

Public net electricity generation in Germany in the First Half of 2026

Leonhard Gandhi
Freiburg, 01.07.2026
www.ise.fraunhofer.de

Net Electricity Generation in the First Half of 2026

Solar Power Is on the Rise Across Europe

In the first half of 2026, more solar power was fed into the grid in Germany and many other European countries than ever before. Electricity generation from onshore wind increased compared to the first half of 2025, but did not set a new record. Offshore wind, however, did set a new record. The share of renewable electricity in the load—that is, in electricity consumption from the grid and grid losses—reached a new record of 58.5 percent. Within the European Union, grid feed-in from solar and wind rose from 362 terawatt-hours (TWh) in the first half of 2025 to 397 TWh in the first half of 2026. This is evident from the half-year data on public net electricity generation presented today by the Fraunhofer Institute for Solar Energy Systems ISE. The analysis is based on the data platform energy-charts.info.

Wind Energy was once again by far the largest source of electricity in Germany, generating 67.4 terawatt-hours (TWh) compared to 60.1 TWh in the first half of 2025. Its share of electricity consumption (load) stood at 28.4 percent. »That's about 2.6 percentage points more than in 2025, mainly because installed capacity has increased,« comments Leonhard Gandhi, senior researcher at Energy-Charts at Fraunhofer ISE. »Despite the increase compared to 2025, the 2024 level was not reached.«

Photovoltaic Systems fed 43.2 TWh into the grid, accounting for 18.2 percent of electricity consumption (load) (1st half of 2025: 39.3 TWh; 16.9%). Grid feed-in from photovoltaic systems also continued to rise in many other European countries: In France, solar power plants contributed 17.4 TWh of electricity (first half of 2025: 15.1 TWh); Belgium reached 6.1 TWh (first half of 2025: 5.6 TWh); Denmark reached 2.8 TWh (first half of 2025: 2.3 TWh); and Poland increased its solar power feed-in from 10.3 TWh in the first half of 2025 to 12.2 TWh in the first half of 2026.

<https://www.ise.fraunhofer.de/de/presse-und-medien/presseinformationen/2026/solarstrom-europaweit-auf-dem-vormarsch.html>

Net Electricity Generation in the First Half of 2026

Solar Power Is on the Rise Across Europe

Load or Electricity Consumption from the Grid

In the first half of 2026, the load (= electricity consumption from the grid + grid losses) totaled 237 TWh. This represents an increase of about two to three percent compared to the last three first halves of the year.

Import and Export

In the first half of 2026, a net total of 1.3 TWh of electricity was imported (first half of 2025: net imports of 9.6 TWh). Electricity imports came from Scandinavia (Denmark, Sweden, and Norway), France, Belgium, and the Netherlands. Electricity was exported to Austria, the Czech Republic, Luxembourg, Poland, and Switzerland.

Prices Stable

Volume-weighted electricity exchange prices rose slightly: from 86.64 euros/MWh in the first half of 2025 (day-ahead auction, volume-weighted) to an average price of 93.70 euros/MWh in the first half of 2026. Monthly volume-weighted electricity exchange prices were high, particularly in January and February, due to low wind power generation. Starting in March, the effects of the war in Iran also became apparent, preventing prices from falling as they typically do in the spring.

Electricity prices for new customers in Germany fell back to the January 2021 level in June 2026, averaging 24 cents per kilowatt-hour. The price of natural gas in the first half of 2026 was slightly higher than in the first half of 2025.

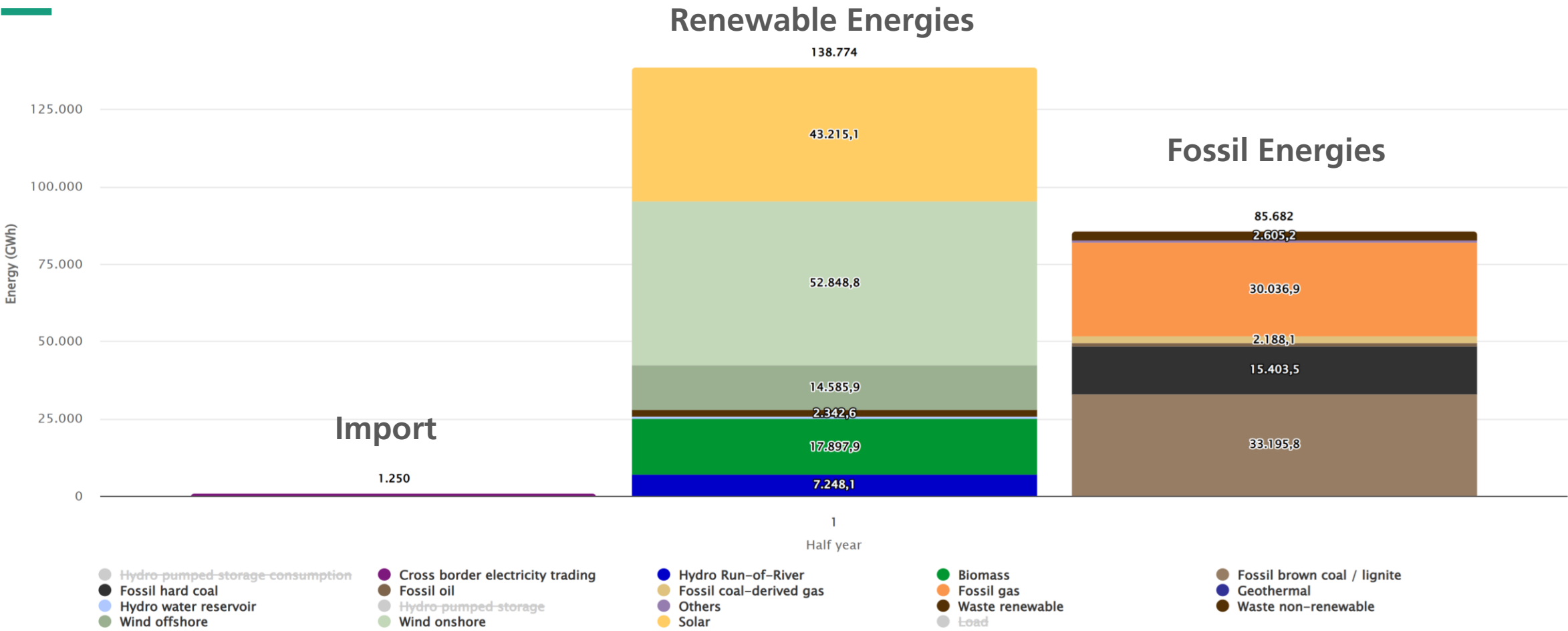
<https://www.ise.fraunhofer.de/de/presse-und-medien/presseinformationen/2026/solarstrom-europaweit-auf-dem-vormarsch.html>

Agenda

- 1. Net Public Electricity Generation in Germany in the First Half of the Year**
- 2. Net Public Electricity Generation in Europe in the First Half of the Year**

Net Public Electricity Generation

First half of 2026

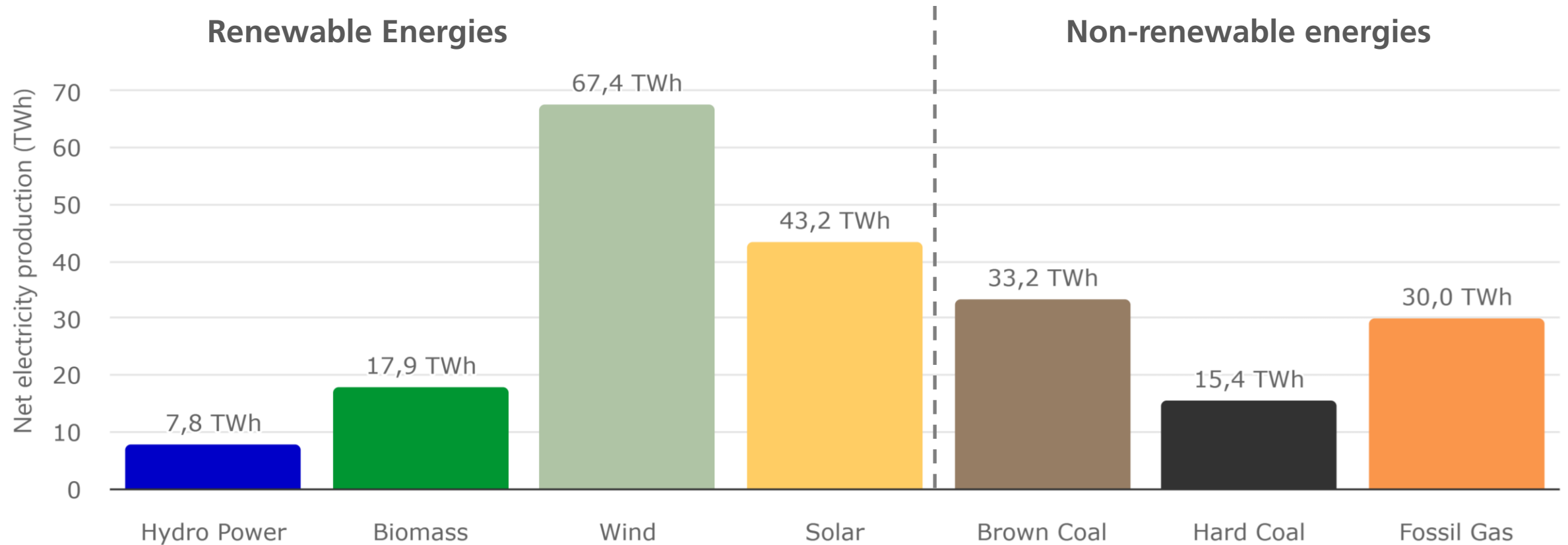


Energy-Charts.info - last update: 02.07.2026, 07:31 MESZ

https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=halfyear&stacking=stacked_grouped&legendItems=1x7vru&sum=1&halfyear=1&year=2026

Net Public Electricity Generation

First half of 2026

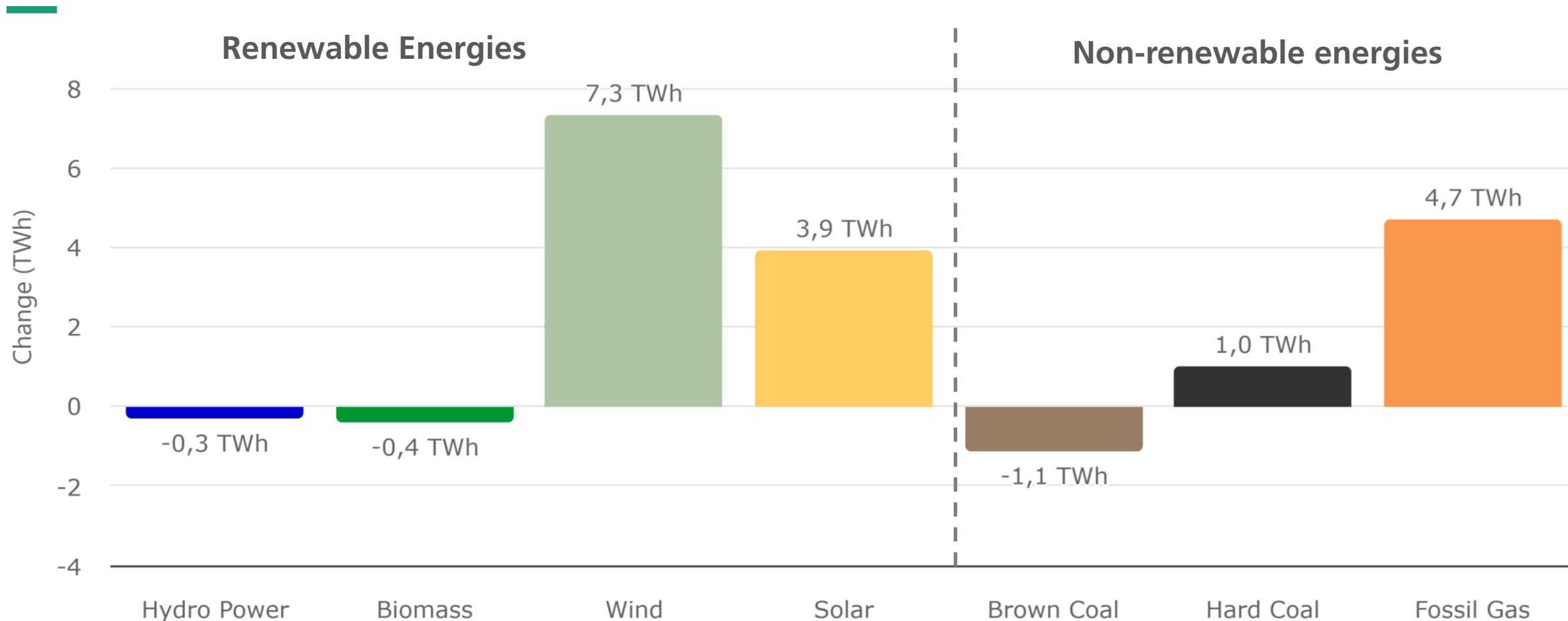


The chart shows net electricity generation from power plants for the public electricity grid. This is the actual electricity mix that comes out of the outlet. Electricity generated by power plants for “manufacturing, mining, and quarrying operations”—that is, industrial generation for on-site consumption—is not included in this chart.

<https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&chartColumnSorting=default&interval=halfyear&stacking=single&partsum=1&legendItems=2x1t0e&year=2026&halfyear=1>

Absolute Change in Net Public Electricity Generation

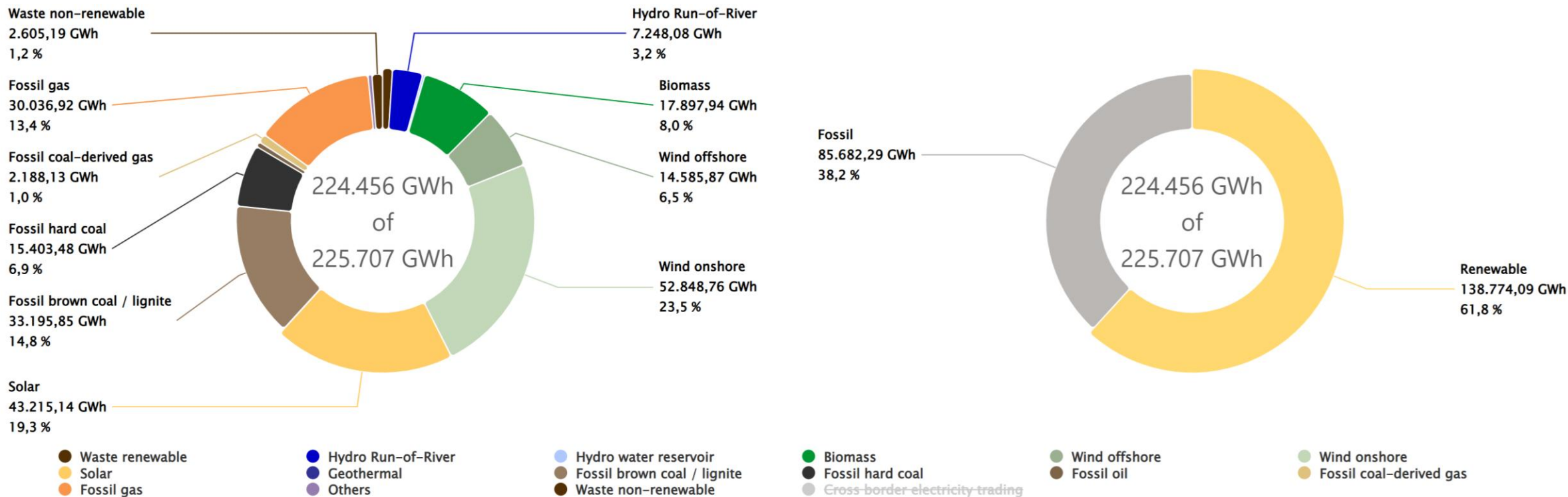
First half of 2026 compared with the first half of 2025



<https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&chartColumnSorting=default&interval=halfyear&stacking=single&partsum=1&legendItems=2x1t0e&year=2026&halfyear=1>

