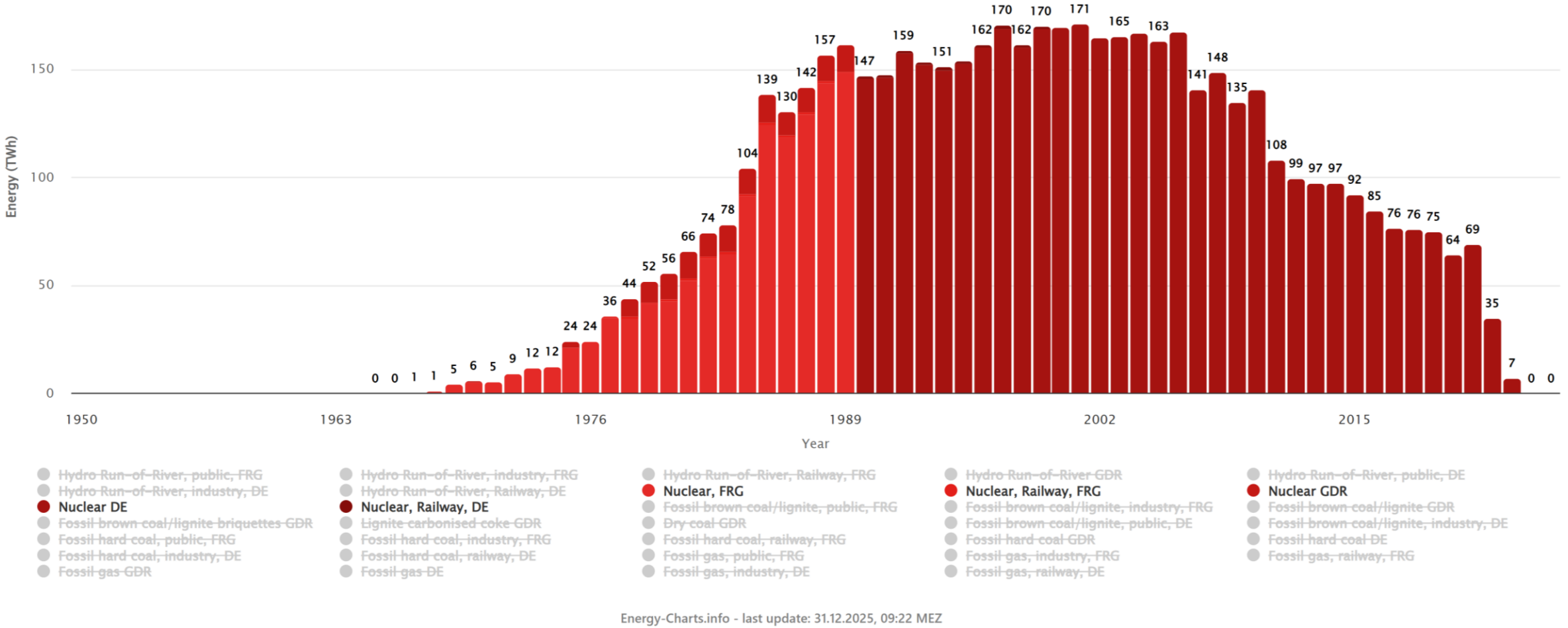
Energy-Charts.info; Data Source: ENTSO-E, AG Energiebilanzen, BDEW; Last Update: 01/06/2026, 11:21 AM GMT+1

Industrial self-generation is not fed into the public power grid but consumed directly within the industrial facility. It therefore does not count toward public net electricity generation, but it is part of total net electricity generation.

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&source=total&year=-1&legendItems=uyh&timeslider=0&min=12&max=35

Gross electricity generation from nuclear energy

Years 1950–2025



Source: https://energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&year=-1&source=gross_production&legendItems=7w5wm

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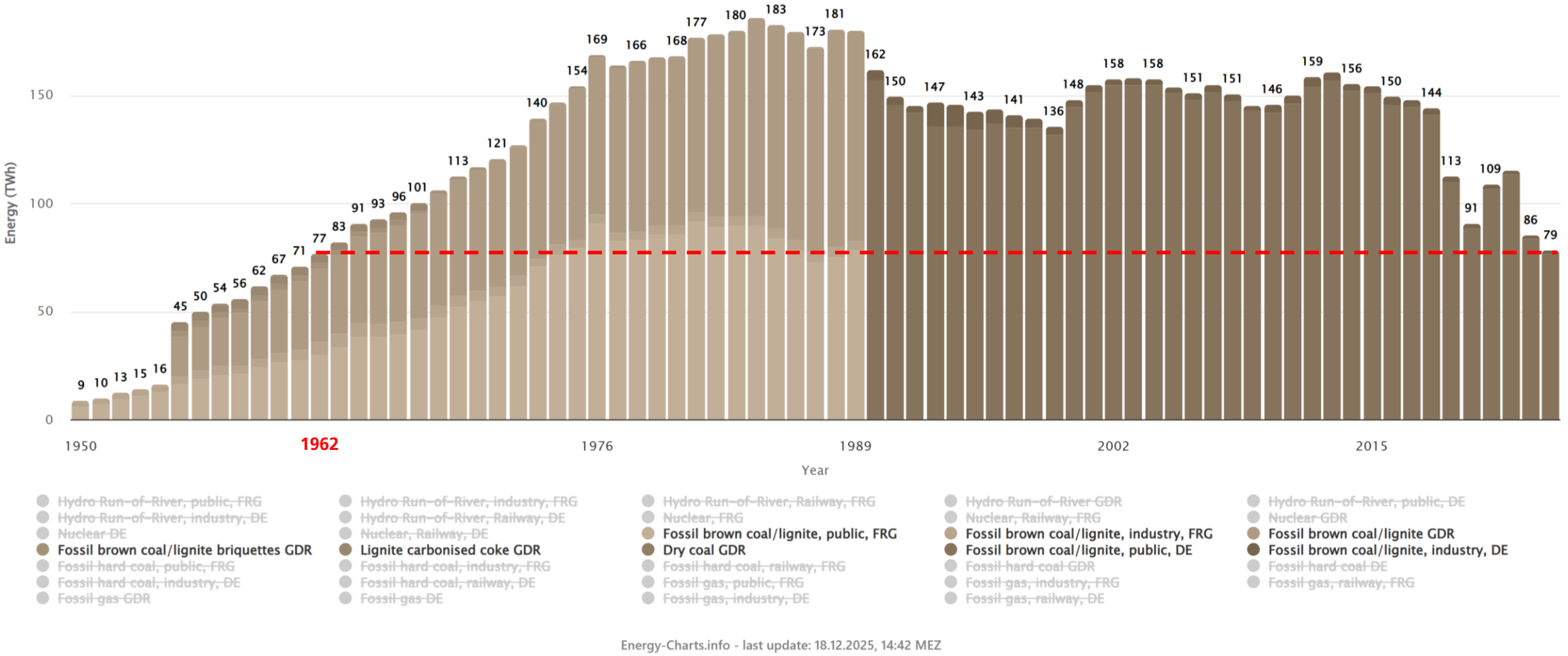
Gross electricity generation from lignite

Years 1950–2024

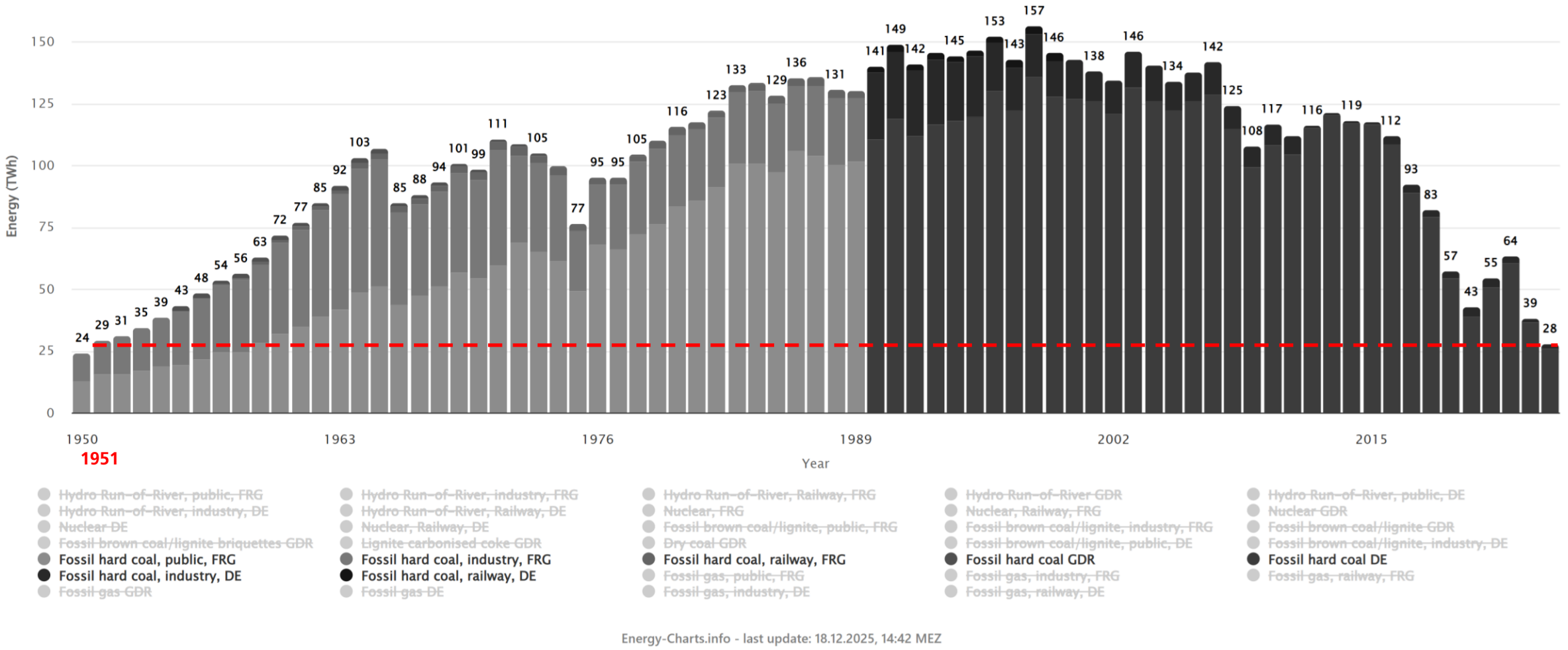


Source: https://energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&source=historical&legendItems=cw8we

Fraunhofer ISE

Gross electricity generation from hard coal

Years 1950–2024

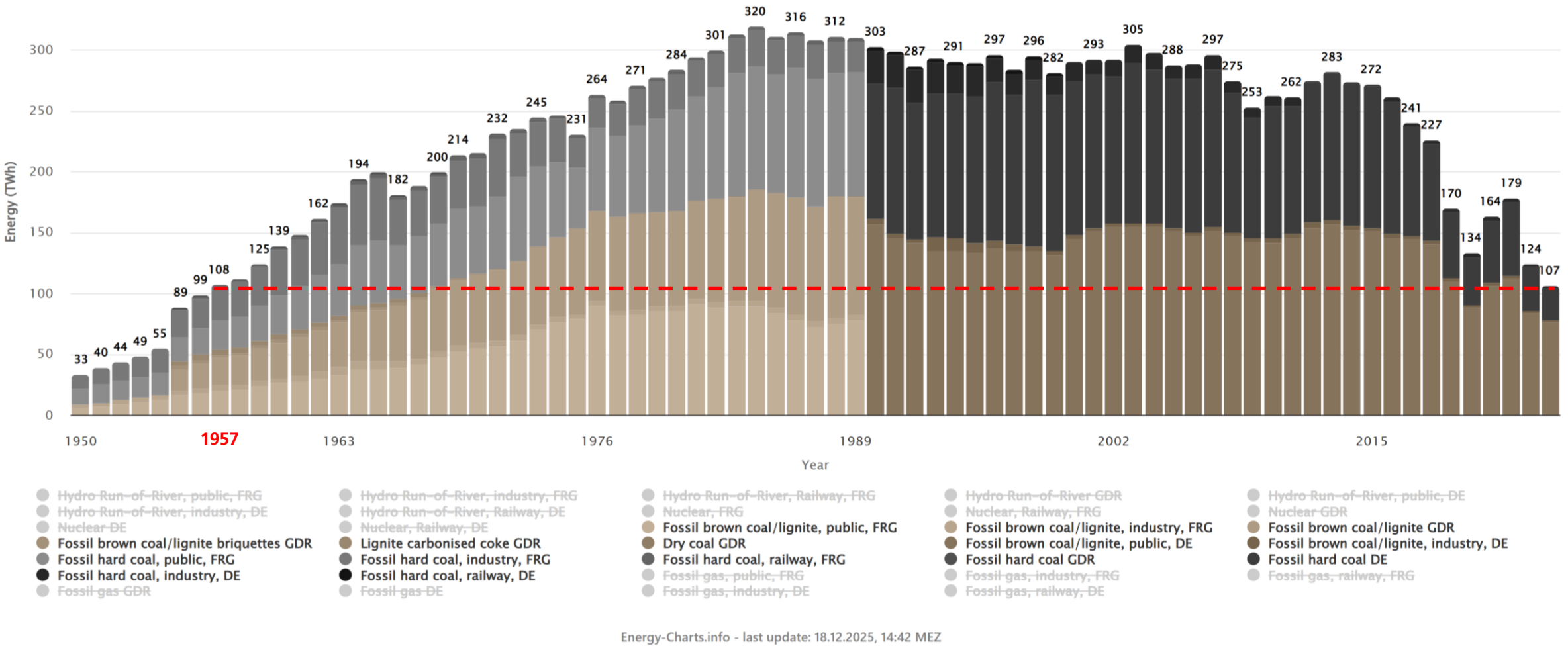


Source: https://energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&source=historical&legendItems=kw7w7

Fraunhofer ISE

Gross electricity generation from lignite and hard coal

Years 1950–2024

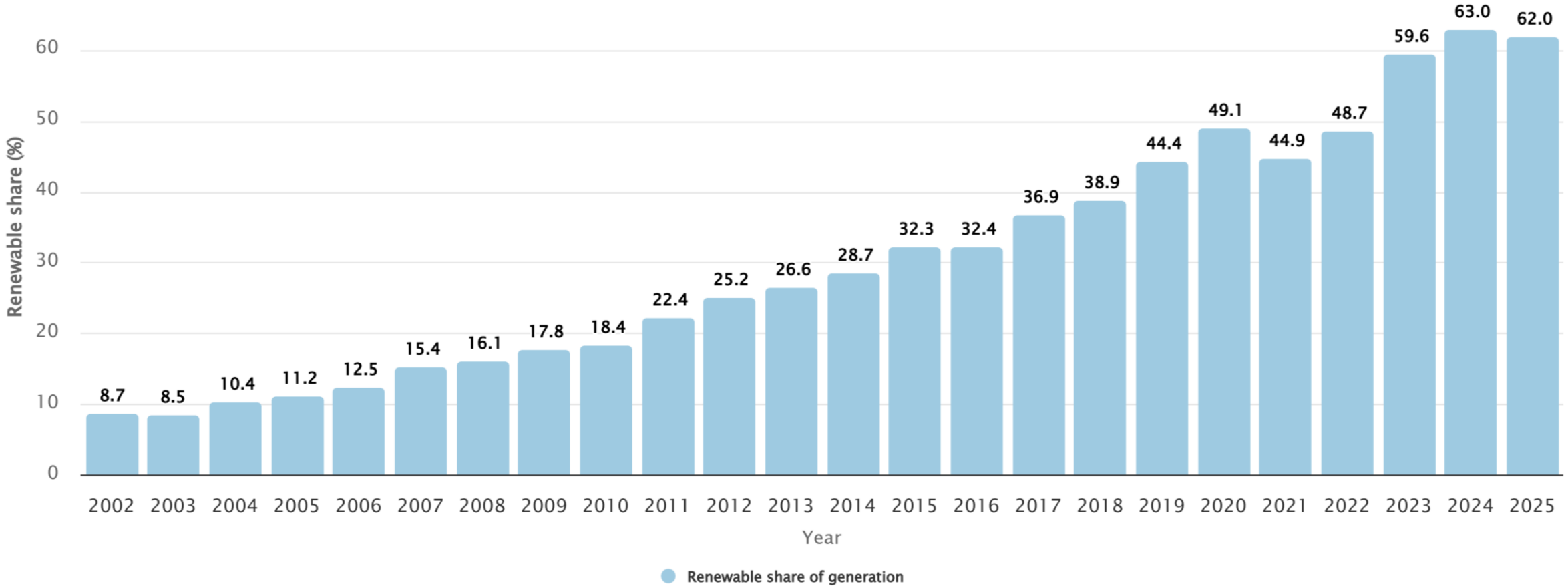


Source: https://energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&source=historical&legendItems=cwfw7

Fraunhofer ISE

Share of renewable energy in public net electricity generation

Years 2002–2025

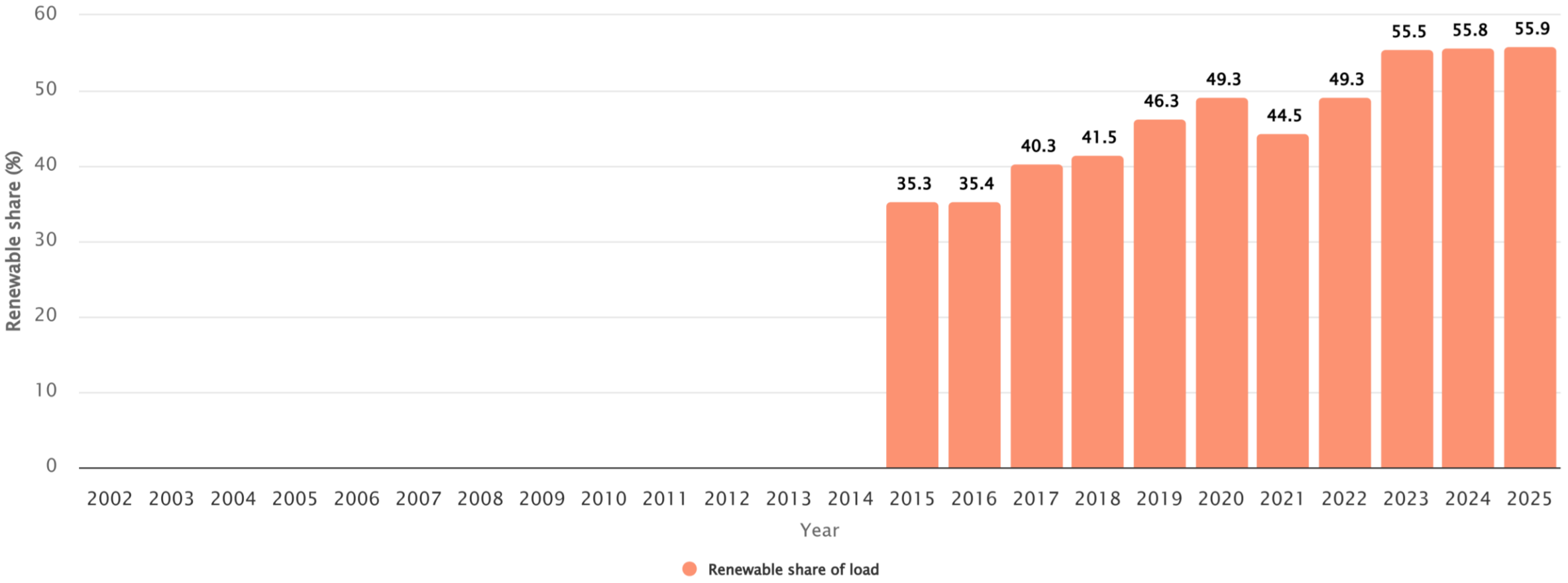


Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:30 AM GMT+1

Source: https://www.energy-charts.info/charts/renewable_share/chart.htm?l=en&c=DE&interval=year&legendItems=01&share=ren_share

Share of renewable energy in load (electricity consumption + grid losses)

Years 2015–2025

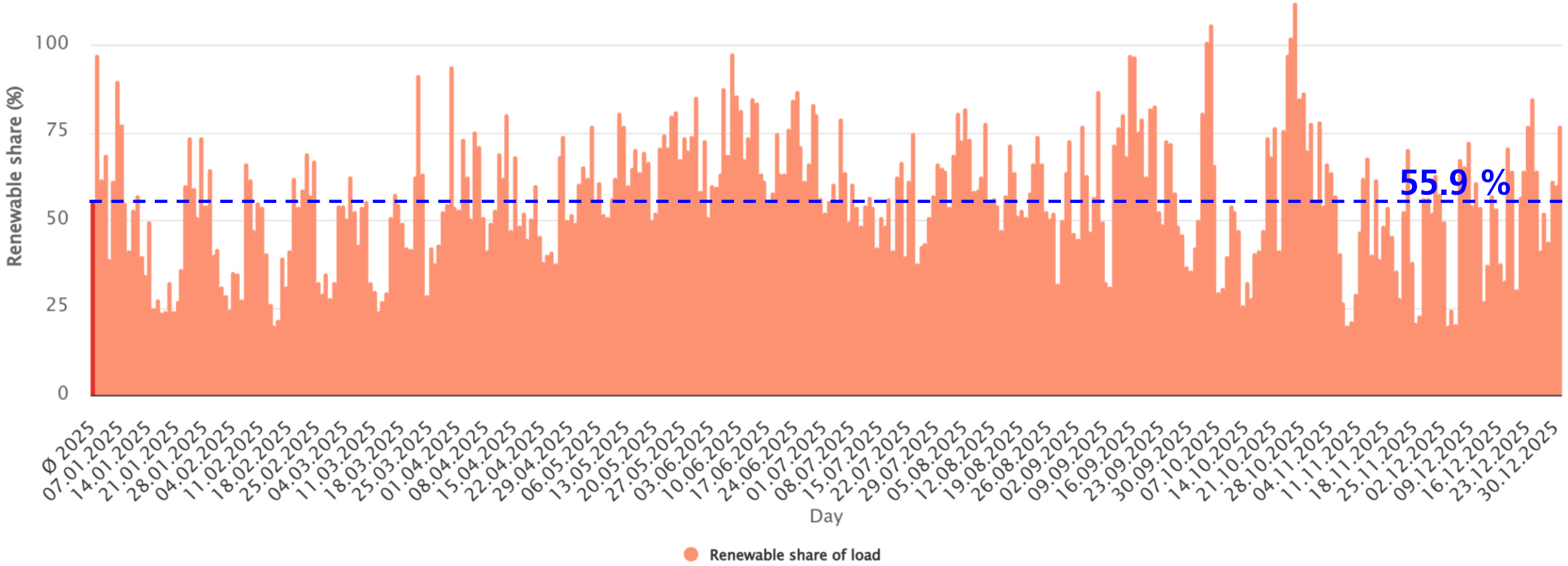


Source: https://www.energy-charts.info/charts/renewable_share/chart.htm?l=en&c=DE&interval=year&sum=0&partsum=1&legendItems=10

Fraunhofer ISE

Daily share of renewable energy in load

Year 2025



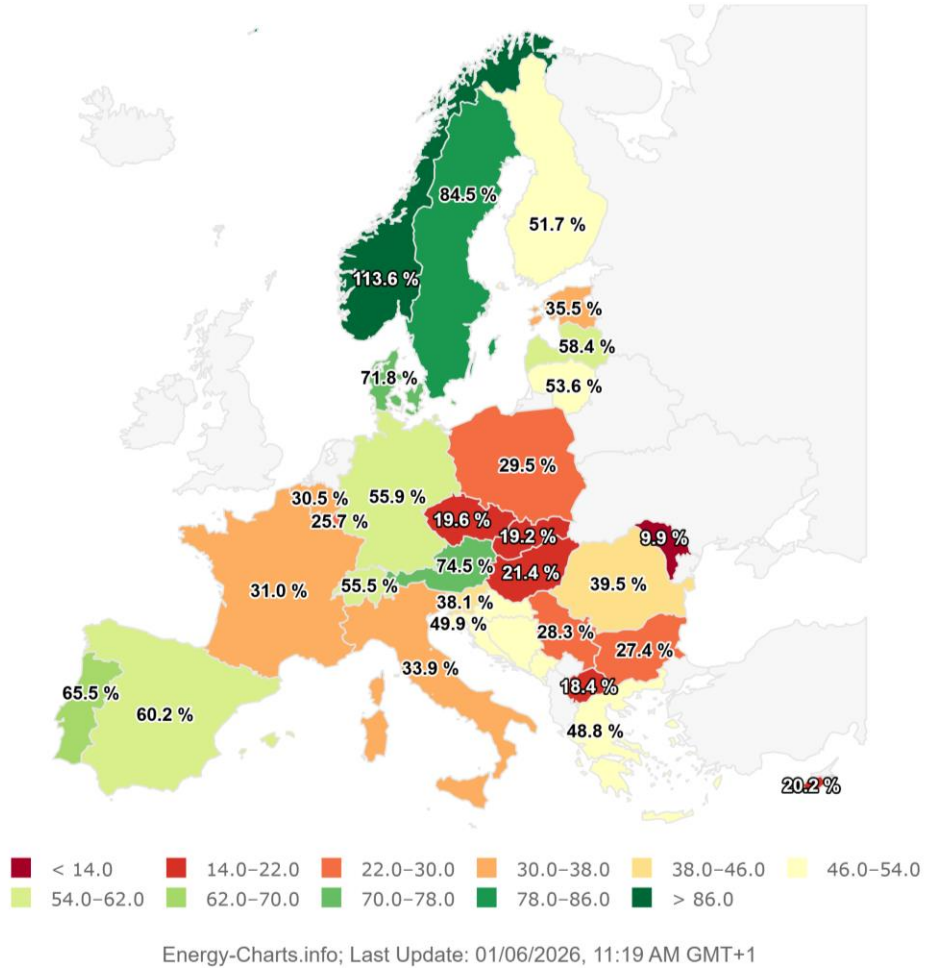
Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:31 AM GMT+1

Source: https://www.energy-charts.info/charts/renewable_share/chart.htm?l=en&c=DE&interval=day&sum=0&partsum=0&legendItems=10&year=2025

Fraunhofer ISE

Share of renewable energy in electrical load in Europe

Year 2025

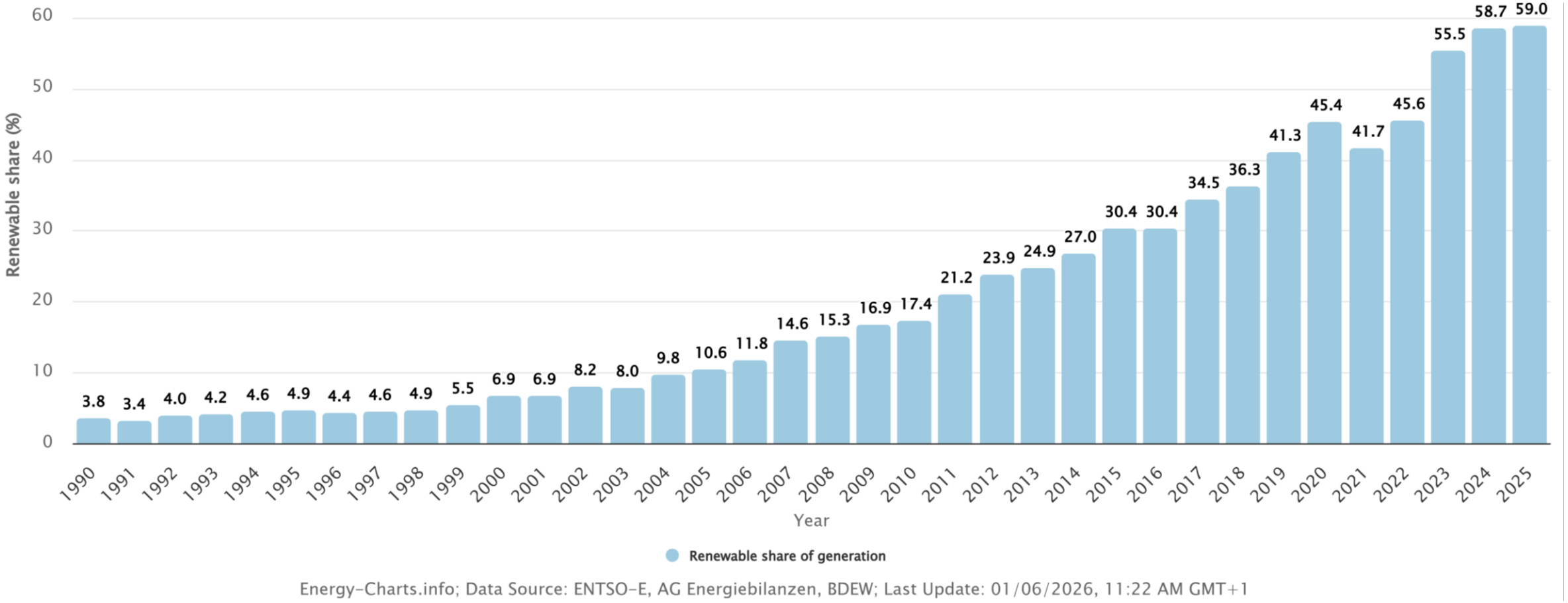


Source: https://www.energy-charts.info/charts/renewable_share_map/chart.htm?l=en&c=DE&interval=year&year=2025

Fraunhofer ISE

Share of renewable energy in total net electricity generation

Years 1990–2025

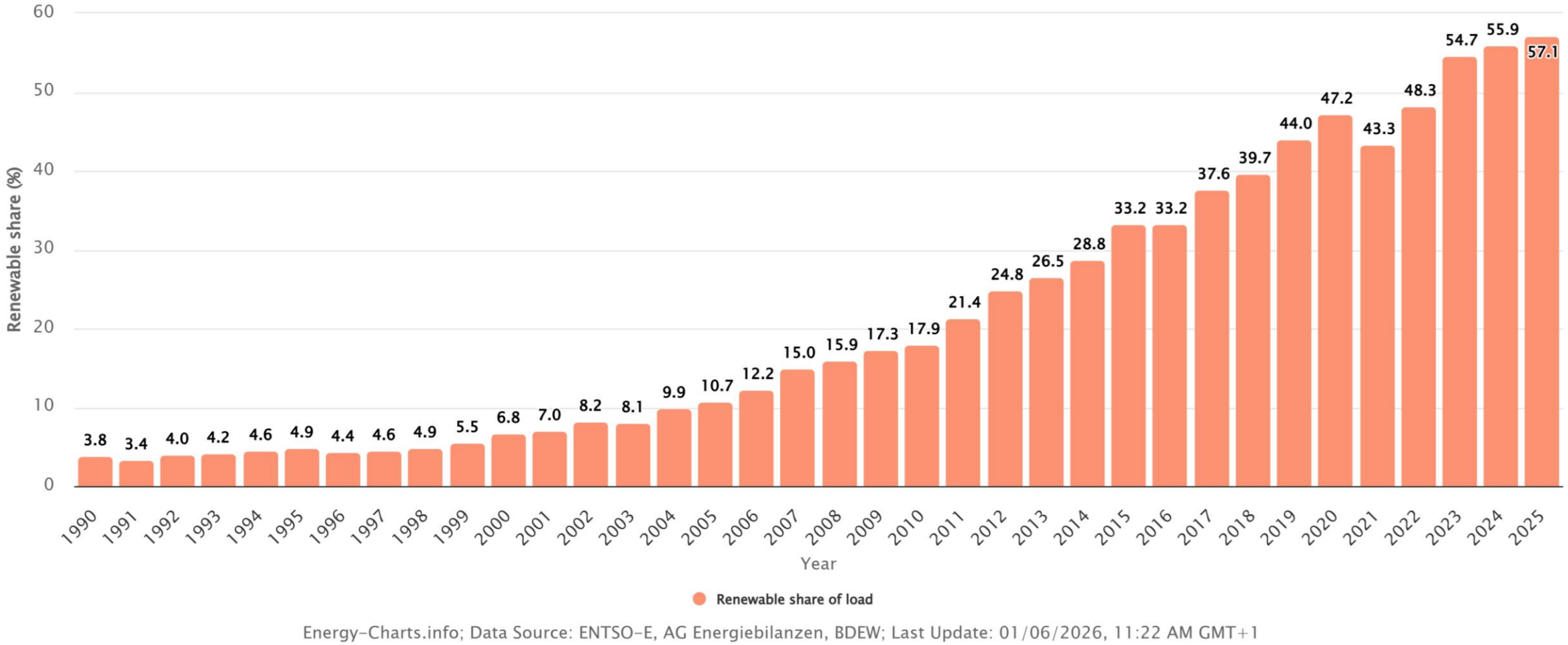


Source: https://www.energy-charts.info/charts/renewable_share/chart.htm?l=en&c=DE&interval=year&share=ren_share_total&legendItems=01

Fraunhofer ISE

Share of renewable energy in total electricity consumption

Years 1990–2025

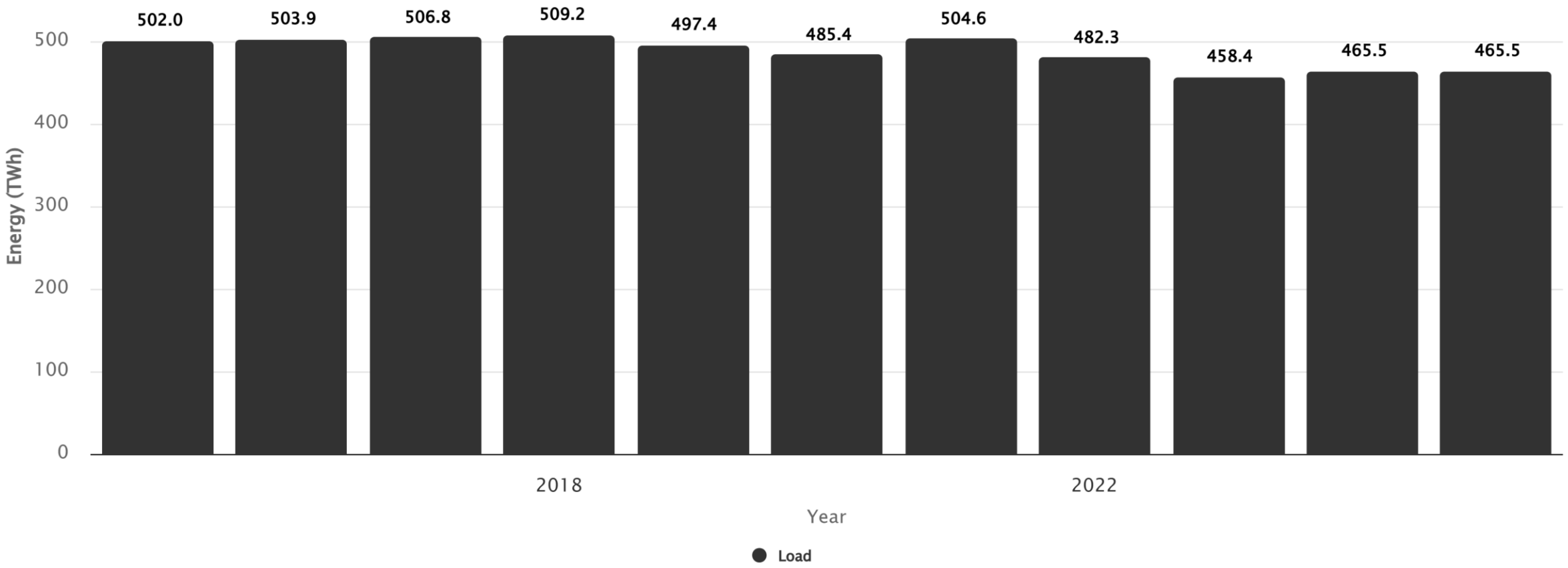


Source: https://www.energy-charts.info/charts/renewable_share/chart.htm?l=en&c=DE&interval=year&share=ren_share_total&legendItems=10

Fraunhofer ISE

Load (electricity consumption from the public grid + grid losses)

Years 2015–2025



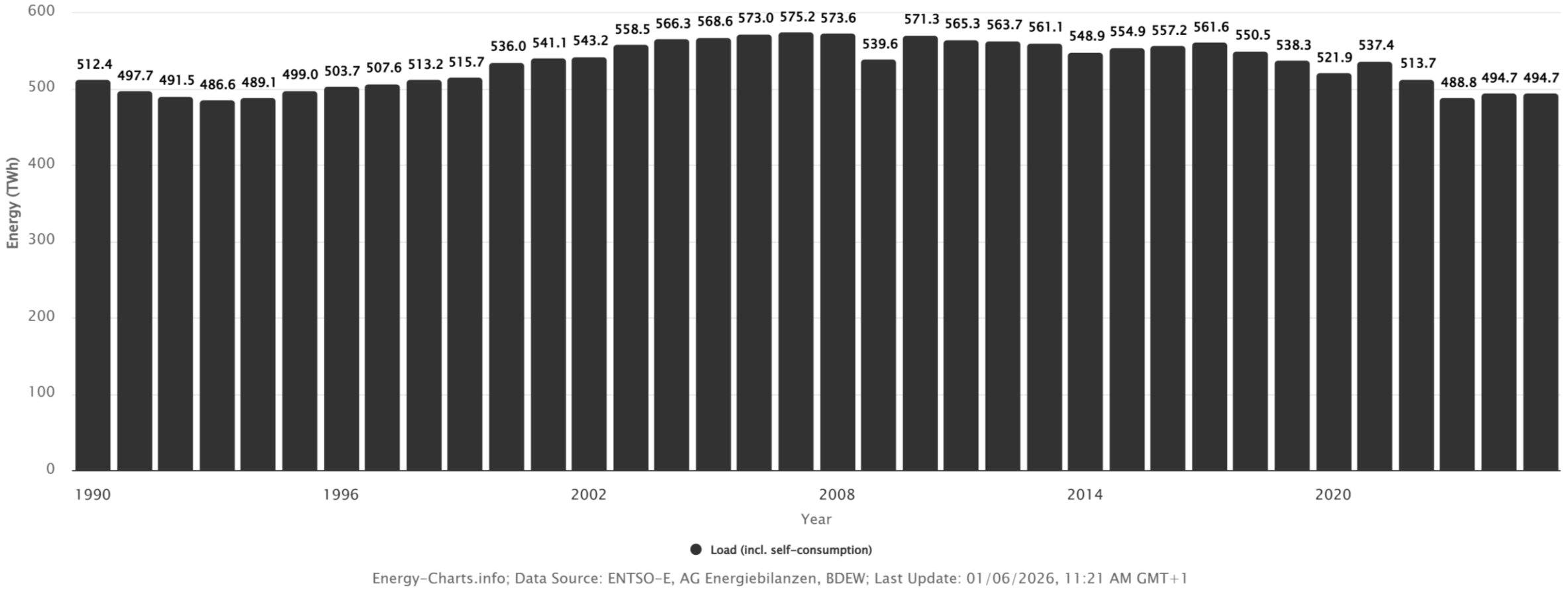
Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:29 AM GMT+1

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&year=-1&chartColumnSorting=default&sum=1&legendItems=kw1&timeslider=0&min=13&max=23