Net Public Electricity Generation

First half of 2026



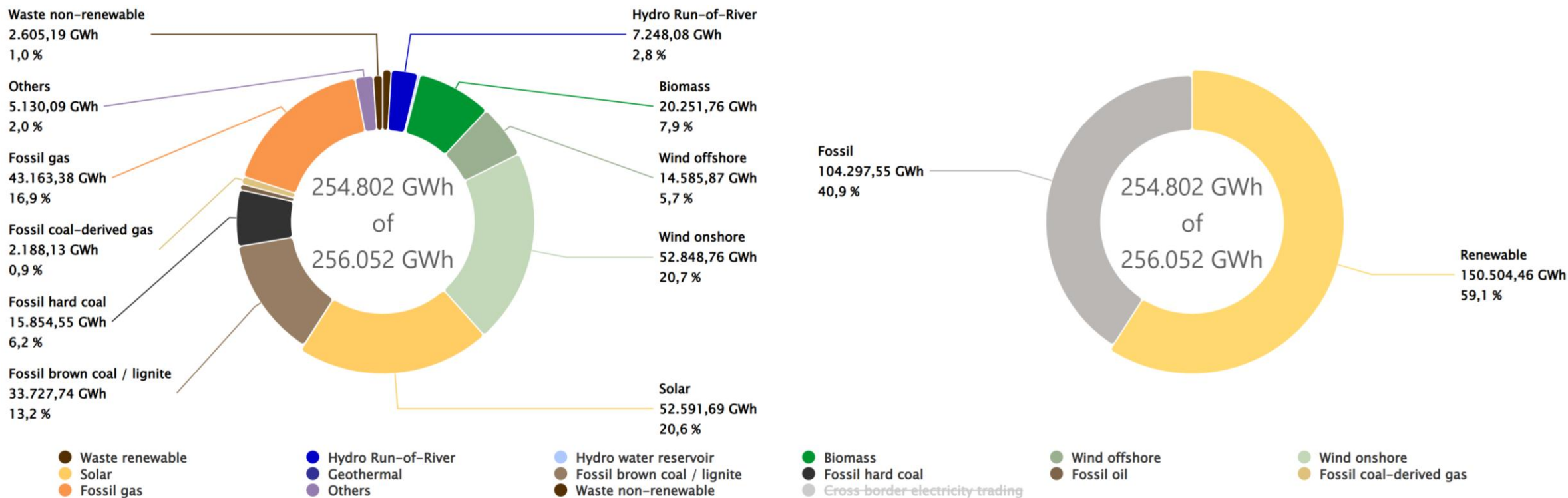
Energy-Charts.info - last update: 02.07.2026, 07:31 MESZ

The chart shows net electricity generation from power plants for the public electricity grid. This is the actual electricity mix that comes out of the outlet. Electricity generated by power plants for “manufacturing, mining, and quarrying operations”—that is, industrial generation for on-site consumption—is not included in this chart.

https://www.energy-charts.info/charts/energy_pie/chart.htm?l=en&c=DE&interval=halfyear&year=2026&halfyear=1

Net Total Electricity Generation

First half of 2026



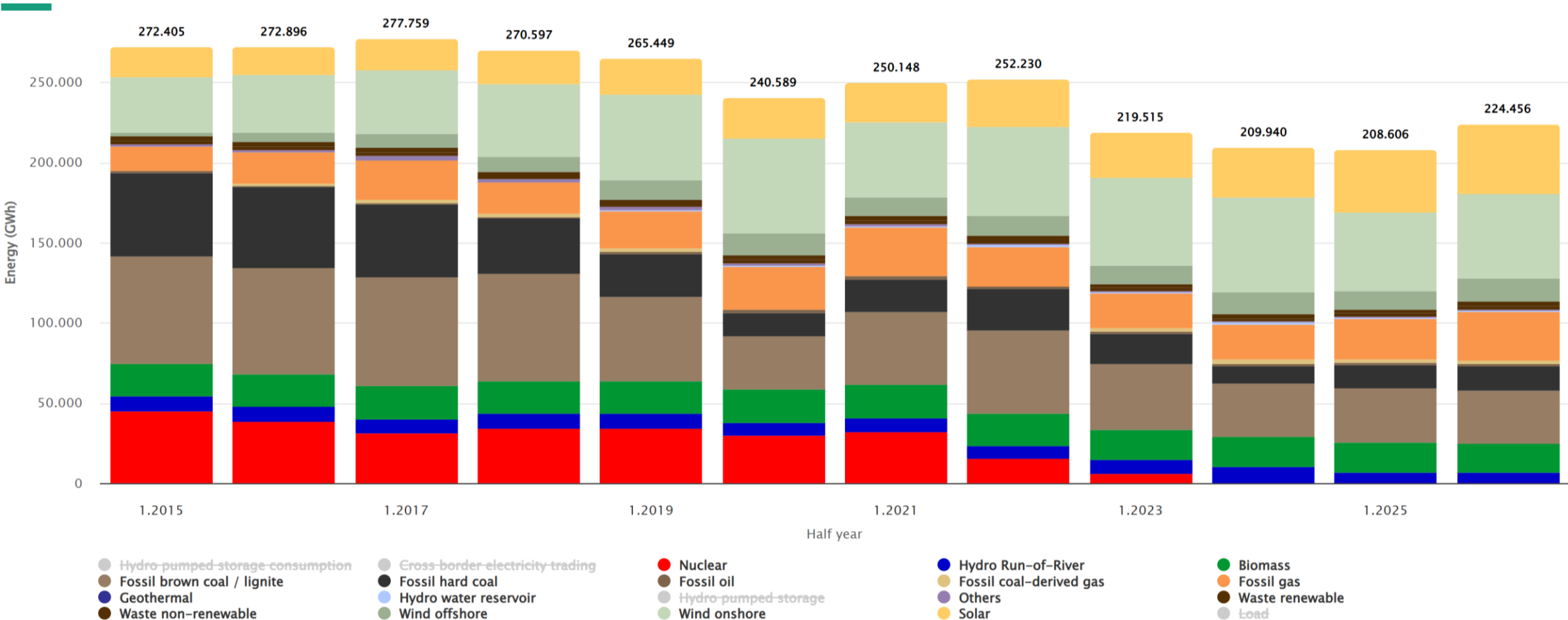
Energy-Charts.info - last update: 02.07.2026, 07:26 MESZ

Total net electricity generation also includes generation from power plants operated by "manufacturing, mining, and quarrying enterprises," i.e., industrial generation for own consumption.

https://www.energy-charts.info/charts/energy_pie/chart.htm?l=en&c=DE&interval=halfyear&year=2026&halfyear=1&source=total

Net Public Electricity Generation

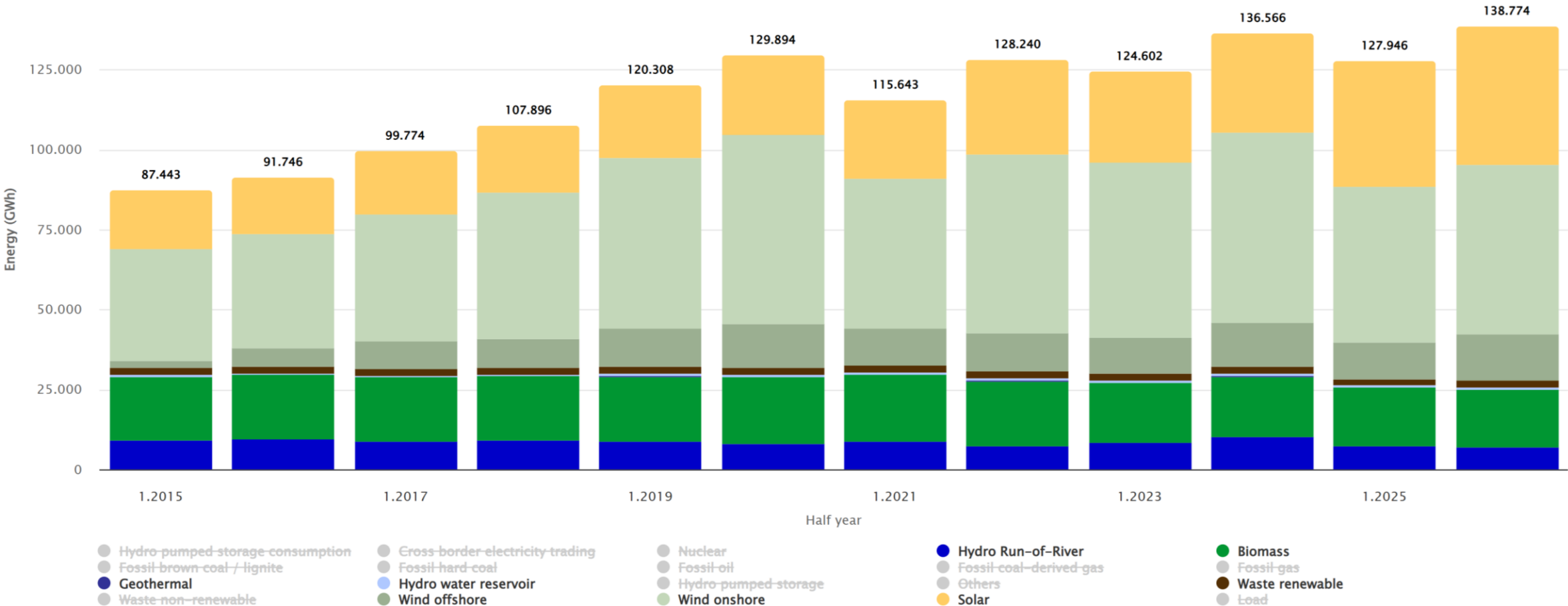
First half of 2015 - 2026



Energy-Charts.info - last update: 02.07.2026, 07:31 MESZ
https://www.energy-charts.info/charts/energy/chart.html?l=en&c=DE&chartColumnSorting=default&interval=halfyear&year=-1&halfyear=1&stacking=stacked_absolute&partsum=0&sum=1

Net Public Electricity Generation

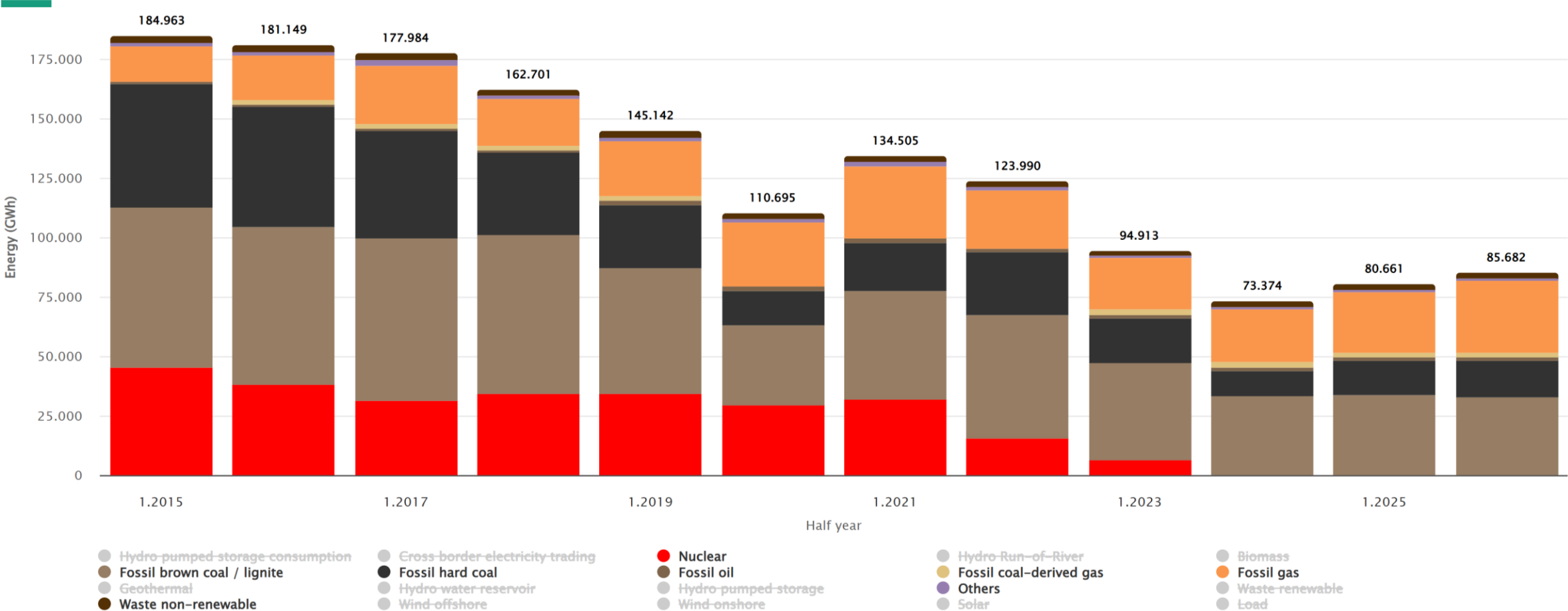
Renewable generation, first half of 2015 - 2026



Energy-Charts.info - last update: 02.07.2026, 07:31 MESZ
<https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=halfyear&halfyear=1&year=-1&legendItems=0x30pe&halfyear=1>

Net Public Electricity Generation

Non-renewable generation, first half of 2015 - 2026

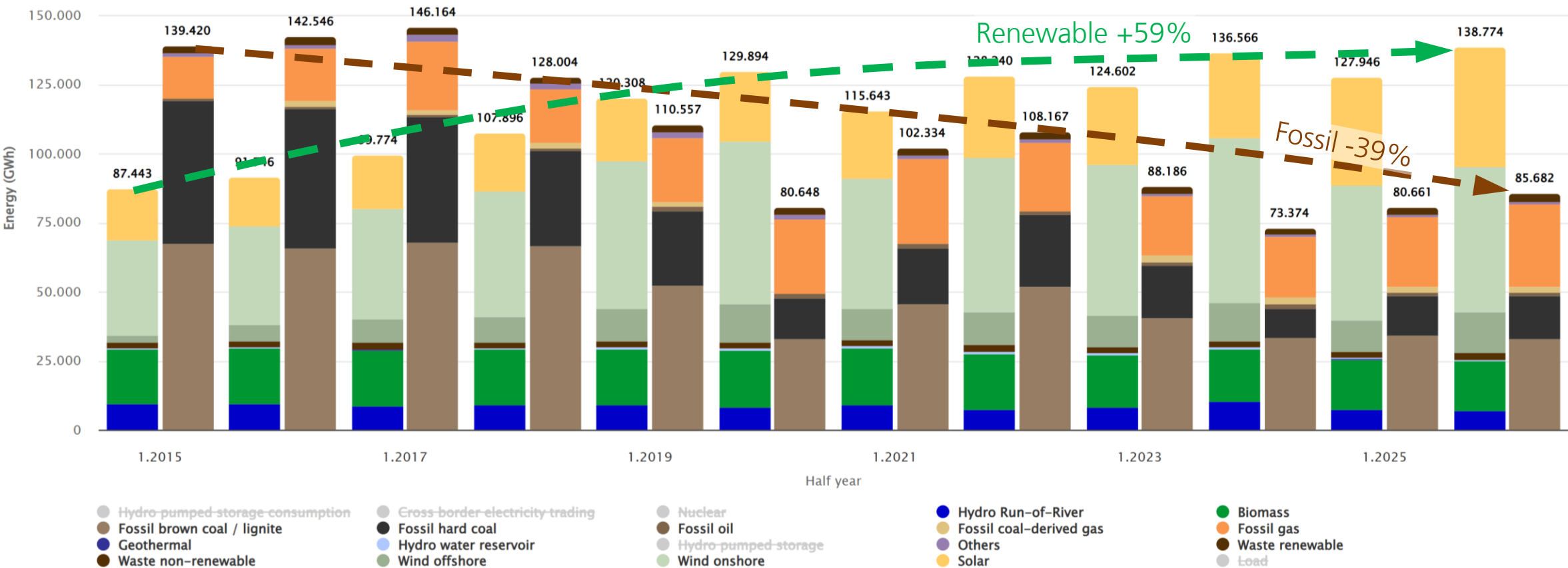


Energy-Charts.info - last update: 02.07.2026, 07:31 MESZ

<https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=halfyear&halfyear=1&year=-1&legendItems=0x4v2g&year=-1>

Net Public Electricity Generation

Comparison of Renewable and Fossil Generation, 2015–2026

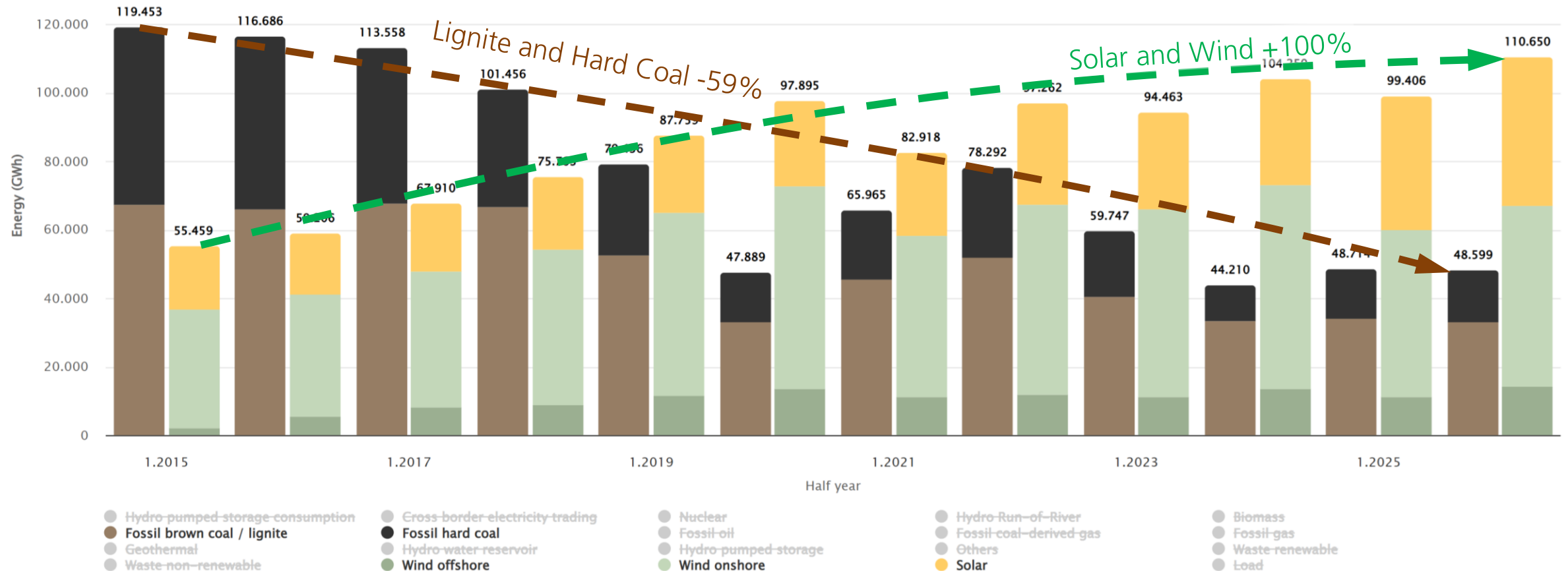


Energy-Charts.info - last update: 02.07.2026, 08:01 MESZ

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Net Public Electricity Generation

Comparison of Lignite and Hard Coal with Solar and Wind, 2015–2026

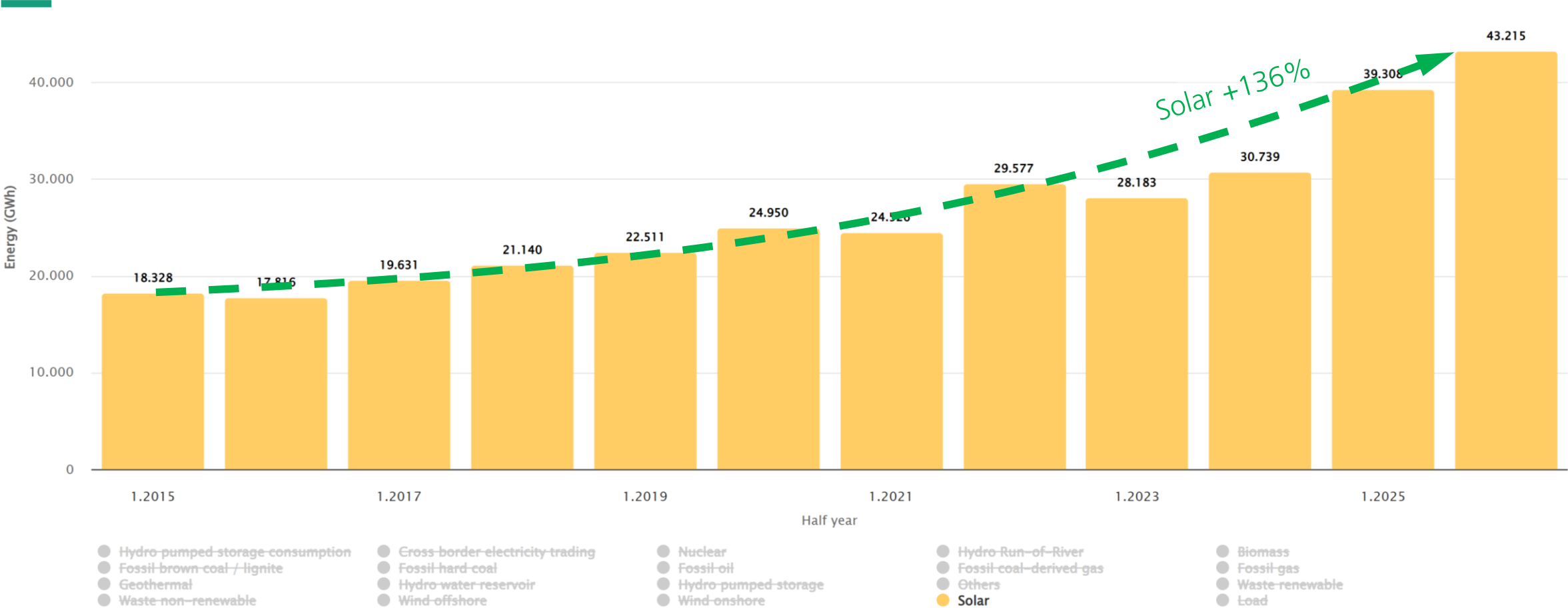


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https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=DE&interval=halfyear&year=-1&stacking=stacked_grouped&legendItems=0x0o0e&halfyear=1&partsum=0

Net Public Electricity Generation, Solar

Non-renewable generation

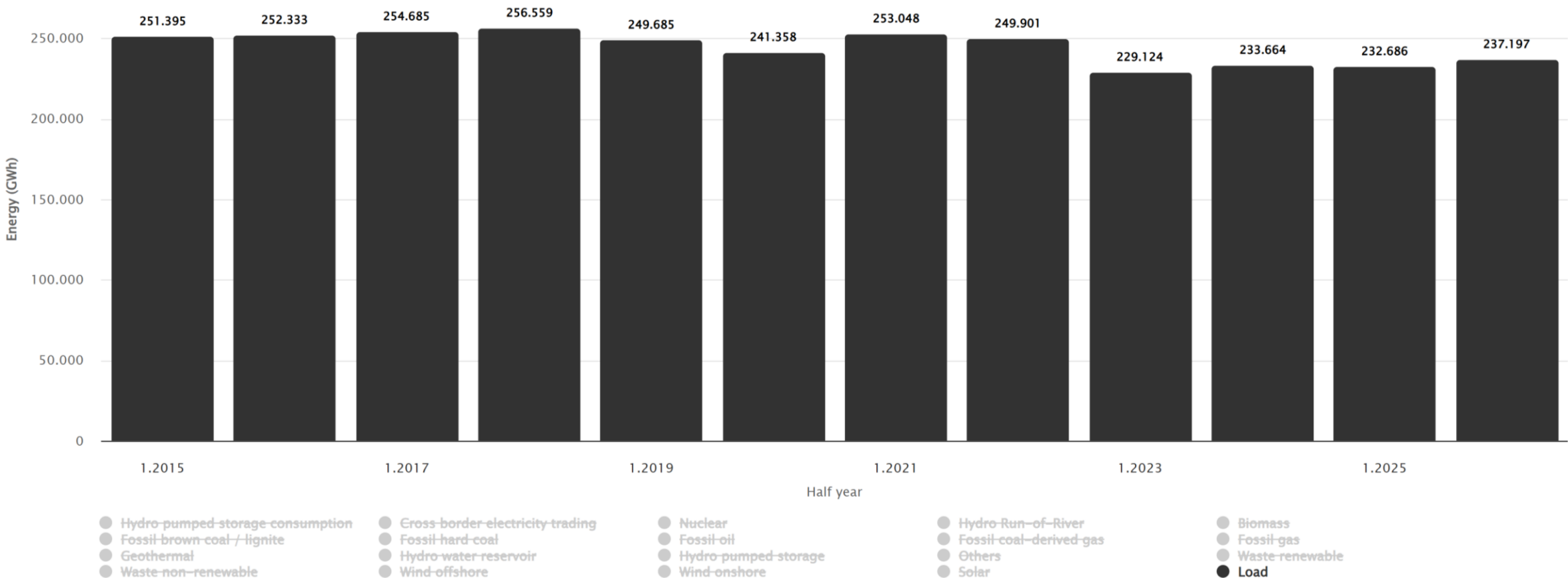


Energy-Charts.info - last update: 02.07.2026, 08:01 MESZ

<https://www.energy-charts.info/charts/energy/chart.html?l=en&c=DE&interval=halfyear&year=-1&legendItems=kyi&halfyear=1>

Load or Electricity Consumption from the Grid

First half of 2015 - 2026



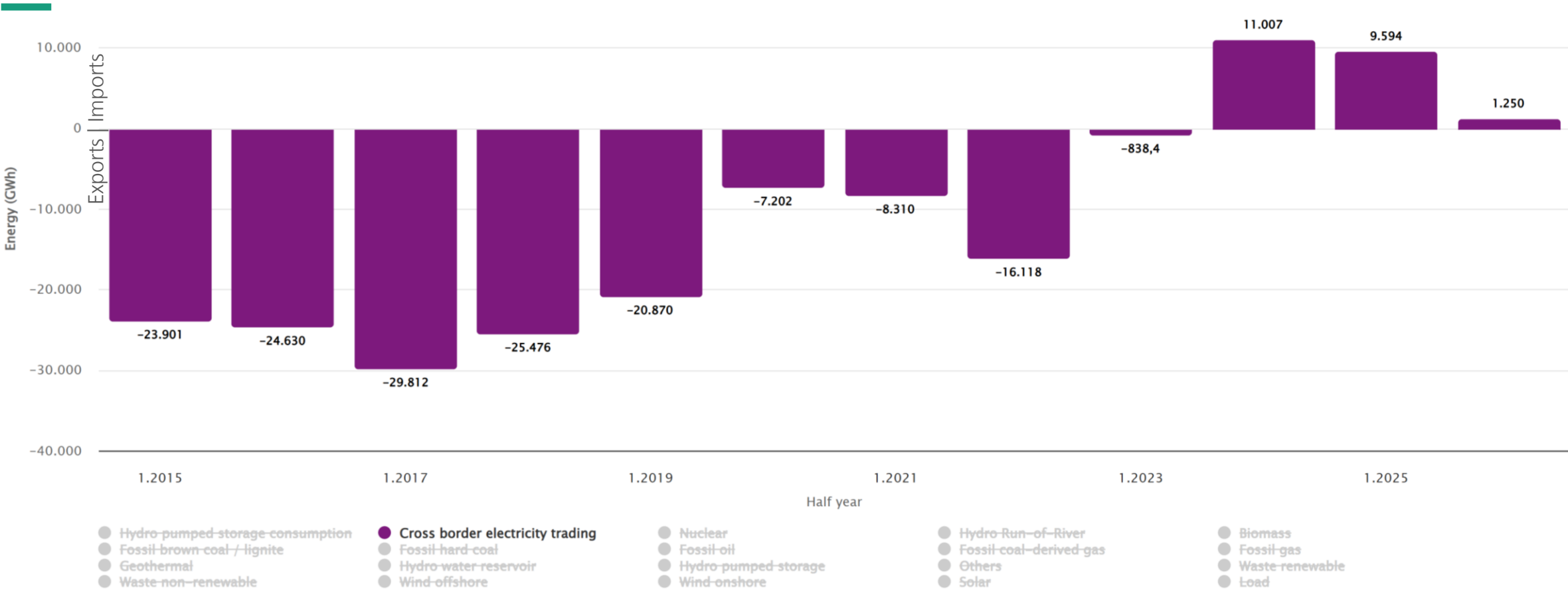
Energy-Charts.info - last update: 02.07.2026, 08:01 MESZ

The load is the sum of the electricity consumption from the grid and the grid losses.

https://www.energy-charts.info/charts/energy/chart.html?l=en&c=DE&interval=halfyear&year=-1&stacking=stacked_grouped&halfyear=1&partsum=0&legendItems=jw1

Net electricity imports and exports, commercial electricity trading

First half of 2015 - 2026



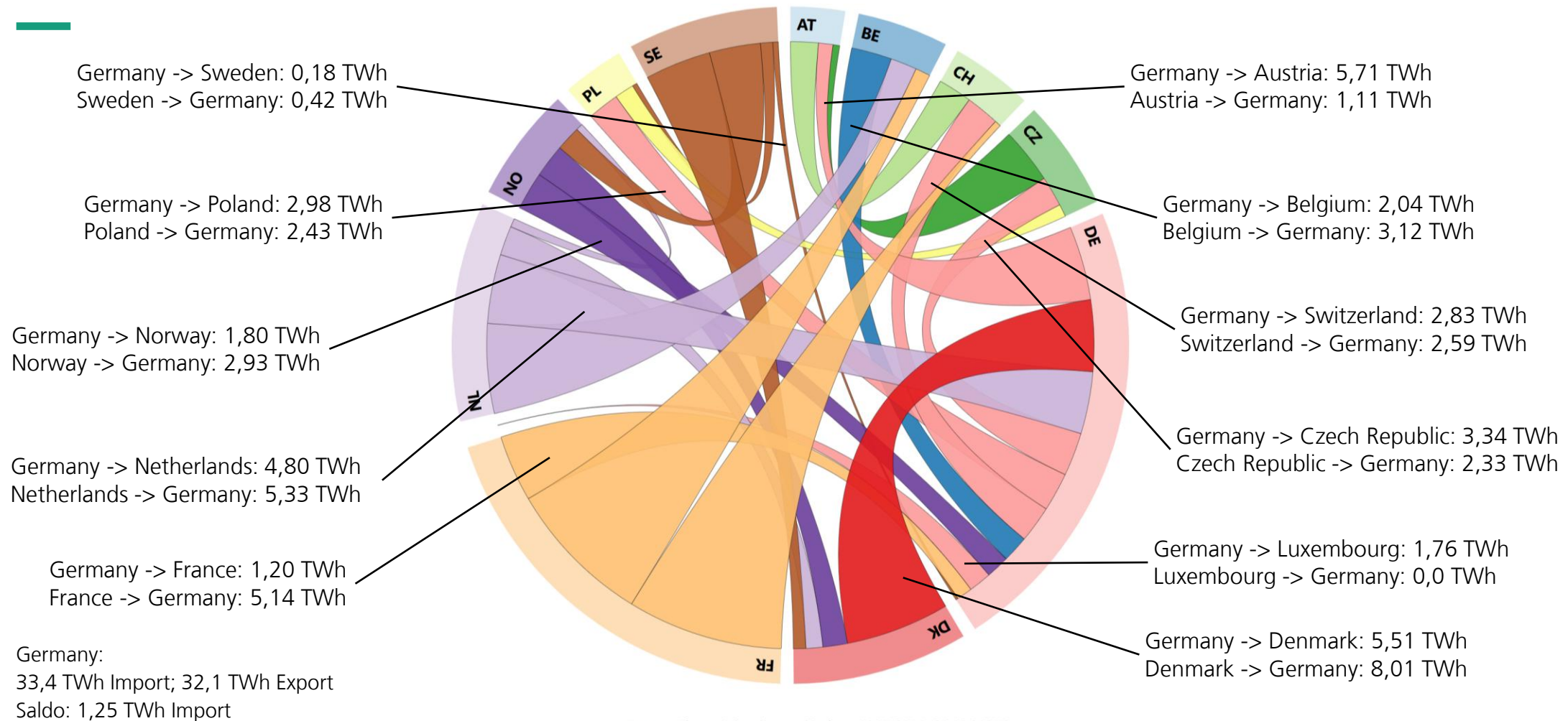
Energy-Charts.info - last update: 02.07.2026, 08:01 MESZ