Fraunhofer ISE

Sum of load and self-consumption

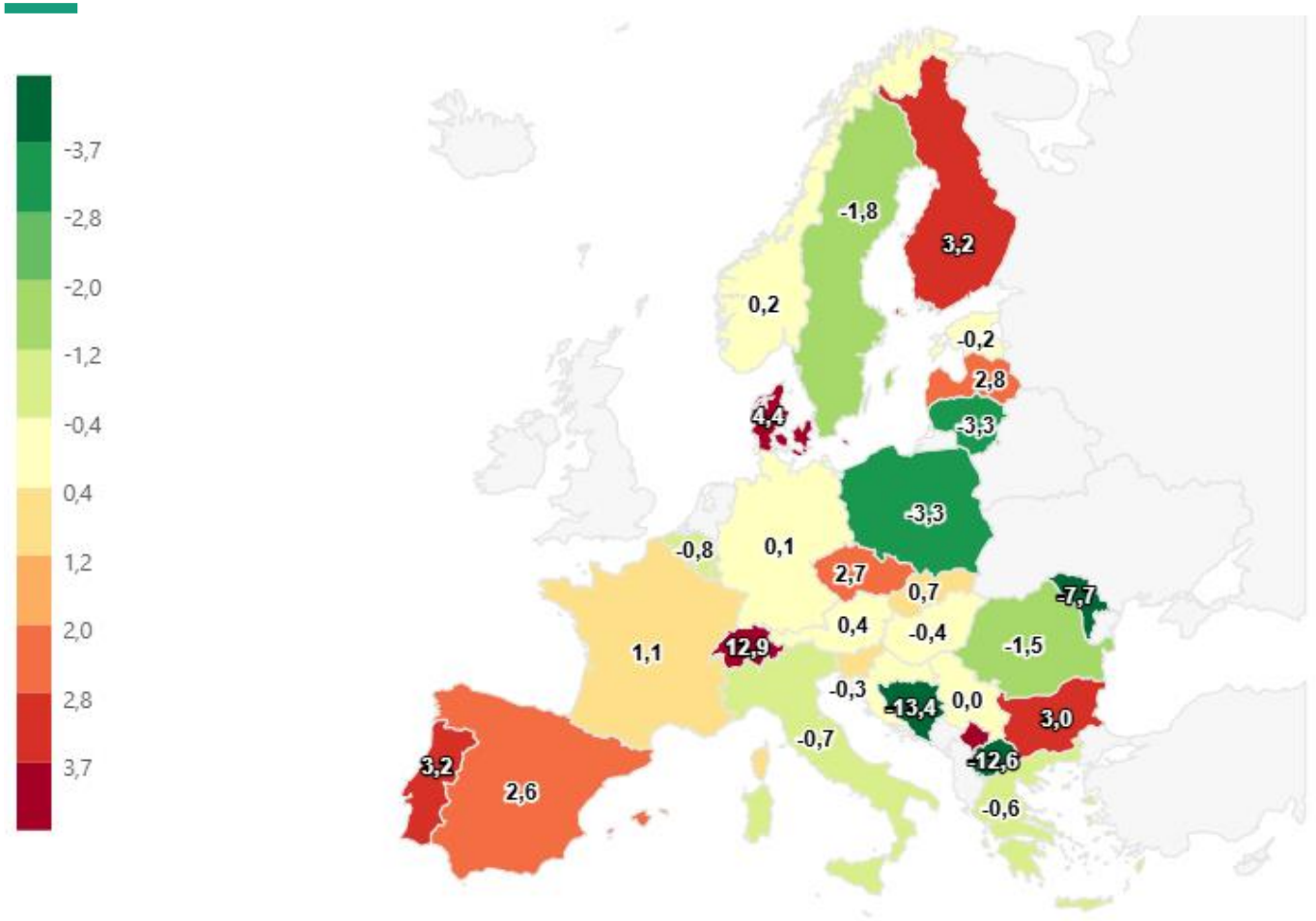
Years 1990–2025



Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&year=-1&legendItems=tw1&source=total

Percentage change in load (electricity consumption + grid losses)

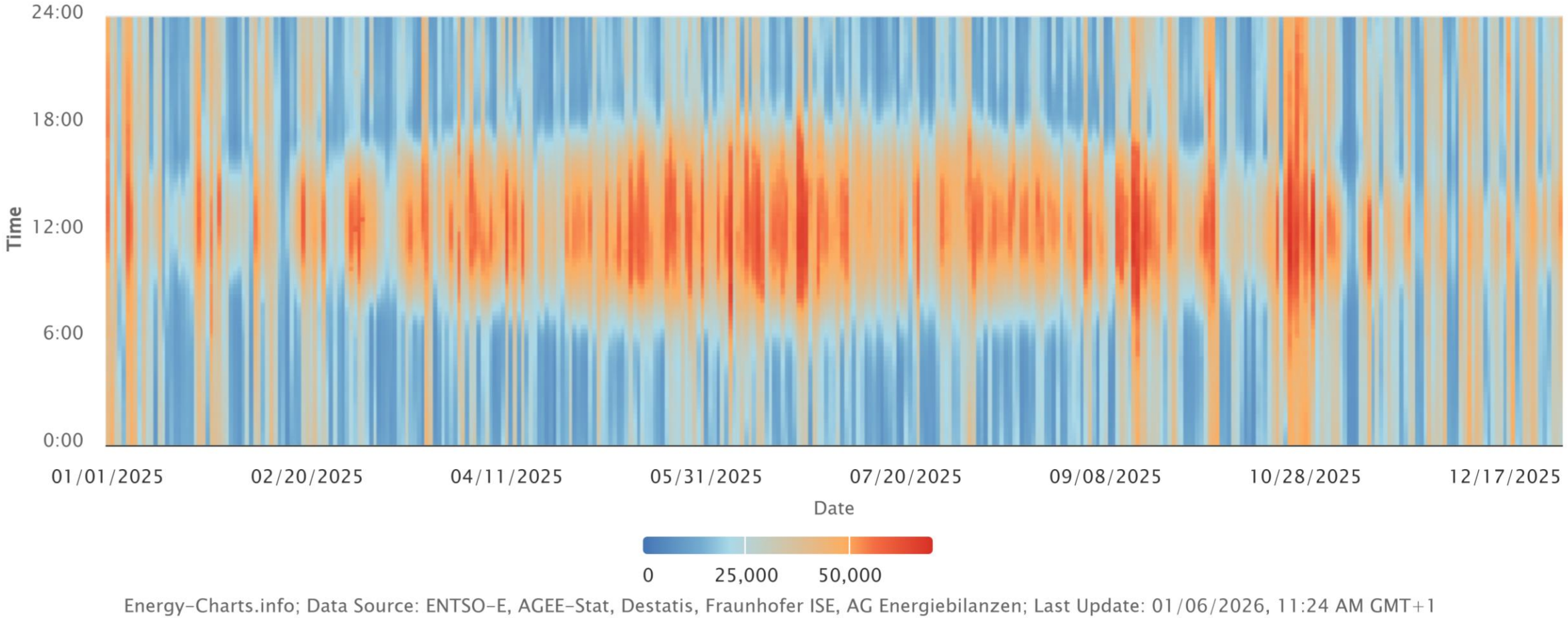
Year 2025 compared with 2024



Fraunhofer ISE

Heatmap of renewable electricity generation

Year 2025

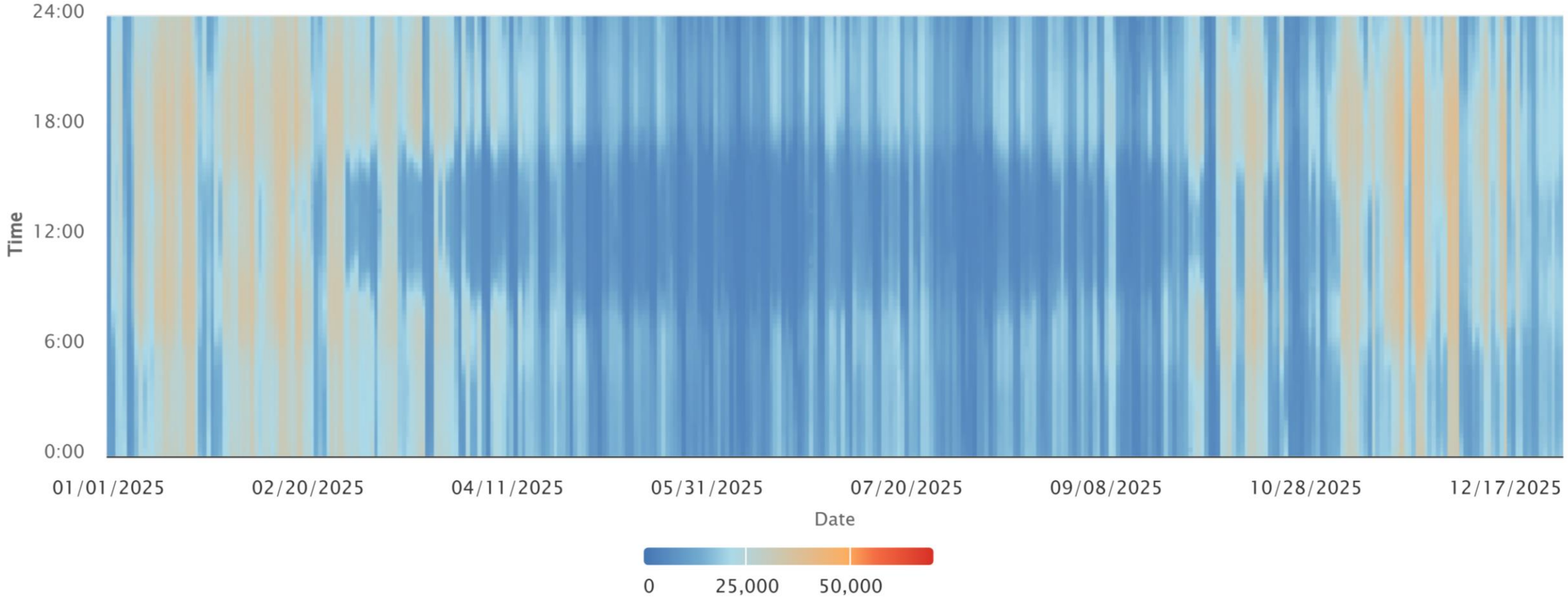


Source: https://energy-charts.info/charts/power_heatmaps/chart.htm?l=en&c=DE&hydro_run-of-river=1&biomass=1&geothermal=1&hydro_water_reservoir=1&wind_onshore=1&wind_offshore=1&scaleMin=0&scaleMax=70000&year=2025

Fraunhofer ISE

Heatmap of fossil electricity generation

Year 2025

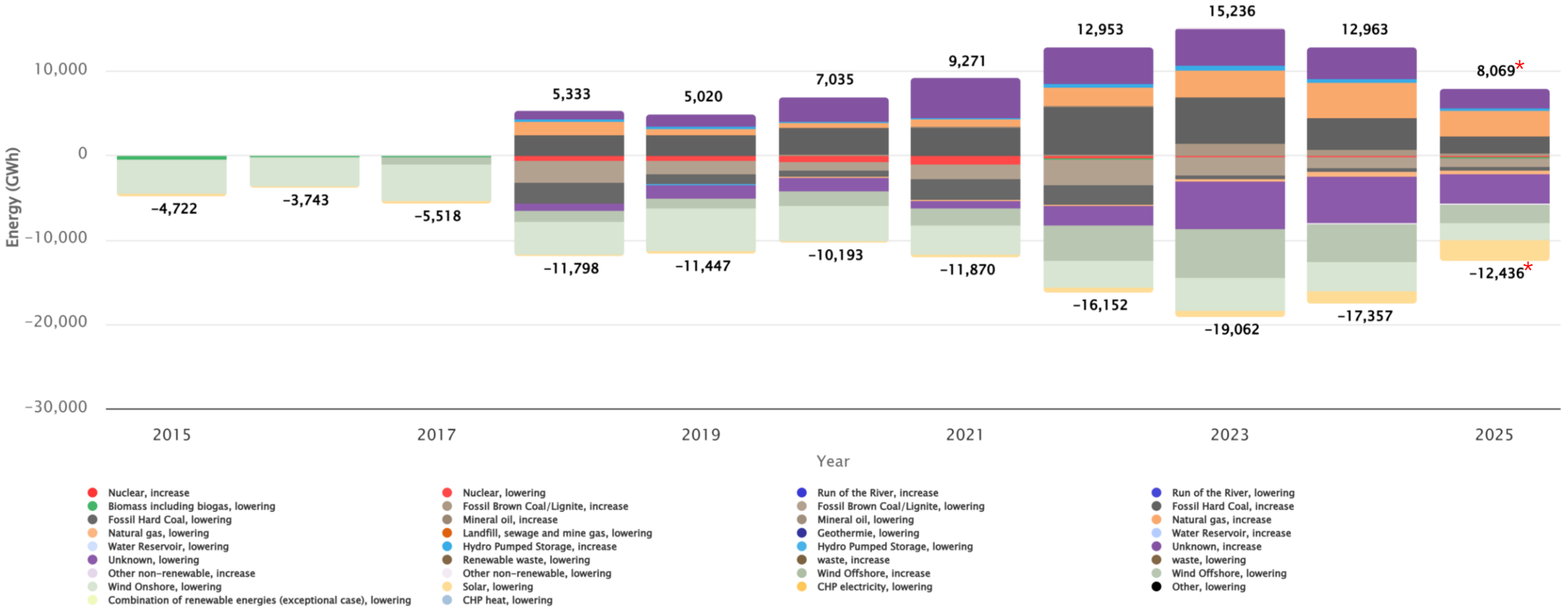


Source: https://energy-charts.info/charts/power_heatmaps/chart.htm?l=en&c=DE&solar=0&fossil_brown_coal_lignite=1&fossil_hard_coal=1&fossil_oil=1&fossil_gas=1&scaleMin=0&scaleMax=70000&year=2025

Fraunhofer ISE

Redispatch and feed-in management

Years 2015–2025



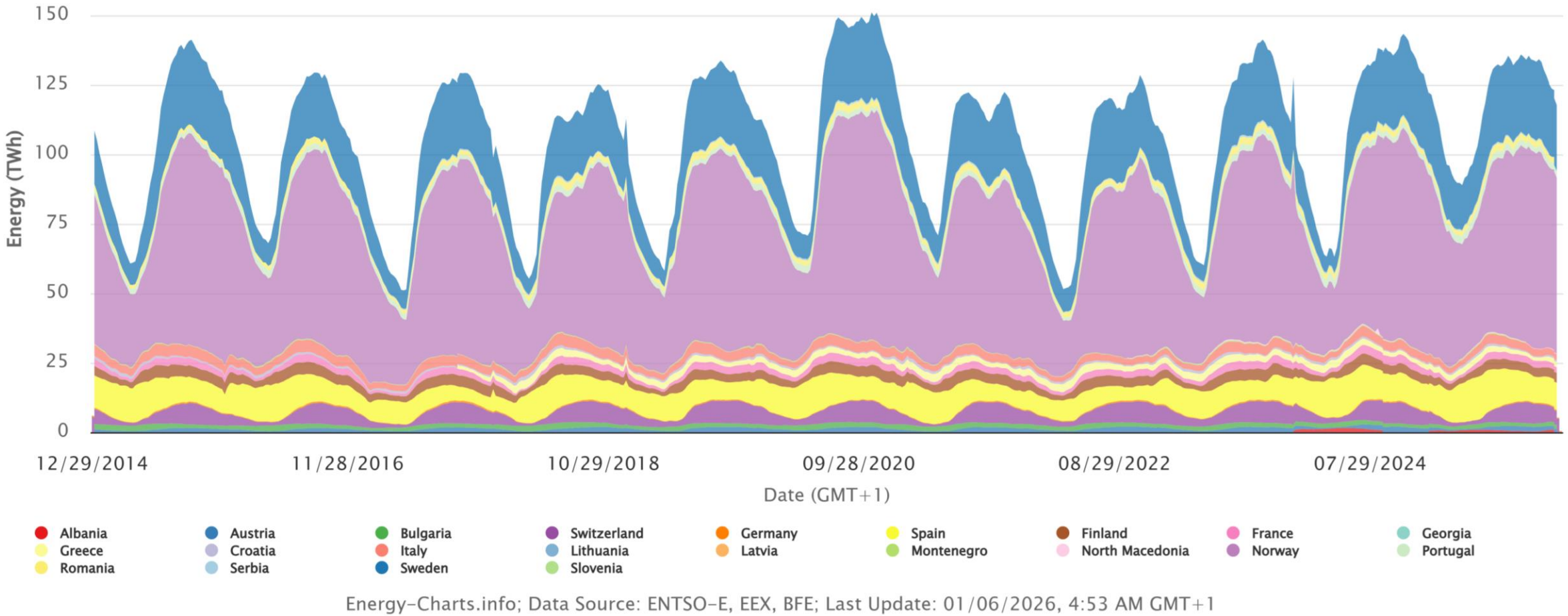
* Data through September 2025

Source: https://energy-charts.info/charts/energy_redispatch/chart.htm?l=en&c=DE&year=-1&interval=year

Fraunhofer ISE

Filling level of reservoir hydro and pumped-storage power plants in Europe

Years 2015–2025



Source: https://www.energy-charts.info/charts/filling_level/chart.htm?l=en&c=ALL&stacking=stacked_absolute_area

Fraunhofer ISE

Full-load hours of offshore wind, onshore wind and solar

Years 2015–2025

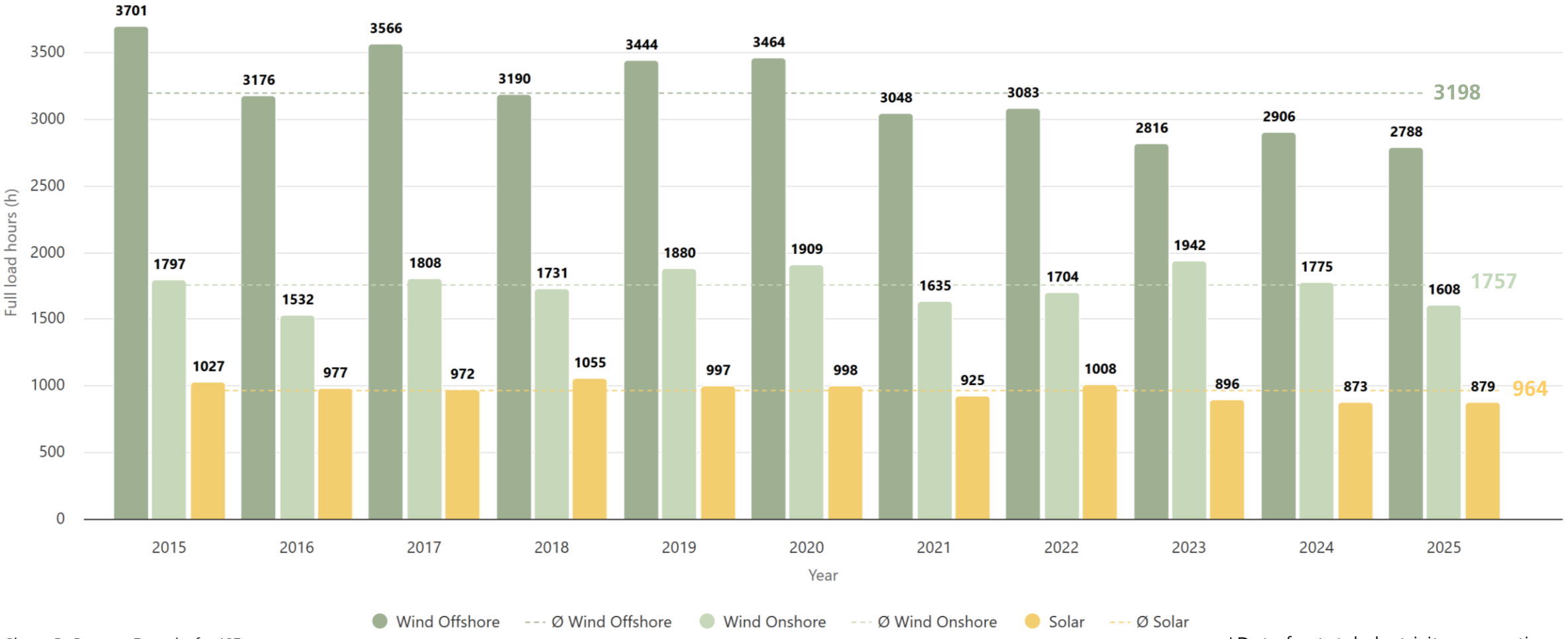


Chart: B. Burger, Fraunhofer ISE

*Data for total electricity generation

Fraunhofer ISE

Full-load hours of nuclear energy, lignite, hard coal and natural gas

Years 2015–2024

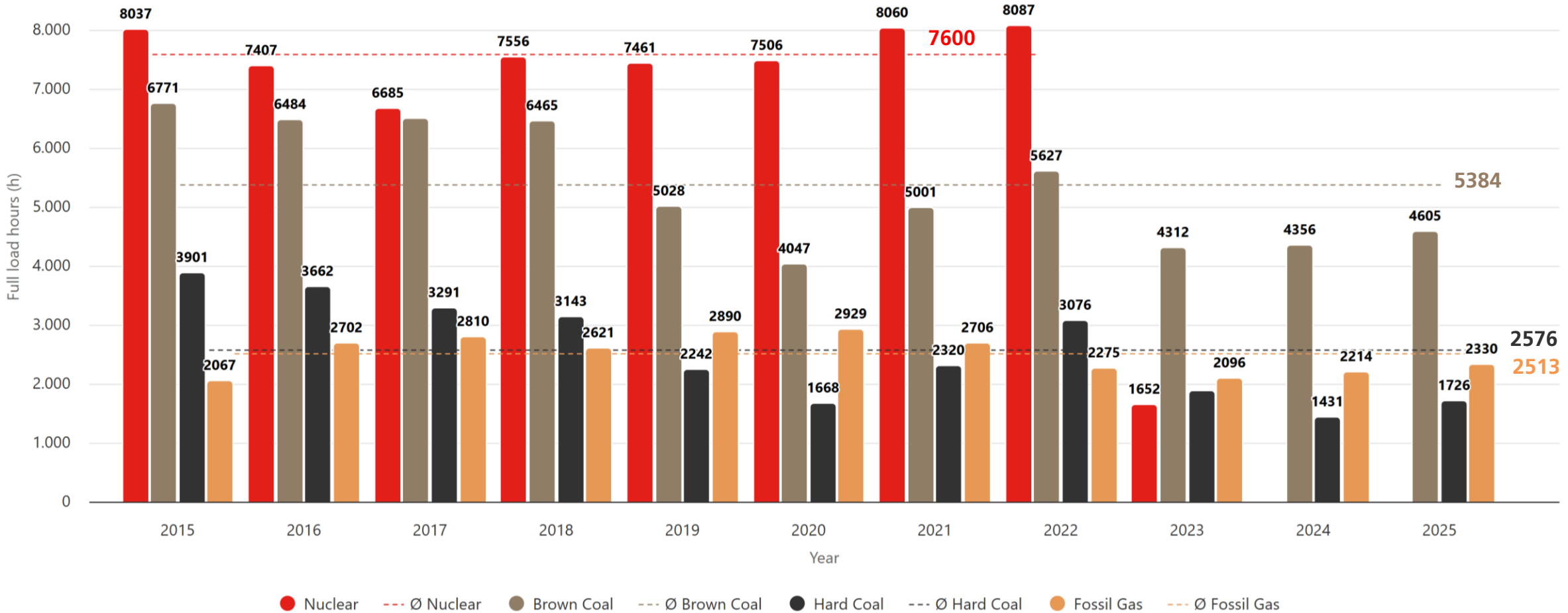


Chart: B. Burger, Fraunhofer ISE

*Data for total electricity generation

Fraunhofer ISE

Percentage full-load hours of offshore wind, onshore wind and solar

Years 2015–2025

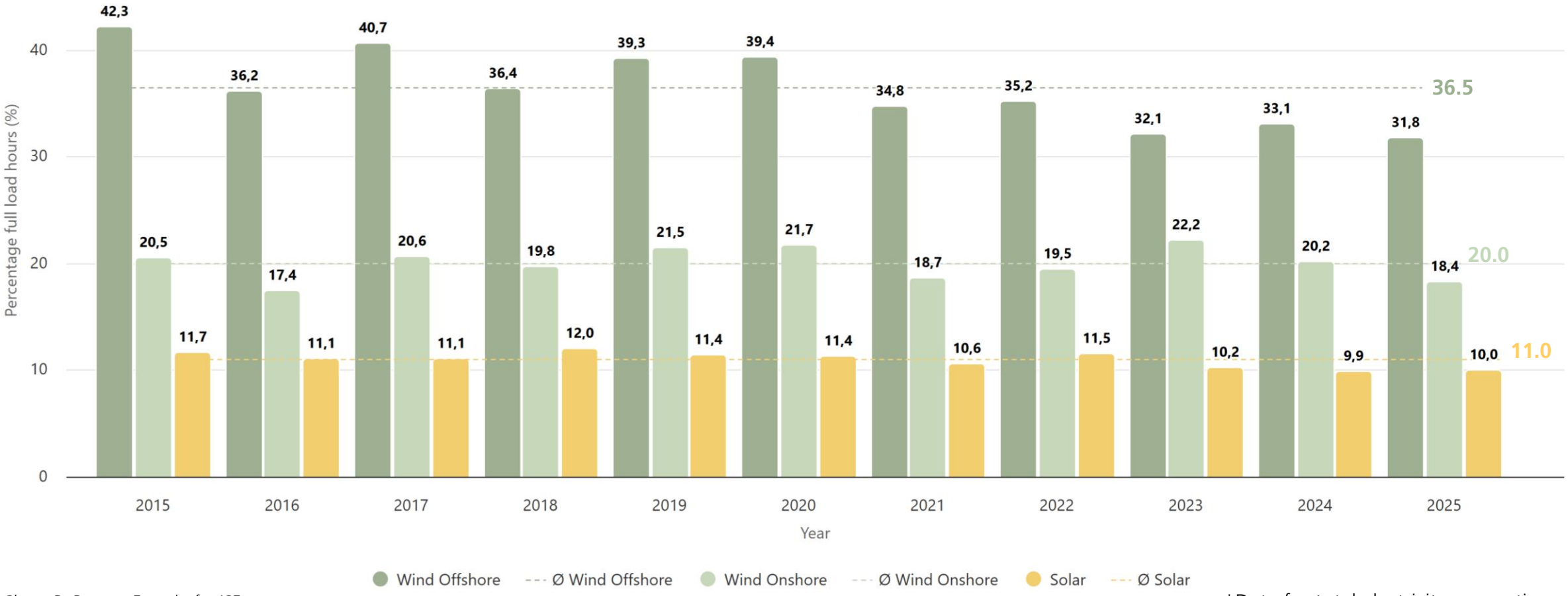


Chart: B. Burger, Fraunhofer ISE

*Data for total electricity generation

Fraunhofer ISE

Percentage full-load hours of nuclear energy, lignite, hard coal, natural gas

Years 2015–2024

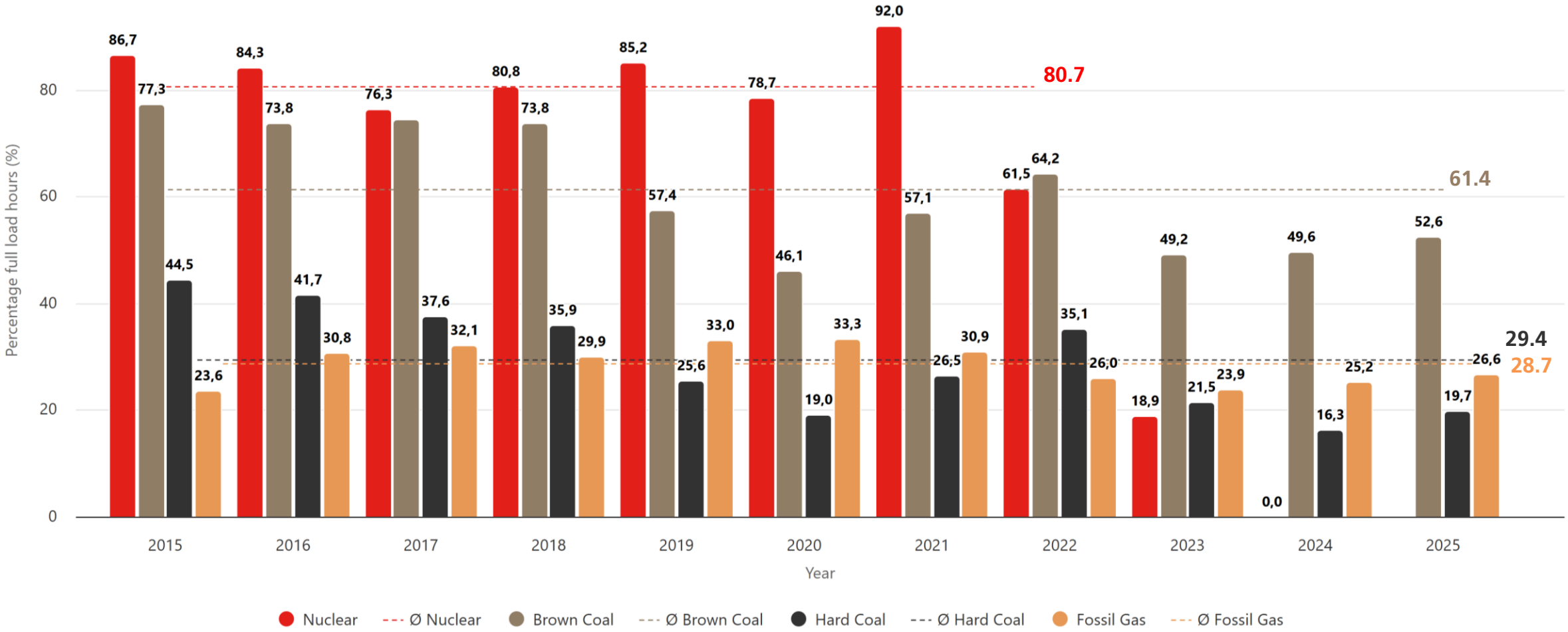


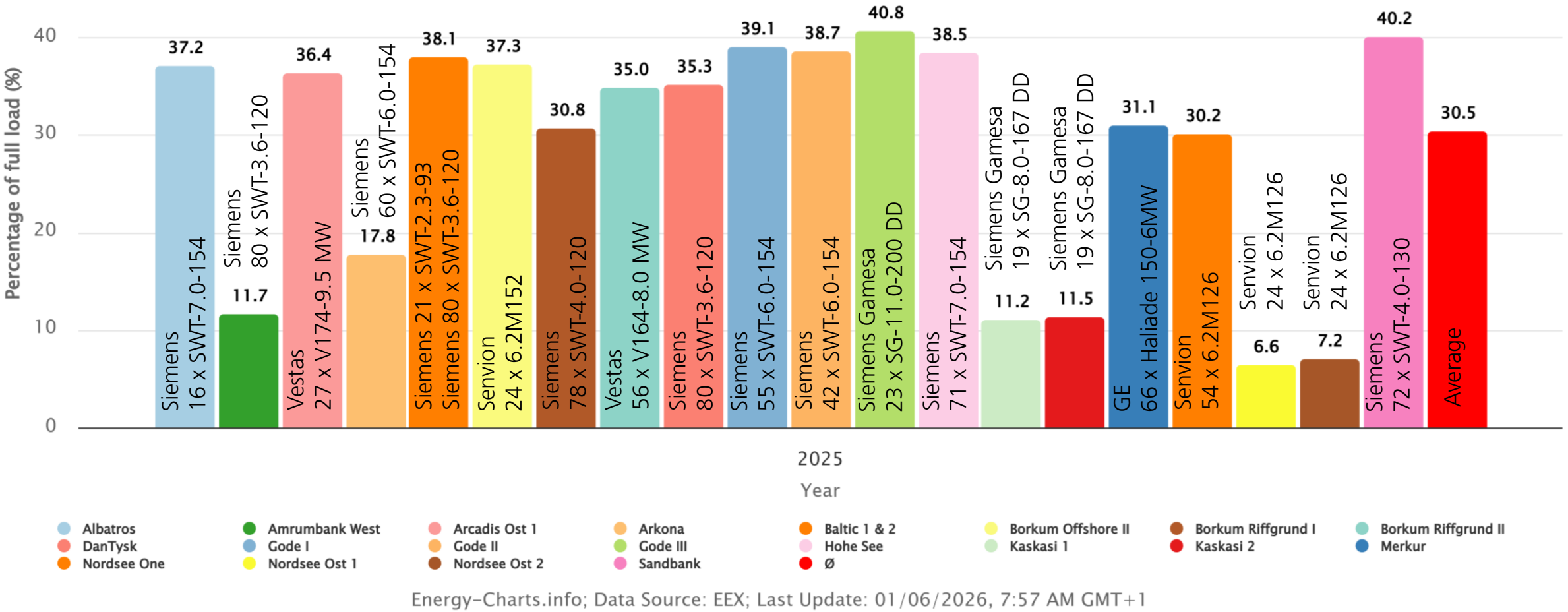
Chart: B. Burger, Fraunhofer ISE

*Data for total electricity generation

Fraunhofer ISE

Percentage full-load hours of offshore wind

Year 2025

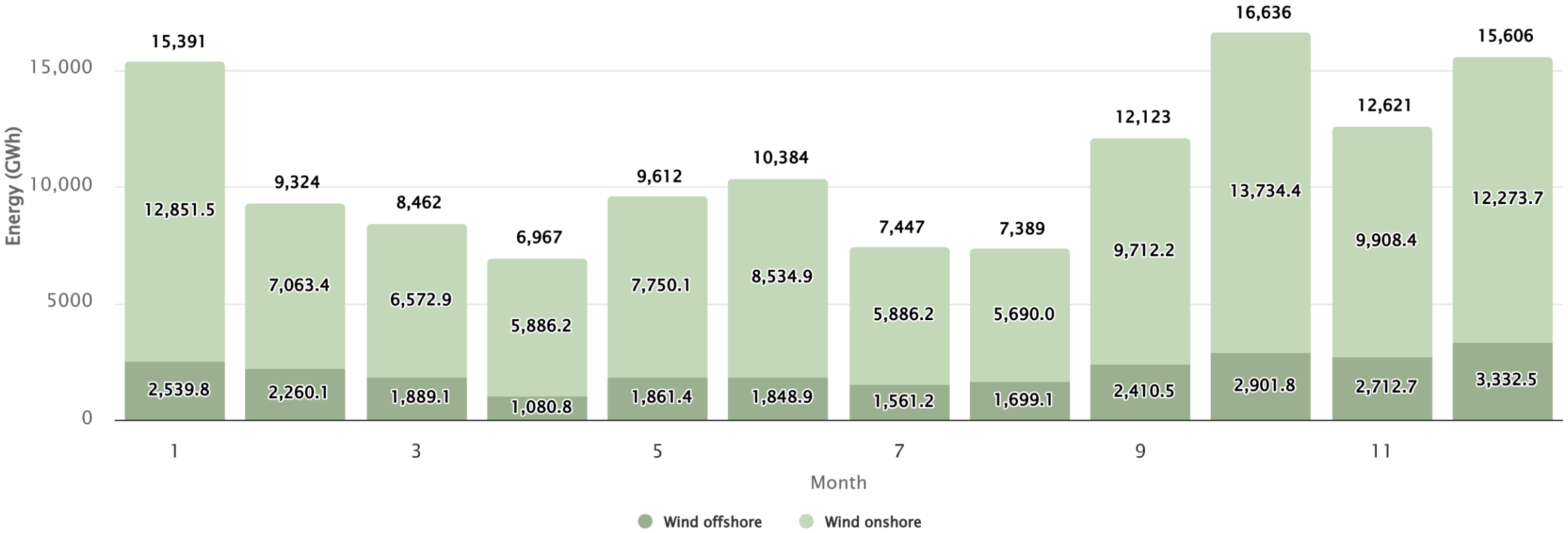


Source: https://www.energy-charts.info/charts/percentage_full_load/chart.htm?l=en&c=DE&source=wind_offshore_unit_eex&legendItems=0wl&year=2025

Fraunhofer ISE

Monthly onshore and offshore wind power generation

Year 2025

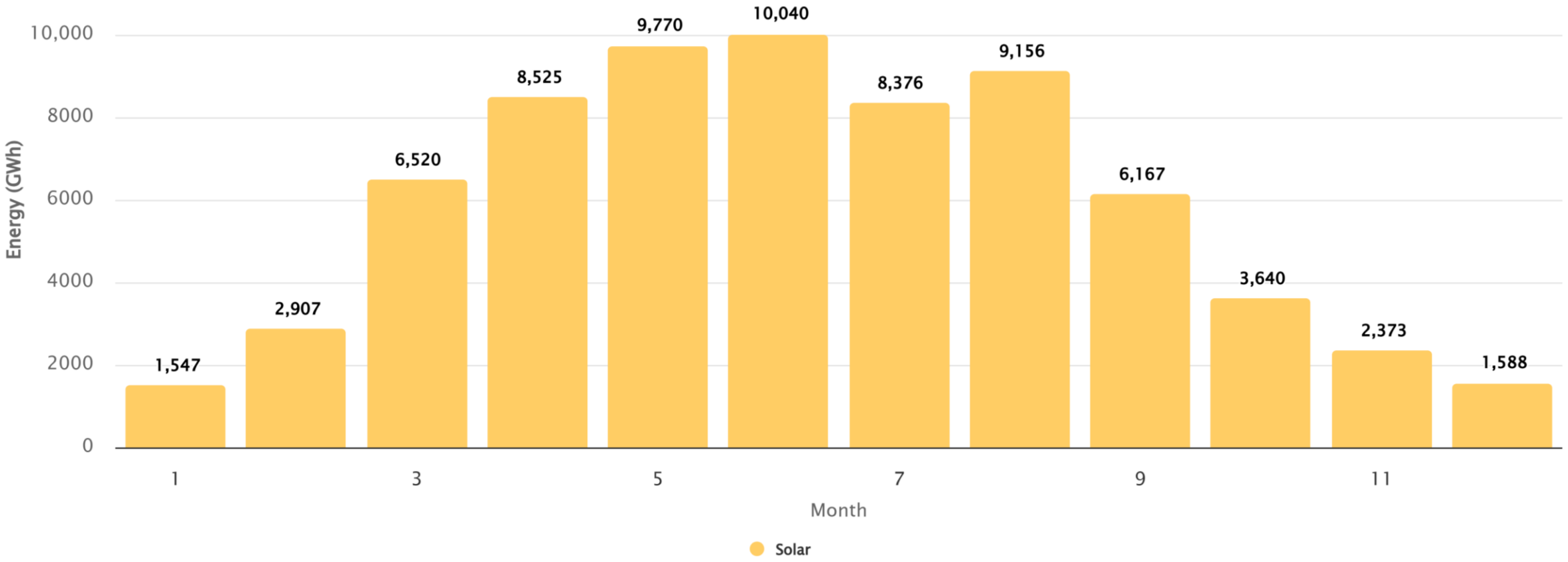


Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&month=-1&stacking=stacked_grouped&legendItems=fw2w2&year=2025&partsum=1

Fraunhofer ISE

Monthly solar power generation

Year 2025



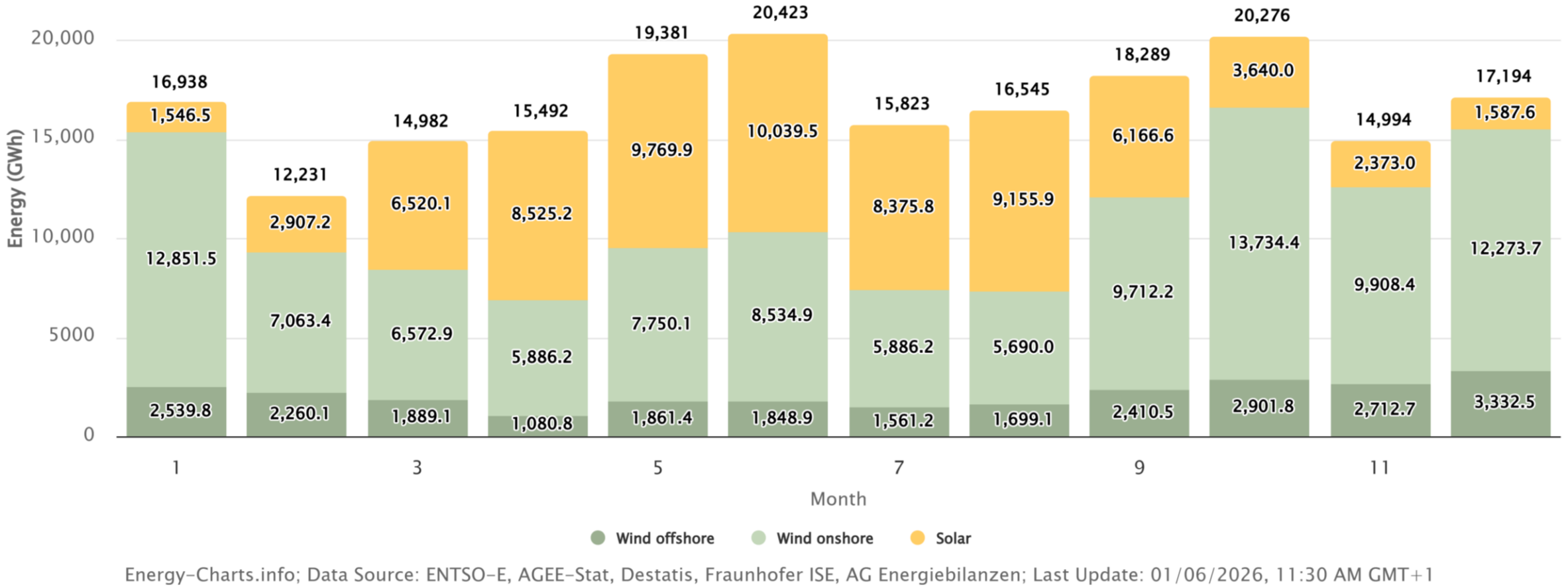
Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:30 AM GMT+1

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&month=-1&stacking=stacked_grouped&legendItems=jyh&year=2025

Fraunhofer ISE

Monthly wind and solar power generation

Year 2025

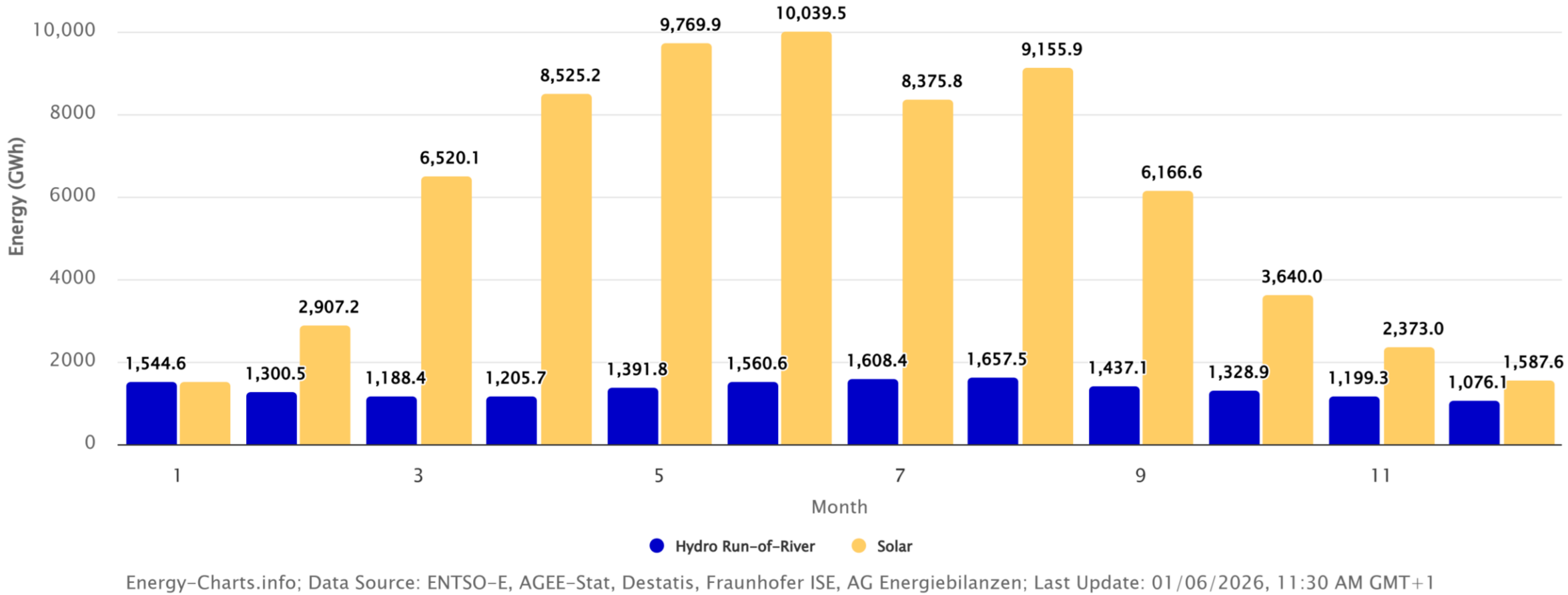


Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&legendItems=jy2yh&month=-1&stacking=single&sum=1&partsum=1&year=2025

Fraunhofer ISE

Monthly electricity generation from run-of-river and solar

Year 2025

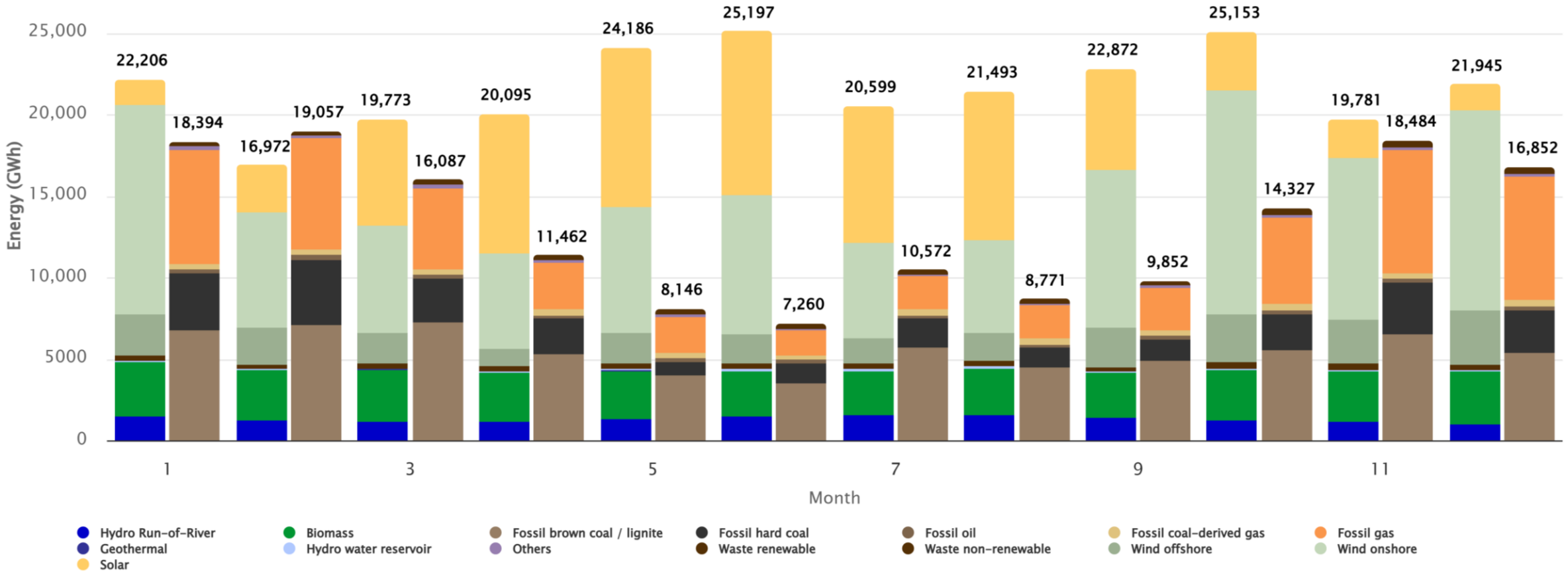


Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&month=-1&stacking=stacked_grouped&legendItems=fw3w1&year=2025&partsum=1

Fraunhofer ISE

Monthly renewable and fossil electricity generation

Year 2025



Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:30 AM GMT+1

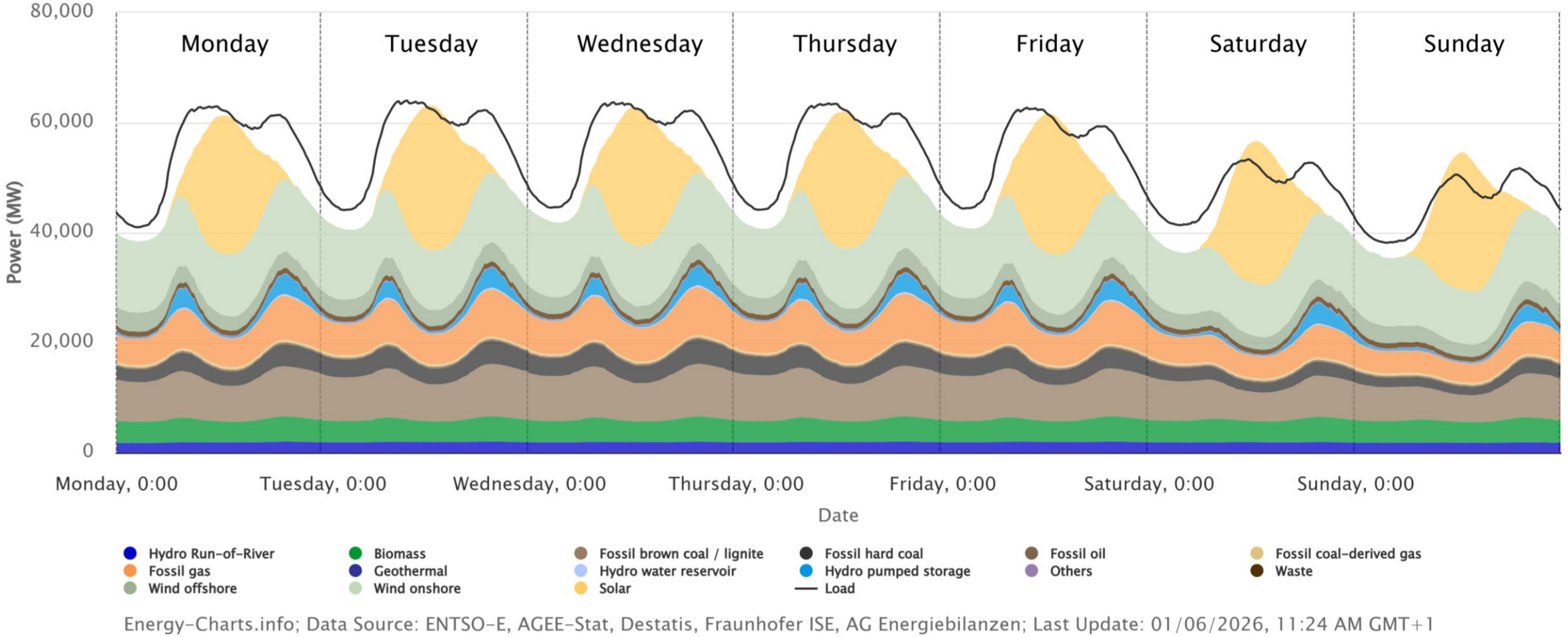
Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&month=-1&stacking=stacked_grouped&year=2025

*Data for public electricity generation

Fraunhofer ISE

Average net electricity generation in a week

Year 2025

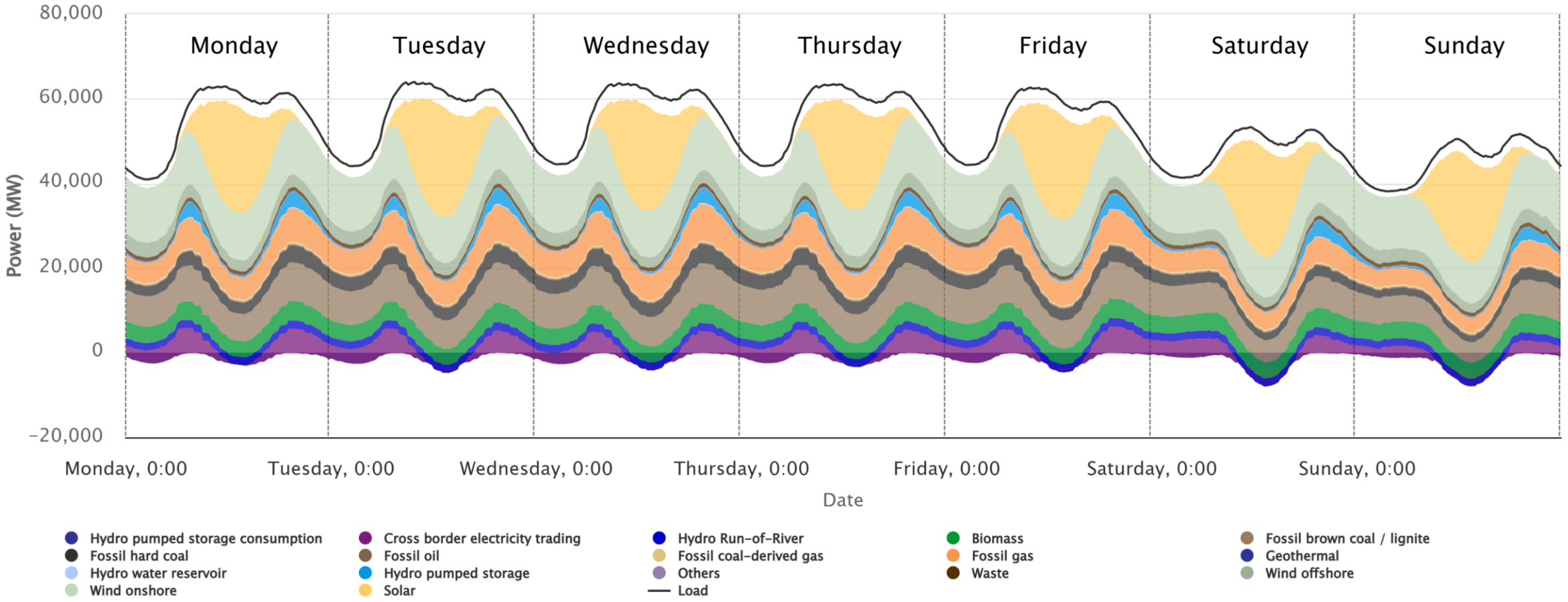


Source: https://www.energy-charts.info/charts/power/chart.htm?l=en&c=DE&week=-2&year=2025

Fraunhofer ISE

Average electricity generation in a week

Year 2025; with imports/exports and pumped-storage generation/consumption



Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:24 AM GMT+1

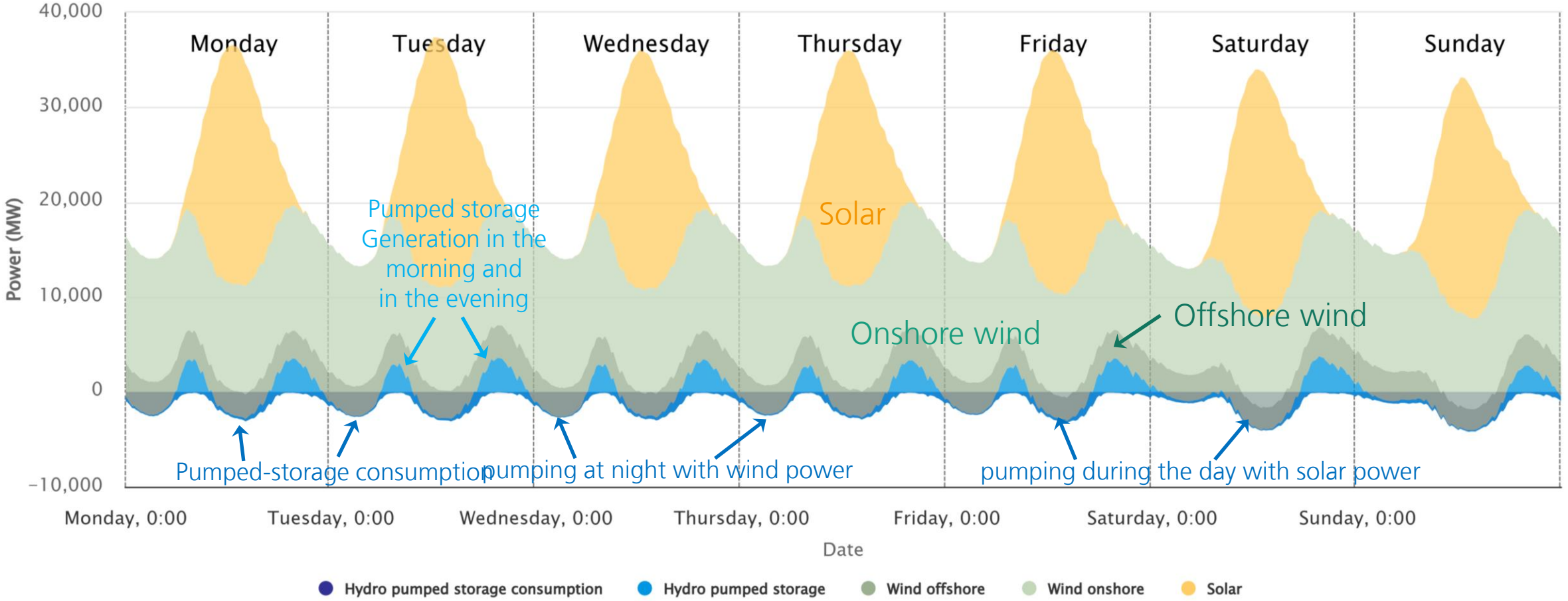
Source: https://www.energy-charts.info/charts/power/chart.htm?l=en&c=DE&week=-2&year=2025&legendItems=0wiw4

*Data for public electricity generation

Fraunhofer ISE

Average electricity generation in a week

Year 2025; solar, wind, pumped-storage generation and pumped-storage consumption



Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:24 AM GMT+1

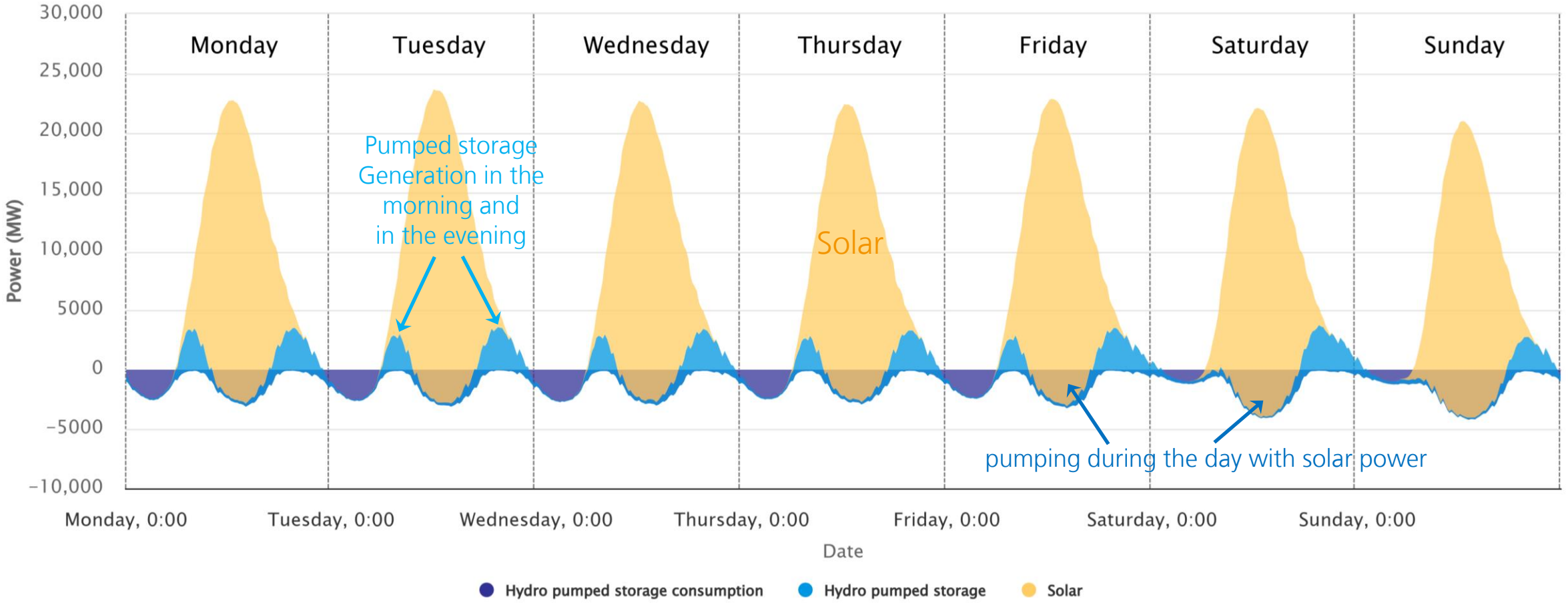
Source: https://www.energy-charts.info/charts/power/chart.htm?l=en&c=DE&week=-2&year=2025&legendItems=3x20170

*Data for public electricity generation

Fraunhofer ISE

Average electricity generation in a week

Year 2025; solar, pumped-storage generation and pumped-storage consumption



Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:24 AM GMT+1

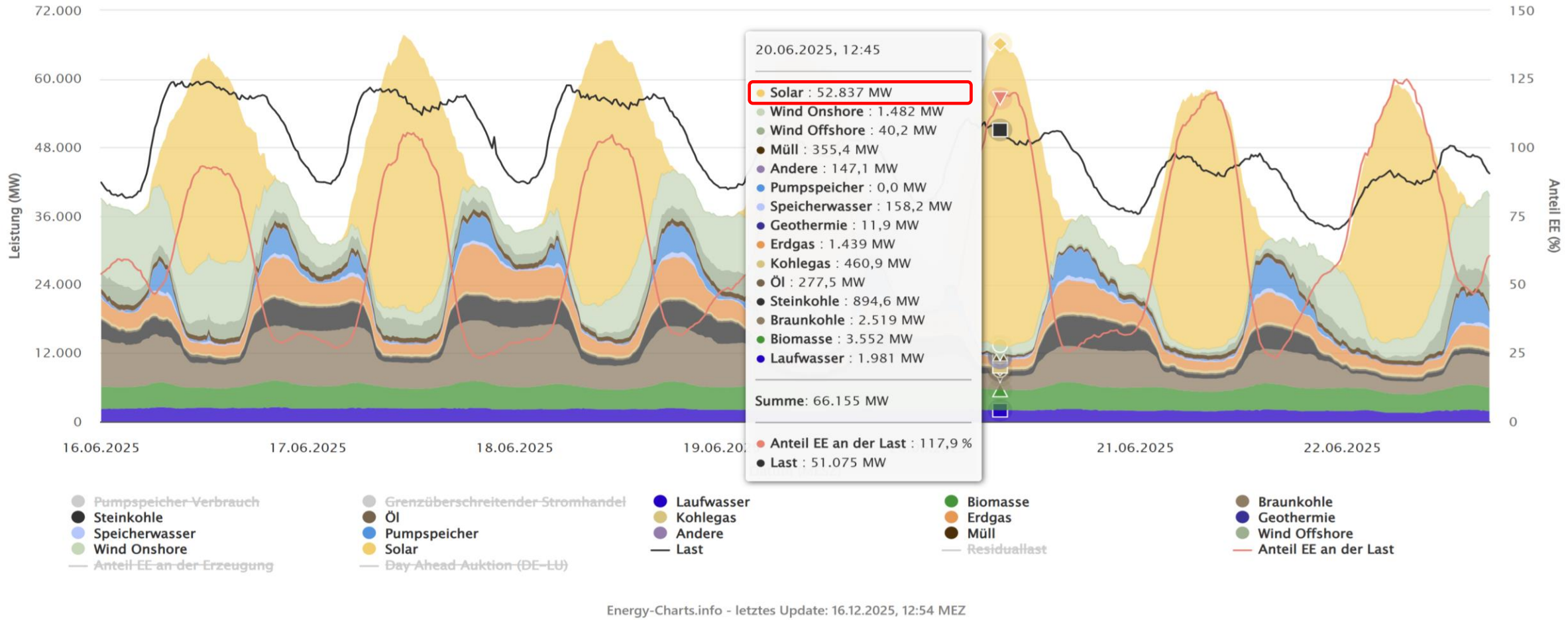
Source: https://www.energy-charts.info/charts/power/chart.htm?l=en&c=DE&week=-2&year=2025&legendItems=my0ybyg

*Data for public electricity generation

Fraunhofer ISE

Highest output of solar installations

Year 2025



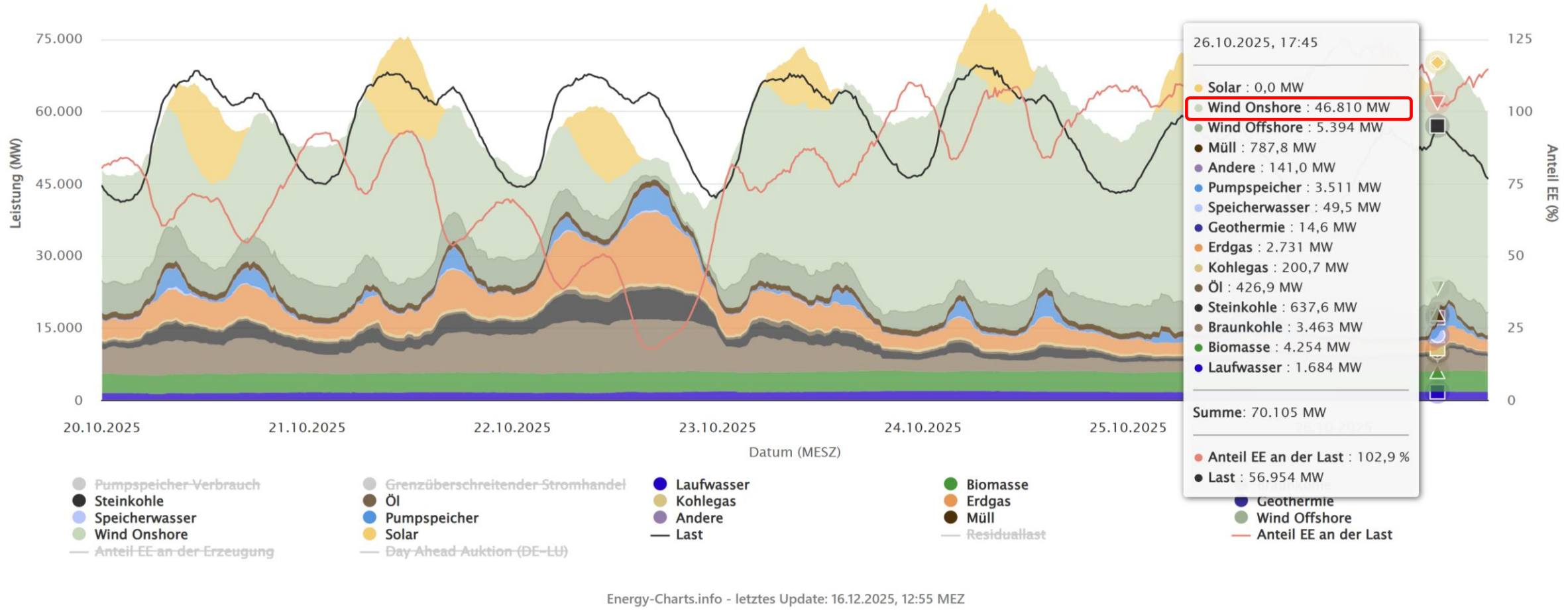
Maximum grid feed-in from solar power was approx. 53 GW on 20.06.2025 at 12:45. At that time, renewable energy supplied 118% of the load.
Source: https://energy-charts.info/charts/power/chart.htm?l=en&c=DE&week=25&year=2025&legendItems=3x0vvvk

*Data for public electricity generation

Fraunhofer ISE

Highest electricity generation from onshore wind

Year 2025



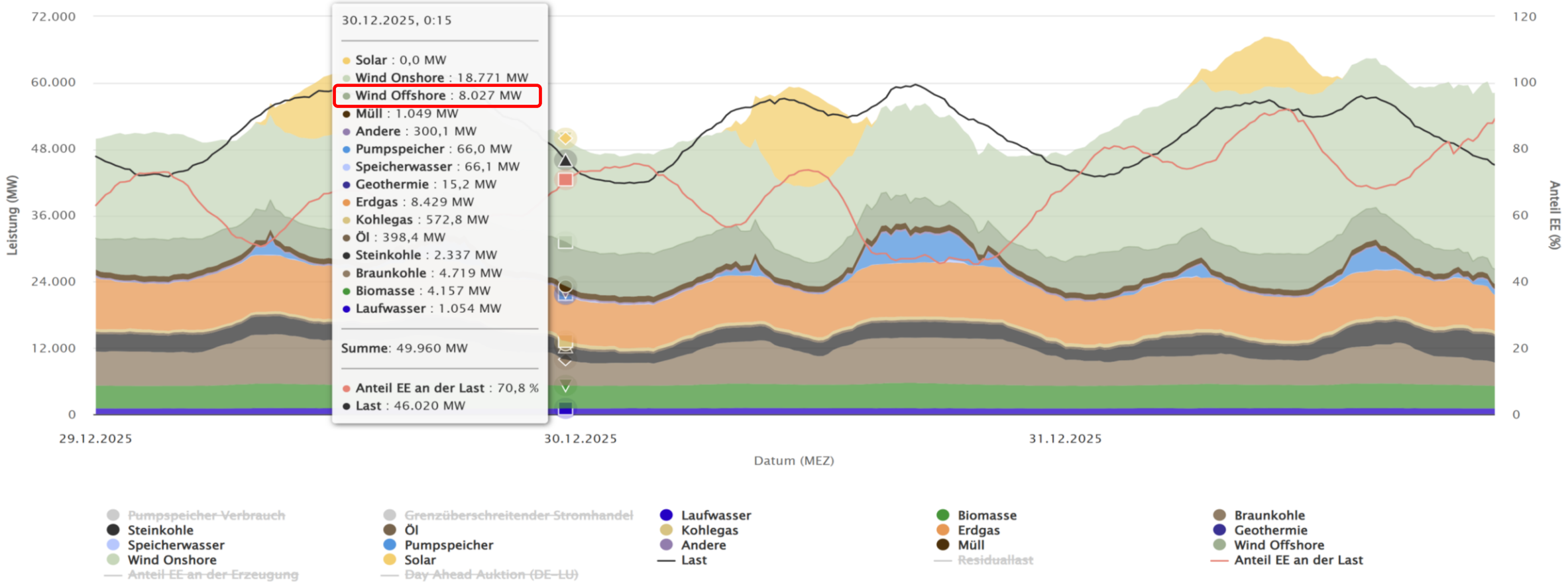
Maximum grid feed-in from onshore wind was approx. 47 GW on 26.10.2025 at 17:45. At that time, renewable energy supplied 86.7% of the load.
Source: https://www.energy-charts.info/charts/power/chart.htm?l=en&c=DE&interval=week&week=43&year=2025&legendItems=3x0vvvk

*Data for public electricity generation

Fraunhofer ISE

Highest electricity generation from offshore wind

Year 2025



Maximum grid feed-in from offshore wind was approx. 8 GW on 30.12.2025 at 00:15. At that time, renewable energy supplied 70.8% of the load.

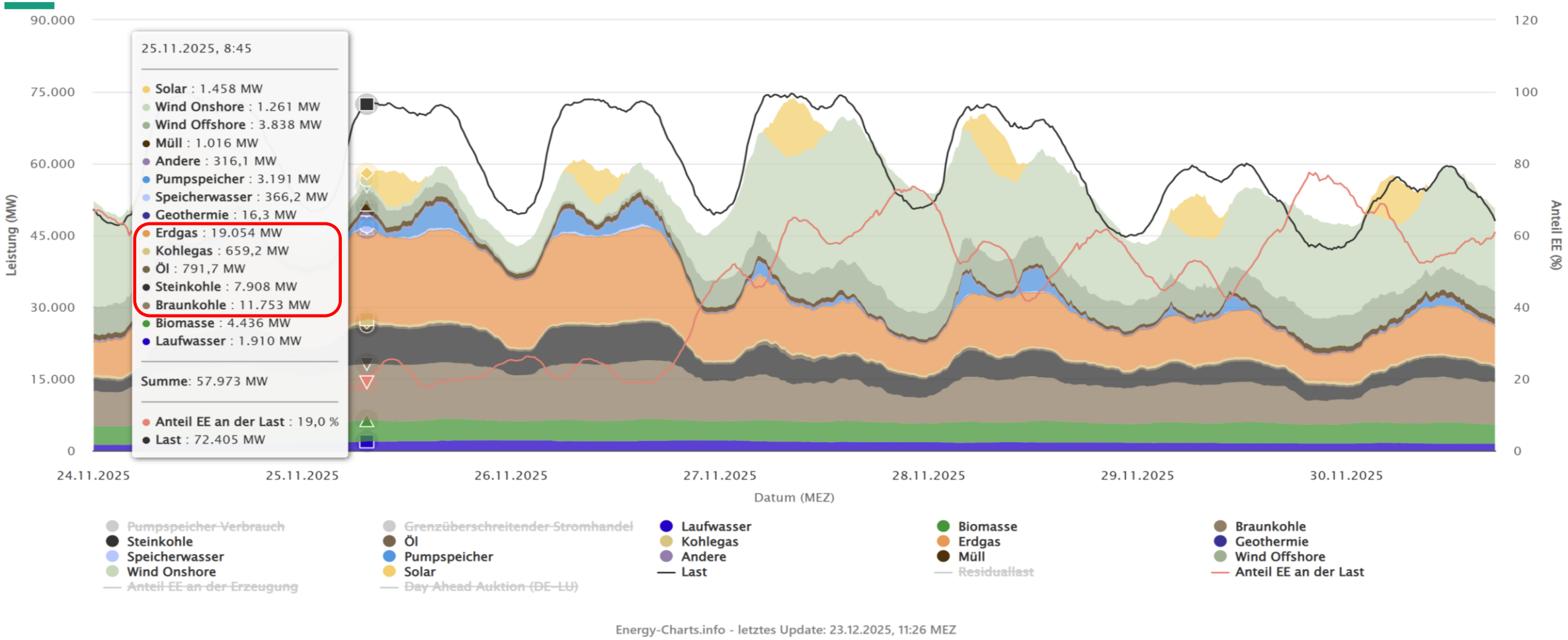
Source: https://www.energy-charts.info/charts/power/chart.htm?l=en&c=DE&interval=week&year=2026&legendItems=3x0vvvk&week=01

*Data for public electricity generation

Fraunhofer ISE

Highest fossil electricity generation

Year 2025



Maximum fossil output was approx. 40.2 GW on 25.11.2025 at 08:45. At that time, fossil energy supplied 55.5% of the load.

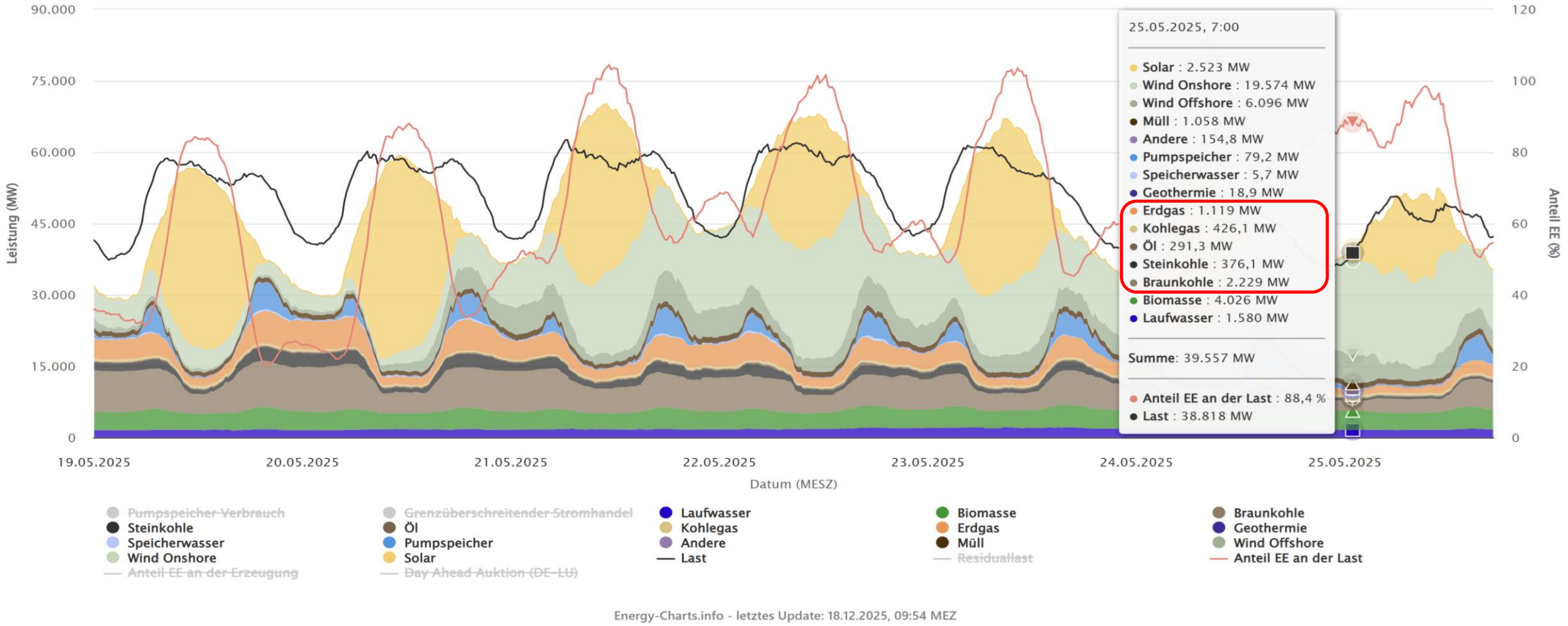
Source: https://www.energy-charts.info/charts/power/chart.htm?l=en&c=DE&week=48&legendItems=3x0vvvk&year=2025

*Data for public electricity generation

Fraunhofer ISE

Lowest fossil electricity generation

Year 2025



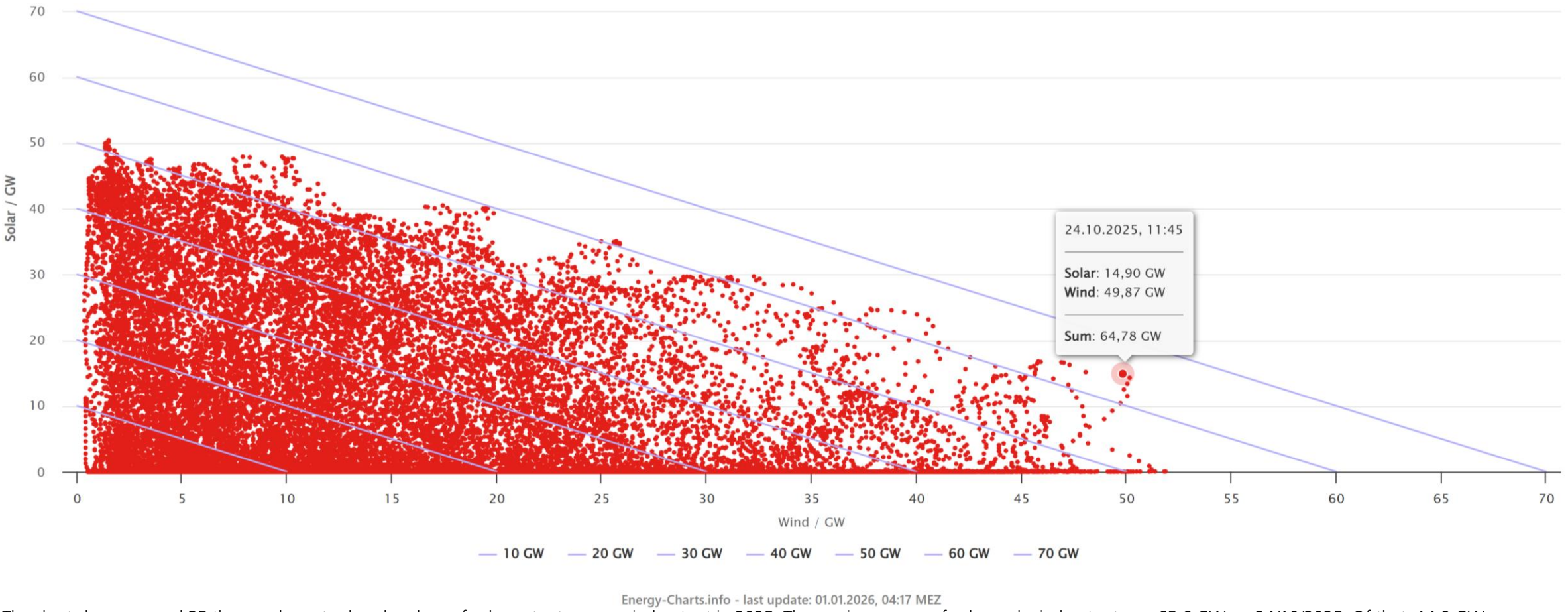
Minimum fossil output was approx. 4.4 GW on 25.05.2025 at 07:00. At that time, fossil energy supplied 11.4% of the load.