Imports are shown as positive, exports as negative.

https://www.energy-charts.info/charts/energy/chart.html?l=en&c=DE&interval=halfyear&year=-1&stacking=stacked_grouped&halfyear=1&partsum=0&legendItems=ky1

Net electricity imports and exports, commercial electricity trading

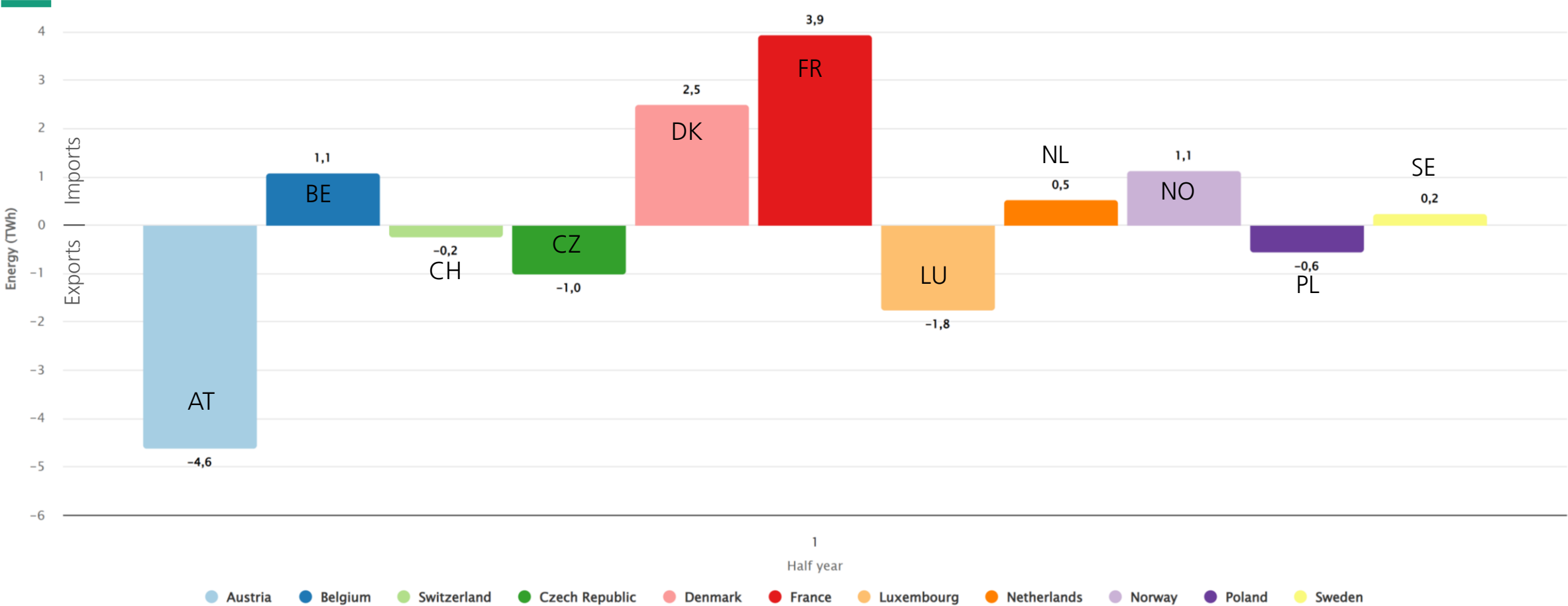
First half of 2026



https://www.energy-charts.info/charts/import_export/chart.htm?l=en&c=DE&year=2026&interval=halfyear&halfyear=1

Net Cross-Border Electricity Trading

First half of 2026



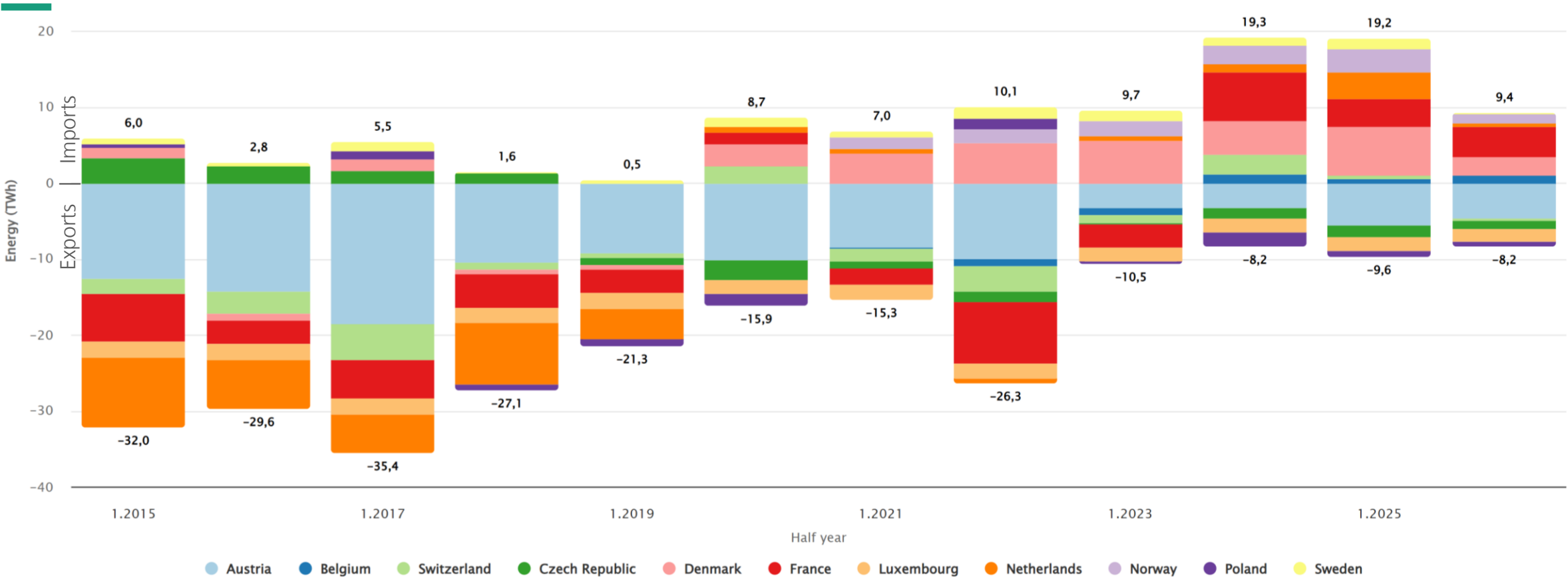
Imports are shown as positive, exports as negative.

Energy-Charts.info - last update: 02.07.2026, 08:20 MESZ

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Net Cross-Border Electricity Trading

First half of 2015 - 2026

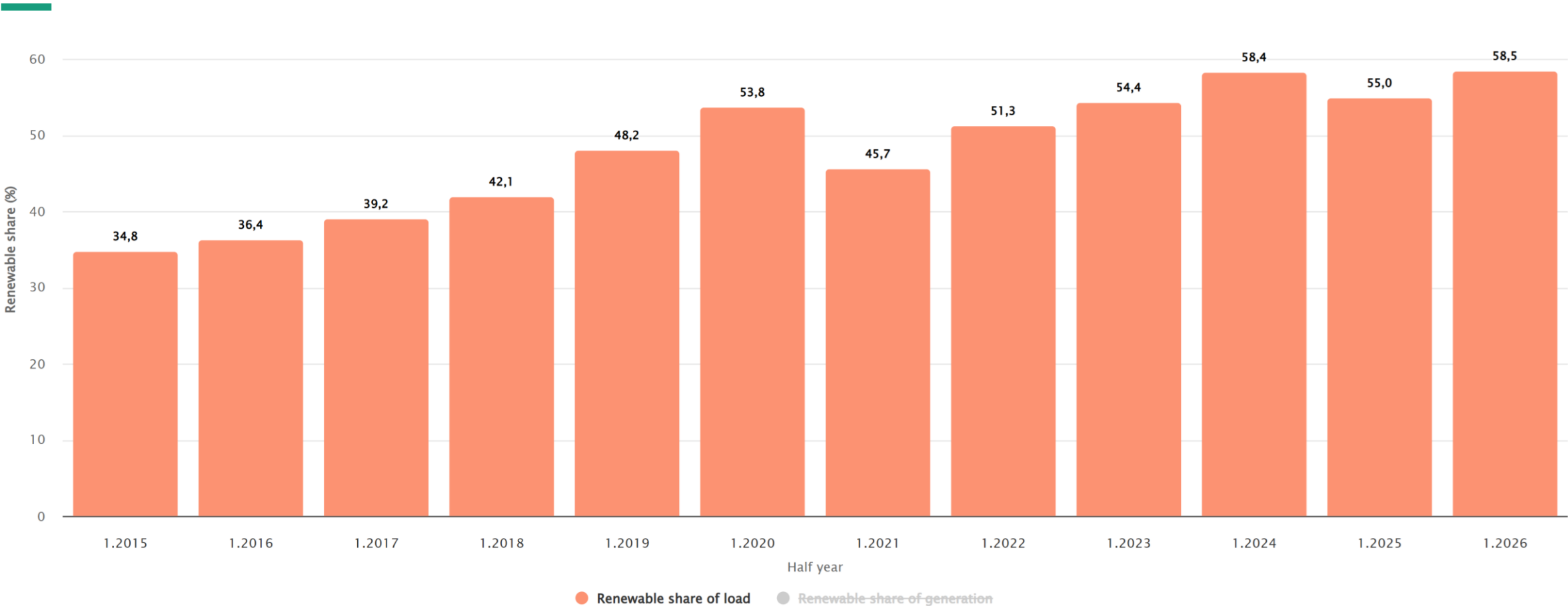


Imports are shown as positive, exports as negative.

https://www.energy-charts.info/charts/energy/chart.html?l=en&c=DE&interval=halfyear&year=-1&halfyear=1&partsum=0&legendItems=ky1&source=tcs_saldo&sum=1

Share of renewable energy in the electricity consumption

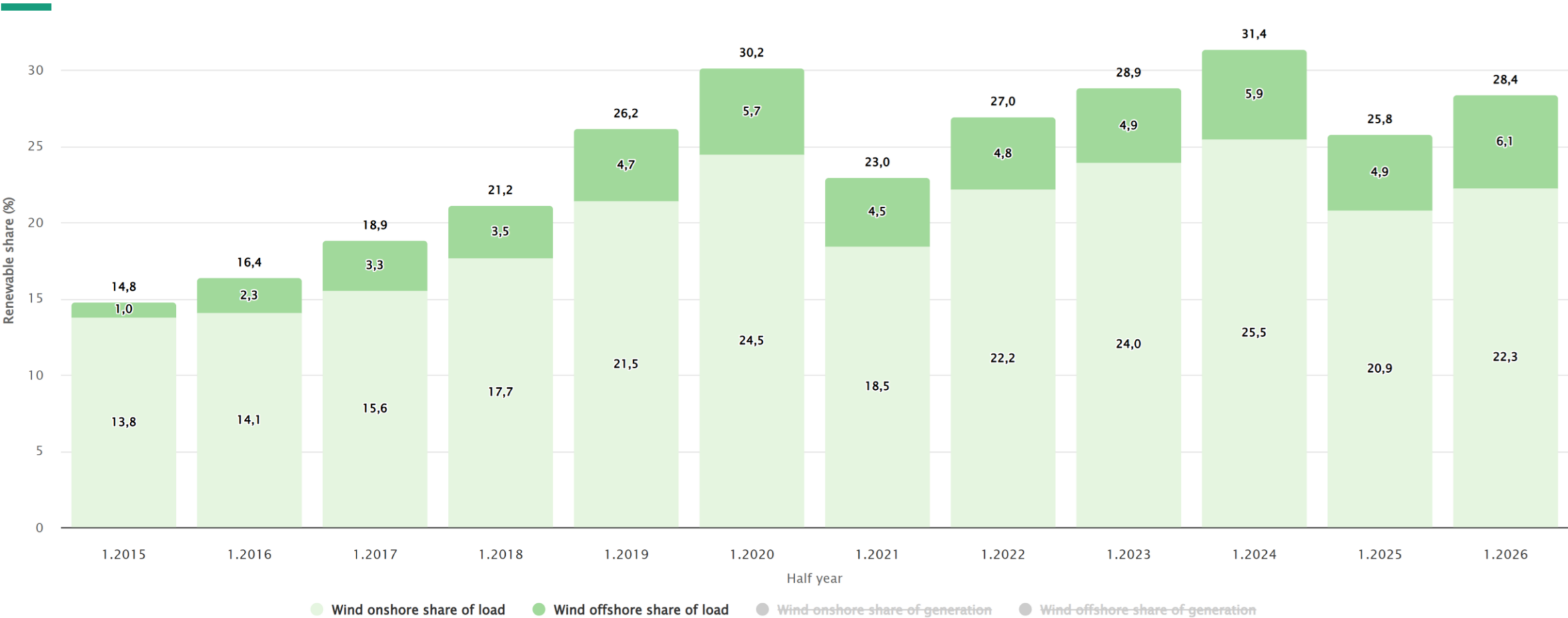
First half of 2015 - 2026



Energy-Charts.info - last update: 02.07.2026, 08:01 MESZ
https://www.energy-charts.info/charts/renewable_share/chart.htm?l=en&c=DE&interval=halfyear&year=-1&halfyear=1&legendItems=10

Share of wind energy in the electricity consumption

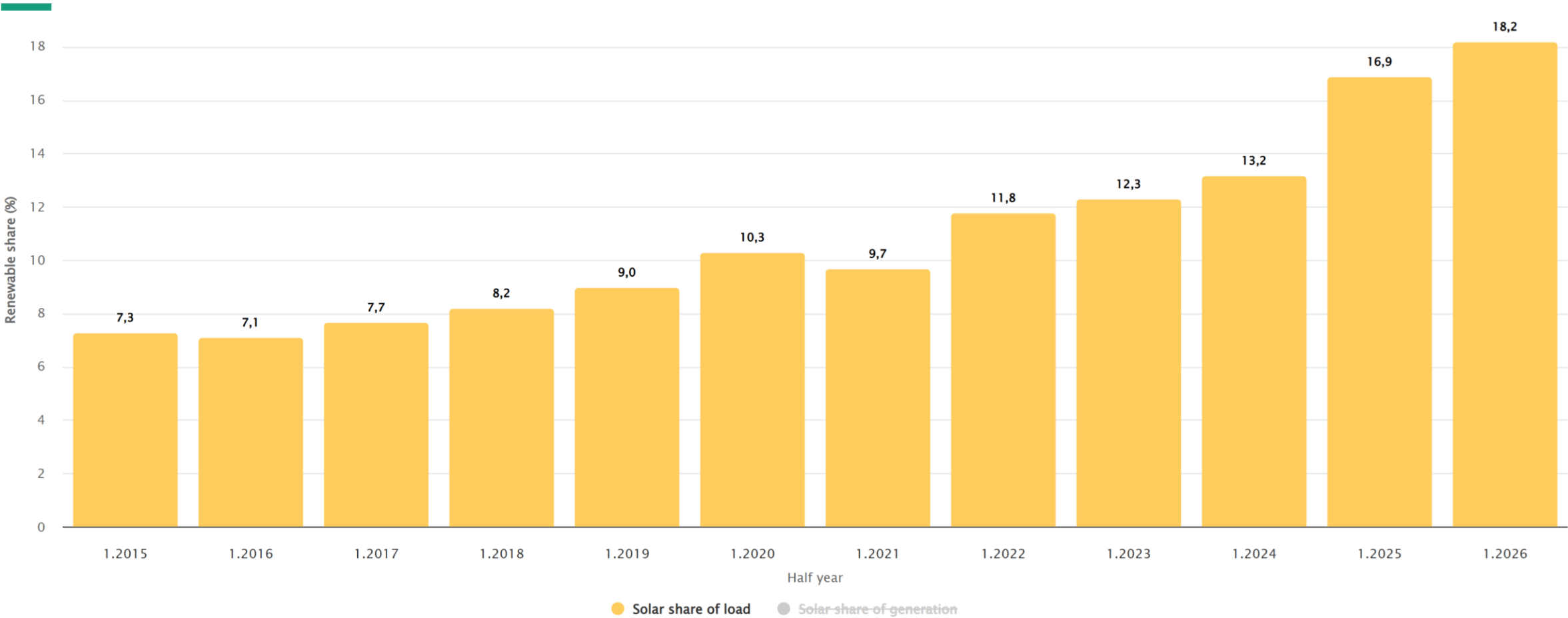
First half of 2015 - 2026



Energy-Charts.info - last update: 02.07.2026, 08:02 MESZ
https://www.energy-charts.info/charts/renewable_share/chart.htm?l=en&c=DE&interval=halfyear&year=-1&halfyear=1&legendItems=10&share=wind_share&partsum=1