Source: https://www.energy-charts.info/charts/power/chart.htm?l=en&c=DE&week=21&legendItems=3x0vvvk&year=2025

*Data for public electricity generation

Scatter plot of solar and wind output

Quarter-hourly values for 2025



The chart shows around 35 thousand quarter-hourly values of solar output versus wind output in 2025. The maximum sum of solar and wind output was 65.6 GW on 24/10/2025. Of that, 14.9 GW came from solar and 49.9 GW from wind. That is only 36% of the installed capacity of 180 GW (104 GW solar AC and 76 GW wind).

Source: https://www.energy-charts.info/charts/power_scatter/chart.htm?l=en&c=DE&interval=year&year=2025

*Data for public electricity generation

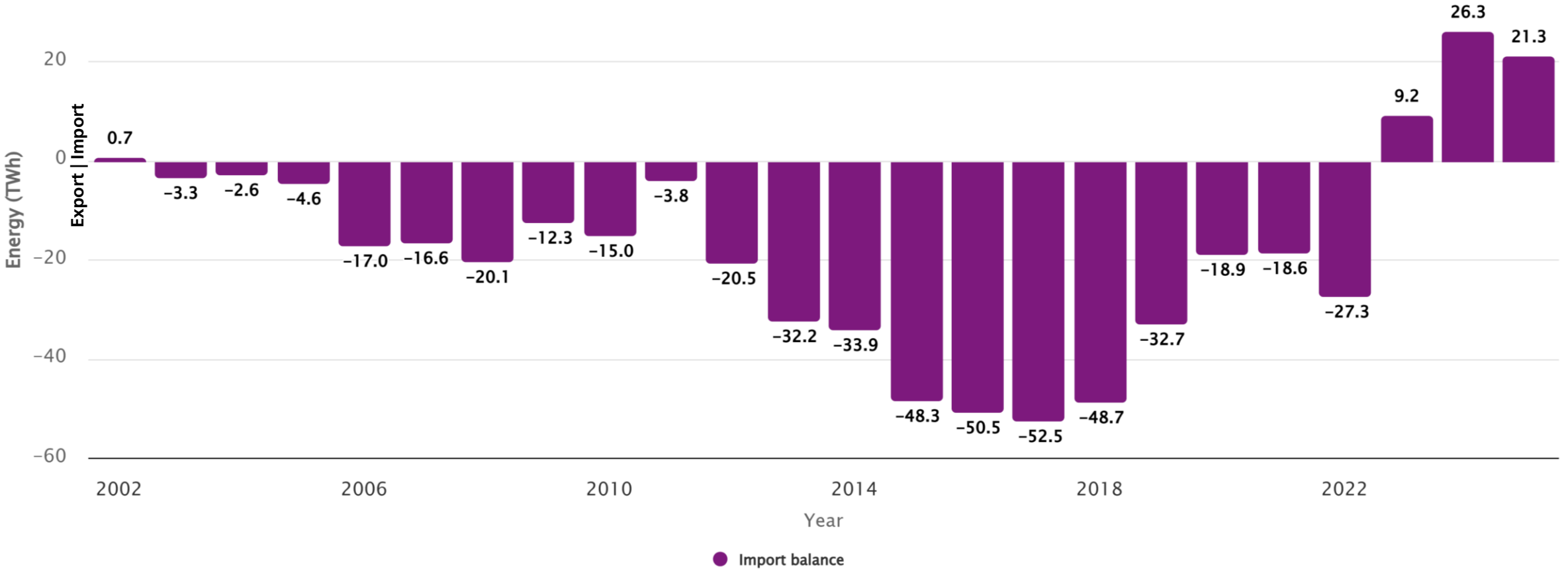
Fraunhofer ISE

Agenda

1. Summary
2. Electricity generation, share of renewable energy, full-load hours
3. Imports and exports
4. Prices
5. Installed capacity
6. Emissions and climate data
7. Electricity generation in Europe
8. Appendix and explanations

Cross-border physical flows

Years 2002–2025



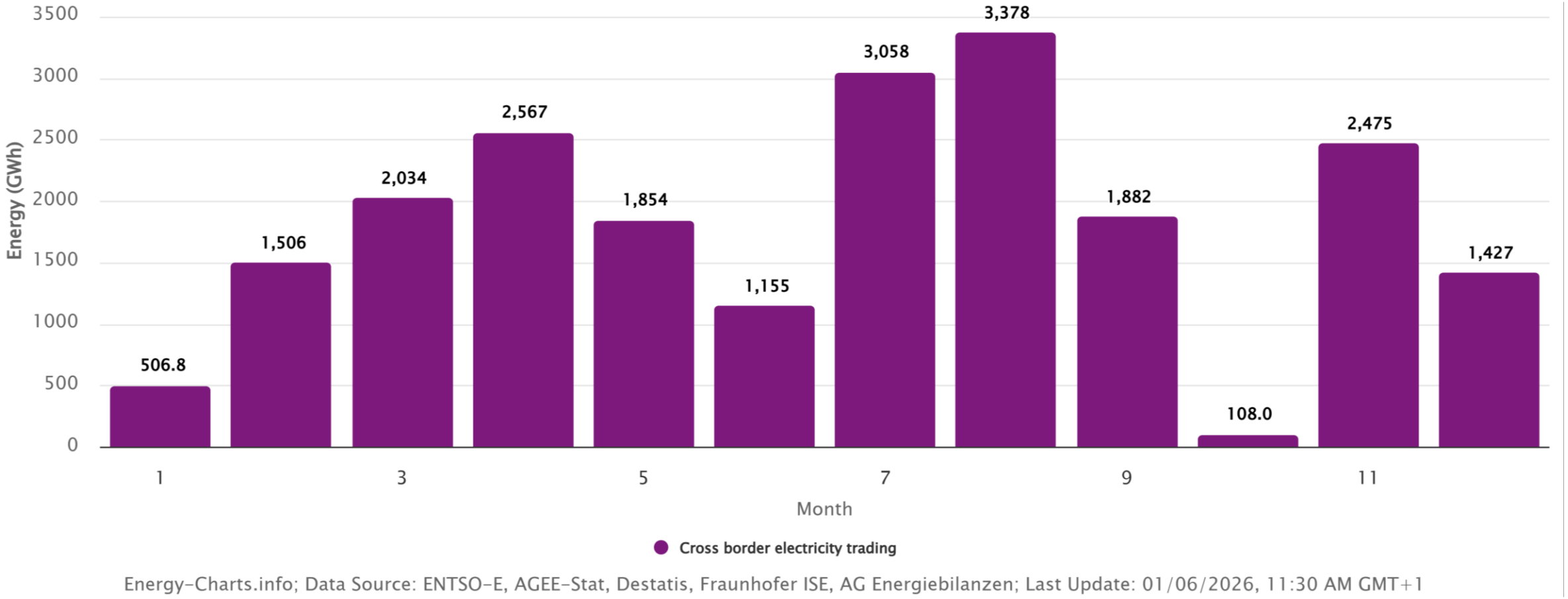
Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:29 AM GMT+1

Positive values indicate imports. Negative values indicate exports.

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=year&year=-1&chartColumnSorting=default&sum=1&source=public&legendItems=ly1

Monthly imports and exports

Year 2025



Positive values indicate imports. Negative values indicate exports.

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&chartColumnSorting=default&source=public&month=-1&sum=1&stacking=stacked_grouped&year=2025&legendItems=jy1

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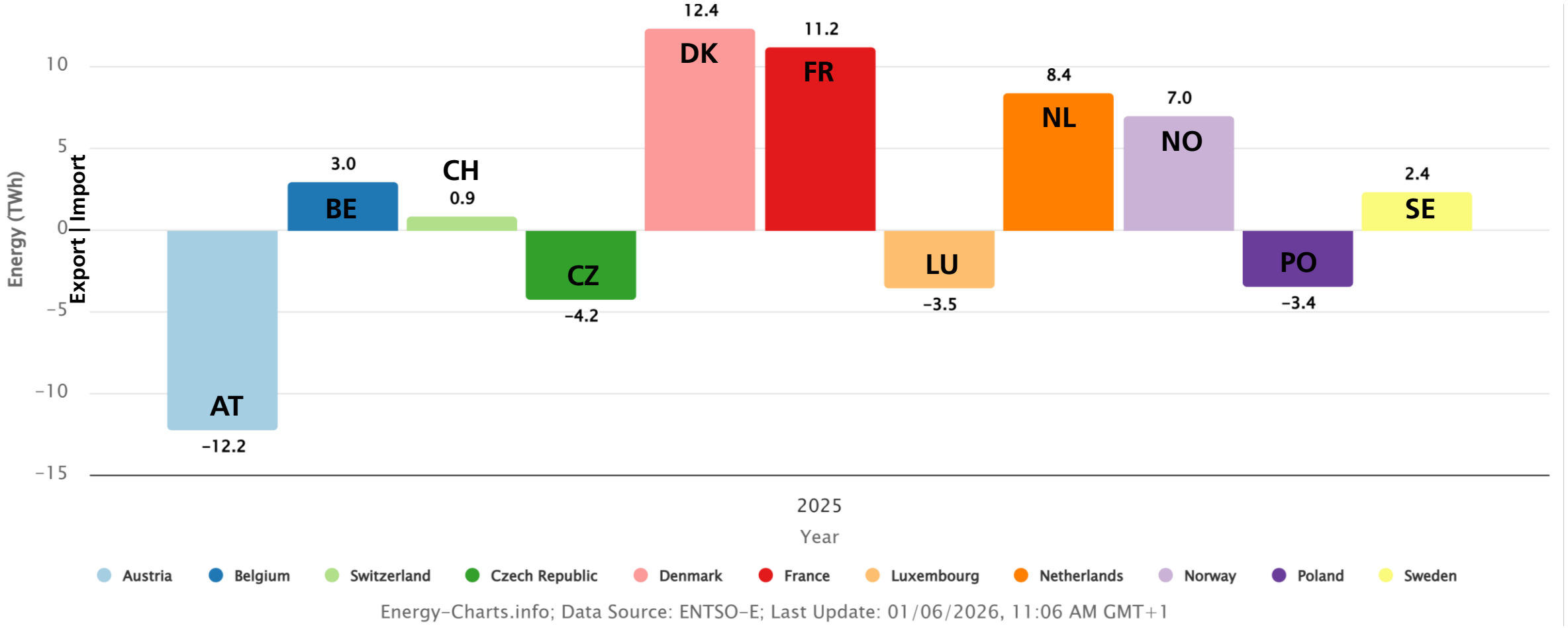
Electricity imports and exports, scheduled (nominated) electricity trade

Year 2025



Positive values indicate imports. Negative values indicate exports.

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&chartColumnSorting=default&source=tcs_saldo&interval=year&sum=0&partsum=1&year=2025

Electricity imports and exports, commercial electricity trade

Year 2025

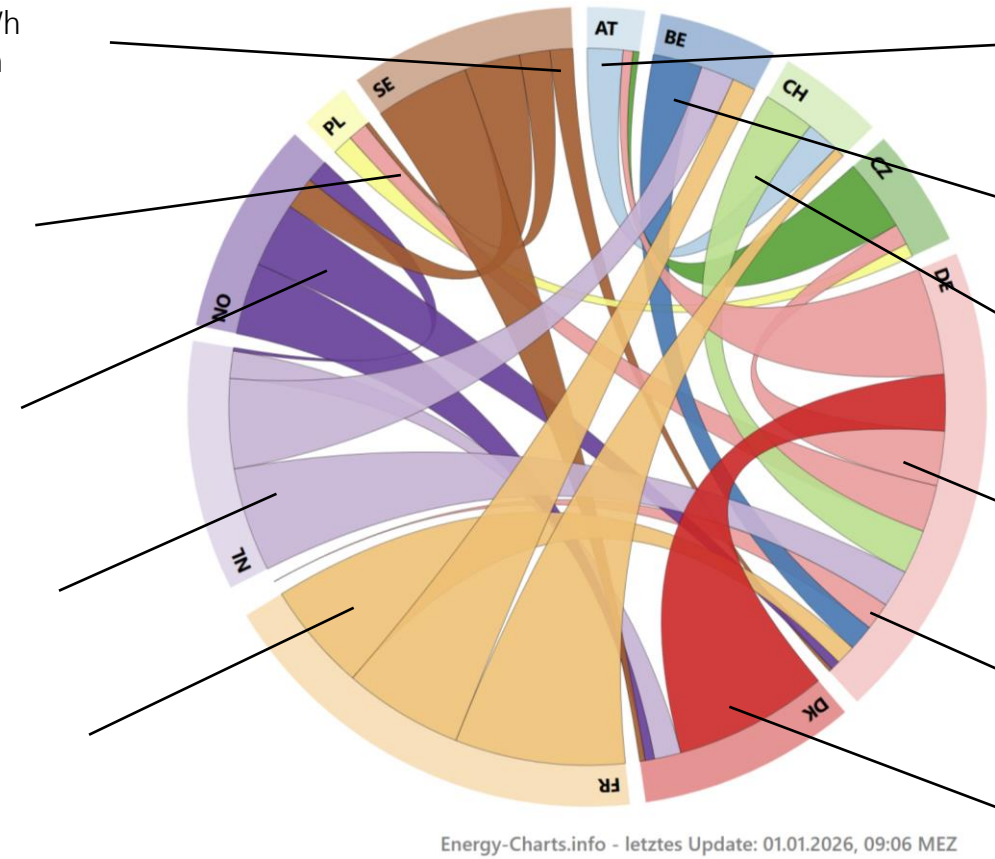
Germany -> Sweden: 0.45 TWh
Sweden -> Germany: 2.9 TWh

Germany -> Poland: 5.9 TWh
Poland -> Germany: 2.4 TWh

Germany -> Norway: 1.2 TWh
Norway -> Germany: 8.2 TWh

Germany -> Netherlands: 4.7 TWh
Netherlands -> Germany: 13.1 TWh

Germany -> France: 2.5 TWh
France -> Germany: 13.7 TWh



Germany -> Austria: 13.4 TWh
Austria -> Germany: 1.2 TWh

Germany -> Belgium: 3.3 TWh
Belgium -> Germany: 6.2 TWh

Germany -> Switzerland: 5.6 TWh
Switzerland -> Germany: 6.5 TWh

Germany -> Czechia: 6.9 TWh
Czechia -> Germany: 2.7 TWh

Germany -> Luxembourg: 3.5 TWh
Luxembourg -> Germany: 0.0 TWh

Germany -> Denmark: 7.0 TWh
Denmark -> Germany: 19.4 TWh

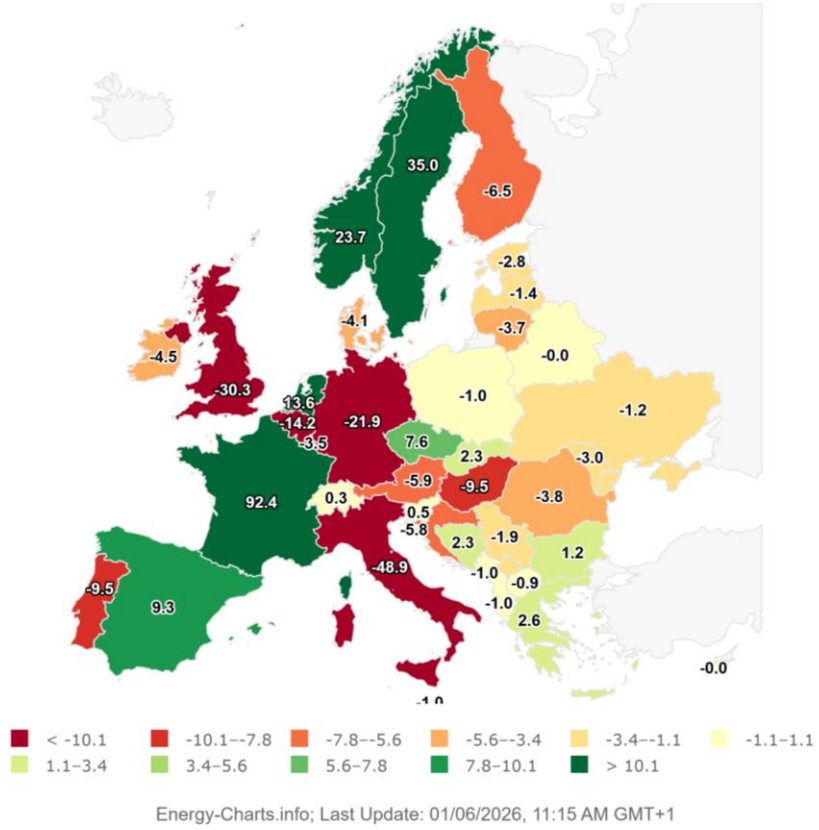
Germany:
76.2 TWh imports; 54.3 TWh exports
Balance: 21.9 TWh imports

Source: https://www.energy-charts.info/charts/import_export/chart.htm?l=en&c=DE&year=2025

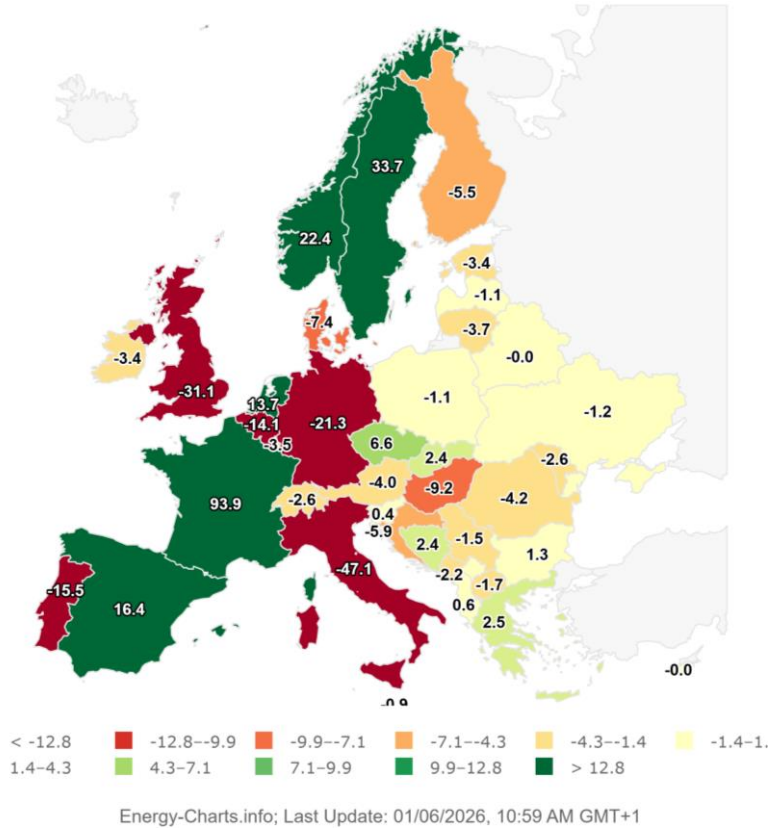
Scheduled electricity trade and physical electricity flows in Europe

Year 2025

Scheduled (nominated) electricity trade



Cross-border physical electricity flows



In TWh, positive values (green) indicate export surpluses, negative values (red) indicate import surpluses.

Source: https://www.energy-charts.info/charts/import_export_map/chart.htm?l=en&c=DE&interval=year&year=2025&exp=tcs

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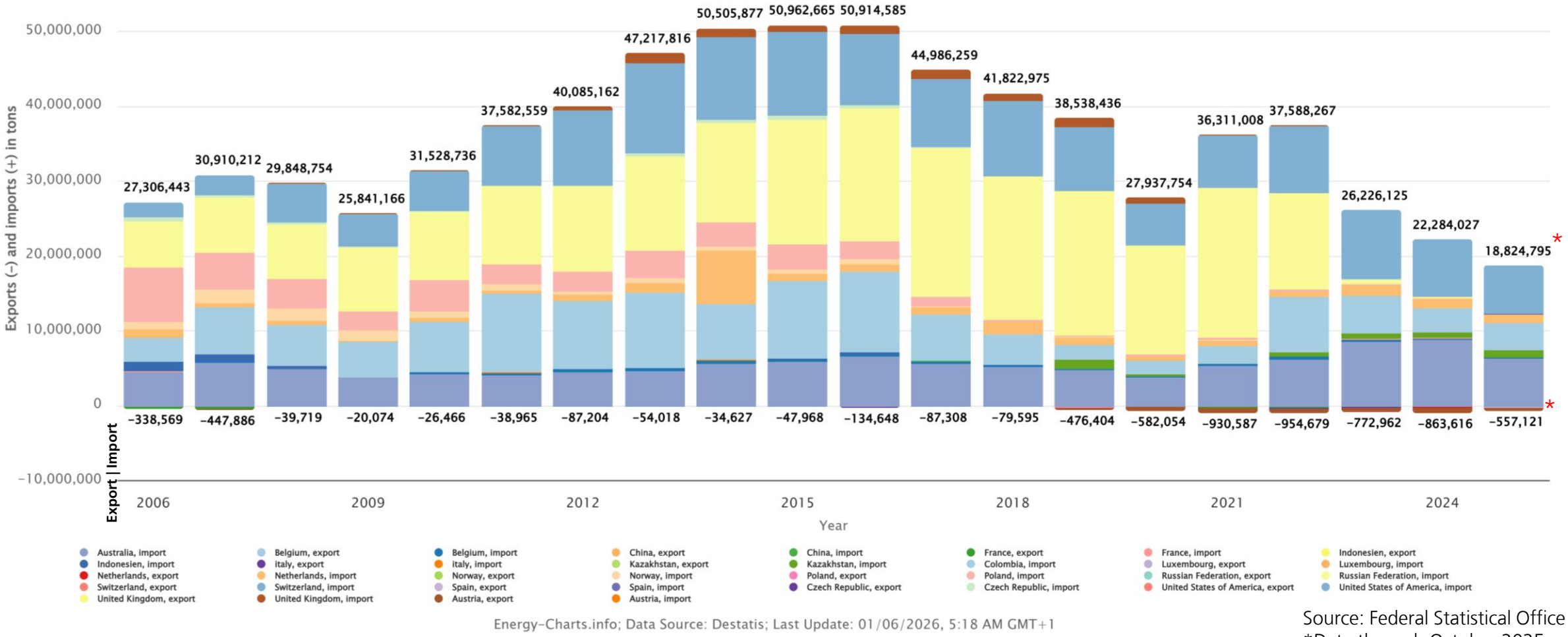
Exports and imports of hard coal

Years 2006–2025



Source: Federal Statistical Office
*Data through October 2025

Source: https://www.energy-charts.info/charts/energy_source_trade/chart.htm?l=en&c=DE&sum=1&interval=year&year=-1&dataType=hard_coal_import_export_absolute

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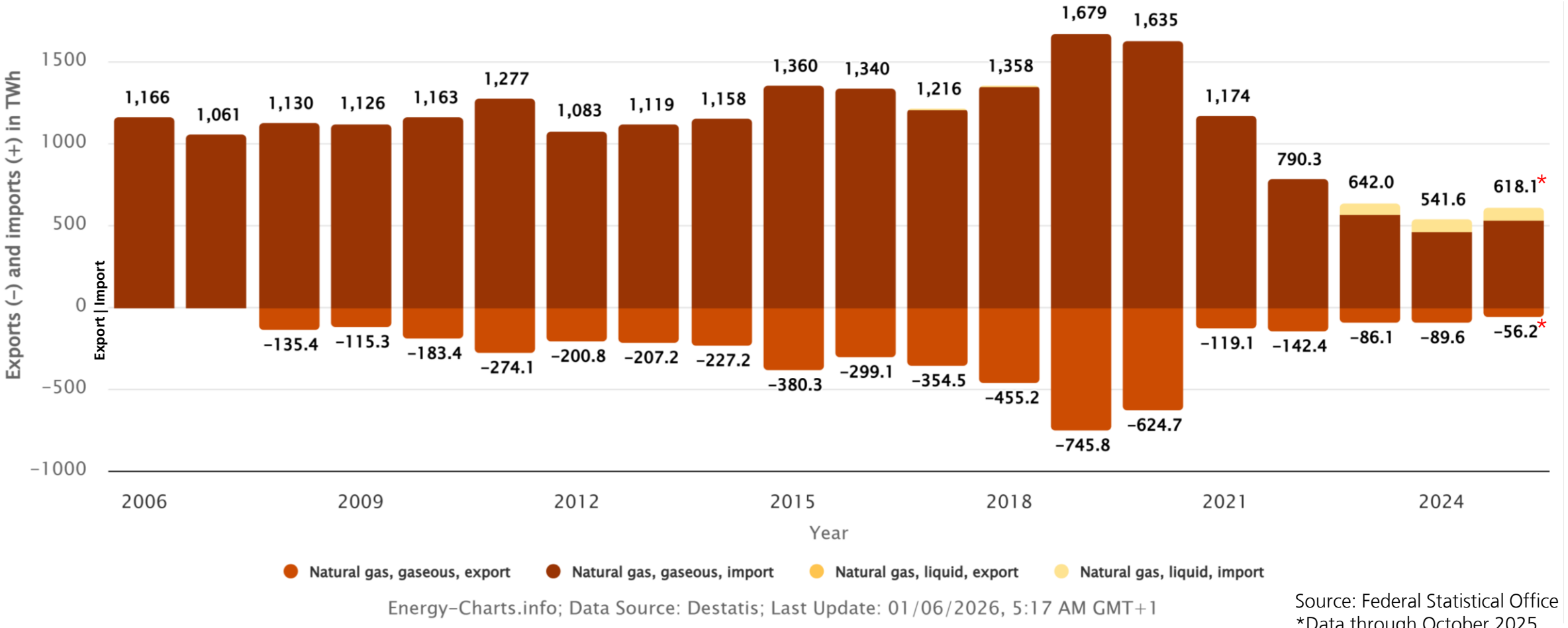
Exports and imports of natural gas

Years 2006–2025



Source: Federal Statistical Office
*Data through October 2025

Source: https://www.energy-charts.info/charts/energy_source_trade/chart.htm?l=en&c=DE&sum=1&dataType=gas_import_export_energy_twh

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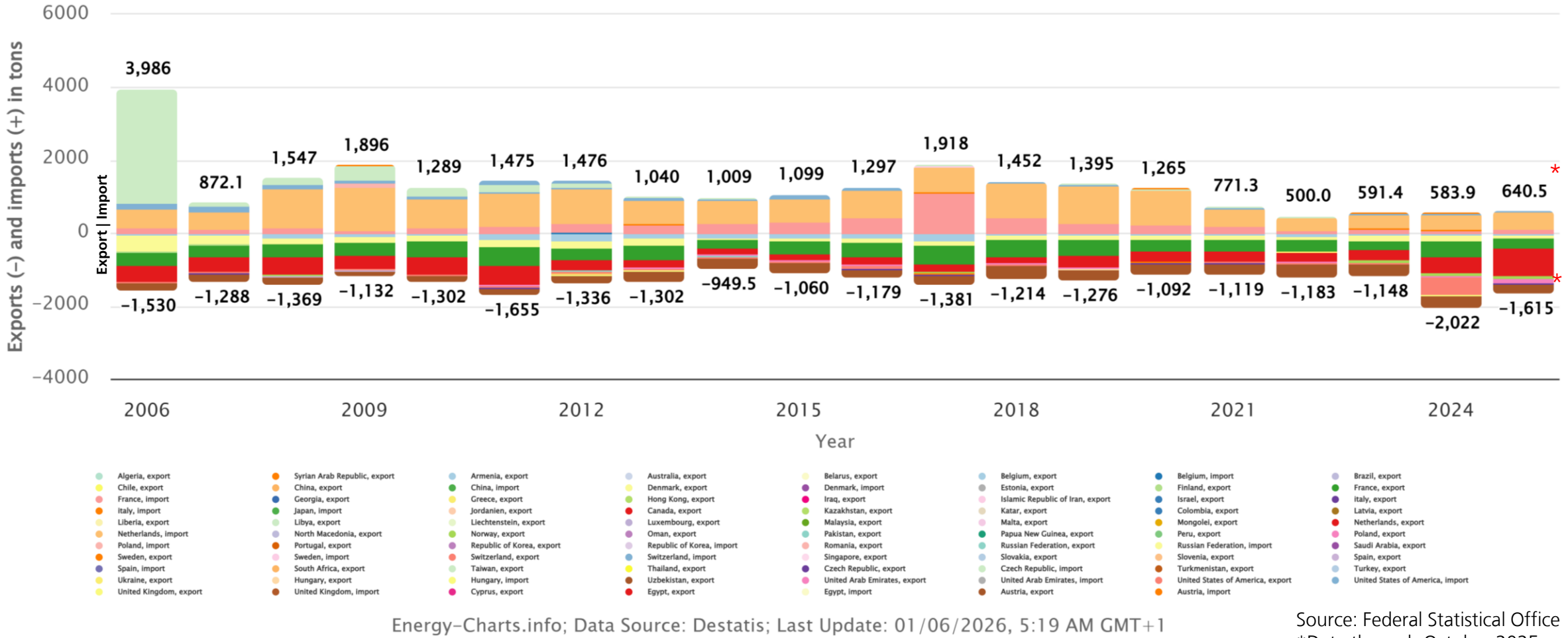
Exports and imports of hydrogen

Years 2006–2025



Energy-Charts.info; Data Source: Destatis; Last Update: 01/06/2026, 5:19 AM GMT+1

Source: Federal Statistical Office
*Data through October 2025

Source: https://www.energy-charts.info/charts/energy_source_trade/chart.htm?l=en&c=DE&sum=1&interval=year&year=-1&dataType=hydrogen_import_export_absolute

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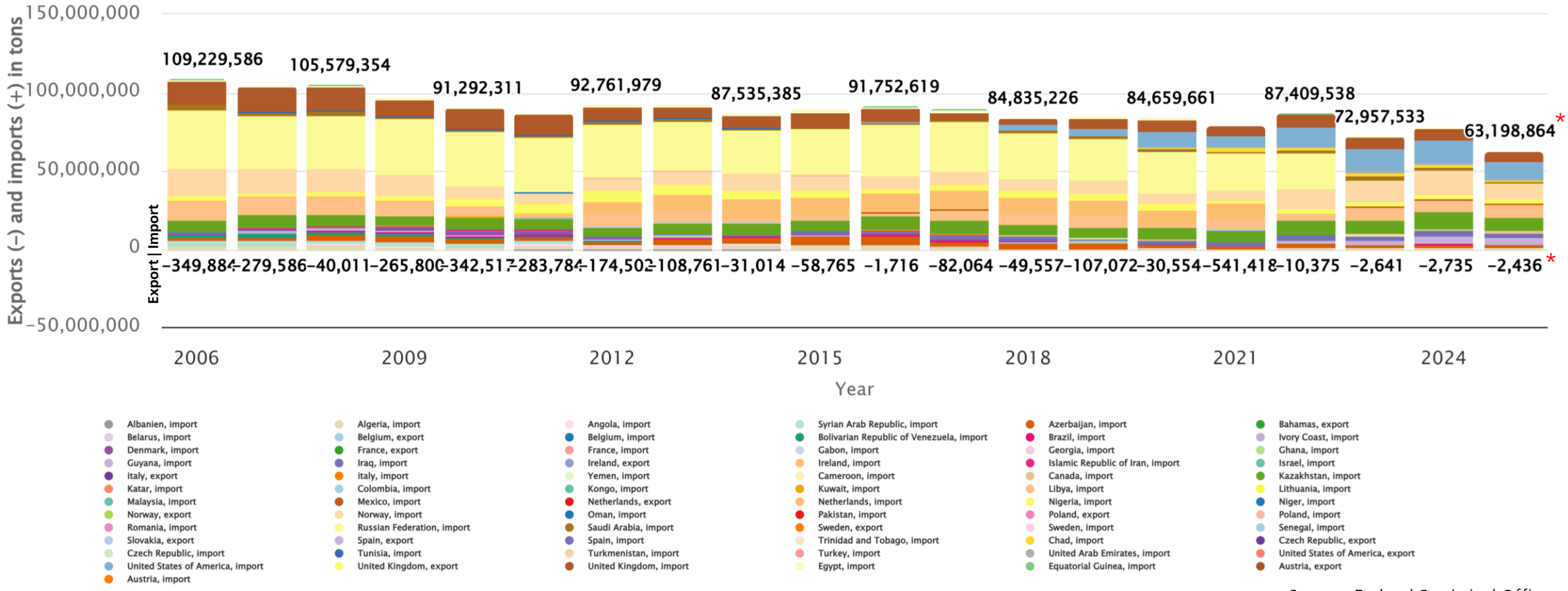
Exports and imports of crude oil and oil from bituminous minerals

Years 2006–2023



Source: Federal Statistical Office
*Data through October 2025

Source: https://www.energy-charts.info/charts/energy_source_trade/chart.htm?l=en&c=DE&sum=1&interval=year&year=-1&dataType=oil_import_export_absolute

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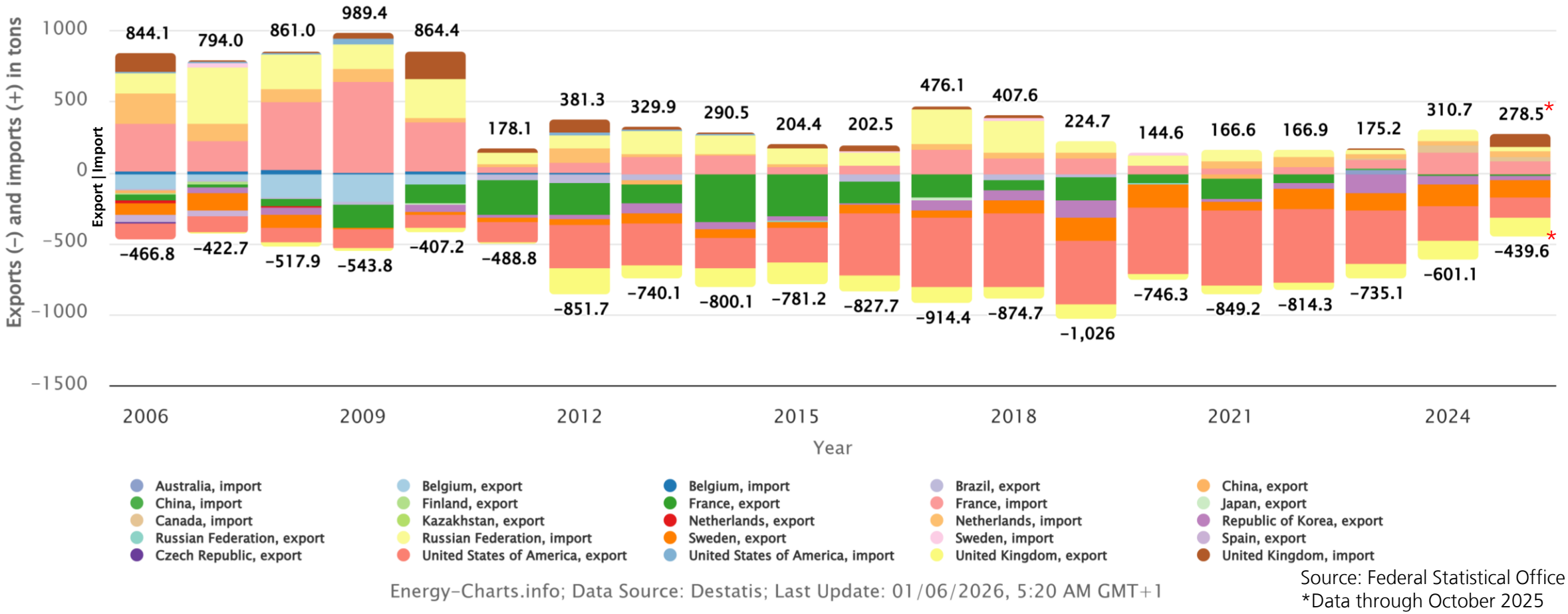
Exports and imports of enriched uranium 235

Years 2006–2024



Source: Federal Statistical Office
*Data through October 2025

Source: https://www.energy-charts.info/charts/energy_source_trade/chart.htm?l=en&c=DE&sum=1&interval=year&year=-1&dataType=uranium_enriched_import_export_absolute

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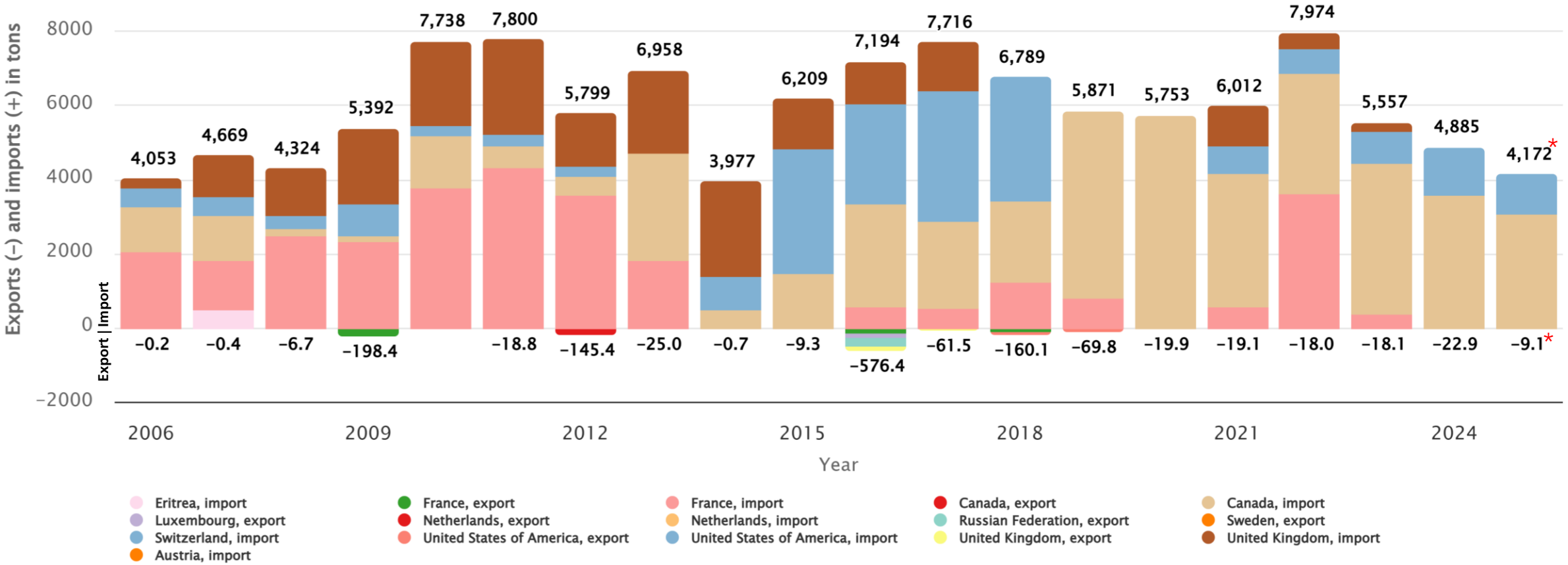
Exports and imports of natural uranium and its compounds

Years 2006–2024



Energy-Charts.info; Data Source: Destatis; Last Update: 01/06/2026, 5:21 AM GMT+1

Source: Federal Statistical Office
*Data through October 2025

Source: https://www.energy-charts.info/charts/energy_source_trade/chart.htm?l=en&c=DE&sum=1&interval=year&year=-1&dataType=uranium_natural_compounds_import_export_absolute

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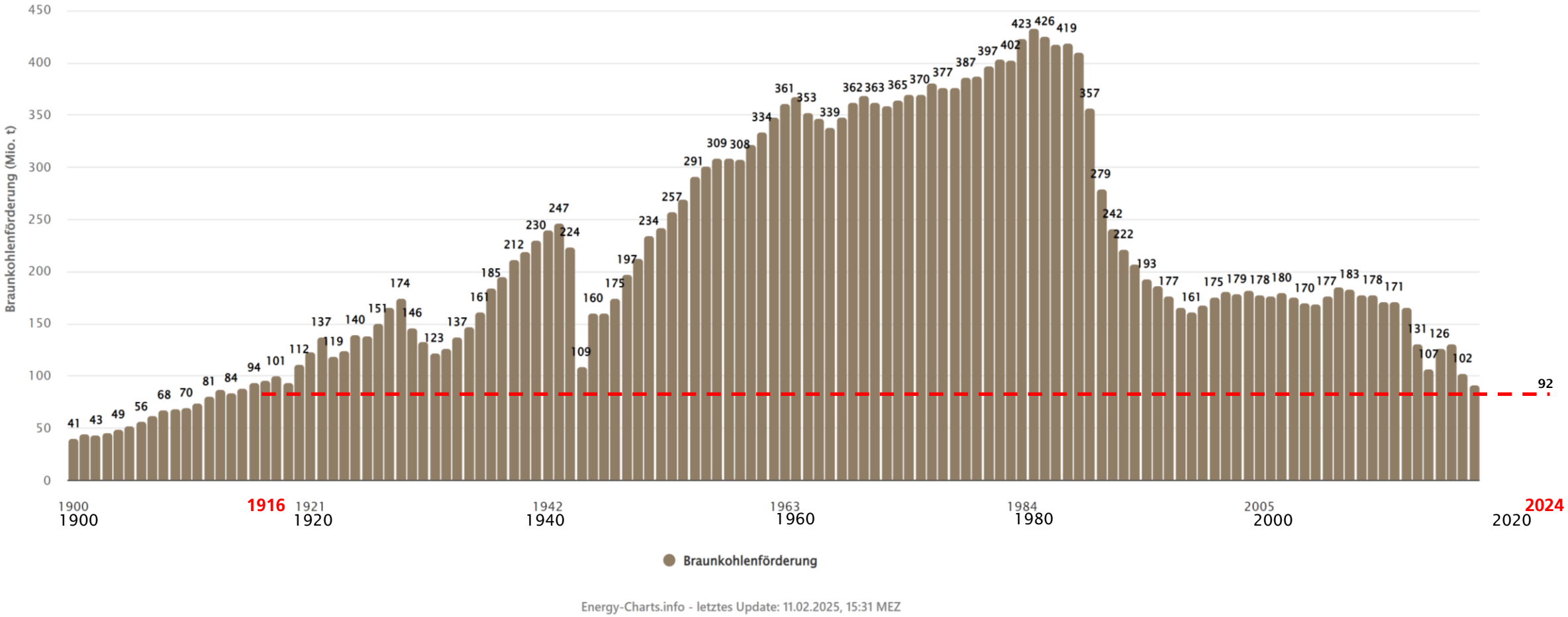
Lignite production in Germany

Years 1900–2024



Source: https://energy-charts.info/charts/energy_source_trade/chart.htm?l=en&c=DE

Data source: Statistics of the German Coal Industry Association (Statistik der Kohlenwirtschaft e.V.)

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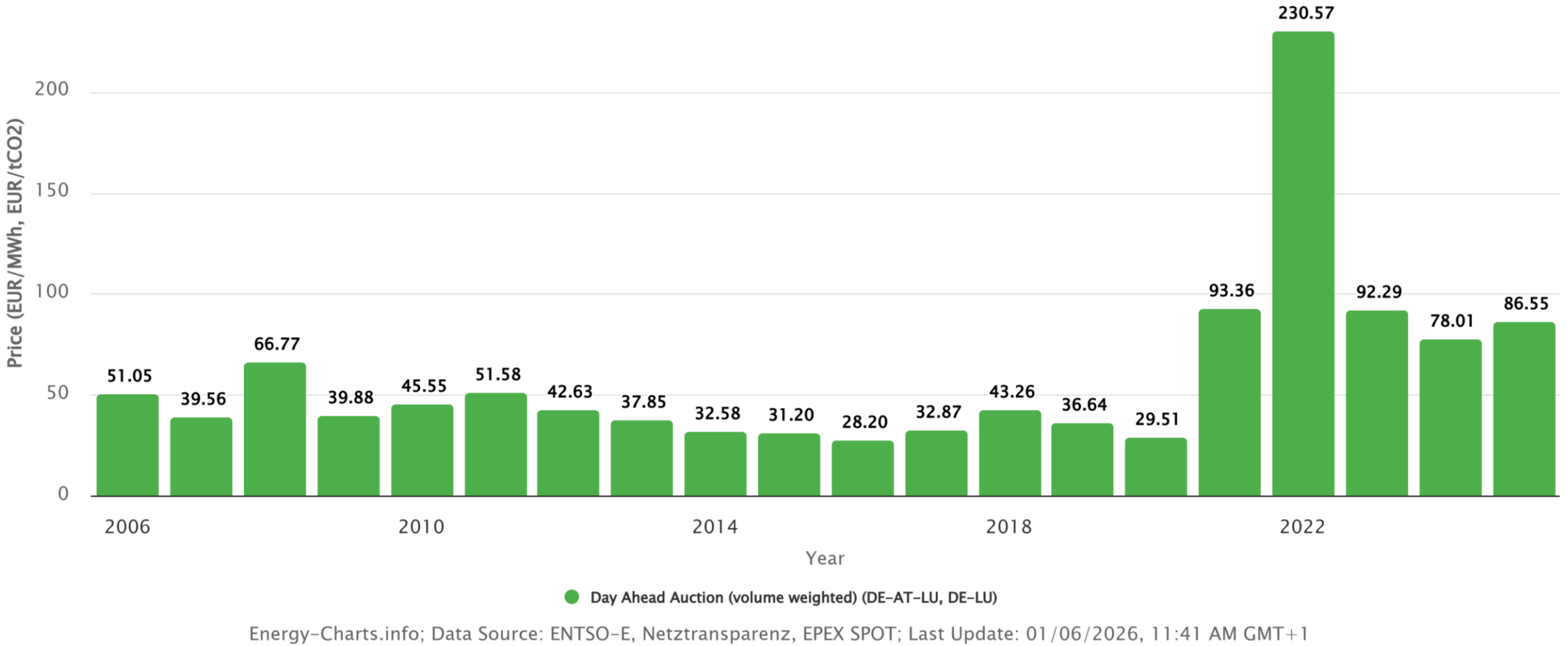
8. Appendix and explanations

EPEX day-ahead spot price

Volume-weighted, not adjusted for inflation



Source: https://www.energy-charts.info/charts/price_average/chart.htm?l=en&c=DE&chartColumnSorting=default&interval=year&year=-1&partsum=1

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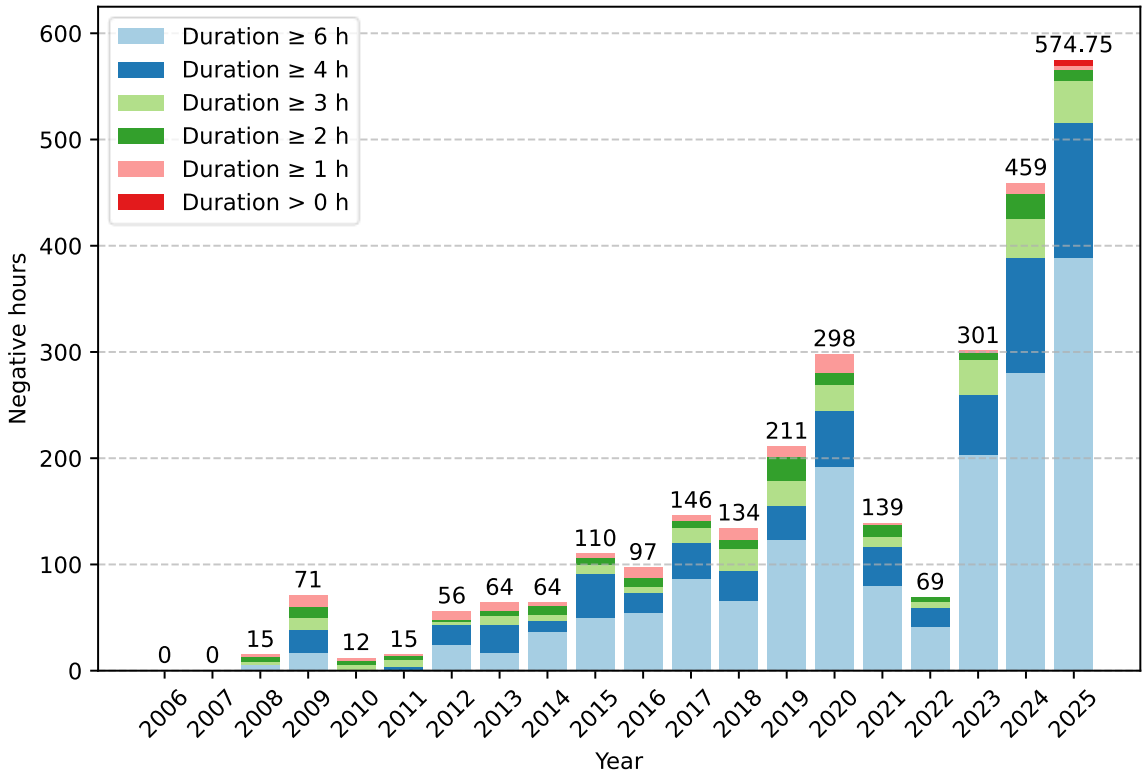
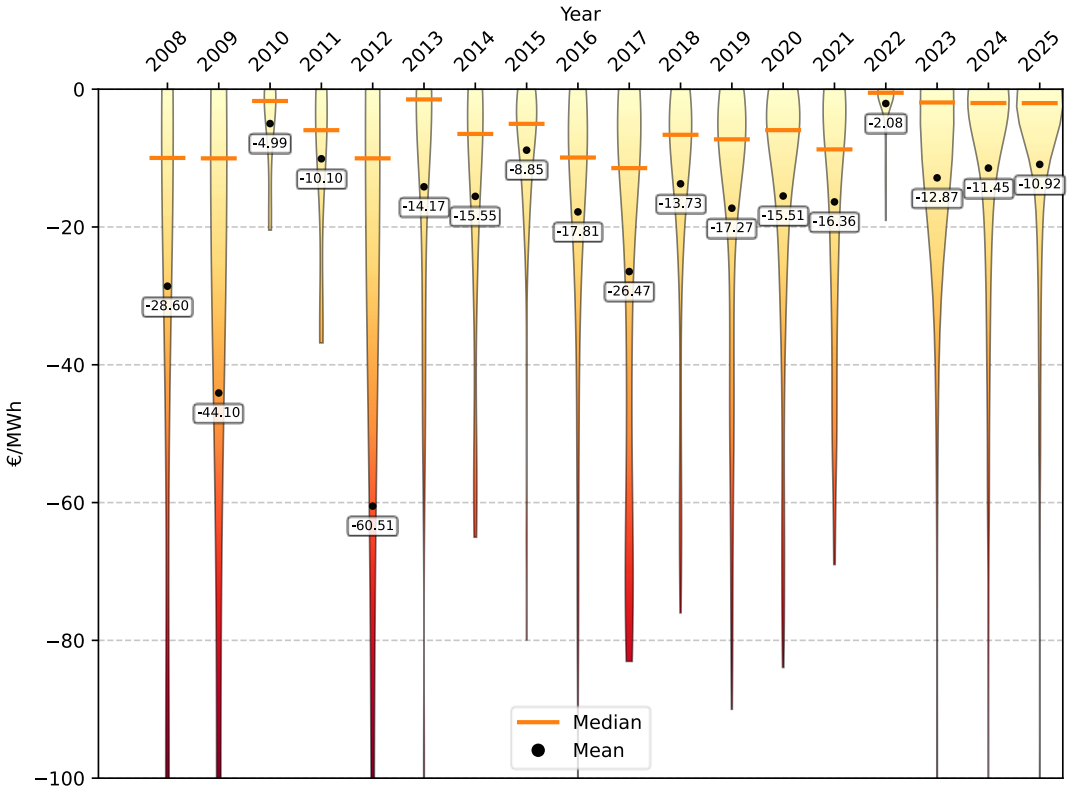
Negative day-ahead exchange electricity prices

Hours per year and average negative price

Negative day-ahead exchange electricity prices in hours



Average negative day-ahead exchange electricity price



Charts: L. Gandhi, Fraunhofer ISE; Data: EPEX

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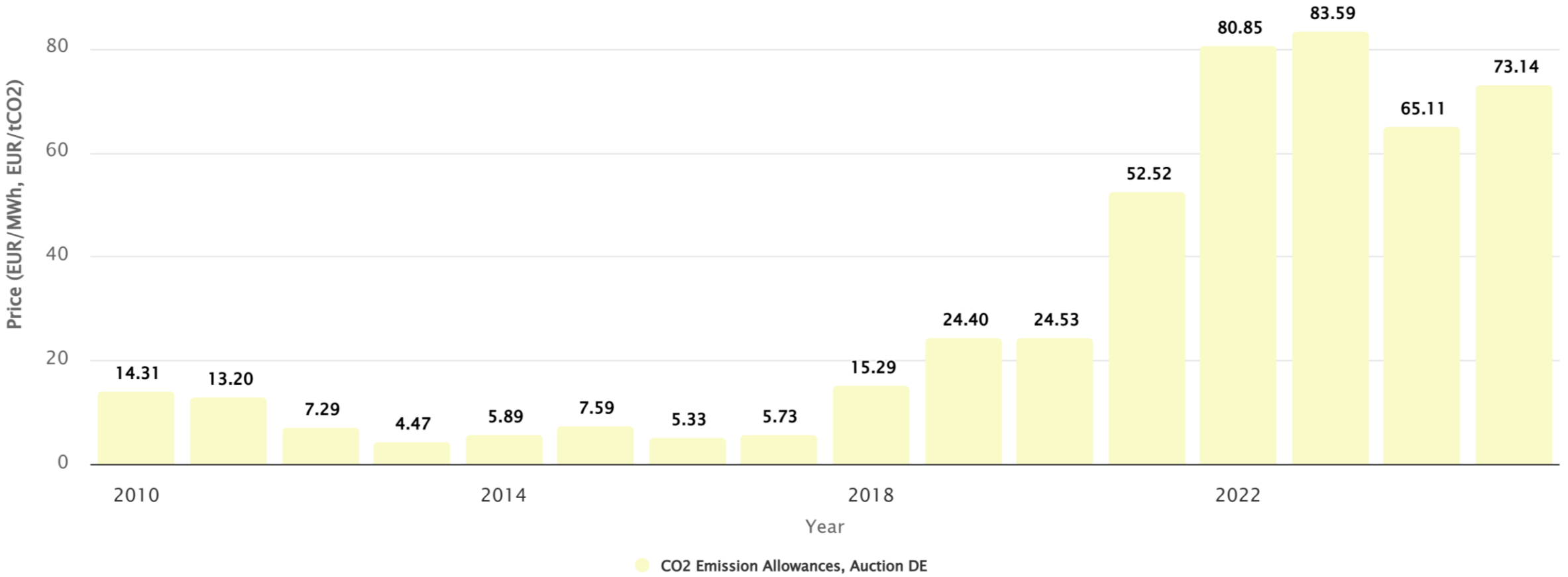
Price of CO2 emission allowances (EUAs)

Years 2010–2025



Energy-Charts.info; Data Source: ENTSO-E, Netztransparenz, EPEX SPOT; Last Update: 01/06/2026, 11:41 AM GMT+1

Source: https://www.energy-charts.info/charts/price_average/chart.htm?l=en&c=DE&chartColumnSorting=default&interval=year&year=-1&partsum=1&legendItems=lyh&timeslider=0&min=4&max=19

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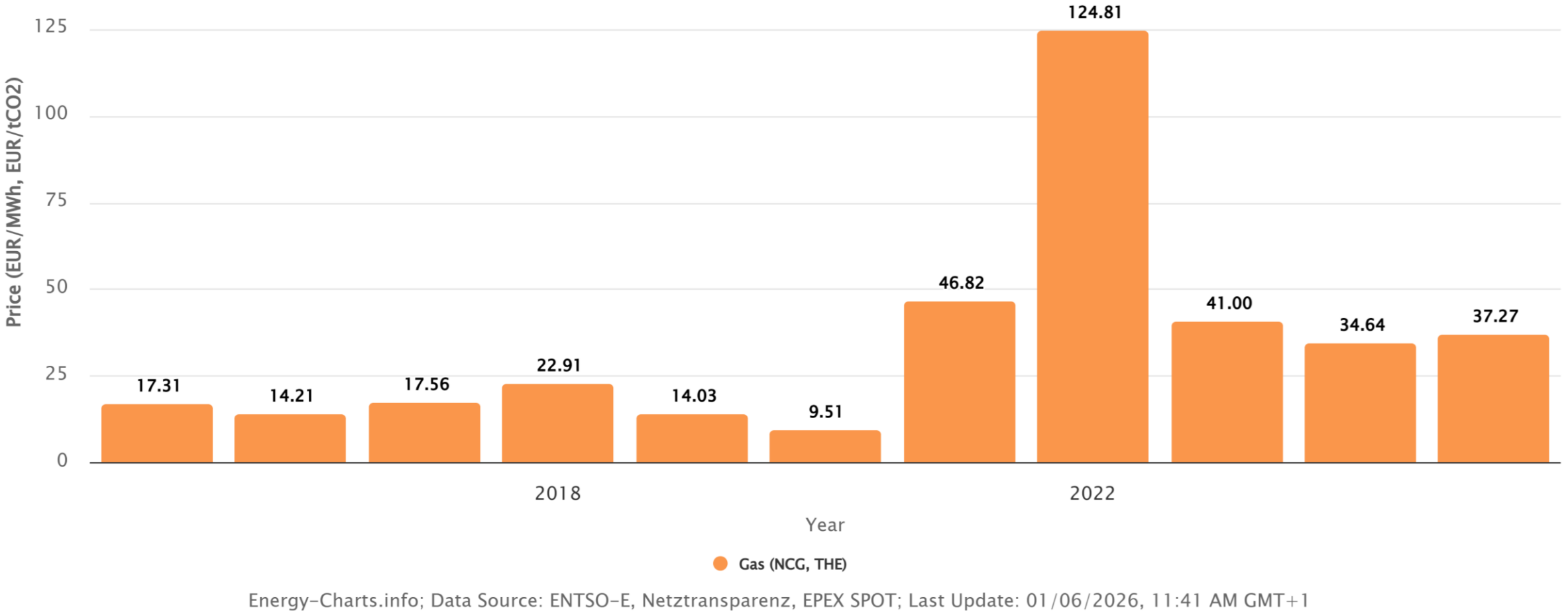
Natural gas price (NCG, THE)

Years 2015–2025

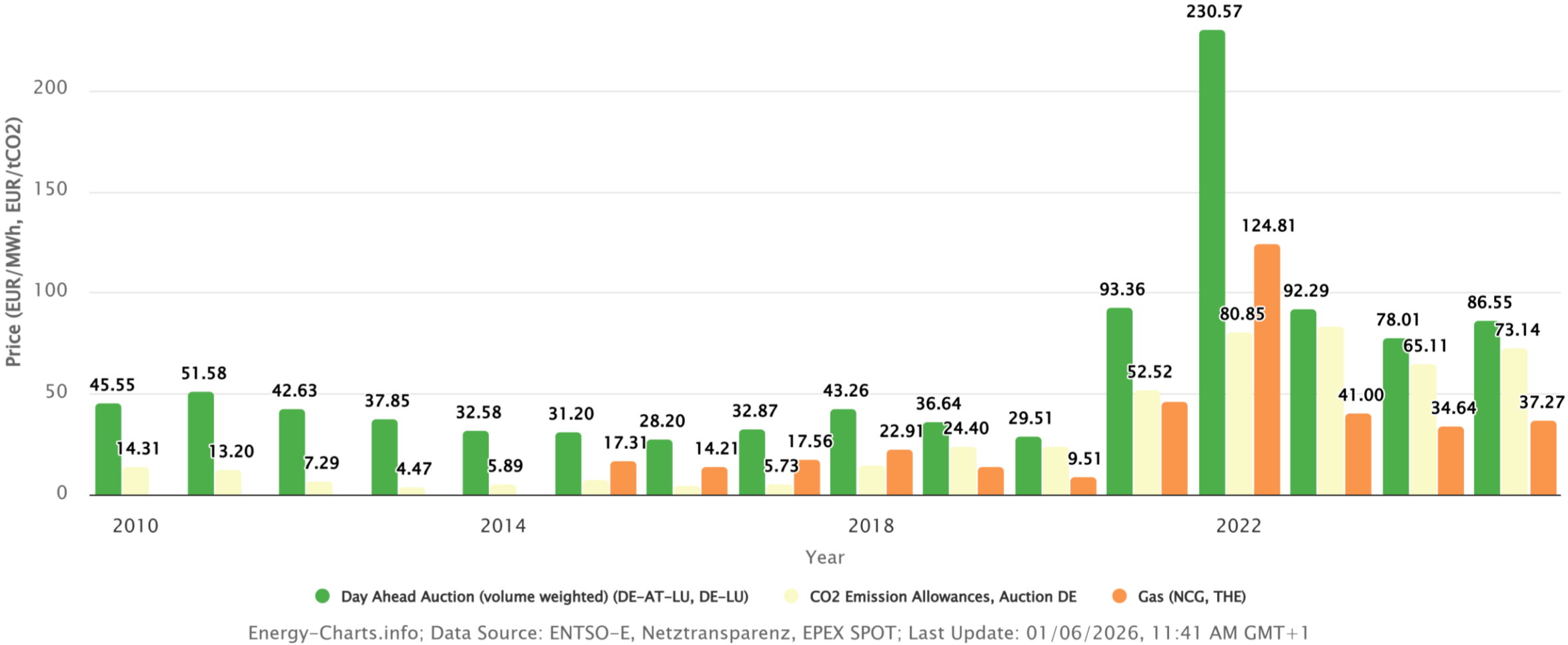


Net Connect Germany (NCG) and Trading Hub Europe (THE).

Source: https://www.energy-charts.info/charts/price_average/chart.htm?l=en&c=DE&chartColumnSorting=default&interval=year&year=-1&partsum=1&legendItems=lyj&timeslider=0&min=9&max=19

Day-ahead electricity price, CO2 allowance price and gas price

Years 2010–2025



Source: https://www.energy-charts.info/charts/price_average/chart.htm?l=en&c=DE&chartColumnSorting=default&interval=year&year=-1&partsum=1&timeslider=0&min=4&max=19&legendItems=ly2yhyj

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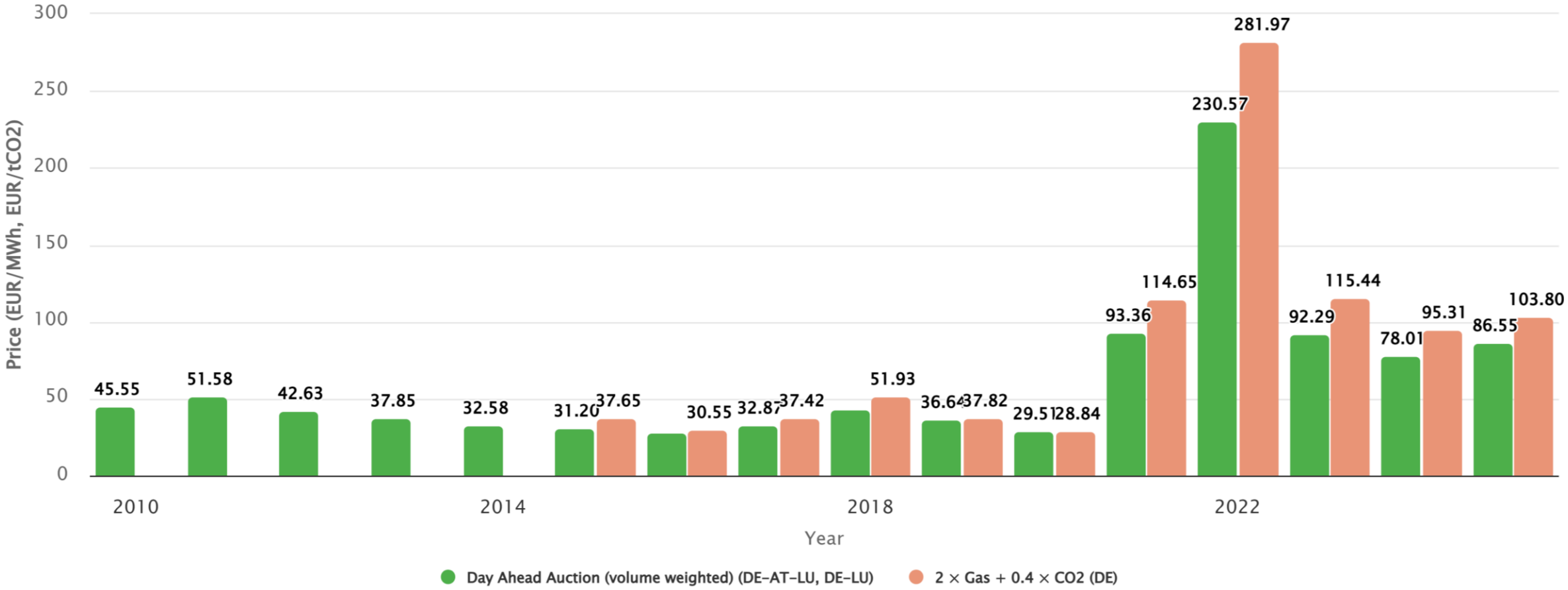
Day-ahead electricity price and marginal costs of gas-fired power generation

Years 2010–2025



Energy-Charts.info; Data Source: ENTSO-E, Netztransparenz, EPEX SPOT; Last Update: 01/06/2026, 11:41 AM GMT+1

Source: https://www.energy-charts.info/charts/price_average/chart.htm?l=en&c=DE&chartColumnSorting=default&interval=year&year=-1&partsum=1&timeslider=0&min=4&max=19&legendItems=ly2yk

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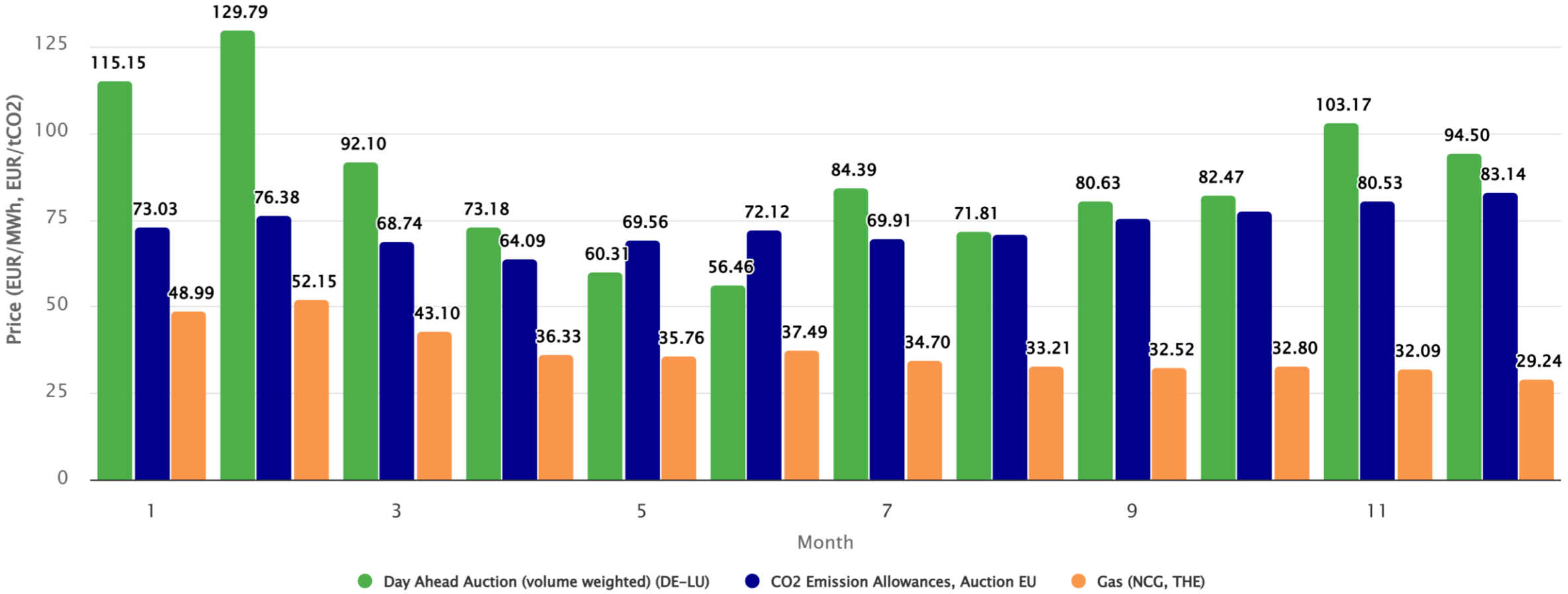
Day-ahead electricity price, CO2 allowance price and gas price

Months in 2025

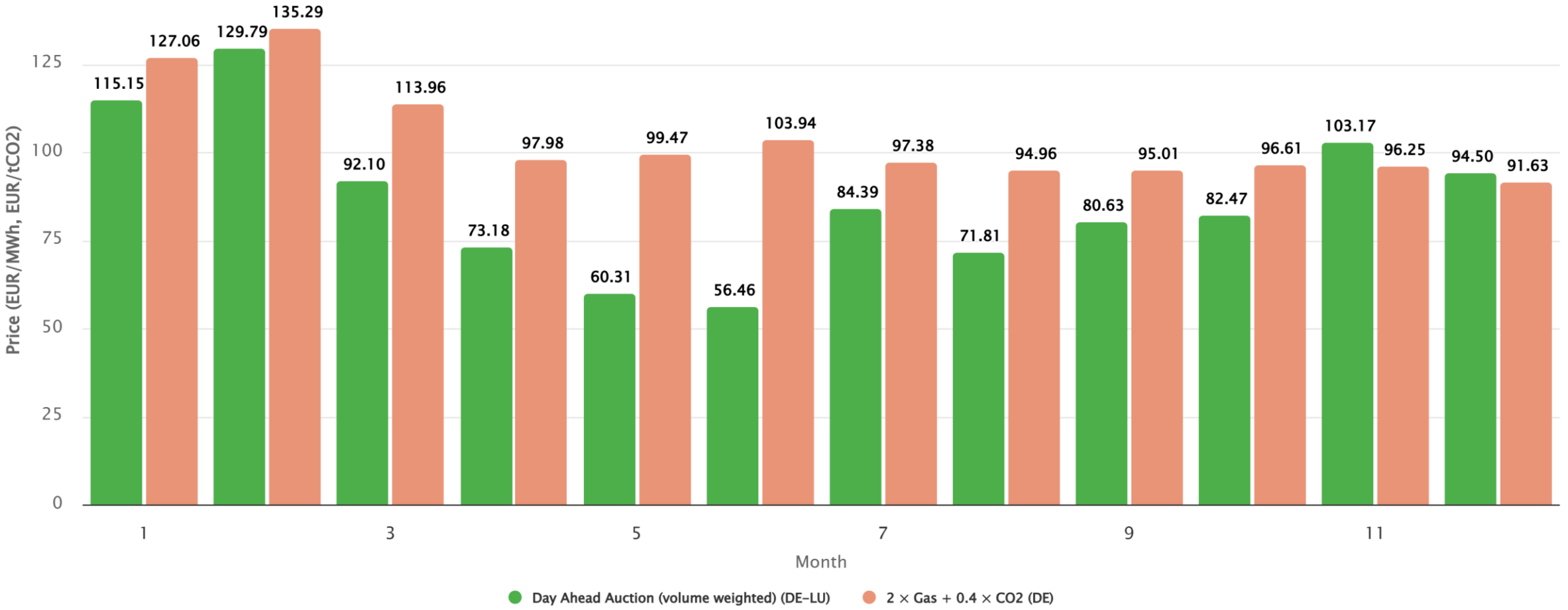


Energy-Charts.info; Data Source: ENTSO-E, Netztransparenz, EPEX SPOT; Last Update: 01/06/2026, 11:44 AM GMT+1

Source: https://www.energy-charts.info/charts/price_average/chart.htm?l=en&c=DE&chartColumnSorting=default&interval=month&year=2025&partsum=1&legendItems=0x4006&month=-1

Day-ahead electricity price and marginal costs of gas-fired power generation

Months in 2025



Energy-Charts.info; Data Source: ENTSO-E, Netztransparenz, EPEX SPOT; Last Update: 01/06/2026, 11:44 AM GMT+1

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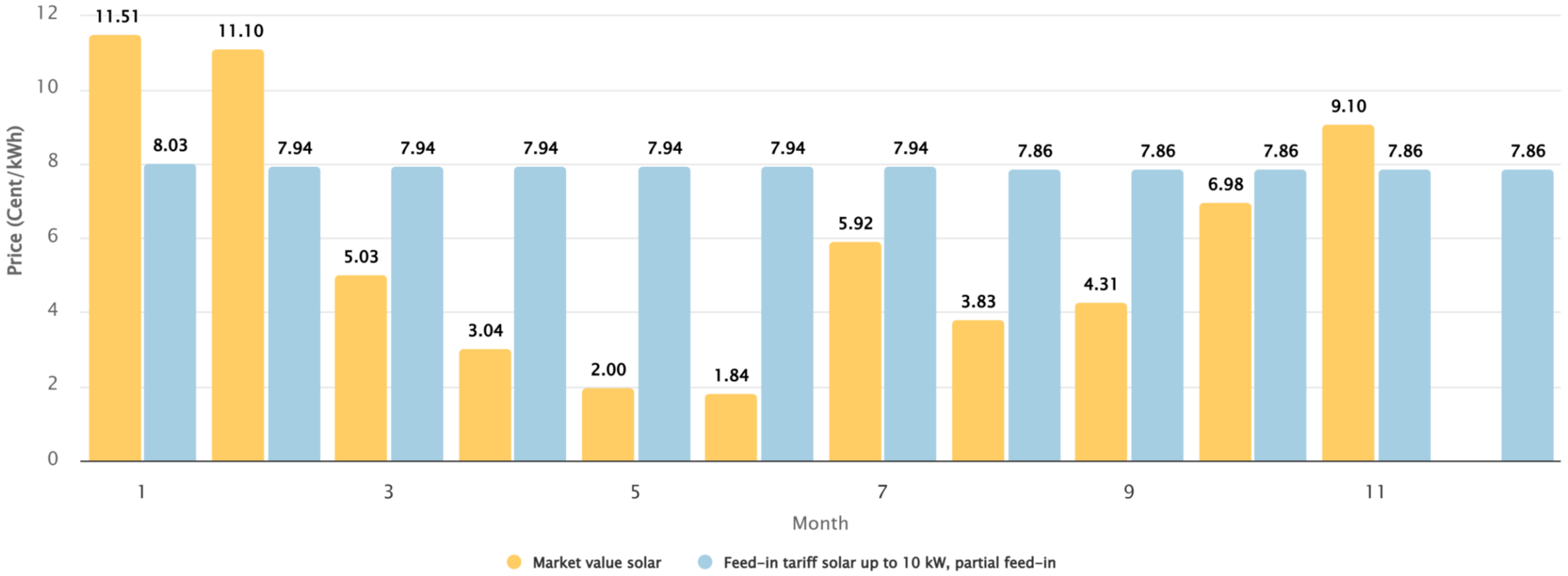
Market value of solar and EEG remuneration for new installations

Months in 2025



Source: https://www.energy-charts.info/charts/market_values/chart.htm?l=en&c=DE&year=2025