Share of solar energy in the electricity consumption

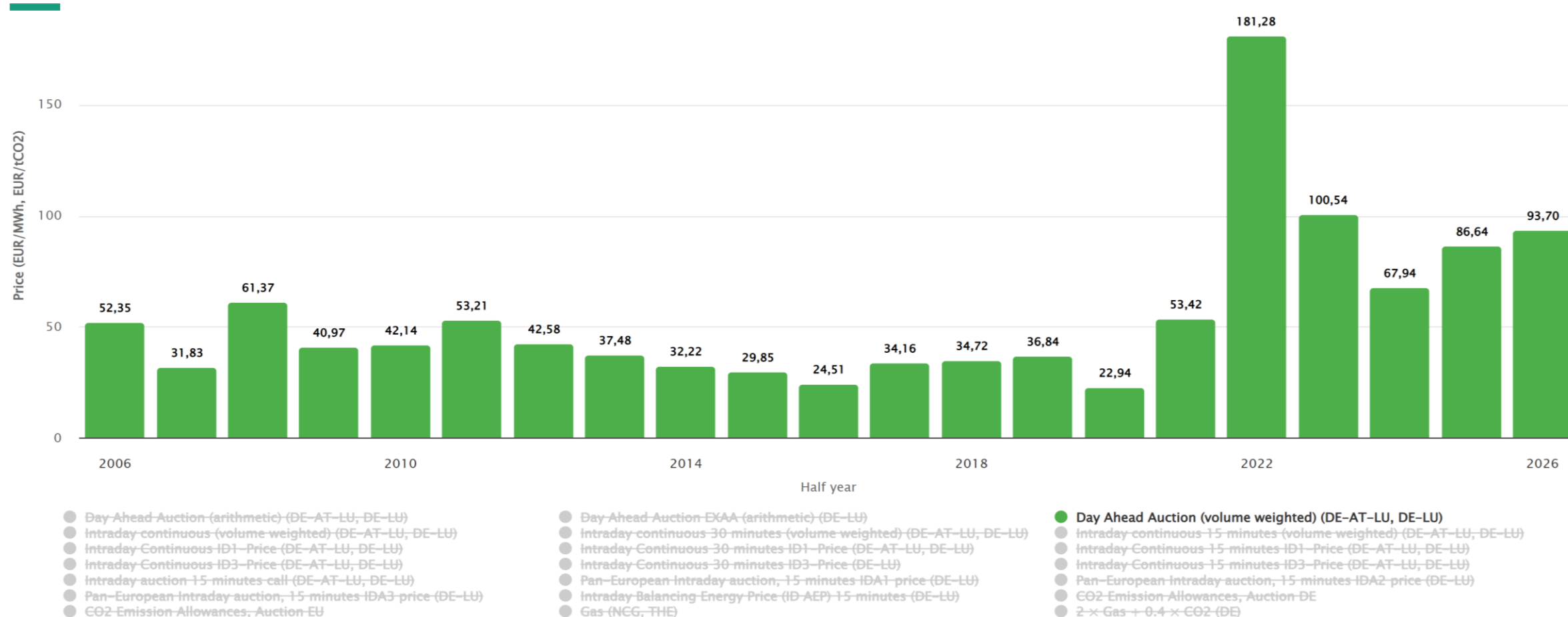
First half of 2015 - 2026



Energy-Charts.info - last update: 02.07.2026, 08:02 MESZ
https://www.energy-charts.info/charts/renewable_share/chart.htm?l=en&c=DE&interval=halfyear&halfyear=1&year=-1&legendItems=10&share=solar_share

EPEX Spotprice, Day-Ahead Auction

Nominal volume-weighted average price, first half of 2006 - 2026

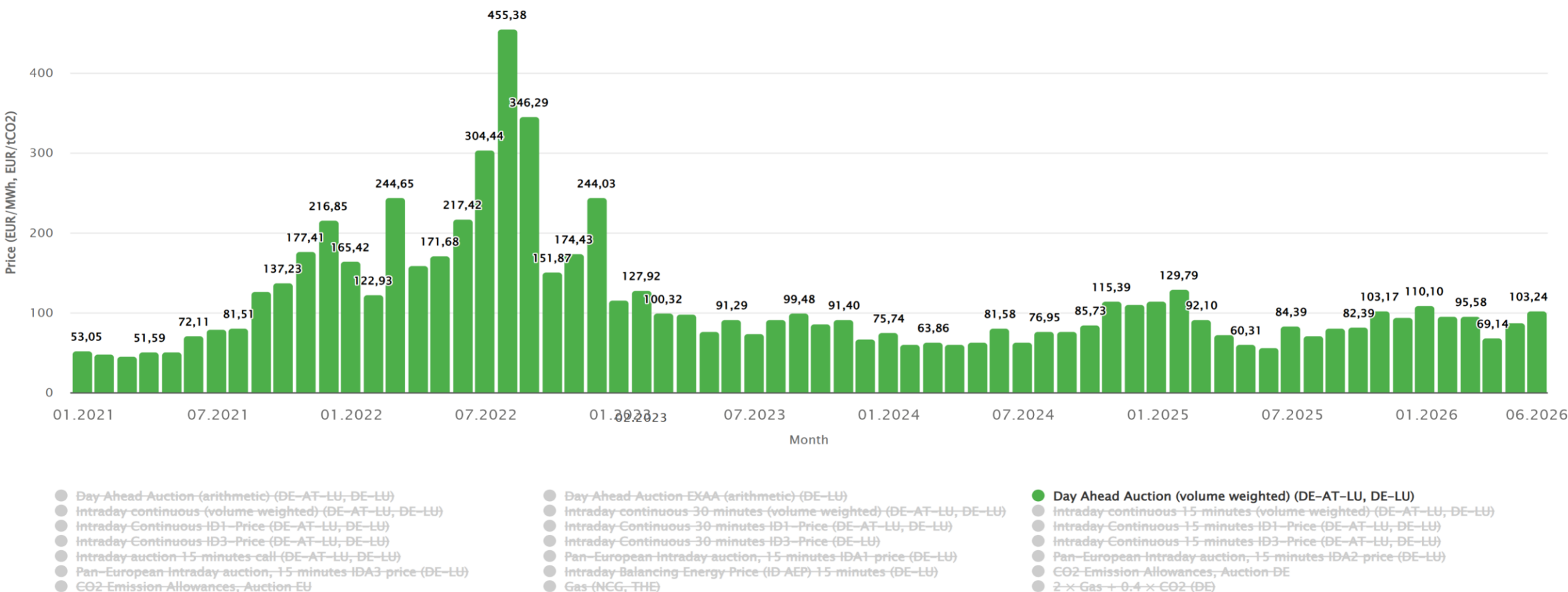


Energy-Charts.info - last update: 02.07.2026, 08:07 MESZ

https://www.energy-charts.info/charts/price_average/chart.htm?l=en&c=DE&interval=halfyear&halfyear=1&year=-1&legendItems=gy2

EPEX Spotprice, Day-Ahead Auction

Nominal volume-weighted average price, all months from 2021 to 2026

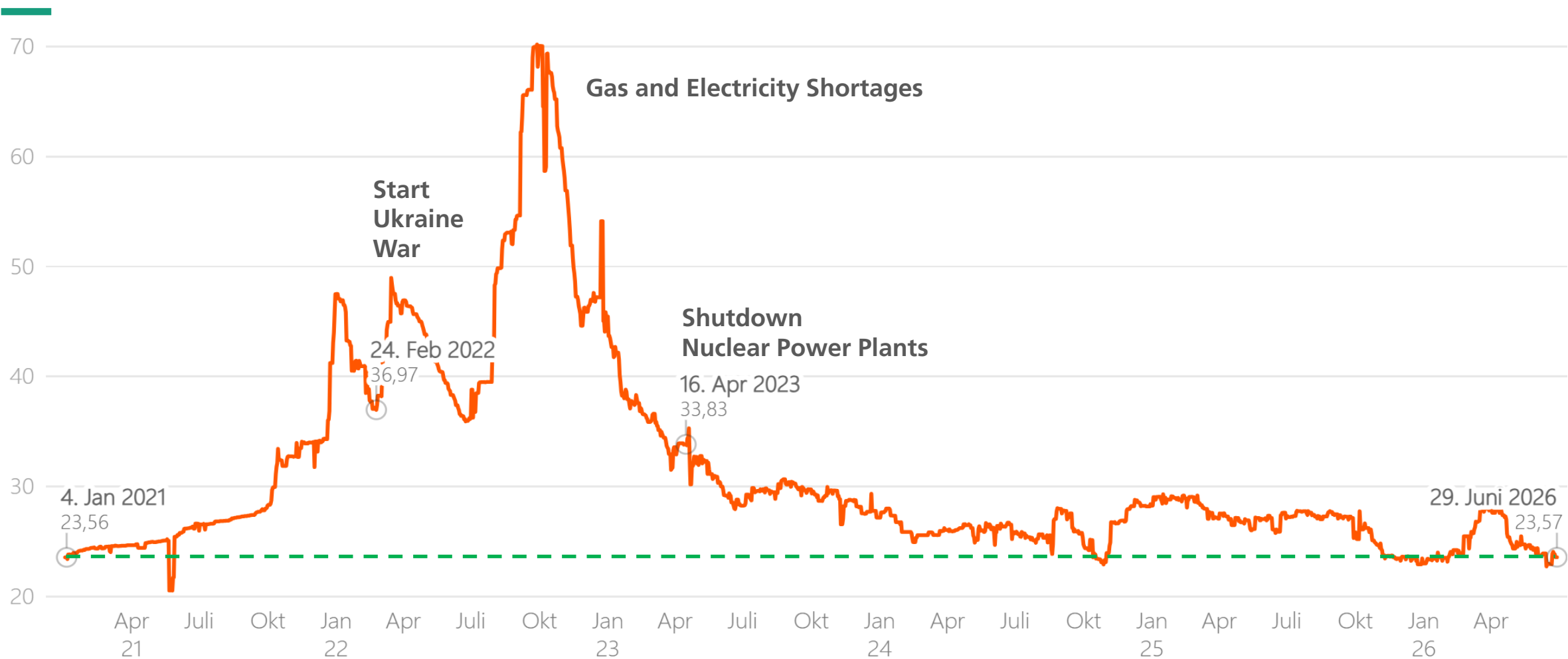


Energy-Charts.info - last update: 02.07.2026, 08:09 MESZ

https://www.energy-charts.info/charts/price_average/chart.htm?l=en&c=DE&interval=month&year=-1&legendItems=gy2&month=-1×lider=0&min=180&max=245

Electricity Price Trends for New Customers

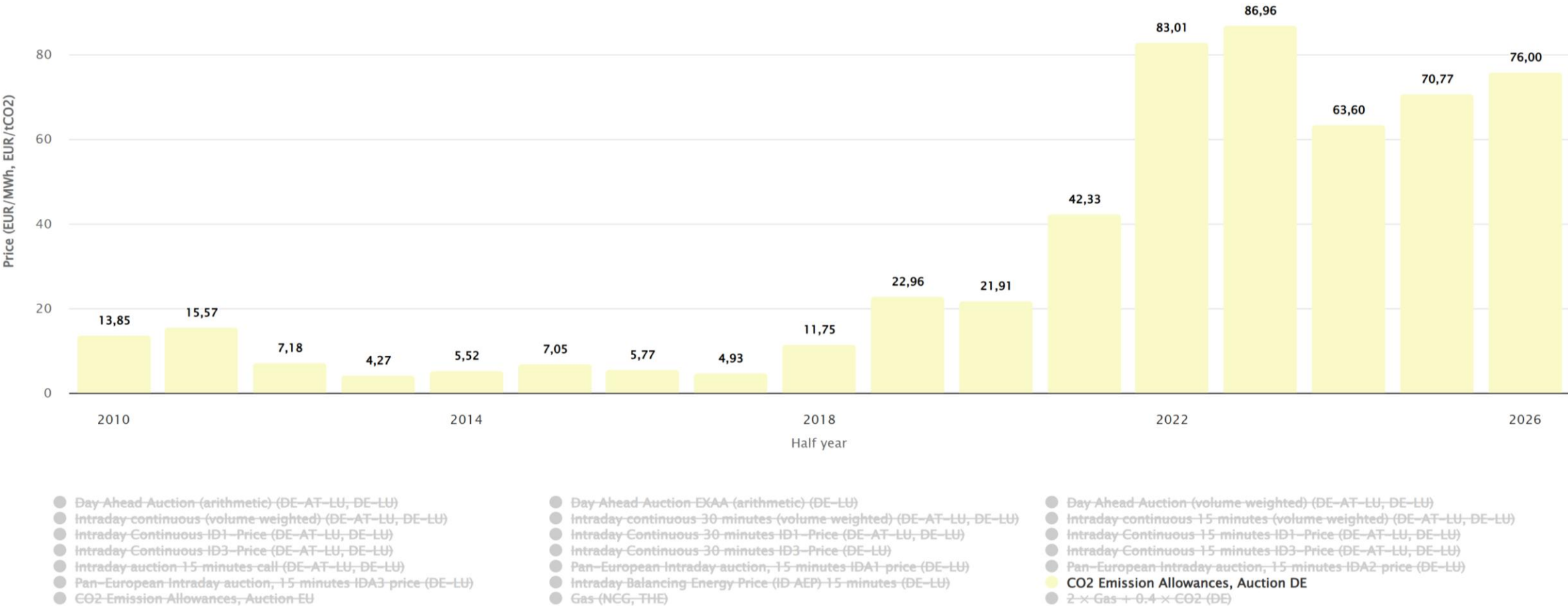
Verivox



Quelle: <https://www.verivox.de/strom/strompreise/>

CO2 Emission Allowance Price (EUA), Auction DE

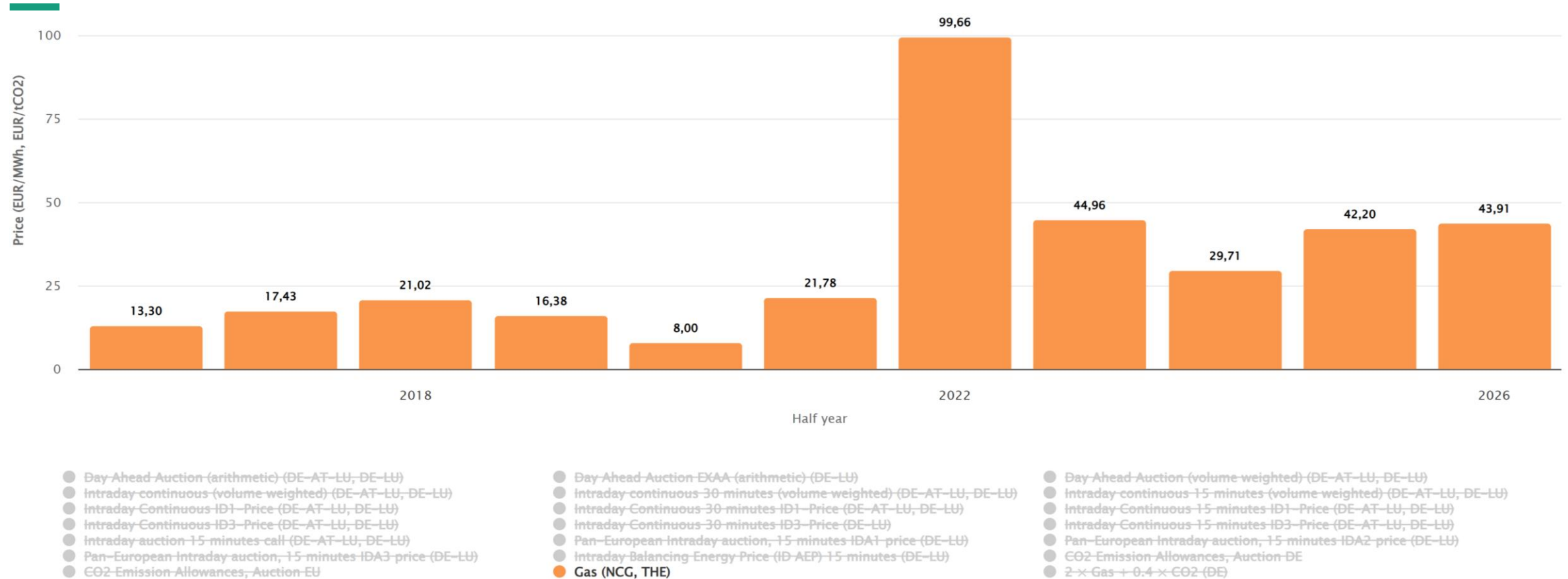
Average price, first half of 2010 - 2026



Energy-Charts.info - last update: 02.07.2026, 08:07 MESZ
https://www.energy-charts.info/charts/price_average/chart.htm?l=en&c=DE&interval=halfyear&halfyear=1&year=-1&legendItems=lyh×lider=0&min=4&max=20

Erdgaspreis

Average price, first half of 2016 - 2026



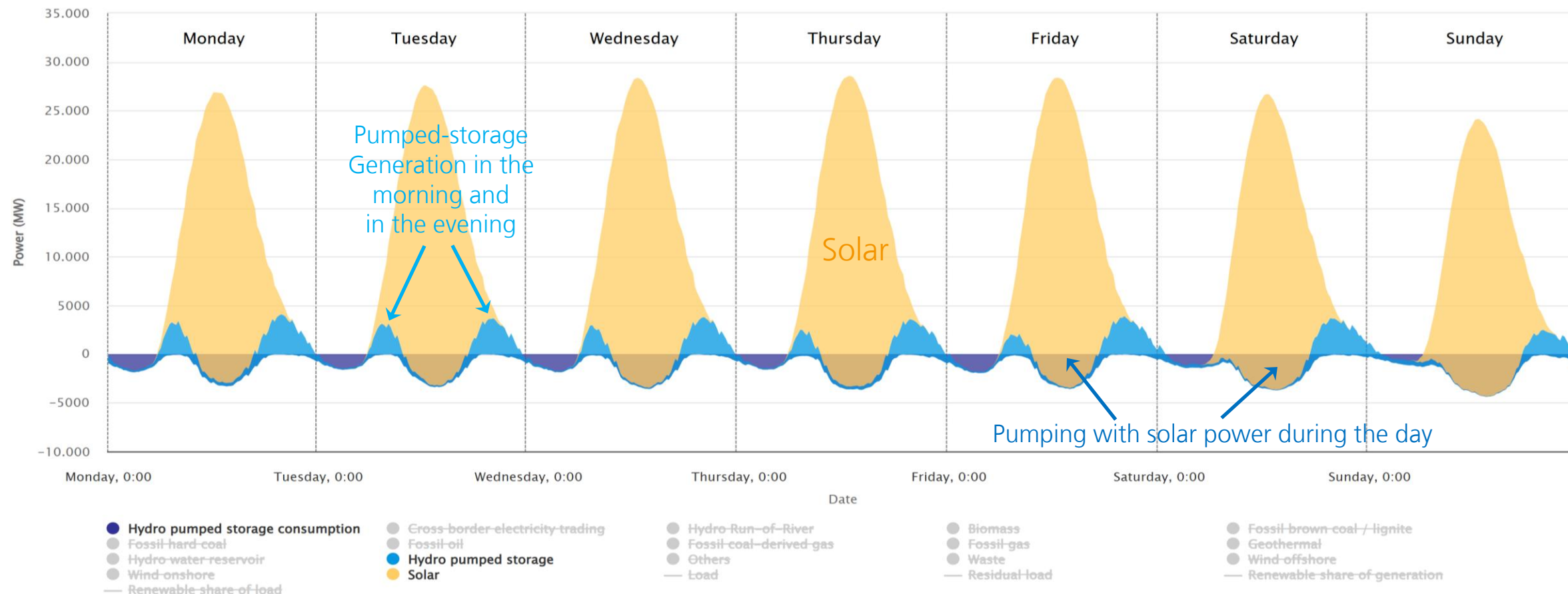
Energy-Charts.info - last update: 02.07.2026, 08:07 MESZ

Up to 30.09.2021 NetConnect Germany (NCG), since 01.10.2021 Trading Hub Europe GmbH (THE).

https://www.energy-charts.info/charts/price_average/chart.htm?l=en&c=DE&interval=halfyear&halfyear=1&year=-1&legendItems=lyj×lider=1&min=10&max=20

Average Electricity Generation Over the Course of a Week

Solar, Hydro pumped storage generation and consumption, first half of 2026



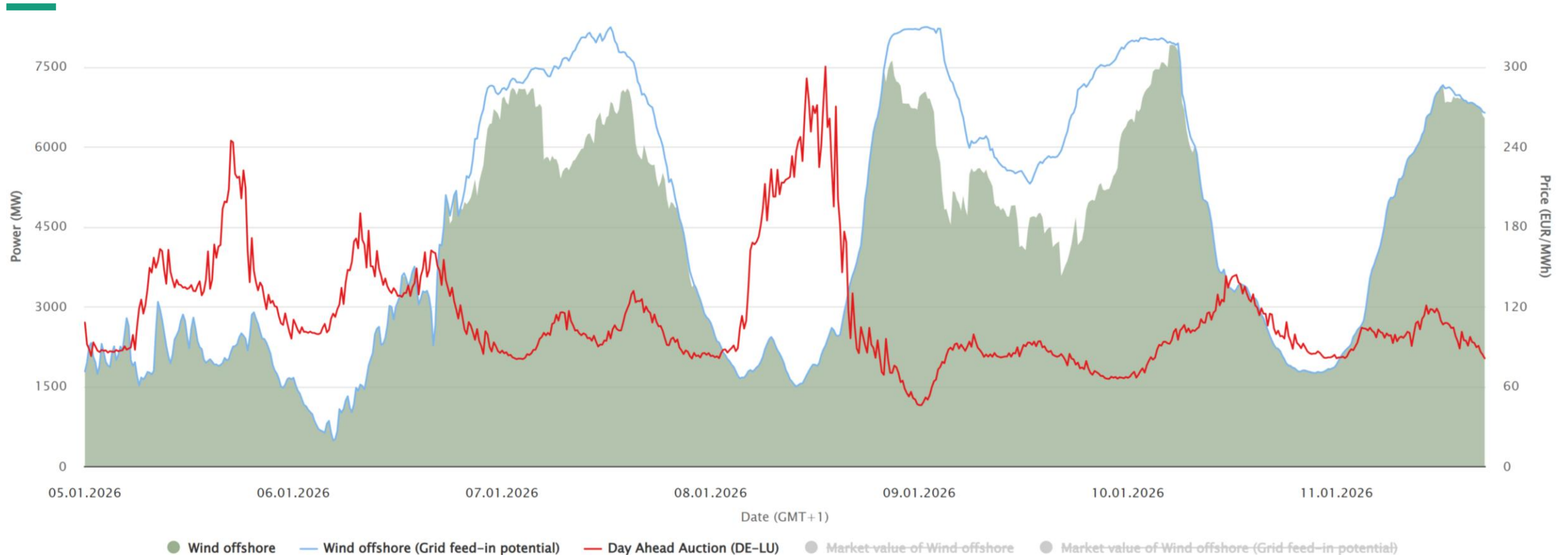
Energy-Charts.info - last update: 02.07.2026, 08:30 MESZ

<https://www.energy-charts.info/charts/power/chart.htm?l=en&c=DE&week=-2&year=2026&legendItems=my0ybyg>

*Daten zur öffentlichen Stromerzeugung

A Typical Week with Grid-Related Curtailment of Offshore Wind Power

Week 2, 2026



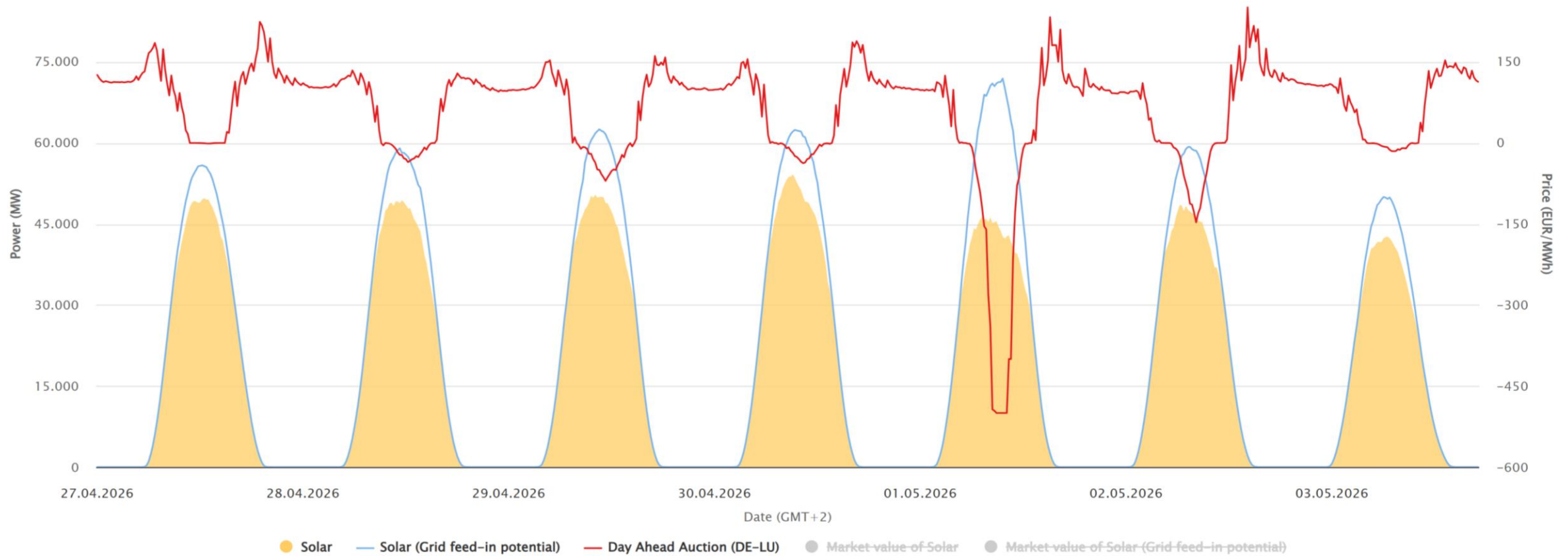
Market values: Wind offshore: 102.73 €/MWh (91.3 %); Wind offshore (≥ 0 €/MWh): 102.73 €/MWh (91.3 %); Wind offshore (Grid feed-in potential): 100.98 €/MWh (89.8 %); Day Ahead Auction (DE-LU): 112.48 €/MWh (100 %)

Energy-Charts.info - last update: 02.07.2026, 08:28 MESZ

https://energy-charts.info/charts/power_potential/chart.htm?l=en&c=DE&interval=week&dataType=wind_offshore&week=02&legendItems=0xs&year=2026

A Typical Week with Market-Driven Curtailment of Photovoltaic Generation

Week 18, 2026



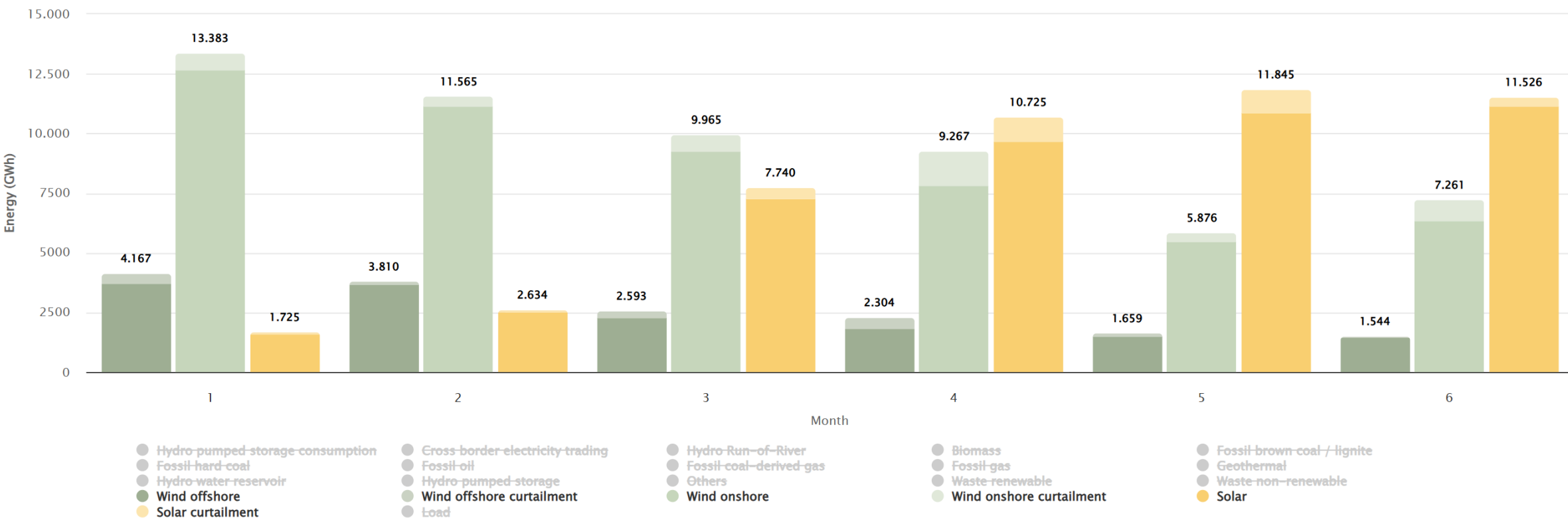
Market values: Solar: -18.19 €/MWh (-29.1 %); Solar (≥ 0 €/MWh): 59.63 €/MWh (95.3 %); Solar (Grid feed-in potential): -29.81 €/MWh (-47.6 %); Day Ahead Auction (DE-LU): 62.59 €/MWh (100 %)

Energy-Charts.info - last update: 02.07.2026, 08:28 MESZ

https://energy-charts.info/charts/power_potential/chart.htm?l=en&c=DE&interval=week&dataType=solar&week=18&legendItems=0xs&year=2026

Monthly Energy Data for Grid Injection and Curtailment* for PV and Wind

As of: End of June 2026



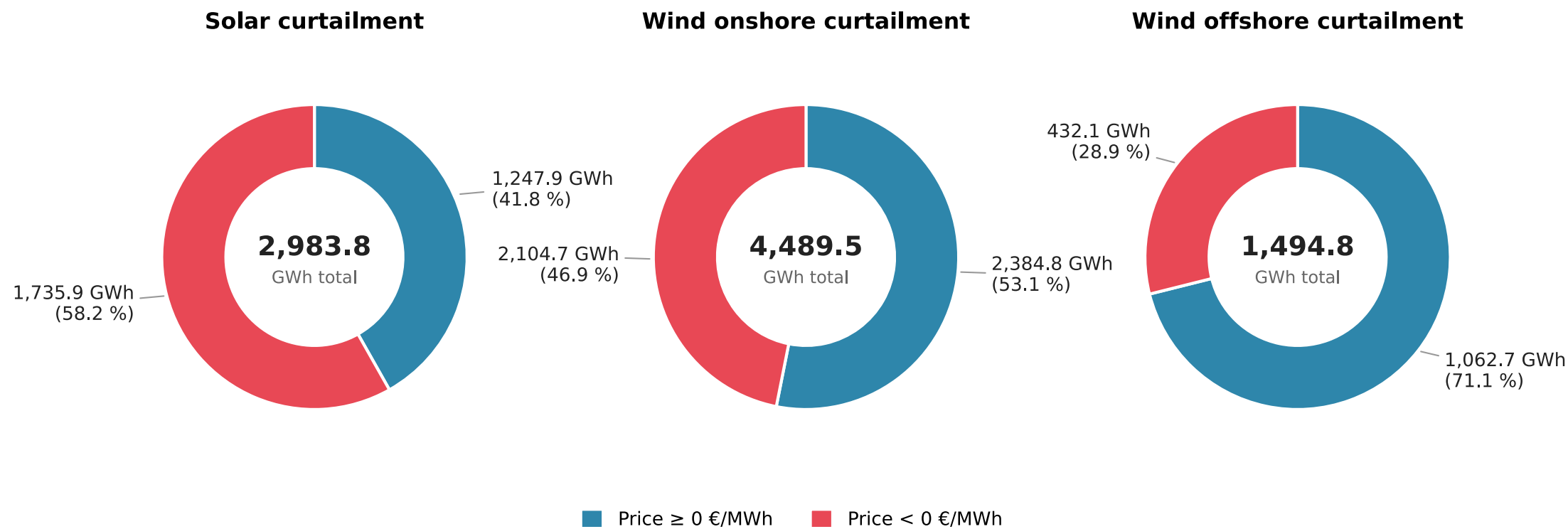
Energy-Charts.info - last update: 30.06.2026, 22:30 MESZ