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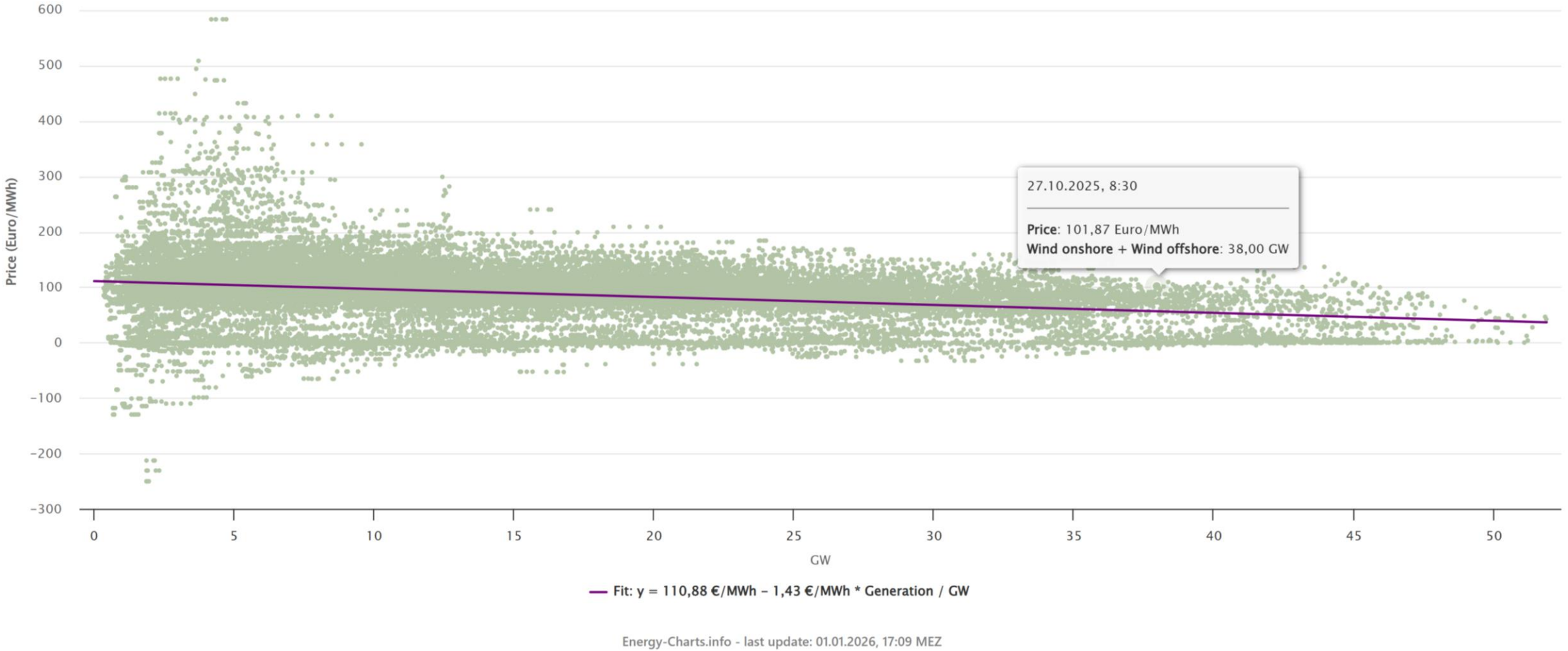
Day-ahead exchange electricity price versus wind output

Hourly values in 2025



Source: https://www.energy-charts.info/charts/price_scatter/chart.htm?l=en&c=DE&wind_onshore=1&solar=0&wind_offshore=1&year=2025

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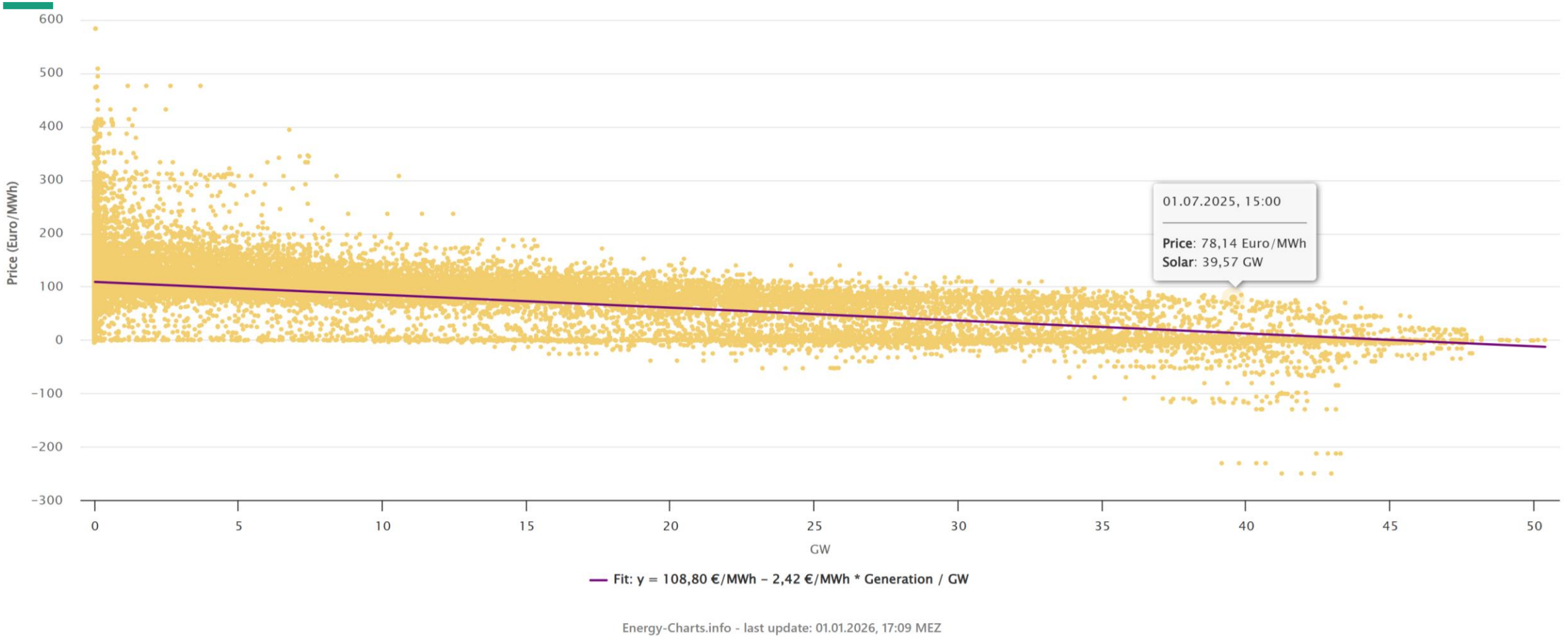
Day-ahead exchange electricity price versus solar output

Hourly values in 2025

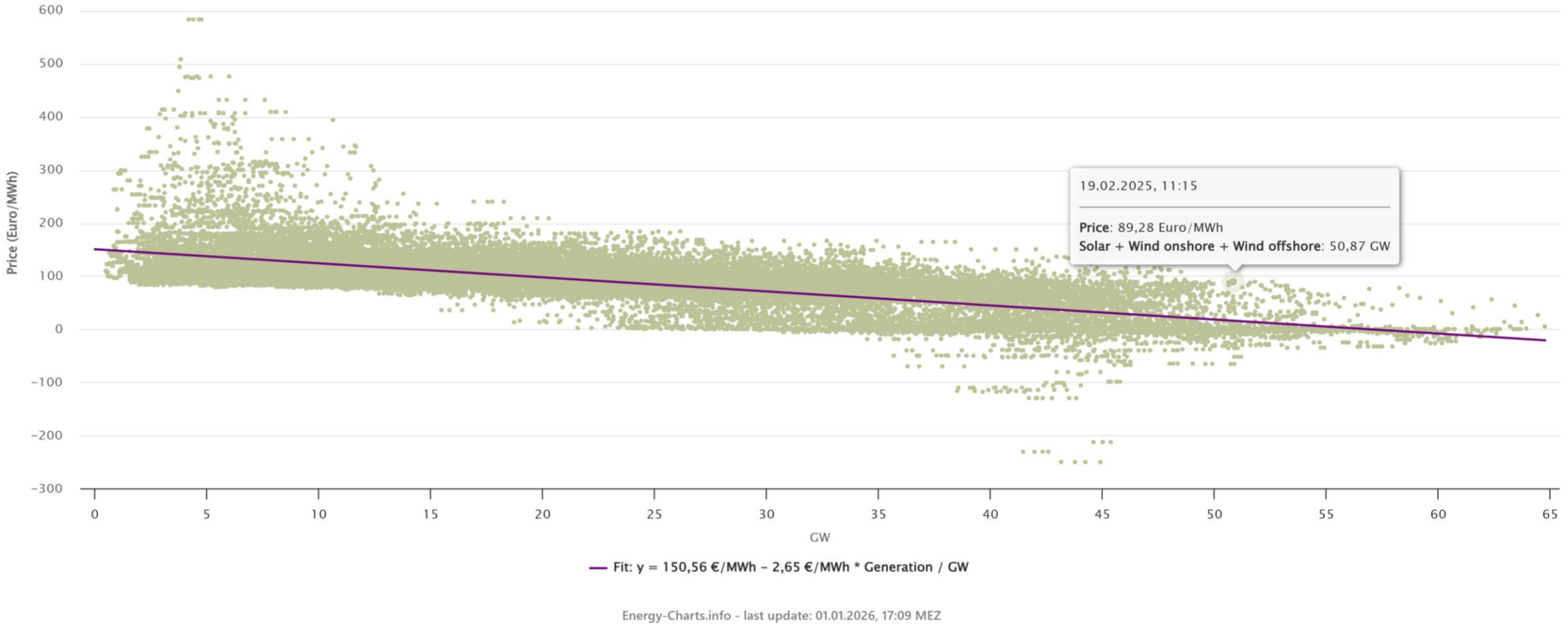


Solar feed-in reduces the day-ahead exchange electricity price. Each additional GW of solar feed-in reduces the price by 2.42 euros/MWh.

Source: https://www.energy-charts.info/charts/price_scatter/chart.htm?l=en&c=DE&wind_onshore=0&solar=1&wind_offshore=0&year=2025

Day-ahead exchange electricity price versus the sum of wind and solar

Hourly values in 2025



The sum of wind and solar reduces the day-ahead exchange electricity price. Each additional GW of feed-in reduces the price by 2.65 euros/MWh.
Source: https://www.energy-charts.info/charts/price_scatter/chart.htm?l=en&c=DE&wind_onshore=1&solar=1&wind_offshore=1&year=2025

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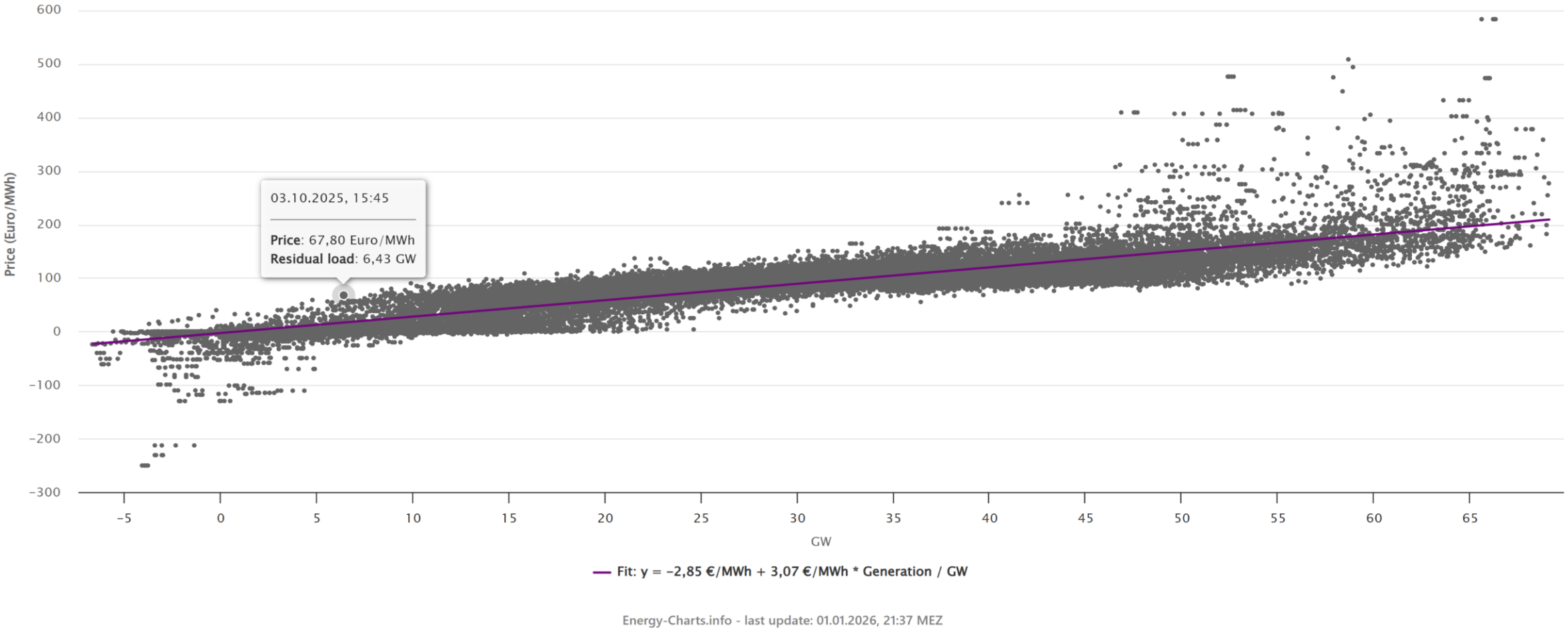
Day-ahead exchange electricity price versus residual load

Hourly values in 2024



Residual load increases the day-ahead exchange electricity price by 3.07 euros/MWh per additional GW of load.

Source: https://www.energy-charts.info/charts/price_scatter/chart.htm?l=en&c=DE&wind_onshore=0&solar=0&wind_offshore=0&residual_load=1&year=2025

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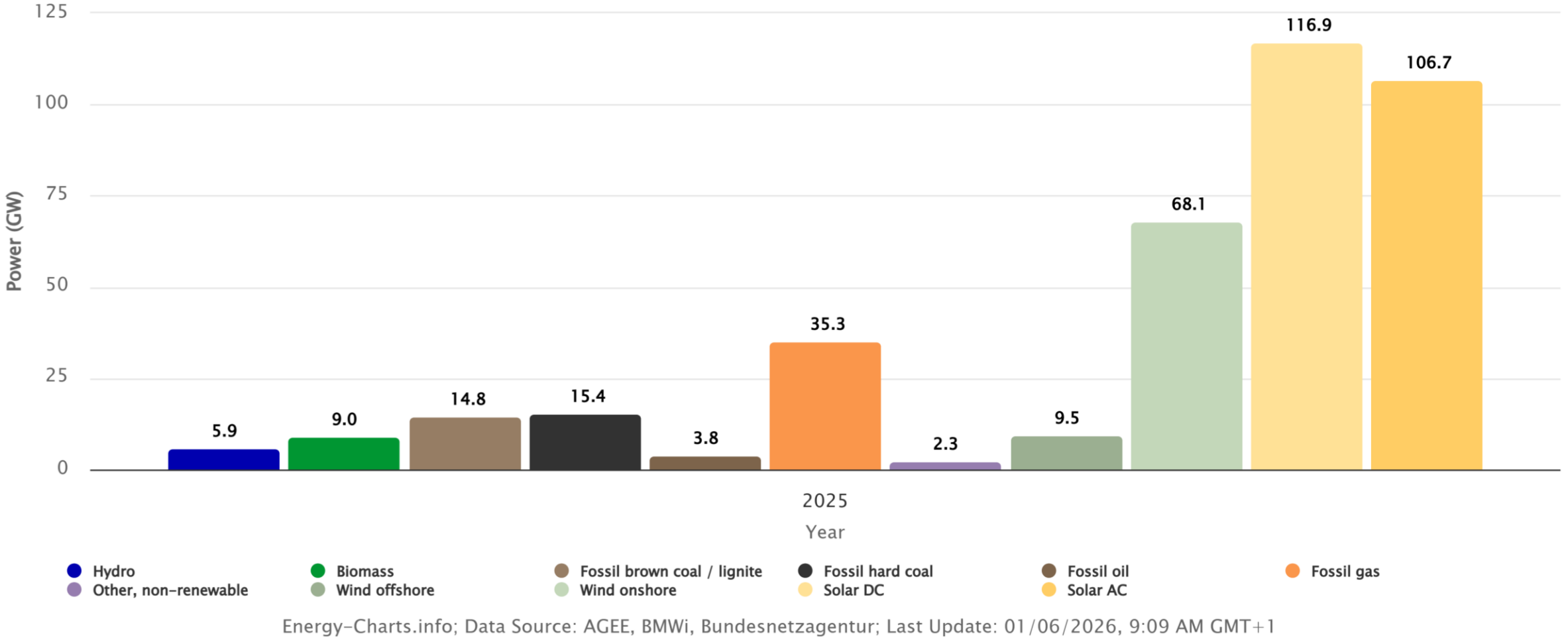
Installed generation capacity

Year 2025



Source: https://energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&year=2025

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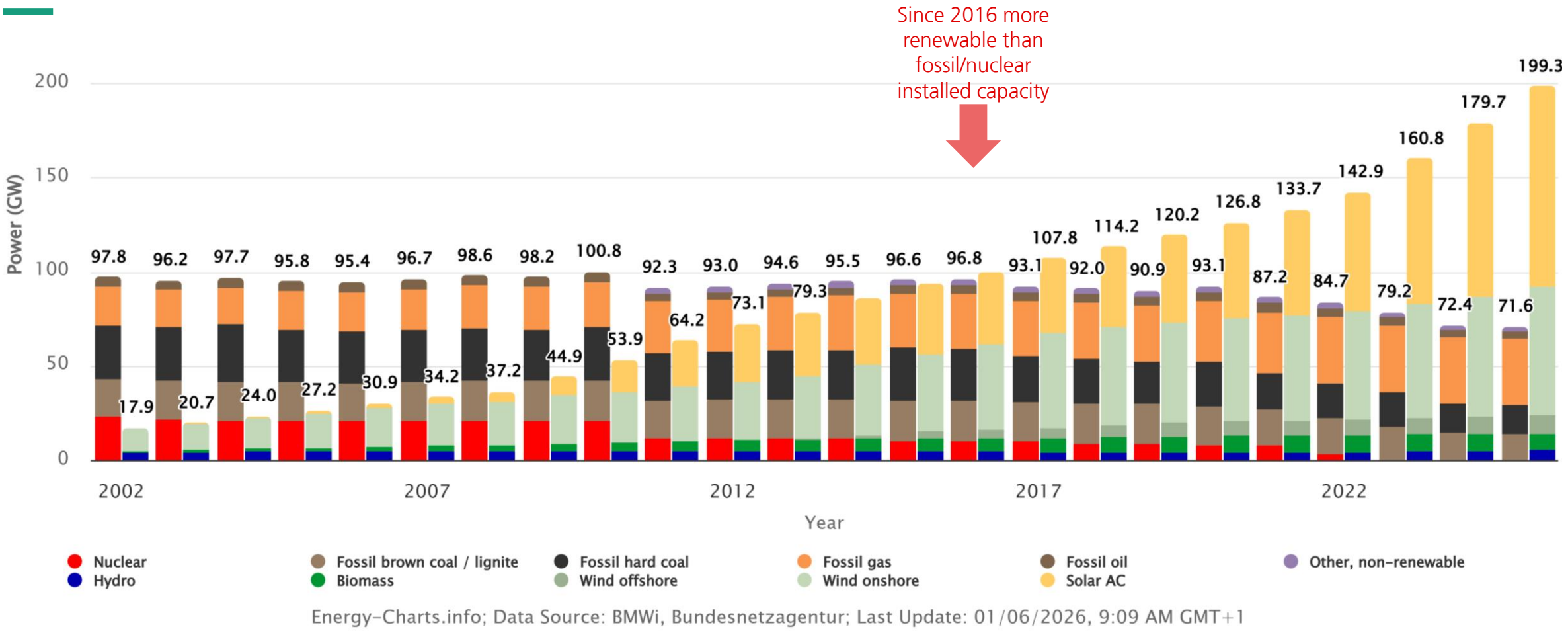
Development of installed generation capacity

Years 2002–2025

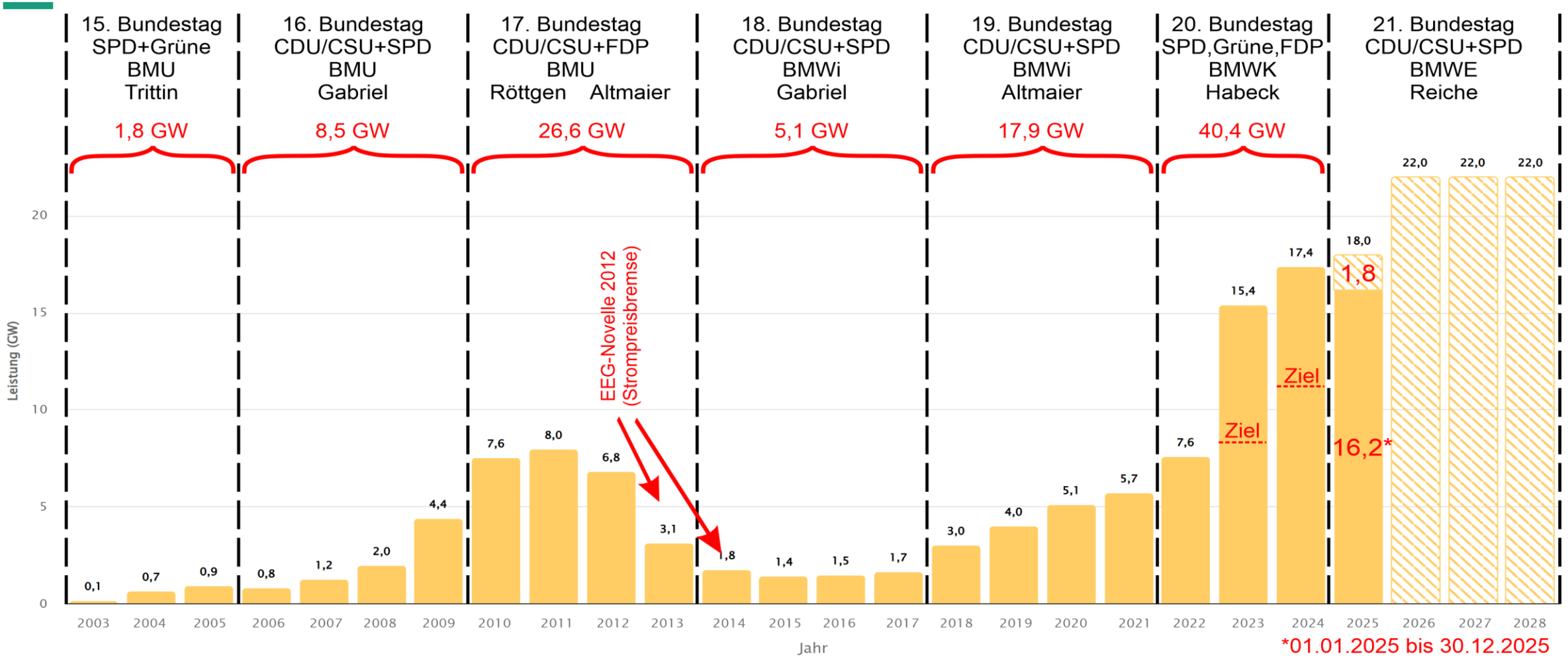


Fossil/nuclear (left bars) and renewable (right bars). Since 2016, installed renewable capacity has been greater than installed fossil/nuclear capacity.

Source: https://energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&year=-1&stacking=stacked_grouped

Annual net additions of installed solar capacity

Actual values from 2003 to 2025 and planning through 2028



Source: https://energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&year=-1&expansion=installation_decommission&legendItems=cw1

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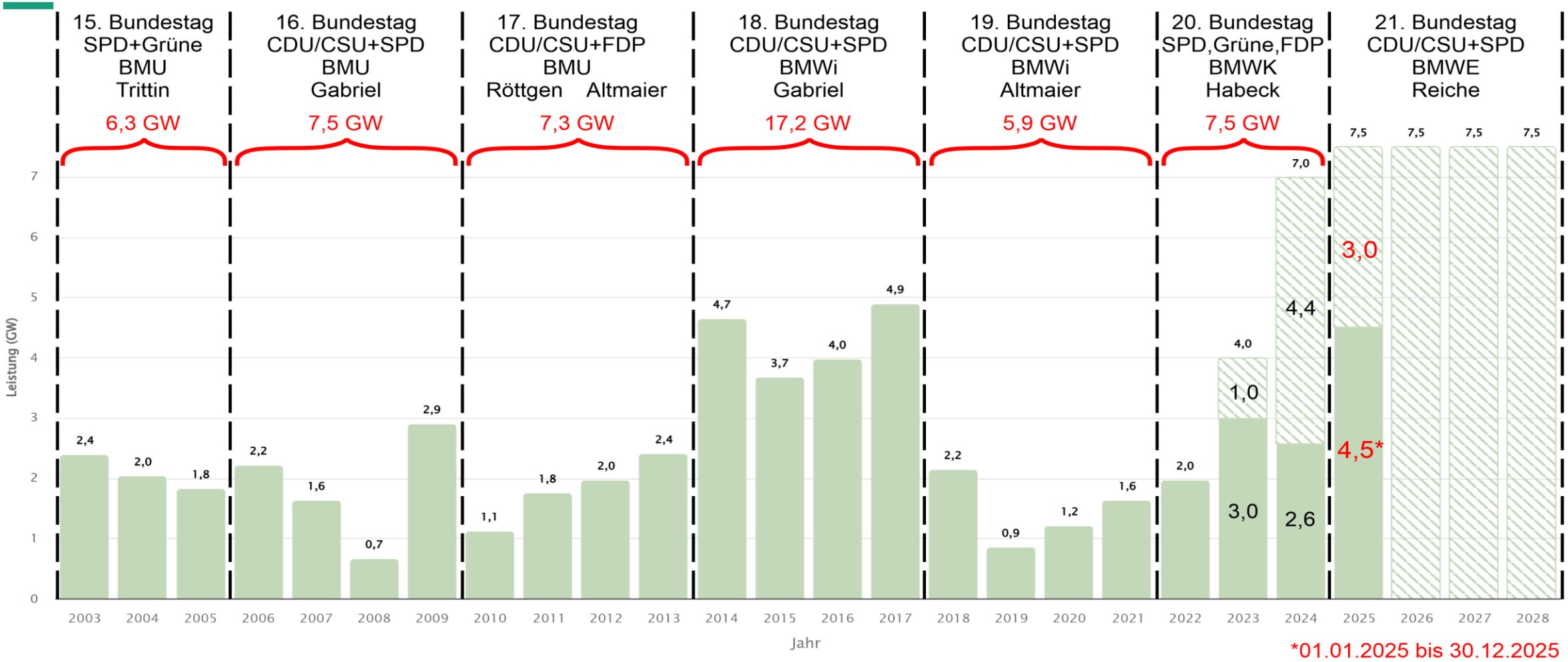
Annual net additions of installed onshore wind capacity

Actual values from 2003 to 2025 and planning through 2028



Source: https://energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&year=-1&expansion=installation_decommission&legendItems=dyb

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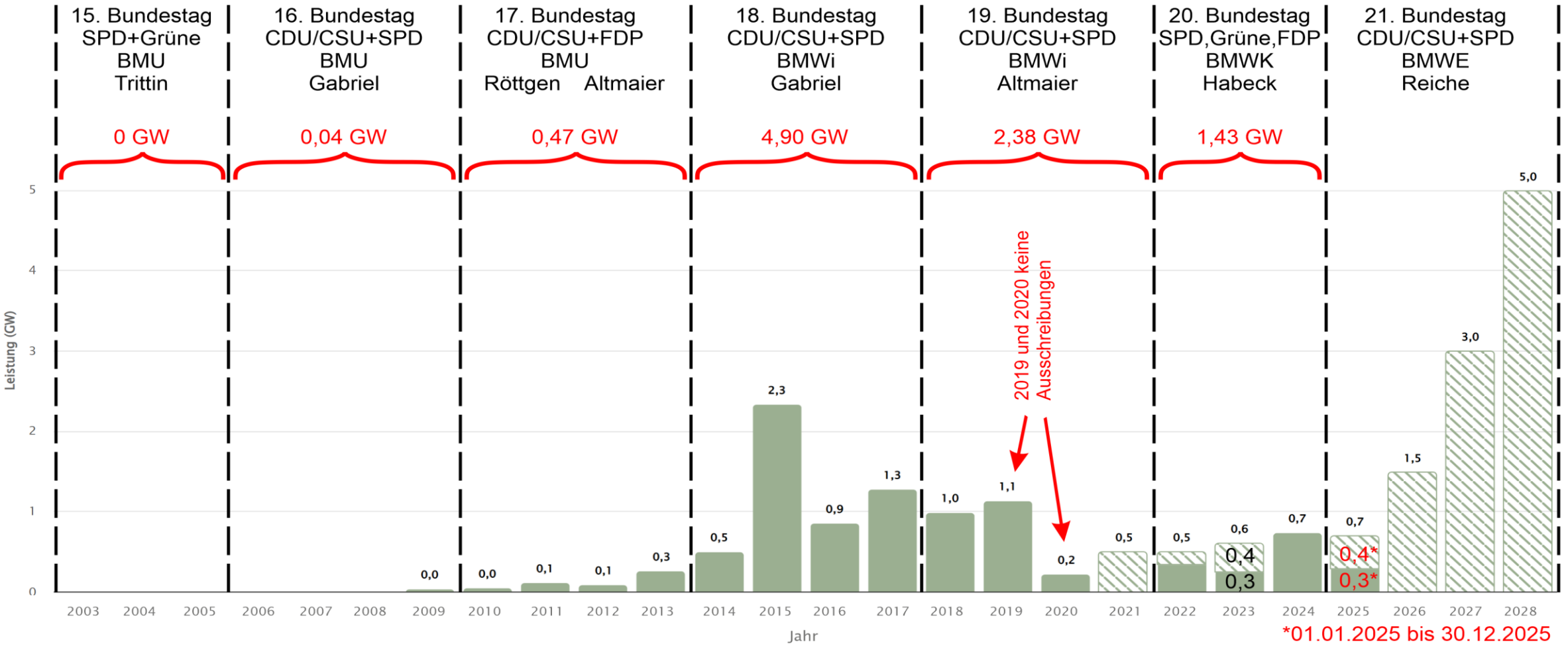
Annual net additions of installed offshore wind capacity

Actual values from 2003 to 2025 and planning through 2028



Source: https://energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&year=-1&expansion=installation_decommission&legendItems=dya

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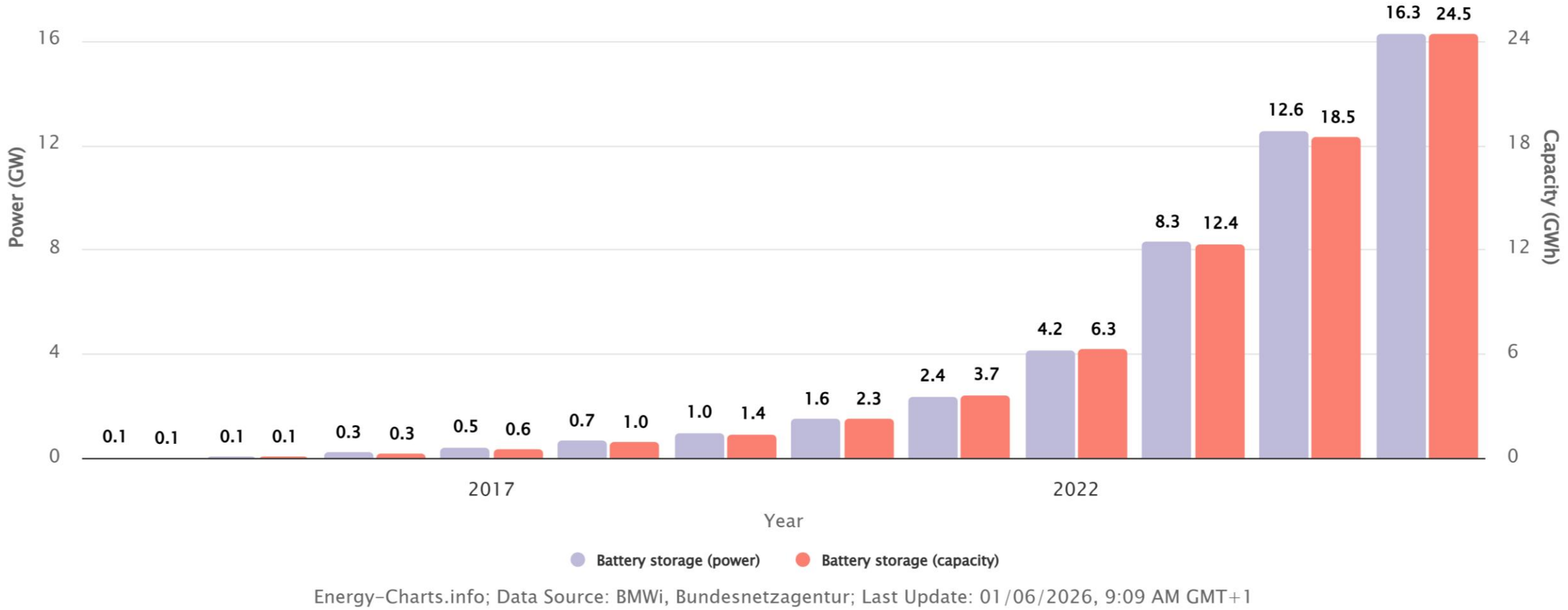
Installed power and capacity of battery storage

Years 2014–2025



Source: https://energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&year=-1&expansion=installed_power&partsum=0&sum=1&legendItems=8w2w&min=12&max=23

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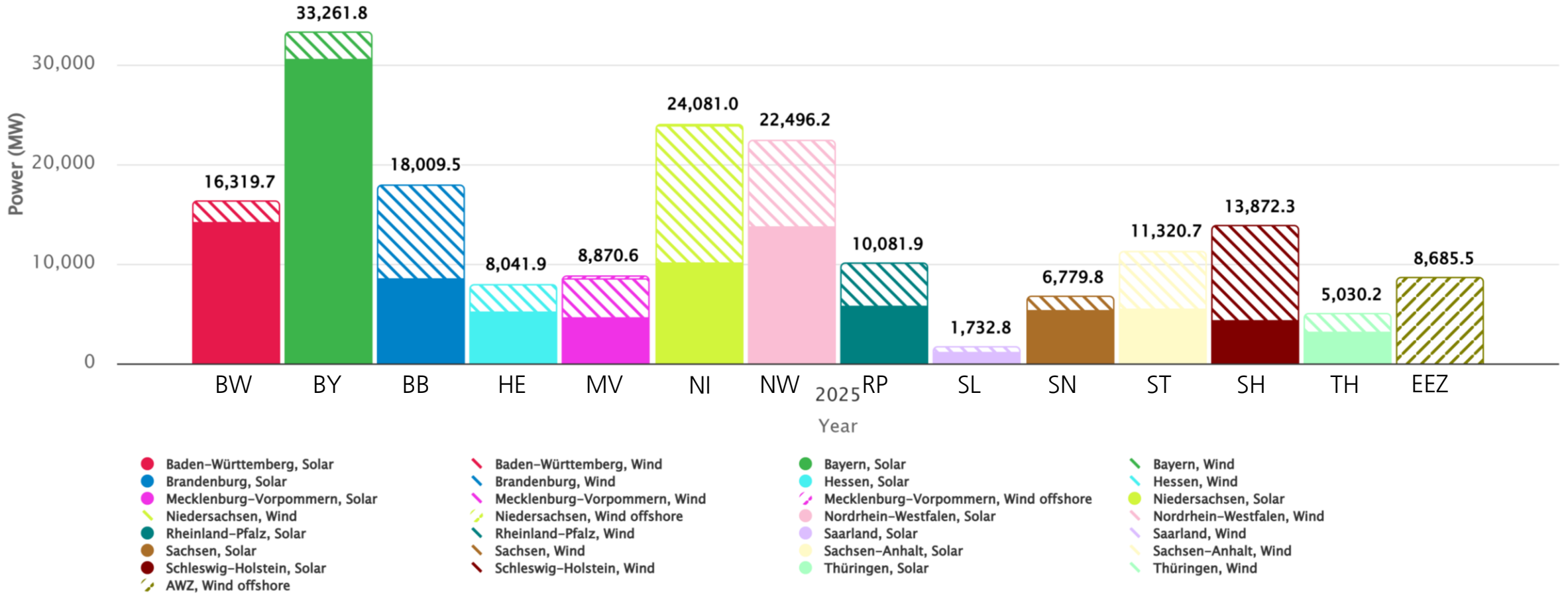
Installed solar and wind capacity for electricity generation

Federal states, 2025



Source: https://energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&year=2025&expansion=p_inst_states

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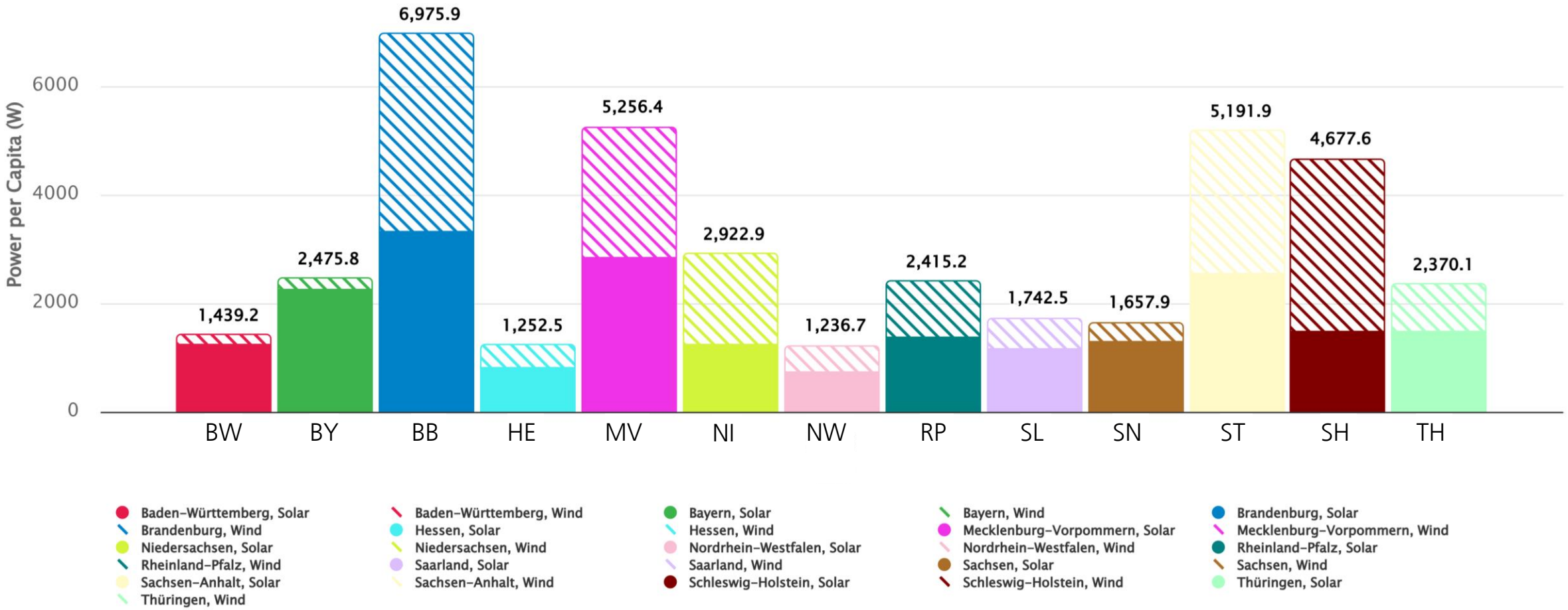
Installed solar and wind capacity per inhabitant

Federal states, 2025



Source: https://www.energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&expansion=p_inst_states_population&year=2025

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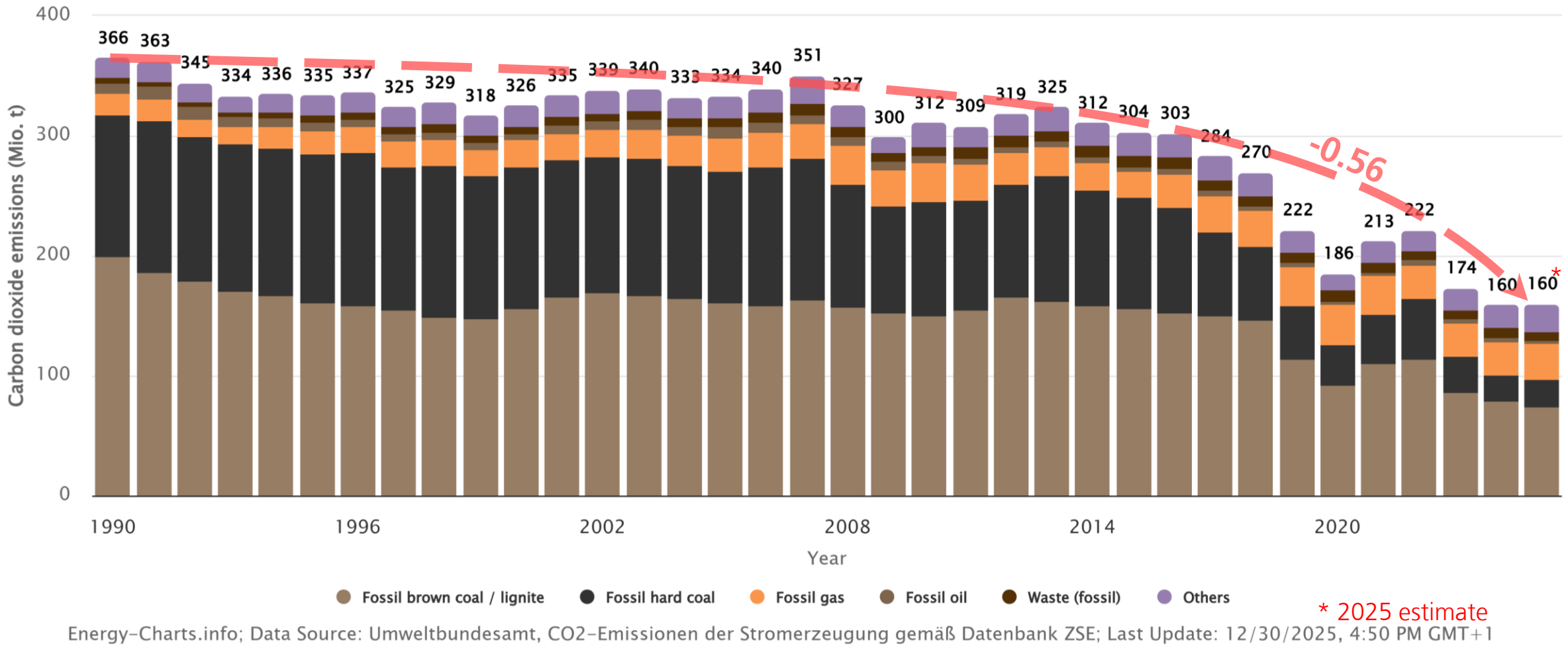
Carbon dioxide emissions (CO_2) from electricity generation

Years 1990–2025



Source: https://www.energy-charts.info/charts/co2_emissions/chart.htm?l=en&c=DE

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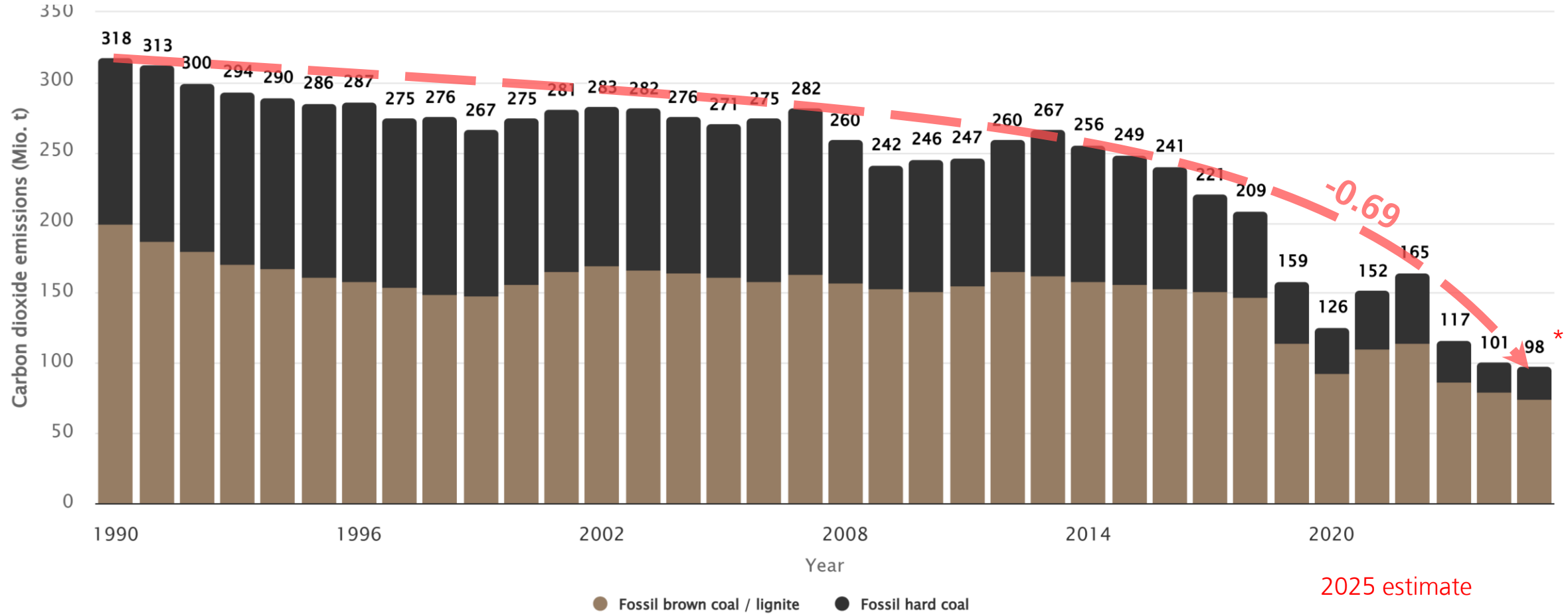
Carbon dioxide emissions (CO_2) from coal-fired electricity generation

Years 1990–2025



Energy-Charts.info; Data Source: Umweltbundesamt, CO2-Emissionen der Stromerzeugung gemäß Datenbank ZSE; Last Update: 12/30/2025, 4:50 PM GMT+1

Source: https://www.energy-charts.info/charts/co2_emissions/chart.htm?l=en&c=DE&legendItems=4x1g

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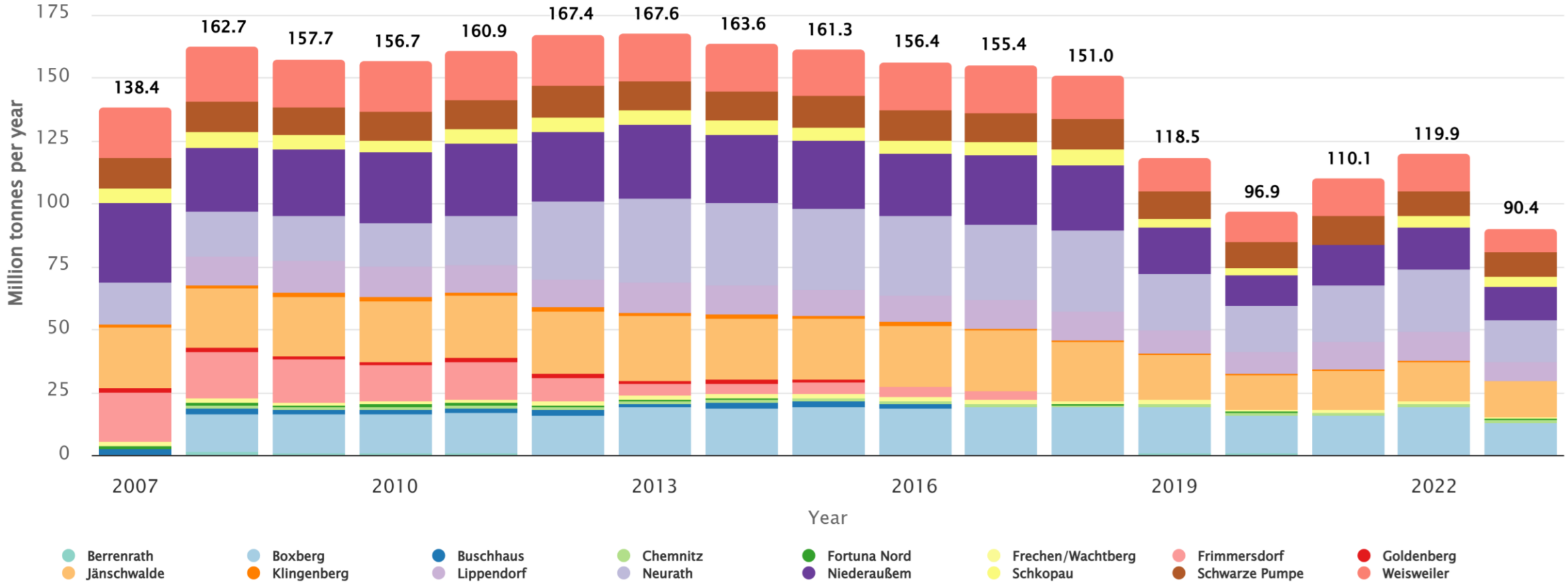
Carbon dioxide emissions (CO_2) from power plants

Lignite



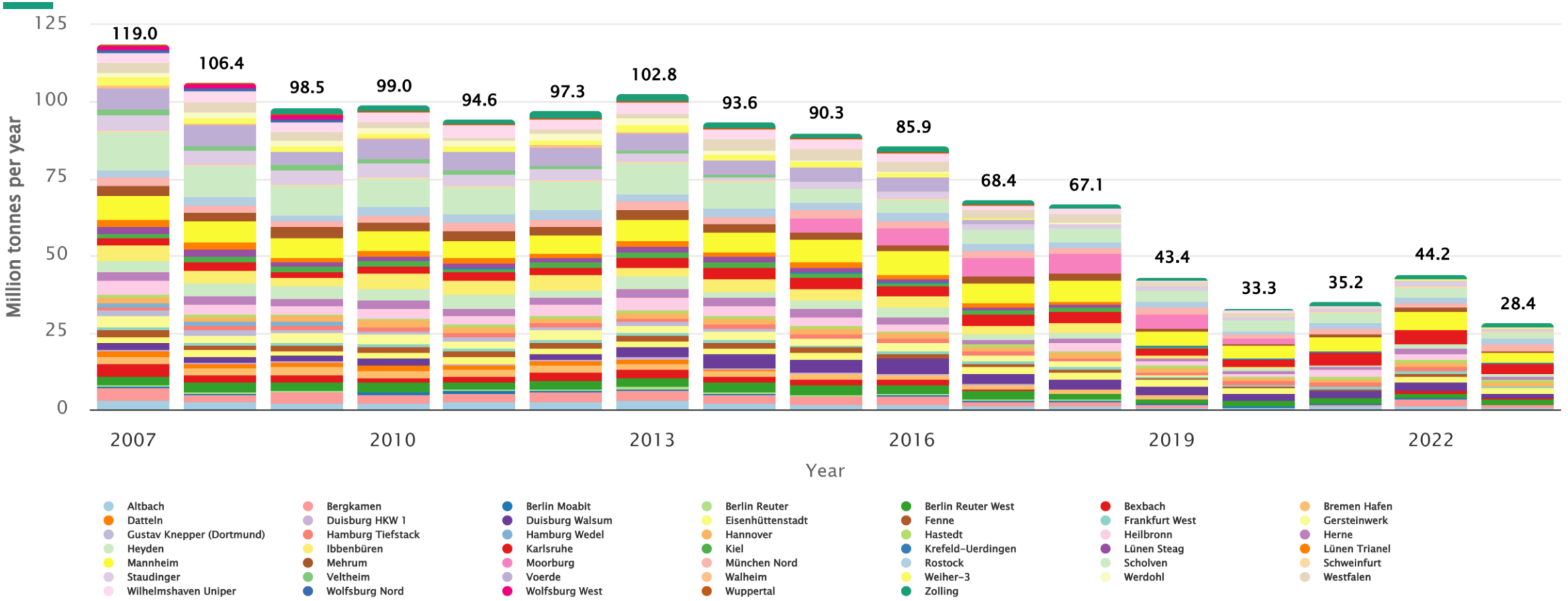
Energy-Charts.info; Data Source: E-PRTR; Last Update: 04/14/2025, 5:34 PM GMT+2

Releases into the air. Pollutant threshold: 0.1 million tonnes of CO_2 per year. Data source: German Environment Agency (UBA), E-PRTR register

Source: https://energy-charts.info/charts/emissions/chart.htm?l=en&c=DE&chartColumnSorting=default&year=-1&sum=1&source=lignite

Carbon dioxide emissions (CO_2) from power plants

Hard coal



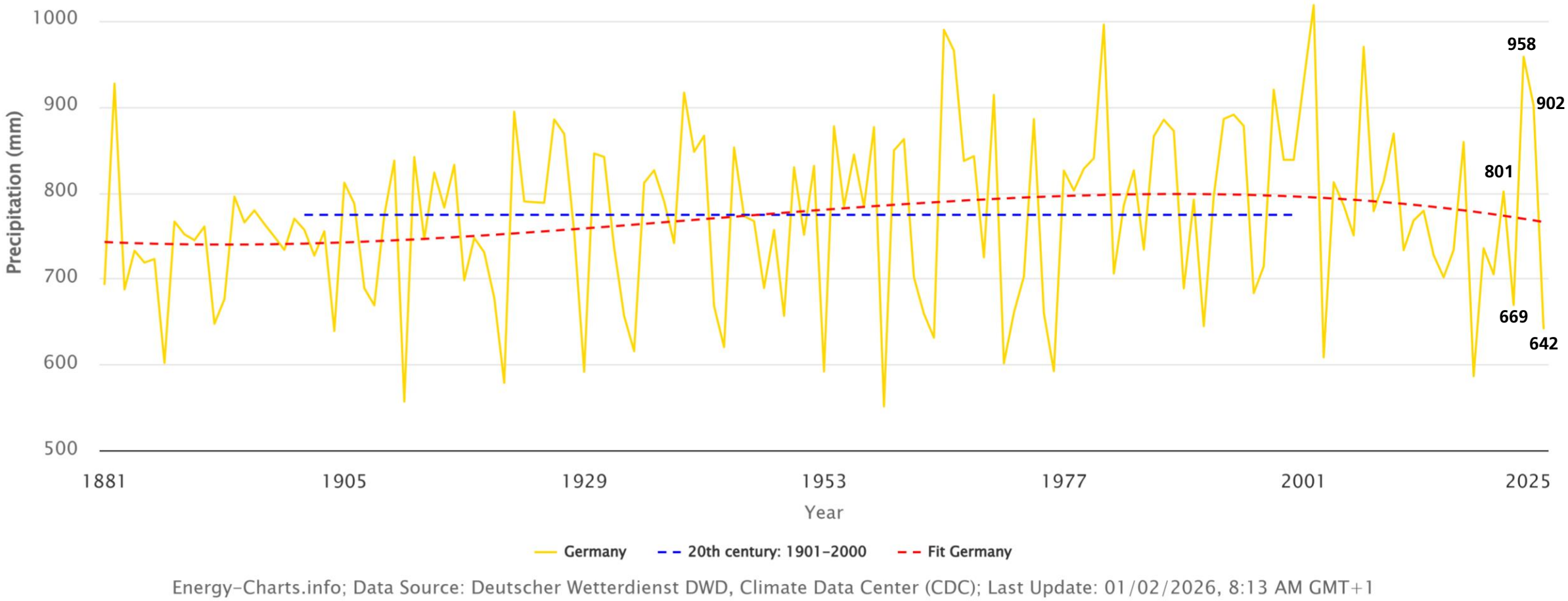
Energy-Charts.info; Data Source: E-PRTR; Last Update: 04/14/2025, 5:32 PM GMT+2

Releases into the air. Pollutant threshold: 0.1 million tonnes of CO_2 per year. Data source: German Environment Agency (UBA), E-PRTR register

Source: https://energy-charts.info/charts/emissions/chart.htm?l=en&c=DE&chartColumnSorting=default&year=-1&sum=1&source=hard_coal

Precipitation in Germany

Years 1881–2025



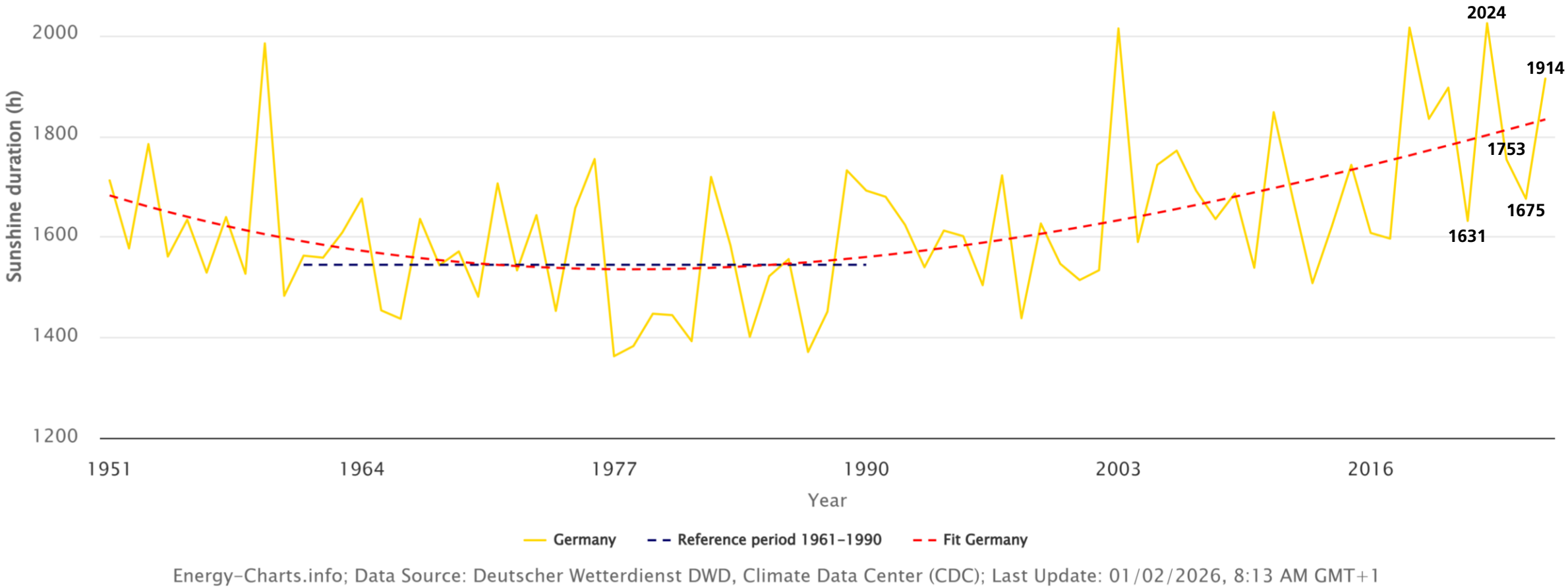
Energy-Charts.info; Data Source: Deutscher Wetterdienst DWD, Climate Data Center (CDC); Last Update: 01/02/2026, 8:13 AM GMT+1

In 2025, precipitation in Germany was 642 mm. That is 29% less than in 2024 (902 l/m²) and 19% less than the average of the 1961–1990 reference period (789 l/m²).

Source: https://www.energy-charts.info/charts/climate_annual_average/chart.htm?l=en&c=DE&source=precipitation&legendItems=gw1wgw1

Average sunshine duration in Germany

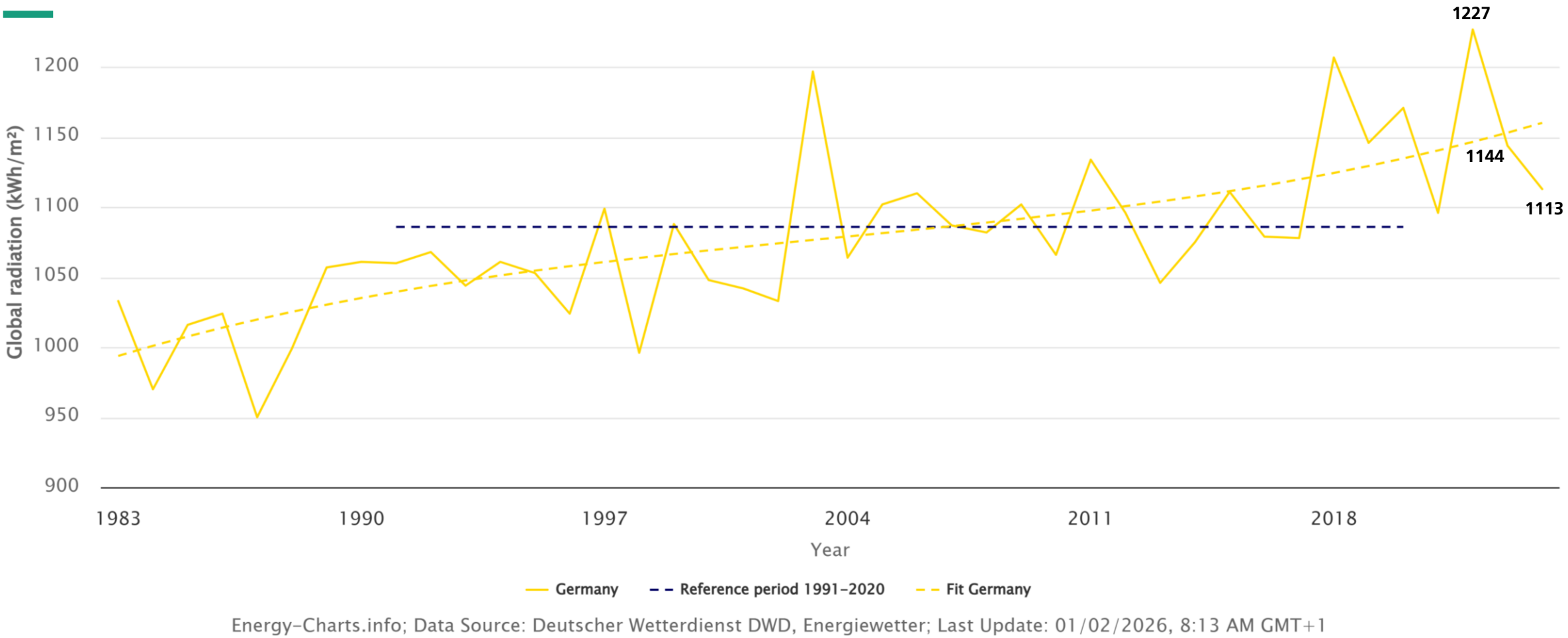
Years 1951–2025



In 2025, the average sunshine duration in Germany was 1,914 hours. That is 14% more than in 2024 and 24% more than in the reference period (1,544 hours, 1961–1990).
Source: https://energy-charts.info/charts/climate_annual_average/chart.htm?l=en&c=DE&legendItems=gw1wgw1&source=sun_dur

Annual totals of global radiation in Germany

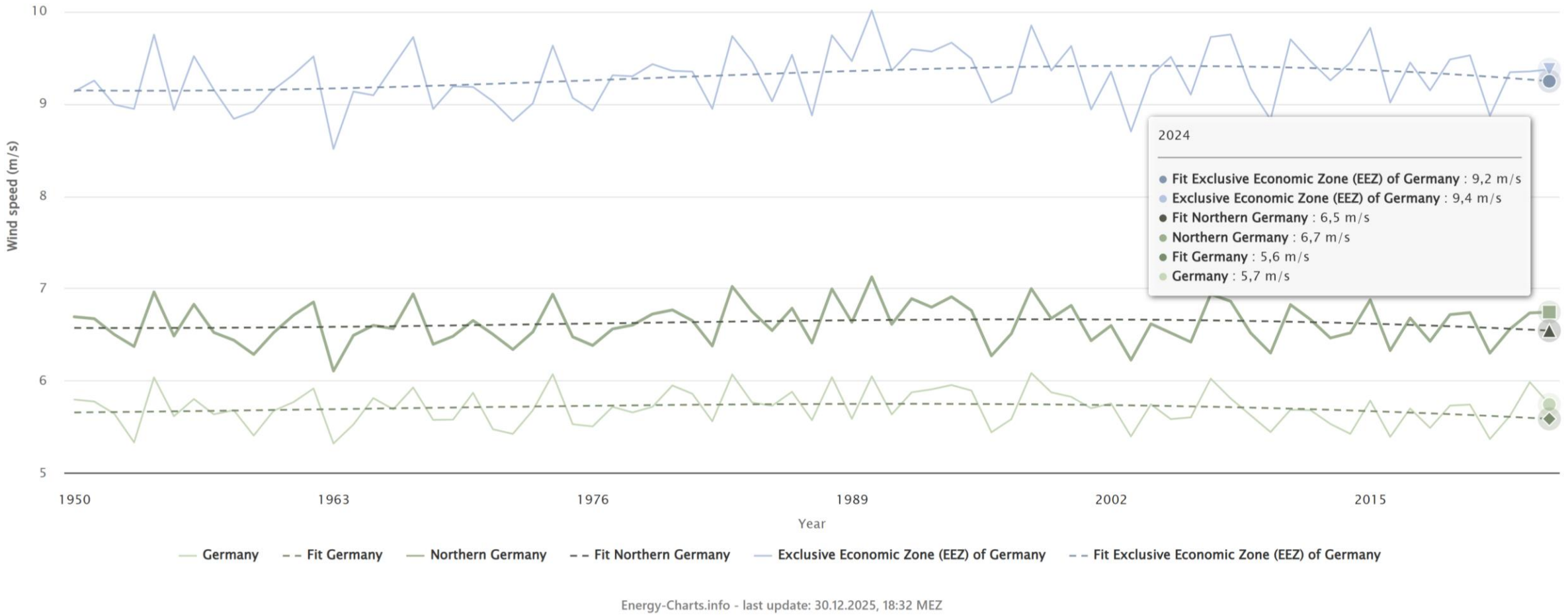
Years 1983–2024



In 2024, the annual total of global radiation in Germany was 1113 kWh/m². That is 2.7% less than in 2023.
Source: https://energy-charts.info/charts/climate_annual_average/chart.htm?l=en&c=DE&source=solar_globe

Average wind speed at 100 m height in Germany

Years 1990–2024

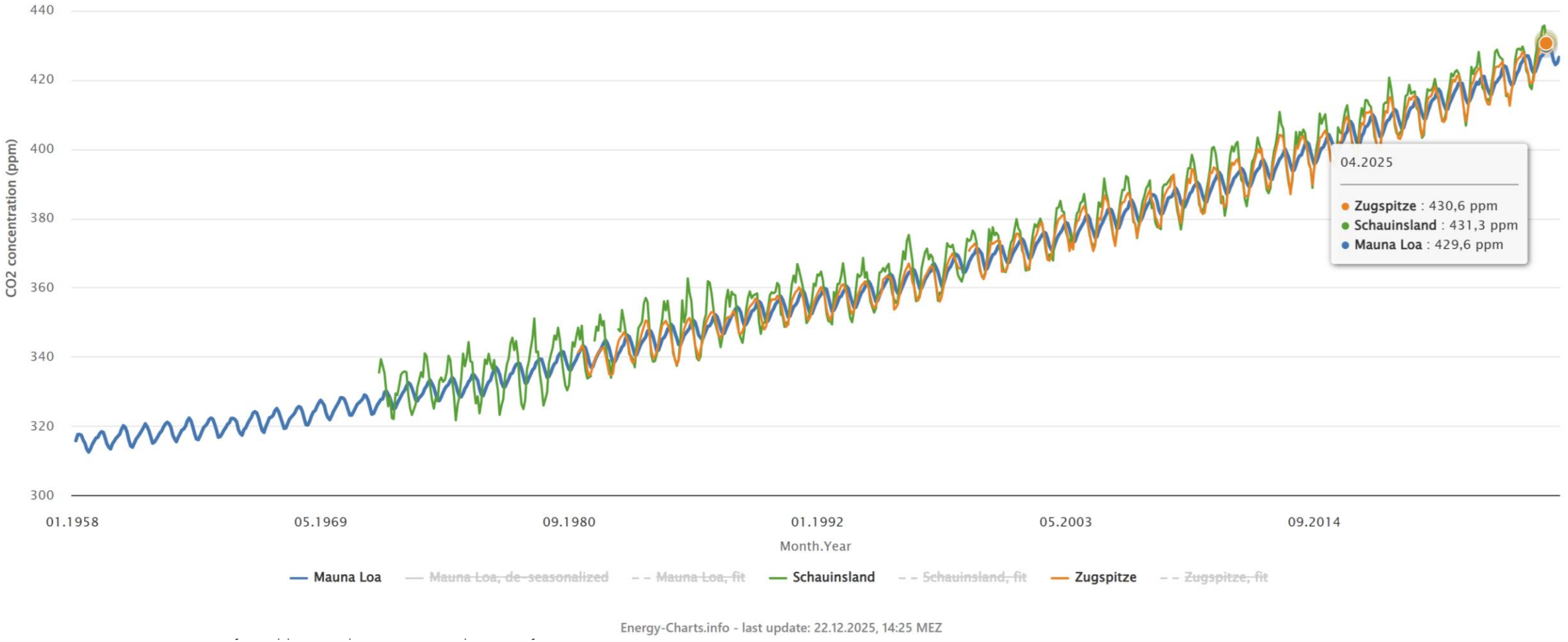


In 2024, the average wind speed at 100 m height in Germany was 5.7 m/s. That is 5% less than in 2023. The data for 2025 will be published in March 2026.

Source: https://energy-charts.info/charts/climate_annual_average/chart.htm?l=en&c=DE&source=wind_speed

CO2 concentration in the air in Germany

Years 1972–2025



Source: https://energy-charts.info/charts/climate_monthly_average/chart.htm?l=en&c=DE&source=co2

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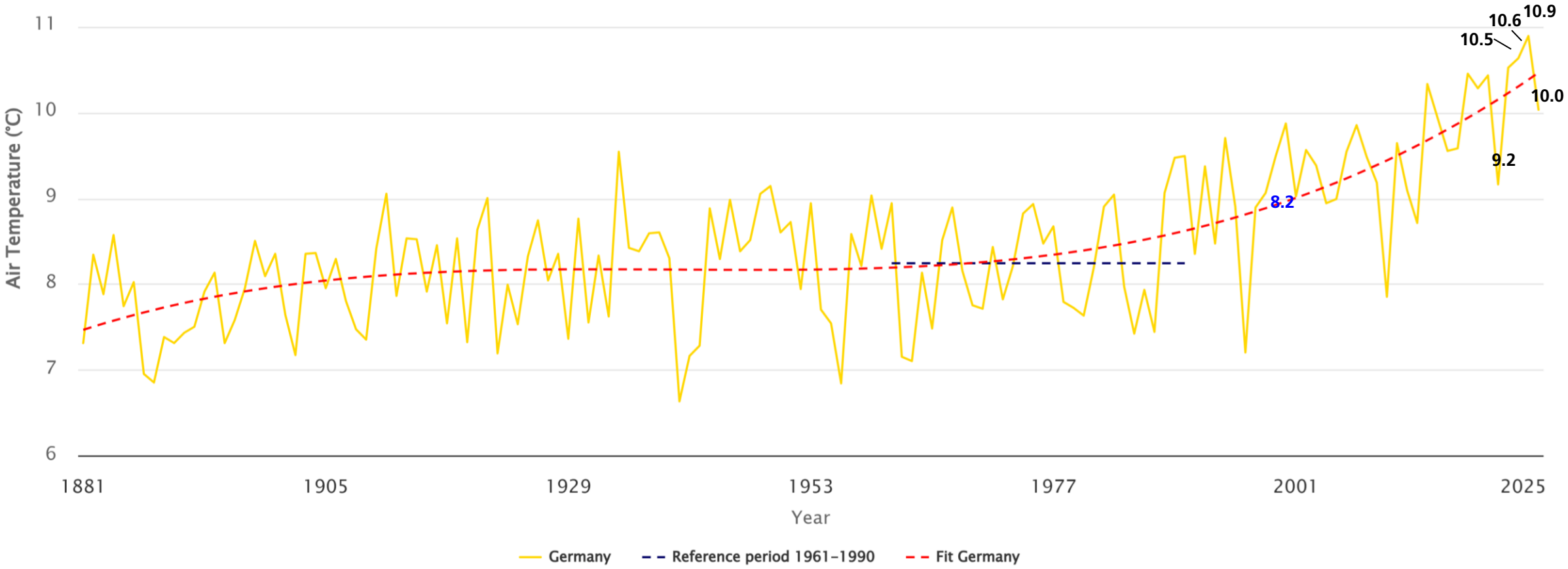
Average air temperature in Germany

Years 1881–2025



Energy-Charts.info; Data Source: Deutscher Wetterdienst DWD, Climate Data Center (CDC); Last Update: 01/02/2026, 8:13 AM GMT+1

In 2025, the average air temperature in Germany was 10.03 °C. That is 1.79 °C higher than the long-term average (1961–1990) of 8.24 °C.