<https://energy-charts.info/charts/energy/chart.html?l=en&c=DE&month=-1&year=2026>

* The curtailment volumes are calculated based on the difference between the grid injection potential and the net public electricity generation of the four German transmission system operators

Curtailment of Solar and Wind Power in the First Half of 2026

Settlement Based on the Day-Ahead Price During Curtailment*

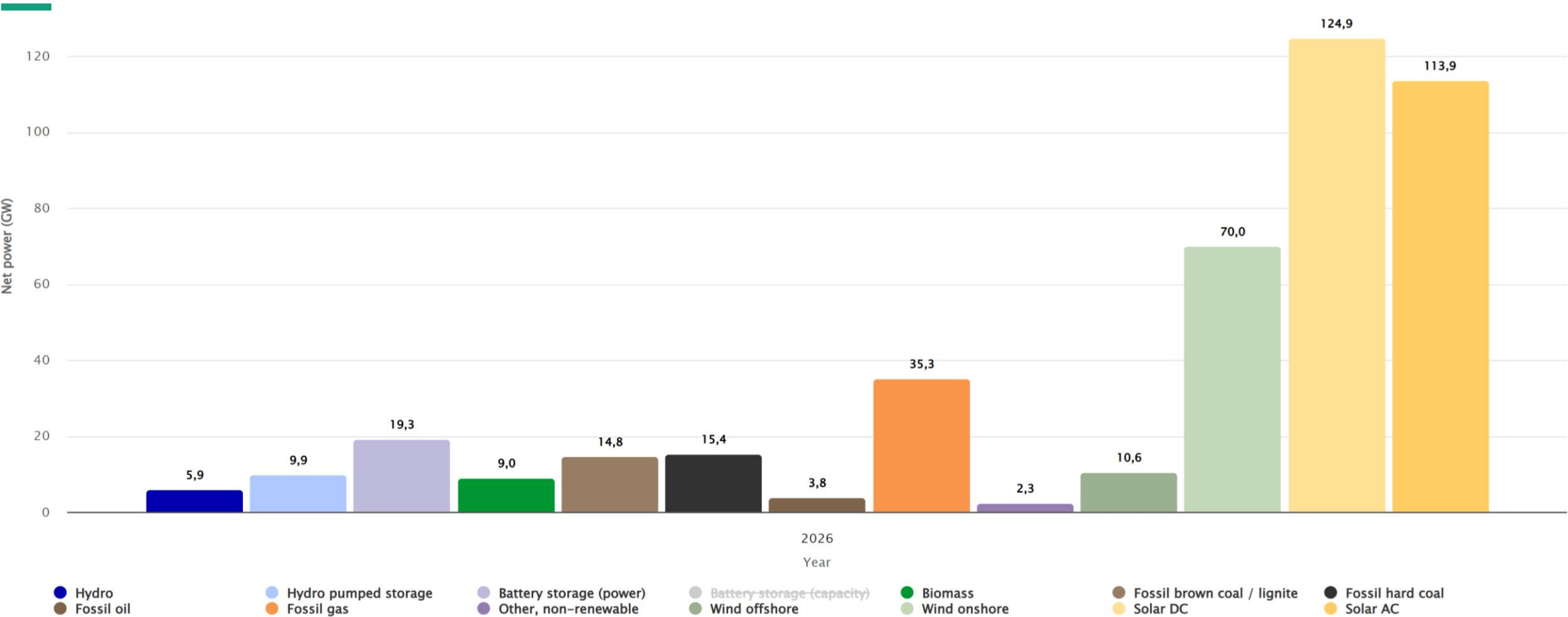


https://energy-charts.info/charts/power_potential/chart.htm?l=de&c=DE&year=2026&interval=month

* Curtailment occurs when prices are ≥ 0 due to grid congestion (redispatch); when prices are < 0 €/MWh, it is primarily market-based

Power generation and storage facilities in Germany 2026

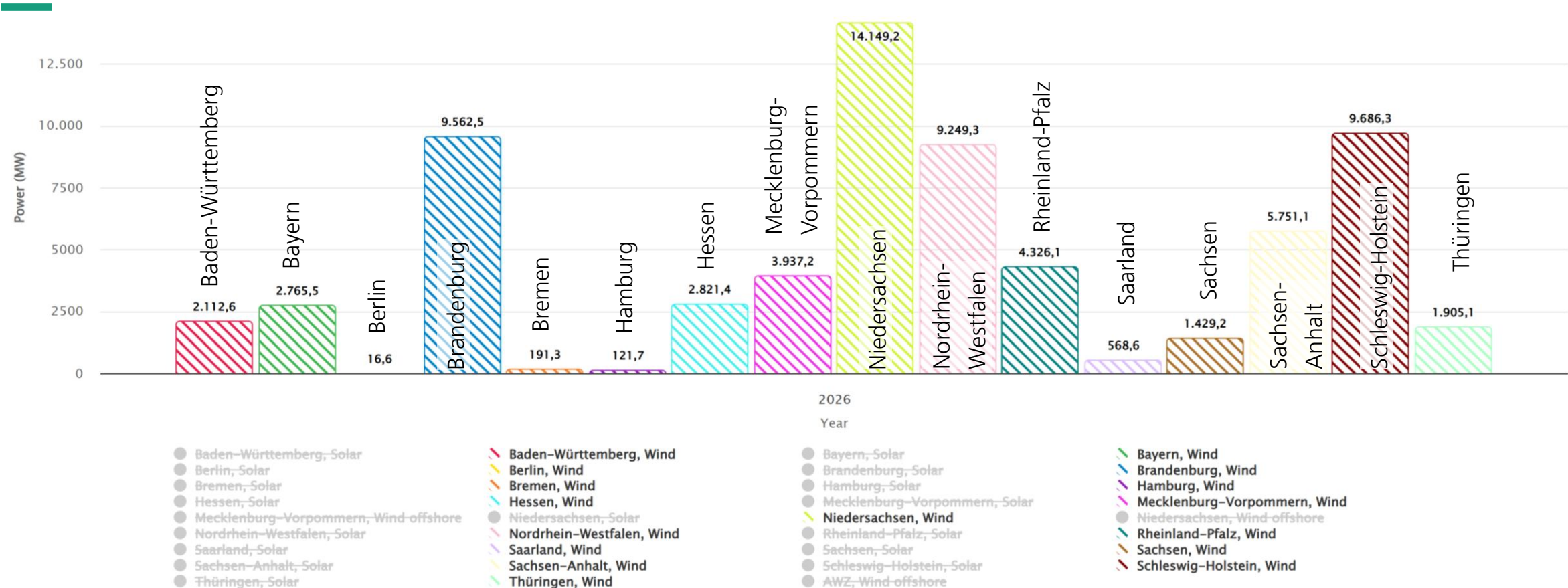
As of: End of June 2026



Energy-Charts.info - last update: 01.07.2026, 09:58 MESZ
https://www.energy-charts.info/charts/installed_power/chart.html?l=en&c=DE&chartColumnSorting=default&legendItems=e3&sum=0&partsum=1

Installed Wind Power Capacity in the Federal States

As of: End of May 2026

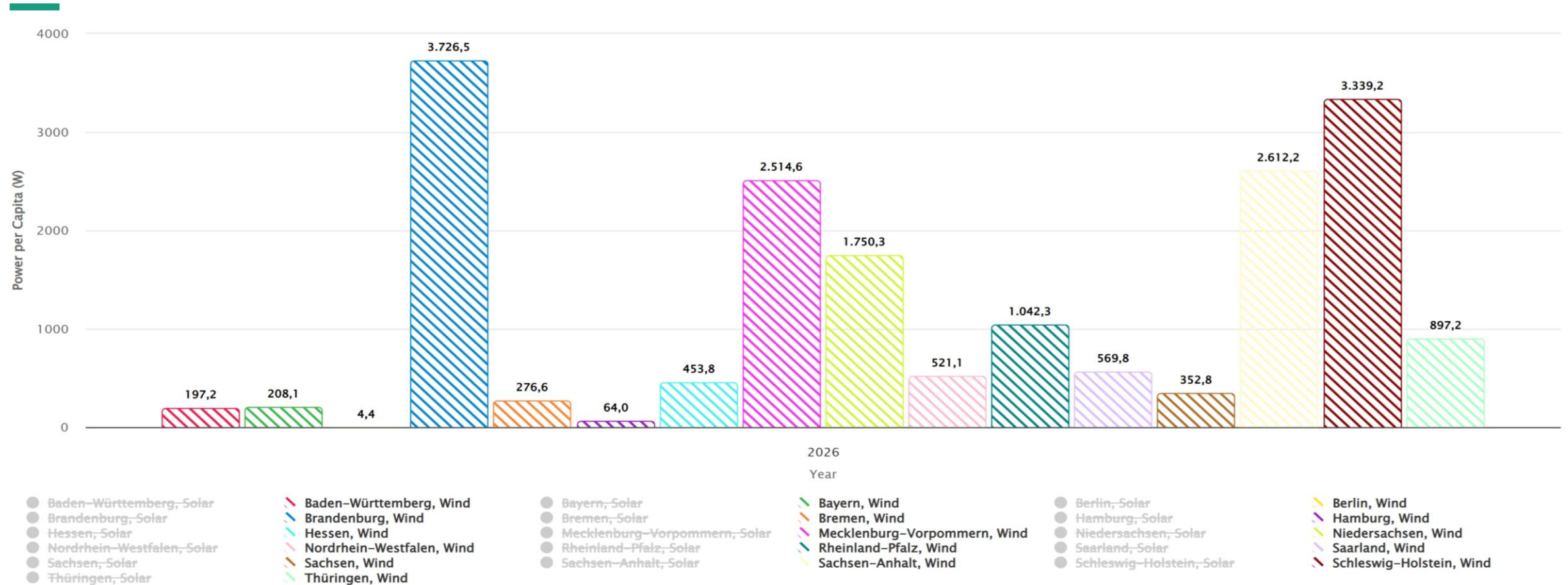


The installed capacities from 2022 onwards are based on an evaluation of the Federal Network Agency's (Bundesnetzagentur) publication "Statistiken ausgewählter erneuerbarer Energieträger zur Stromerzeugung" and include values up to and including February 2026.

Energy-Charts.info - last update: 19.03.2026, 11:55 MEZ
https://www.energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&chartColumnSorting=default&legendItems=0&sum=0&partsum=1&interval=year&year=2026&expansion=p_inst_states&stacking=single

Installed wind power capacity per capita in the federal states

As of: End of May 2026



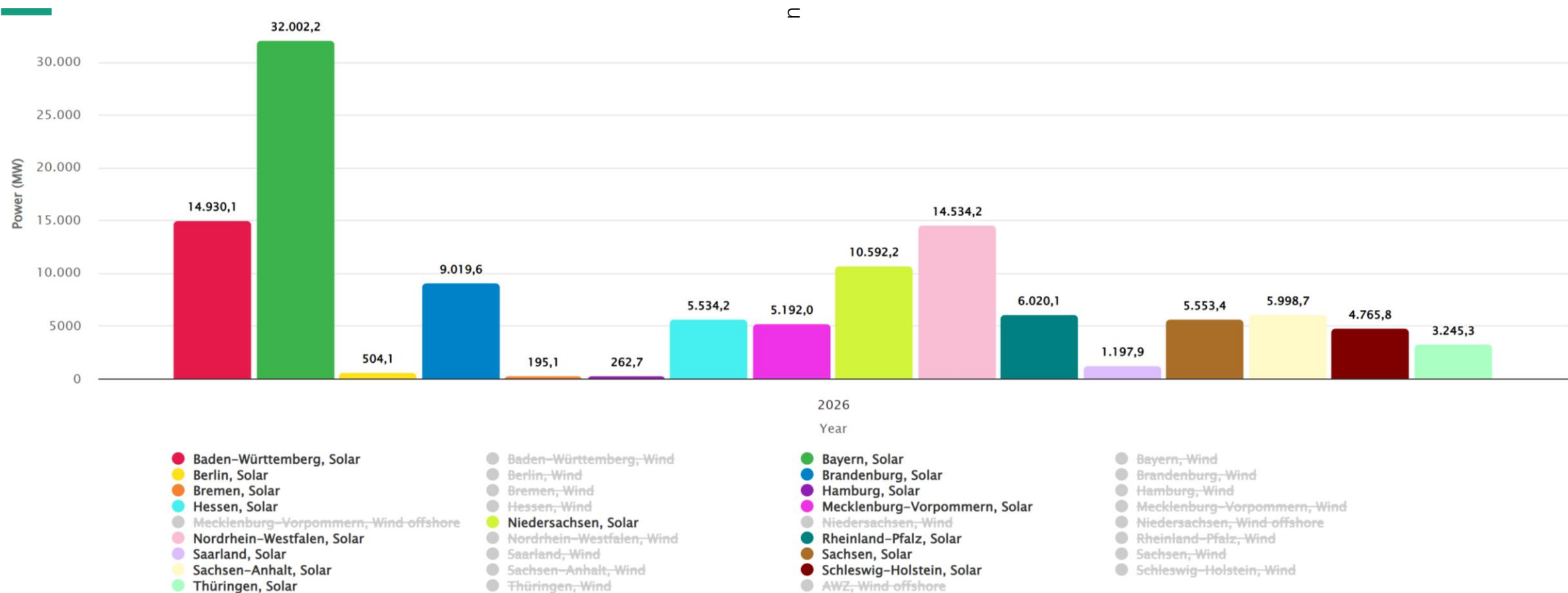
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Energy-Charts.info - last update: 30.06.2026, 19:56 MESZ

https://www.energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&chartColumnSorting=default&legendItems=3x1alal&sum=0&partsum=1&interval=year&year=2026&expansion=p_inst_states_population&stacking=single

Installed Solar Capacity in the federal states

As of: End of May 2026

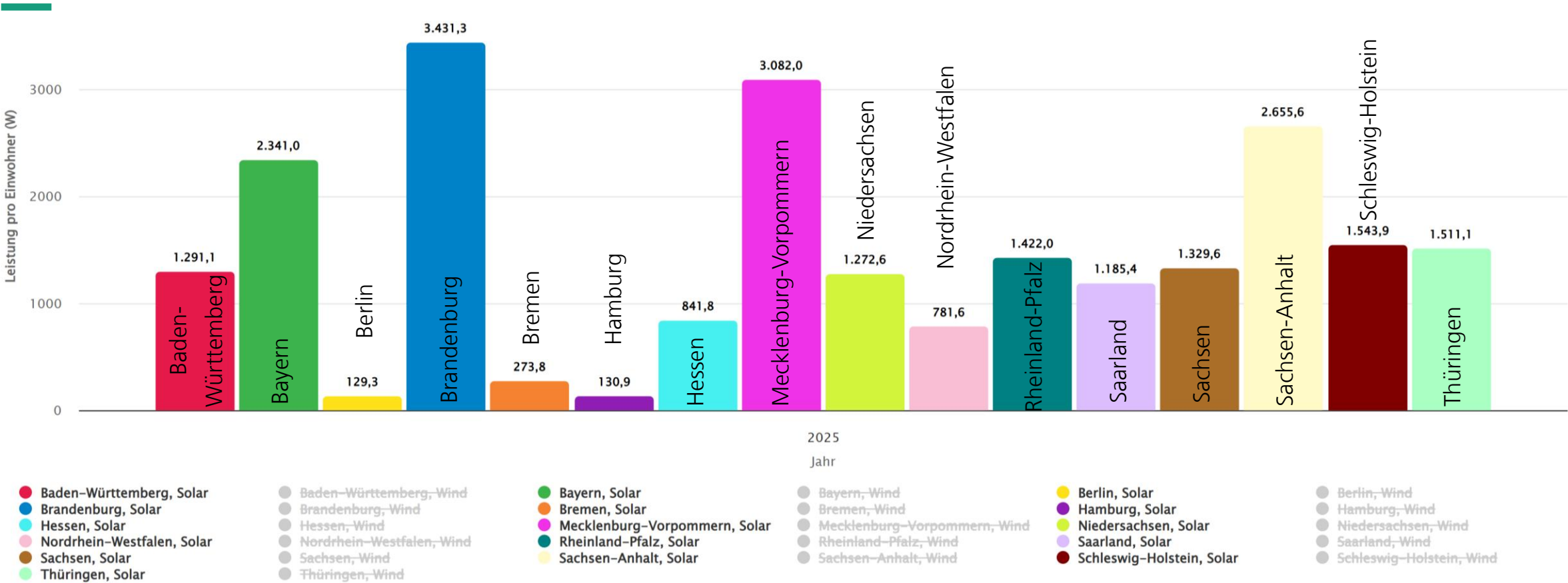


The installed capacities from 2022 onwards are based on an evaluation of the Federal Network Agency's (Bundesnetzagentur) publication "Statistiken ausgewählter erneuerbarer Energieträger zur Stromerzeugung" and include values up to and including February 2026.