Source: https://energy-charts.info/charts/climate_annual_average/chart.htm?l=en&c=DE&legendItems=gw1wgw1&source=air

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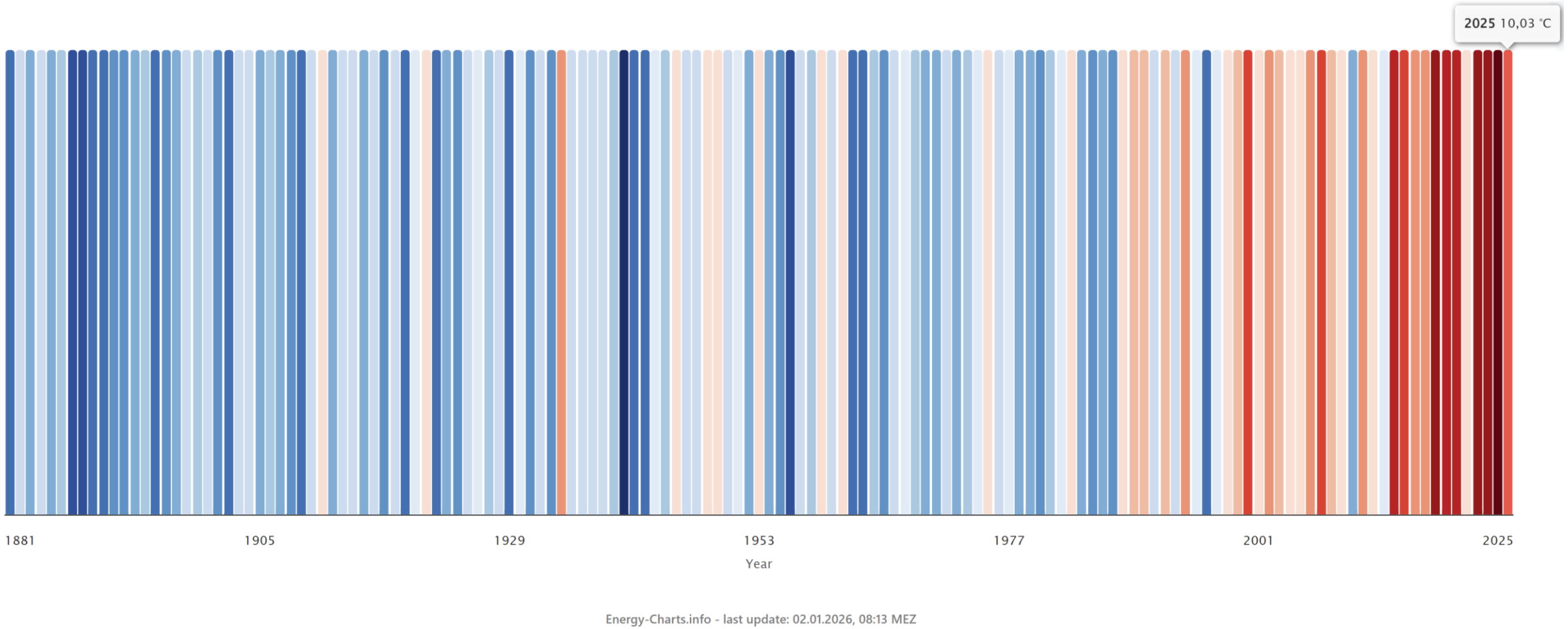
Average air temperature in Germany

Temperature stripes from 1881 to 2025



Data source: German Weather Service (DWD)

Source: https://energy-charts.info/charts/climate_annual_average/chart.htm?l=en&c=DE&source=air_color_flat

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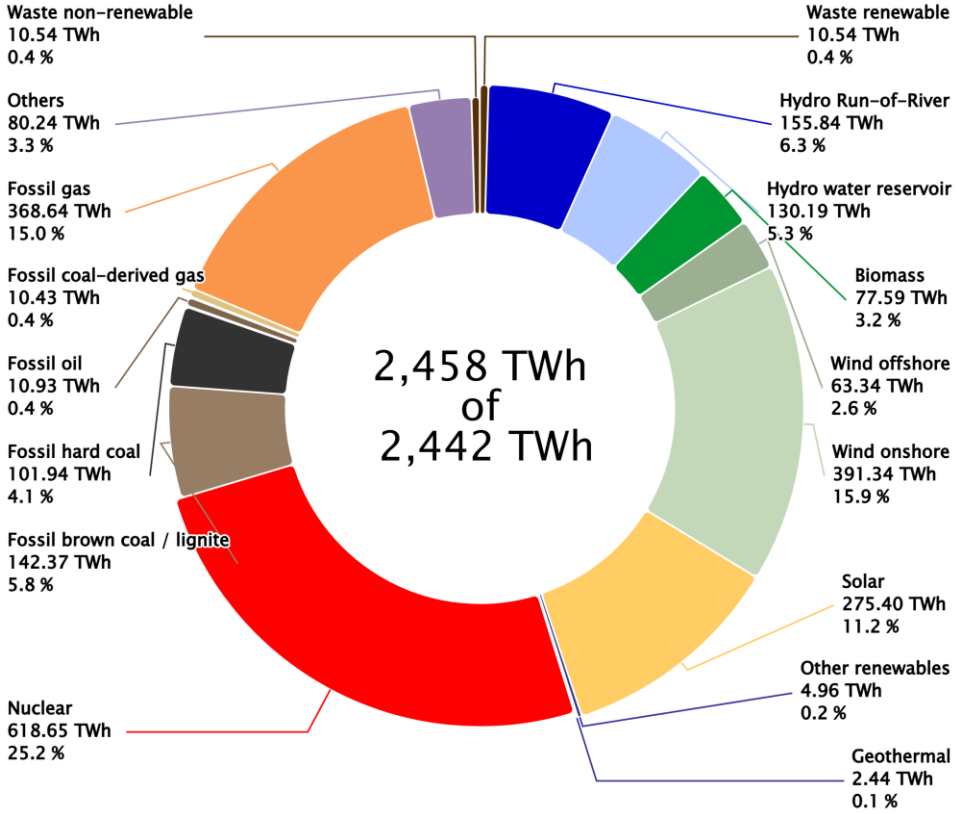
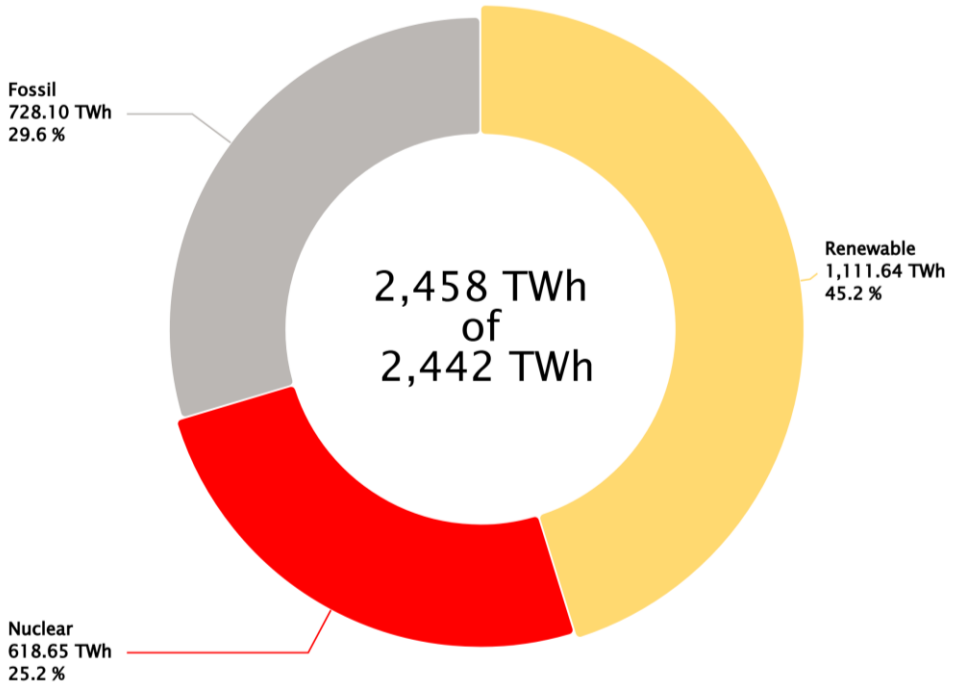
Public net electricity generation in the EU27

Year 2025





Source: https://www.energy-charts.info/charts/energy_pie/chart.htm?l=en&c=EU&interval=year&year=2025

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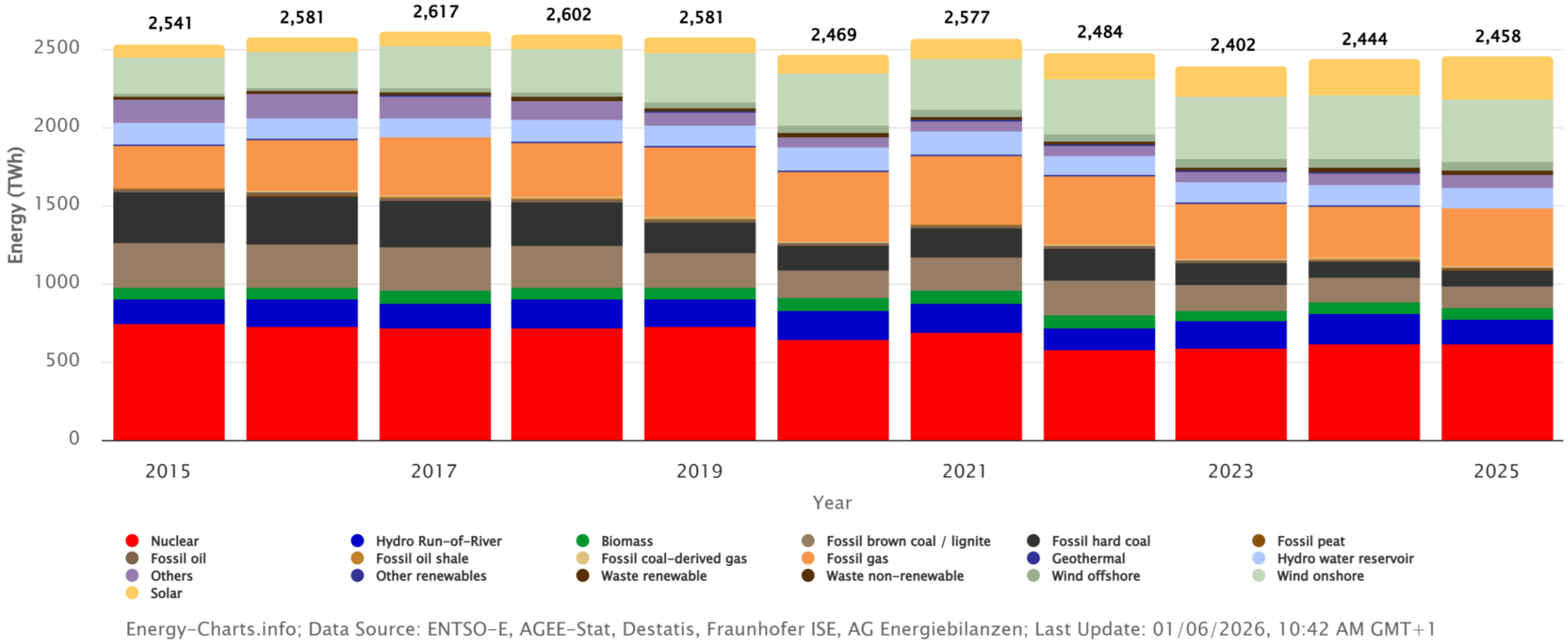
Public net electricity generation in the EU 27

Years 2015–2025



Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=EU&chartColumnSorting=default&interval=year&year=-1

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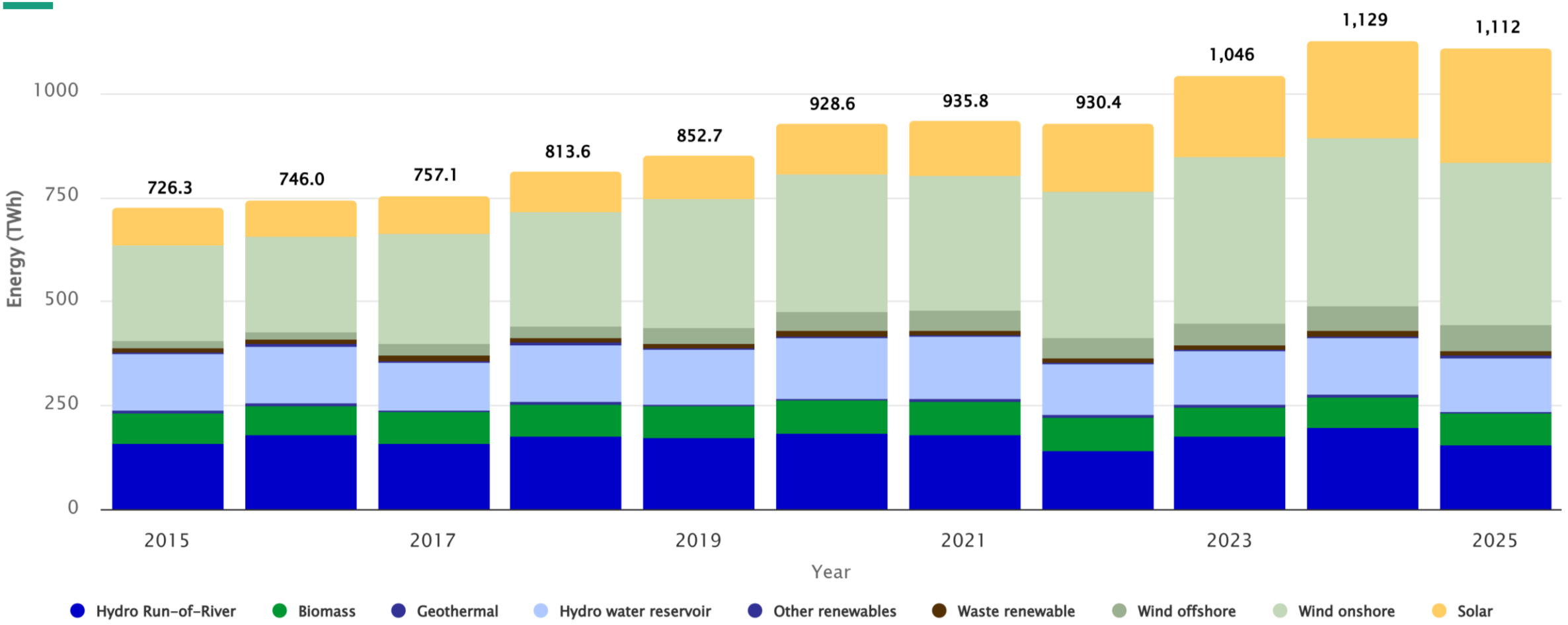
Public net electricity generation from renewable energy in the EU 27

Years 2015–2025



Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 10:42 AM GMT+1

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=EU&chartColumnSorting=default&interval=year&year=-1&legendItems=0x1g33e

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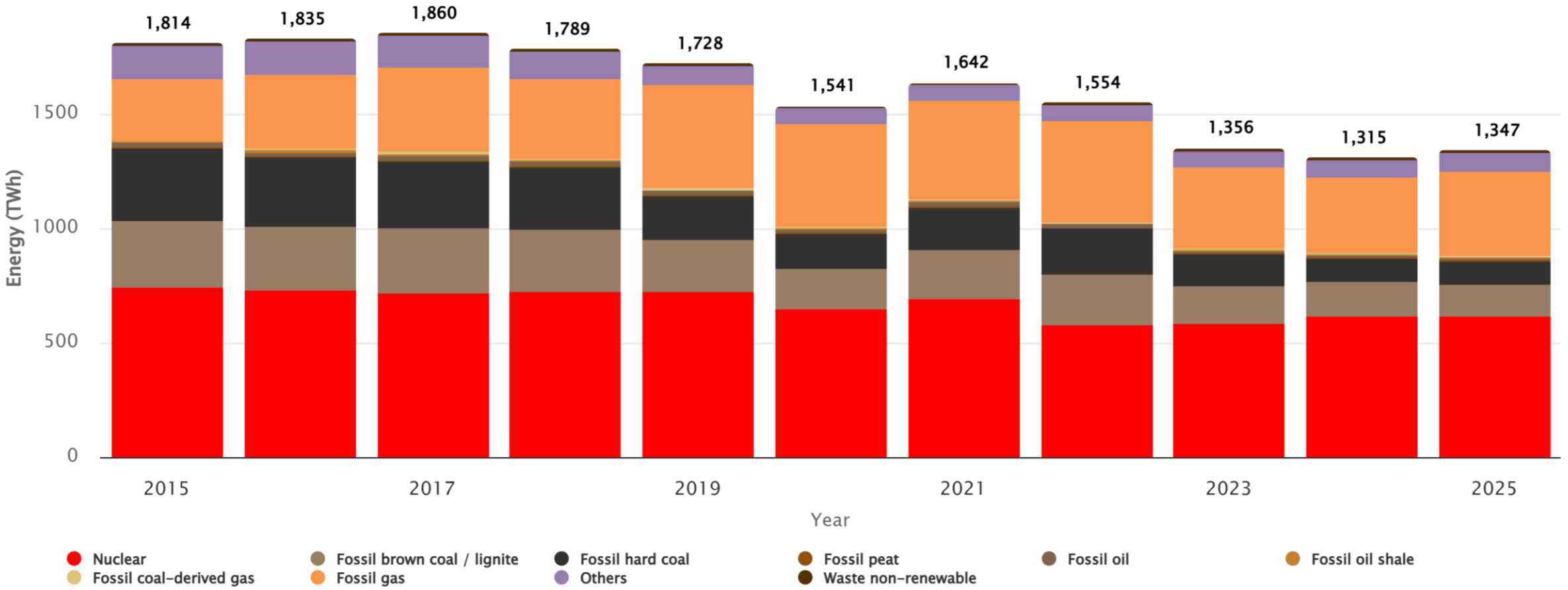
Public net electricity generation from non-renewable sources in the EU27

Years 2015–2025



Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 10:42 AM GMT+1

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=EU&chartColumnSorting=default&interval=year&year=-1&legendItems=0x2fs4g

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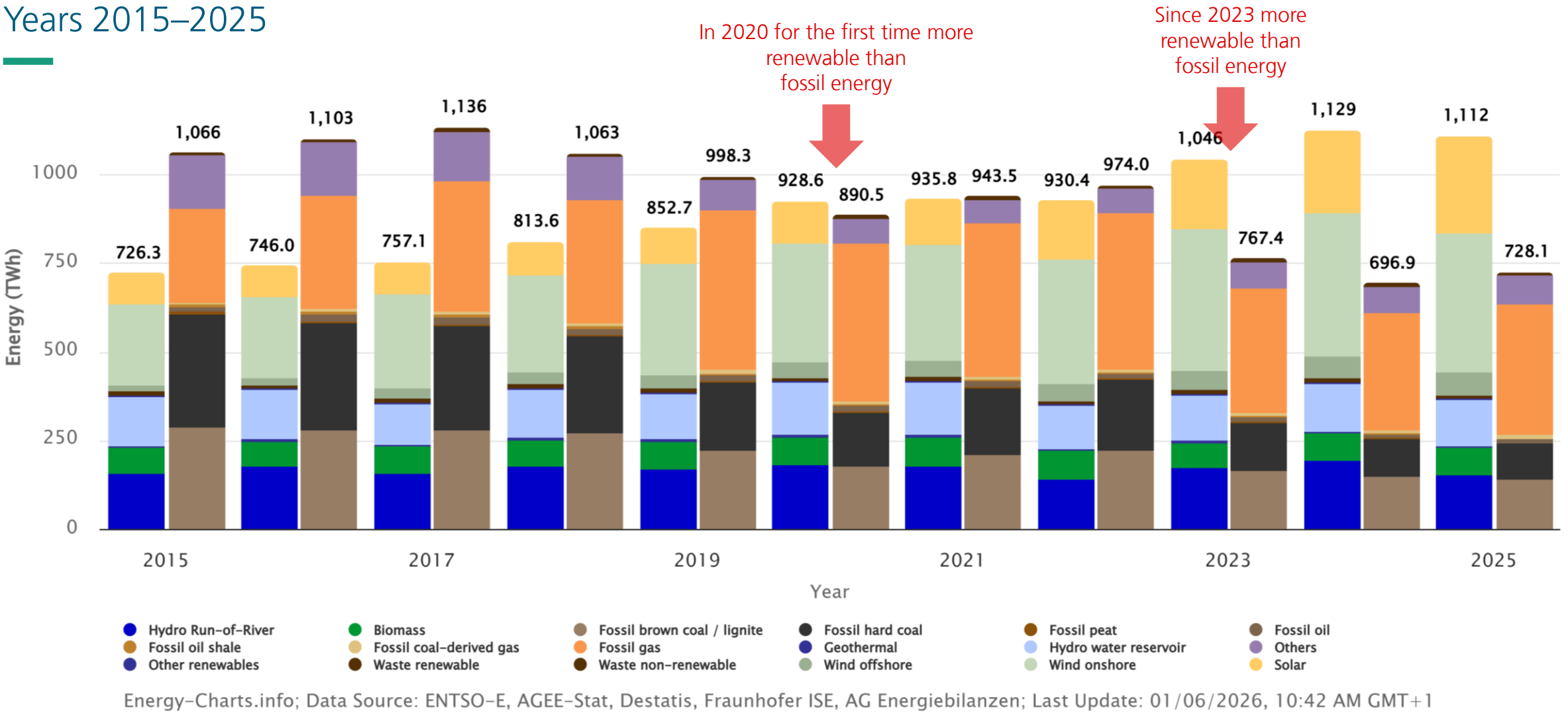
Public net electricity generation from renewable and fossil sources, EU 27

Years 2015–2025



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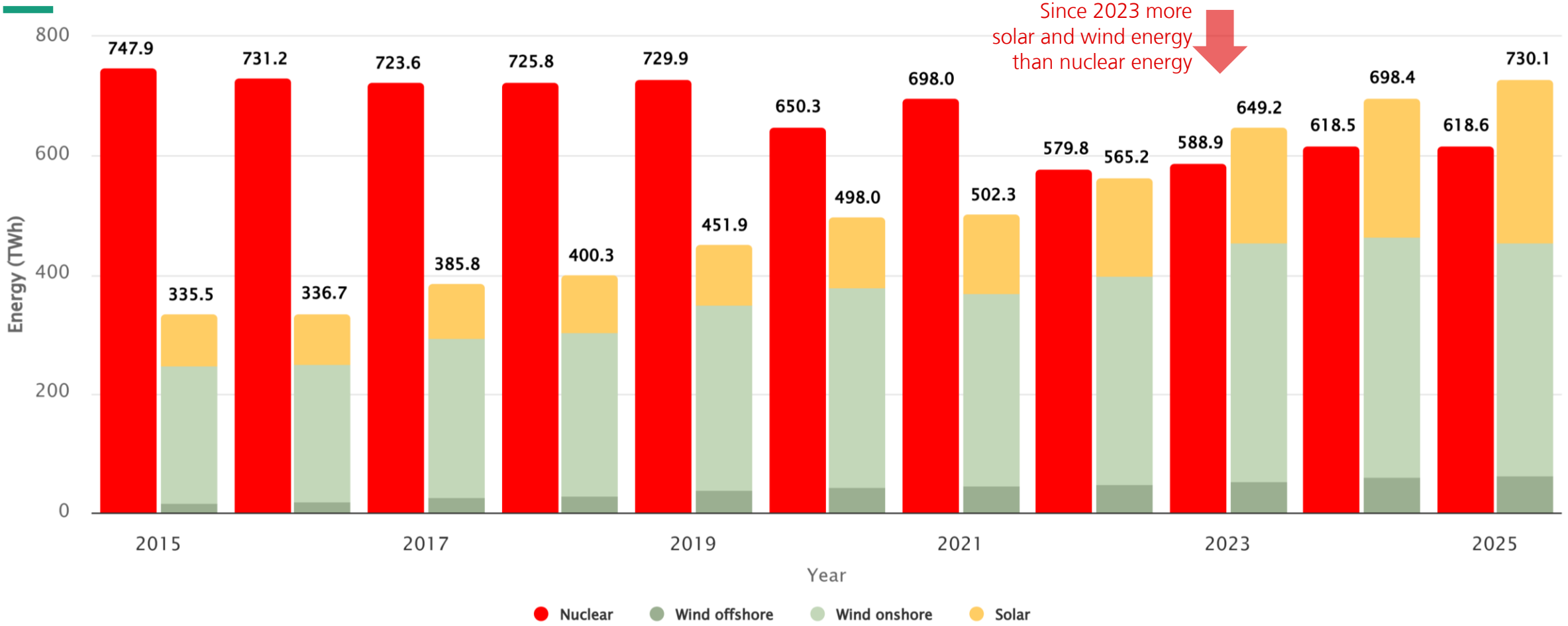
Public net electricity generation from nuclear energy, EU 27

Years 2015–2025



Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:56 AM GMT+1

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=EU&chartColumnSorting=default&interval=year&year=-1&stacking=stacked_grouped&legendItems=0x2000e

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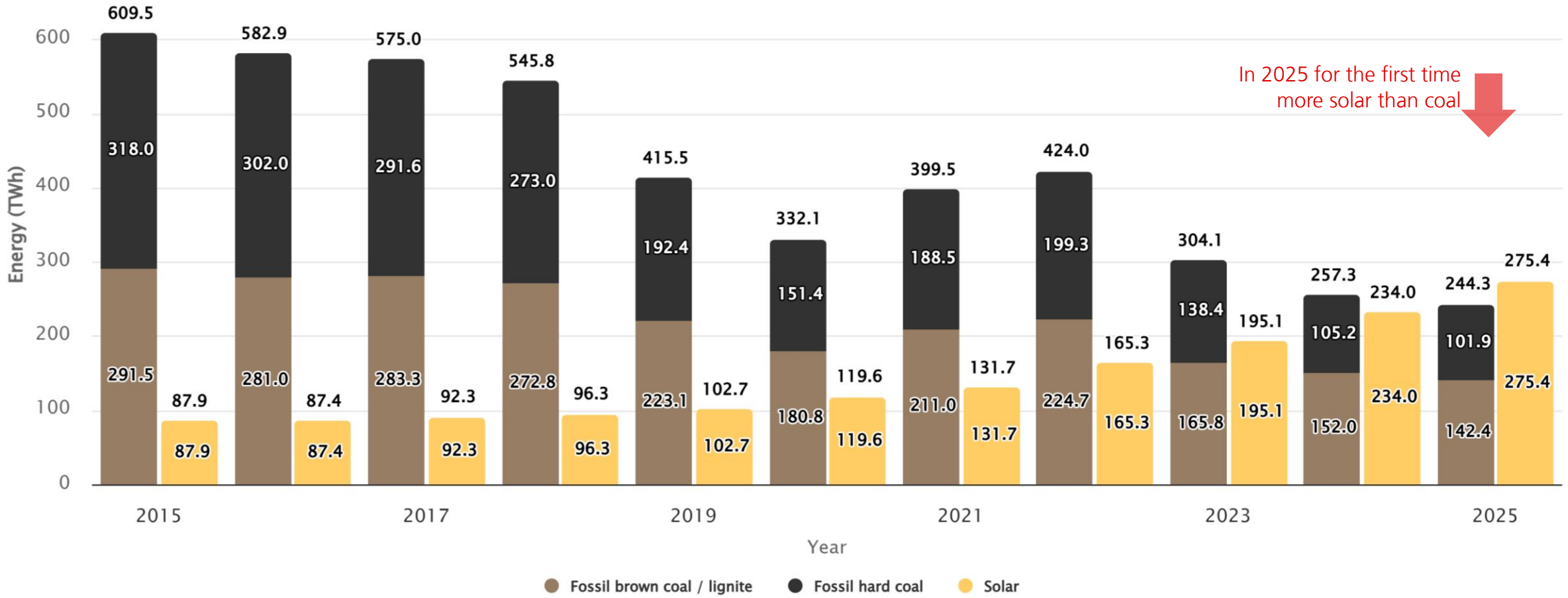
Public net electricity generation from coal and solar in the EU 27

Years 2015–2025



Energy-Charts.info; Data Source: ENTSO-E, AGEE-Stat, Destatis, Fraunhofer ISE, AG Energiebilanzen; Last Update: 01/06/2026, 11:56 AM GMT+1

Source: https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=EU&chartColumnSorting=default&interval=year&year=-1&stacking=stacked_grouped&legendItems=py6y7yn&partsum=1

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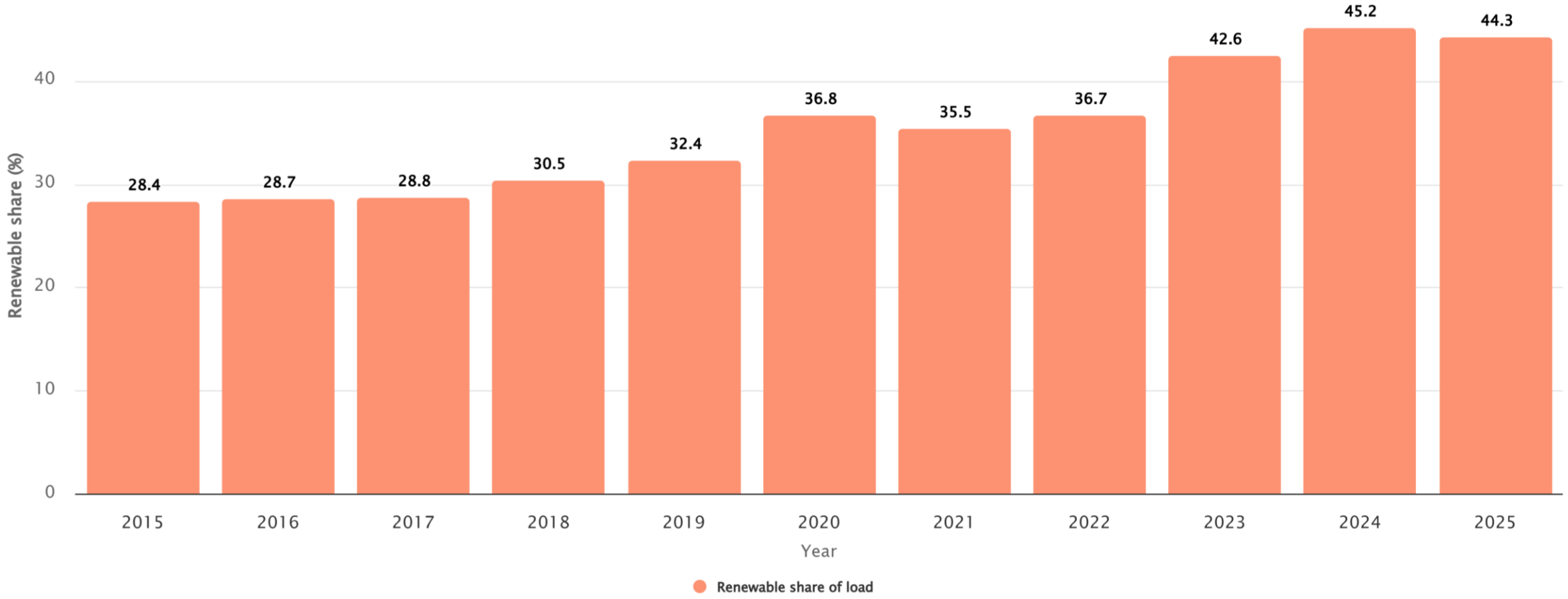
Share of renewable energy in the load (consumption + grid losses), EU 27

Years 1990–2025



Source: https://www.energy-charts.info/charts/renewable_share/chart.htm?l=en&c=EU&interval=year&share=ren_share_total&legendItems=10

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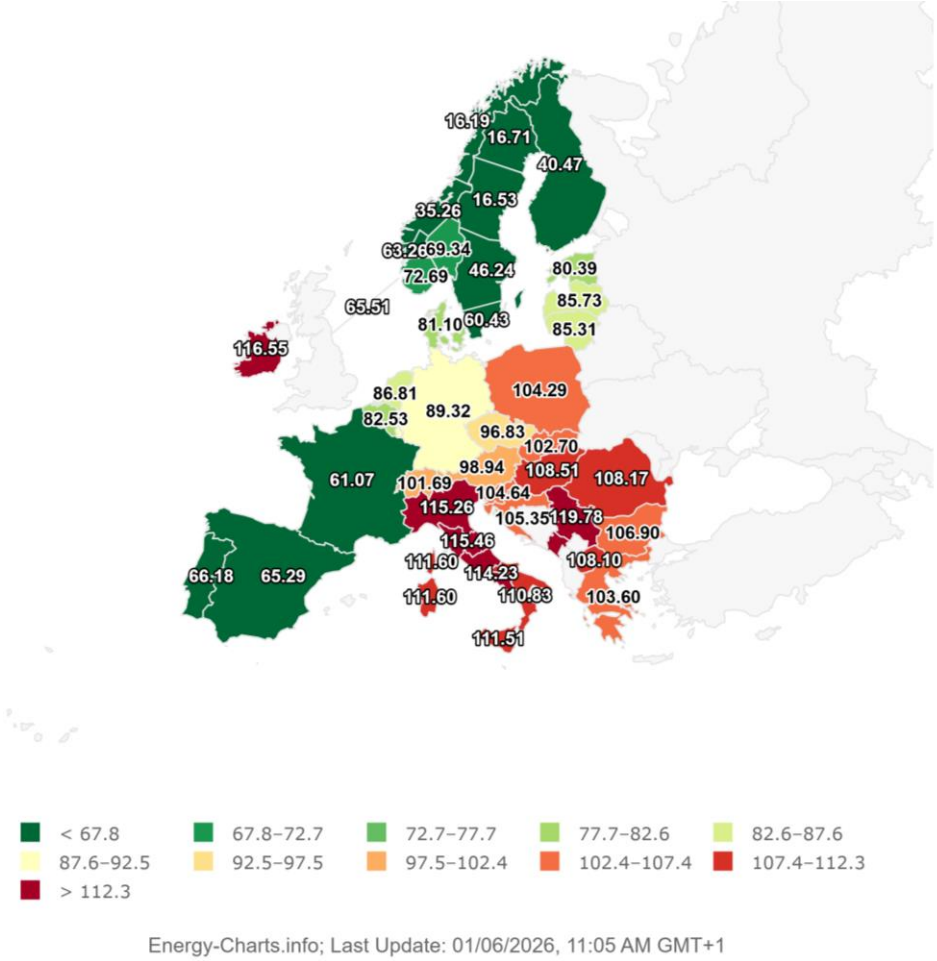
European day-ahead electricity prices

Year 2025, arithmetic mean values in €/MWh



Source: https://www.energy-charts.info/charts/price_average_map/chart.htm?l=en&c=EU&interval=year&year=2025

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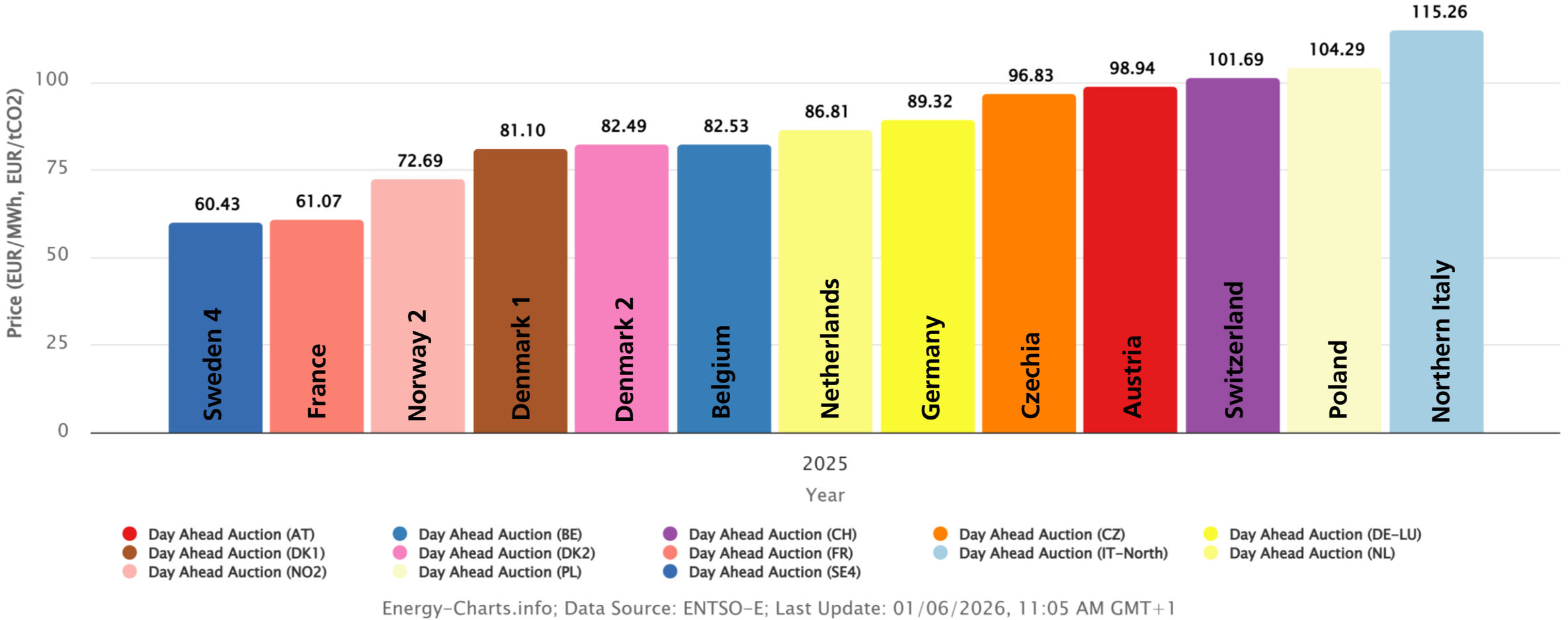
Day-ahead electricity prices for Germany and its neighboring countries

Year 2025



Source: https://energy-charts.info/charts/price_average/chart.htm?l=en&c=ALL&chartColumnSorting=ascending&interval=year&partsum=1&year=2025&legendItems=4x1nog202gg40

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Net electricity generation in Germany in 2025

Version 1

The first version of the 2025 annual review dated 01.01.2026 includes all electricity generation data from the Leipzig-based power exchange EEX and the European transparency platform ENTSO-E up to and including 31.12.2025. Using the available monthly data from the Federal Statistical Office (Destatis) on electricity generation up to and including September 2025 and the monthly data on electricity imports and exports up to and including October 2025, the quarter-hourly values from EEX and ENTSO-E were adjusted on an energy basis. For the remaining months, the correction factors were estimated on the basis of past annual and monthly data. The extrapolated values are subject to larger uncertainties.

Version 2

On 02.01.2026, data from the DWD was updated from slide 110 onwards, and typographical errors on other slides were corrected.

Version 3

On 04.01.2026, the charts on full-load hours in particular, as well as all charts and figures, were updated again to reflect the current status of the data providers.

Version 4

On 06.01.2026, slide 125 "Share of renewable energy in the load (consumption + grid losses), EU 27" was added, and all values were updated to the latest data provided by the data providers.

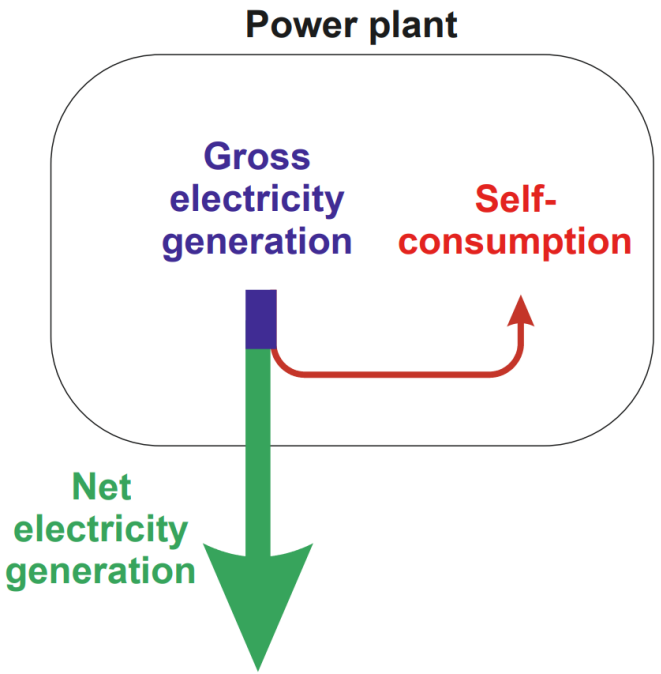
Version 5

On 07.01.2026, slide 15 "Shares in public net electricity generation (2024, 2025)" was updated to a new style and title of slide 70 updated.

Hourly updated data can be found on Energy-Charts: https://www.energy-charts.info

Net electricity generation in Germany in 2025

Difference between net and gross electricity generation



This report presents data on German net electricity generation for public power supply. When using net values, a power plant's internal consumption is supplied directly from the plant's gross electricity generation. The difference between gross electricity generation and internal consumption is net electricity generation fed into the grid. Under this convention, for example, a coal mill in a lignite power plant is supplied directly from the plant's electricity generation and thus operates exclusively on lignite-generated electricity.

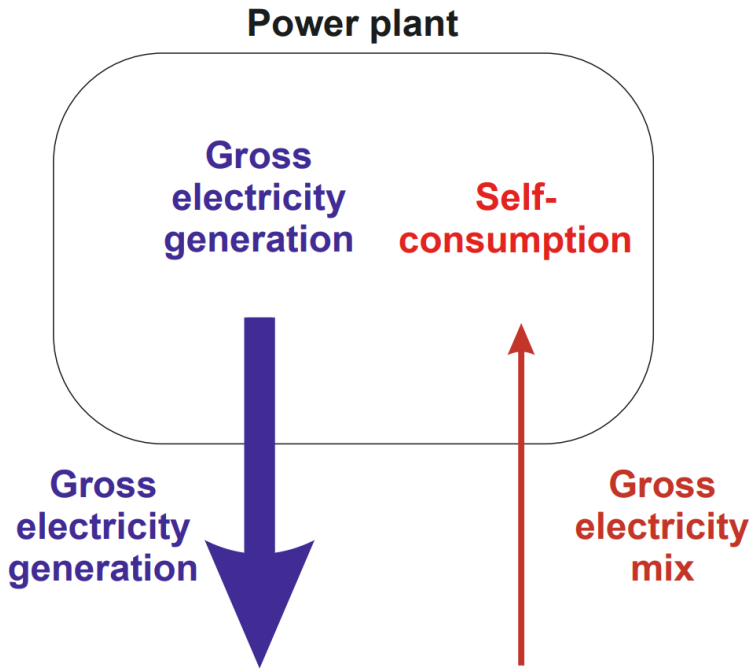
The entire electricity sector uses net values, e.g., for electricity trading, grid calculations, grid utilization, power plant dispatch planning, etc.

On the German power exchange EEX, only net electricity generation is traded; TSOs calculate with net flows; ENTSO-E reports only net values; and only net figures are measured for cross-border electricity flows.

Public net electricity generation represents the electricity mix that actually comes out of the socket at home and is consumed by households, and also used for public charging of electric vehicles. The electricity meter in the house measures the net electricity consumed or fed in.

Net electricity generation in Germany in 2025

Difference between net and gross electricity generation



Gross electricity generation also includes the power plants' internal consumption, which is used directly in the power plant and physically is not fed into the public power grid at all. On the consumption side, the power plants' internal consumption is added to gross electricity consumption so that the balance matches again. Under this convention, for example, a coal mill in a lignite power plant is operated with the gross electricity mix and thus with about 55% renewable energy.

In addition, gross electricity generation also includes industry's own electricity generation, the so-called "enterprises in manufacturing as well as in mining and quarrying." This self-generation is consumed directly within the enterprises and is also not fed into the public grid. Gross figures are collected only for statistical purposes but are not used in day-to-day electricity-sector operations.

The data on public net electricity generation and total gross electricity generation differ significantly. This also results in significantly different shares of renewable energy in electricity generation and in electricity consumption.

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