Energy-Charts.info - last update: 19.03.2026, 11:55 MEZ
https://www.energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&chartColumnSorting=default&legendItems=0x1a4lak&sum=0&partsum=1&interval=year&year=2026&expansion=p_inst_states&stacking=single

Installed Solar Capacity per Capita in the federal states

As of: End of May 2026



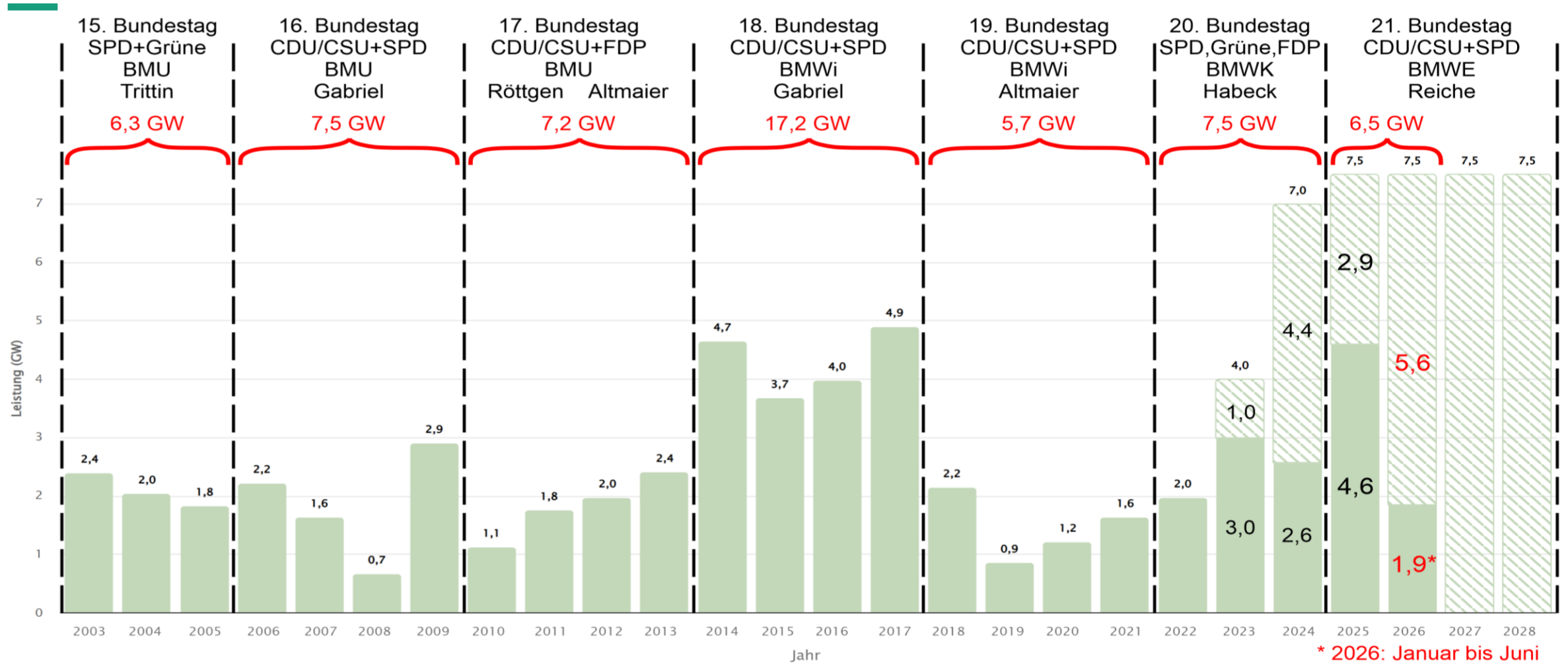
Die installierten Leistungen ab 2022 basieren auf einer Auswertung der Veröffentlichung "Statistiken ausgewählter erneuerbarer Energieträger zur Stromerzeugung" der Bundesnetzagentur und beinhalten Werte bis einschließlich Mai 2026.

Energy-Charts.info - letztes Update: 30.06.2026, 19:56 MESZ

https://www.energy-charts.info/charts/installed_power/chart.htm?l=de&c=DE&chartColumnSorting=default&legendItems=3x2lalala&sum=0&partsum=1&interval=year&year=2025&expansion=p_inst_states_population&stacking=single

Annual Onshore Wind Capacity Additions

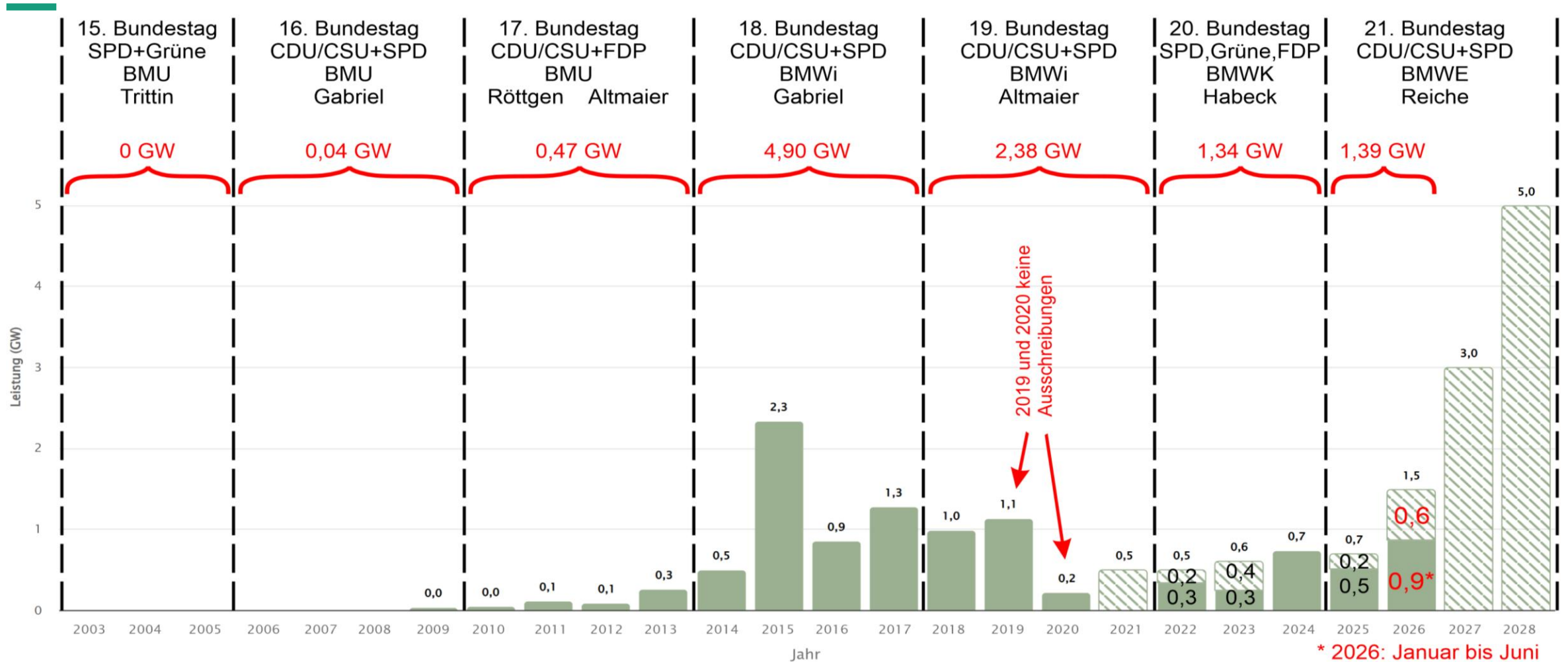
Year 2002 to 2026



https://www.energy-charts.info/charts/installed_power/chart.html?l=en&c=DE&expansion=installation_decommission&year=-1&legendItems=eyb

Annual Offshore Wind Capacity Additions

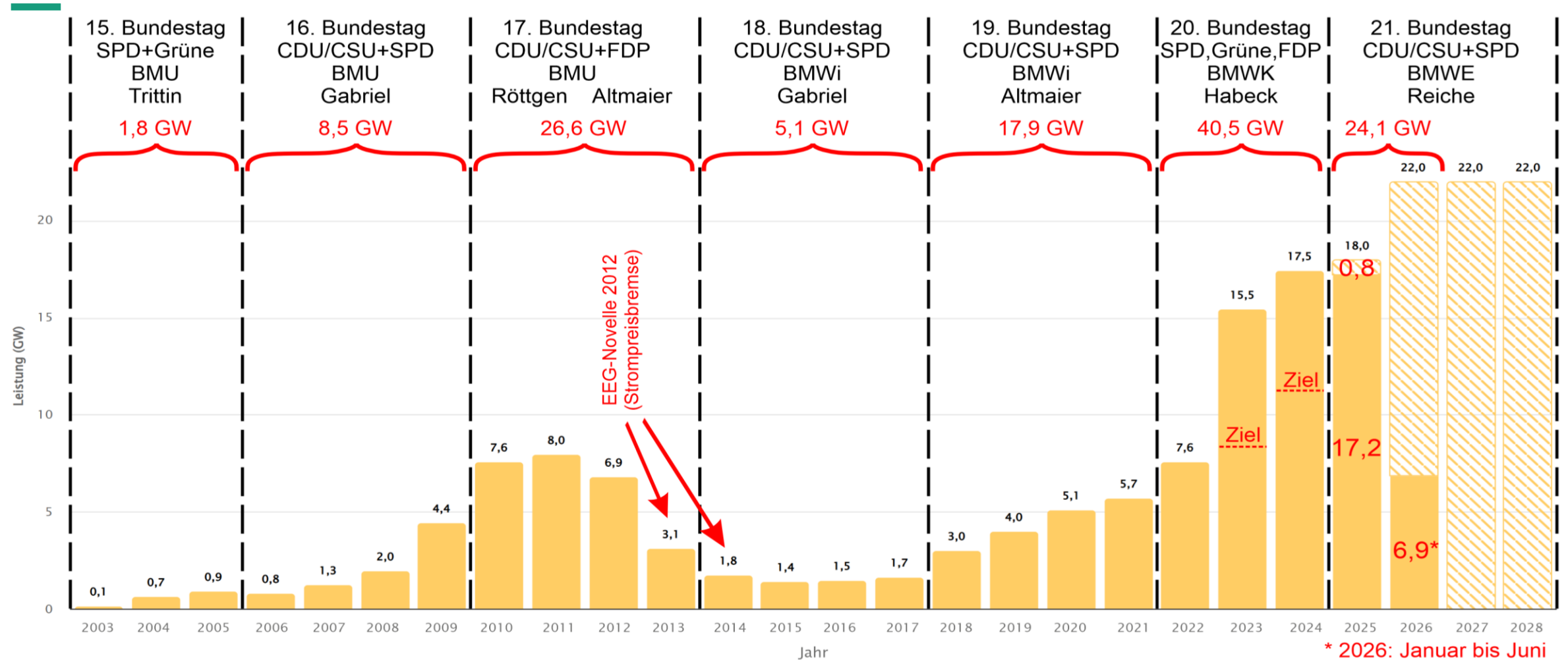
Year 2002 to 2026



https://www.energy-charts.info/charts/installed_power/chart.html?l=de&c=DE&expansion=installation_decommission&year=-1&legendItems=eya

Annual Solar Capacity Additions

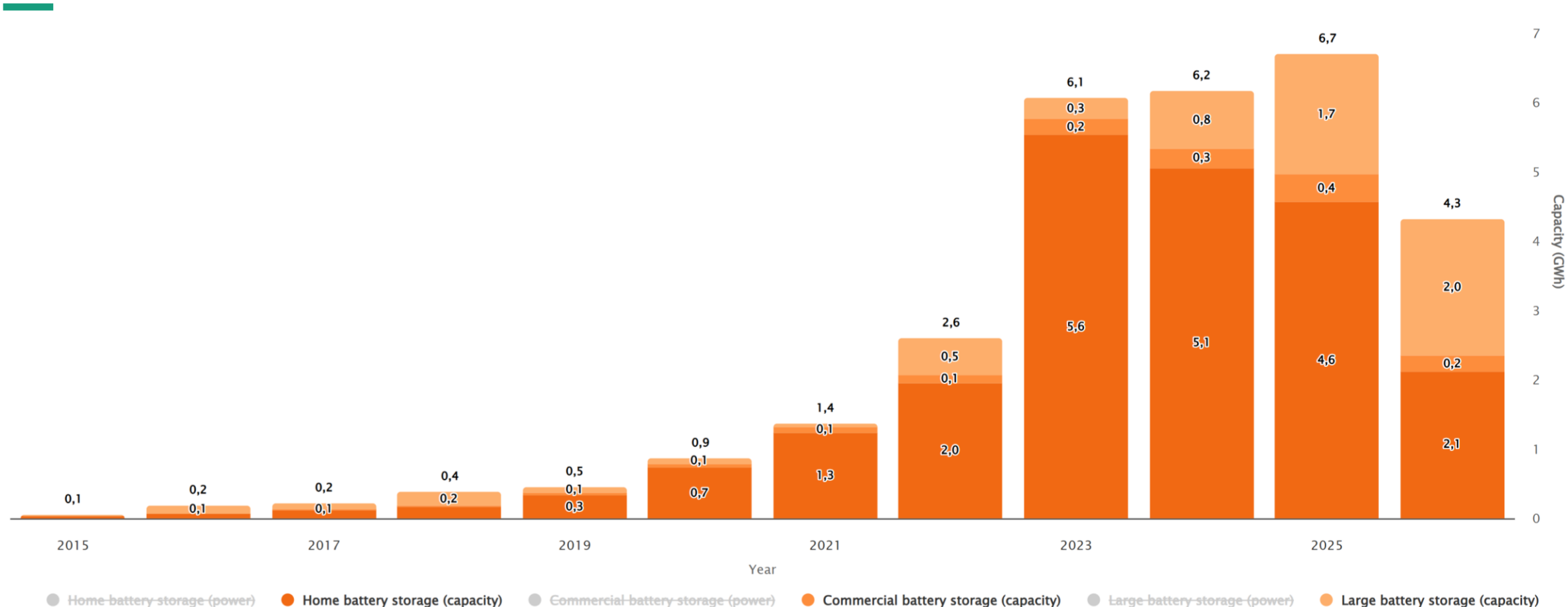
Year 2002 to 2026



https://www.energy-charts.info/charts/installed_power/chart.html?l=de&c=DE&expansion=installation_decommission&year=-1&legendItems=dw1

Annual Increase in Battery Storage Capacity

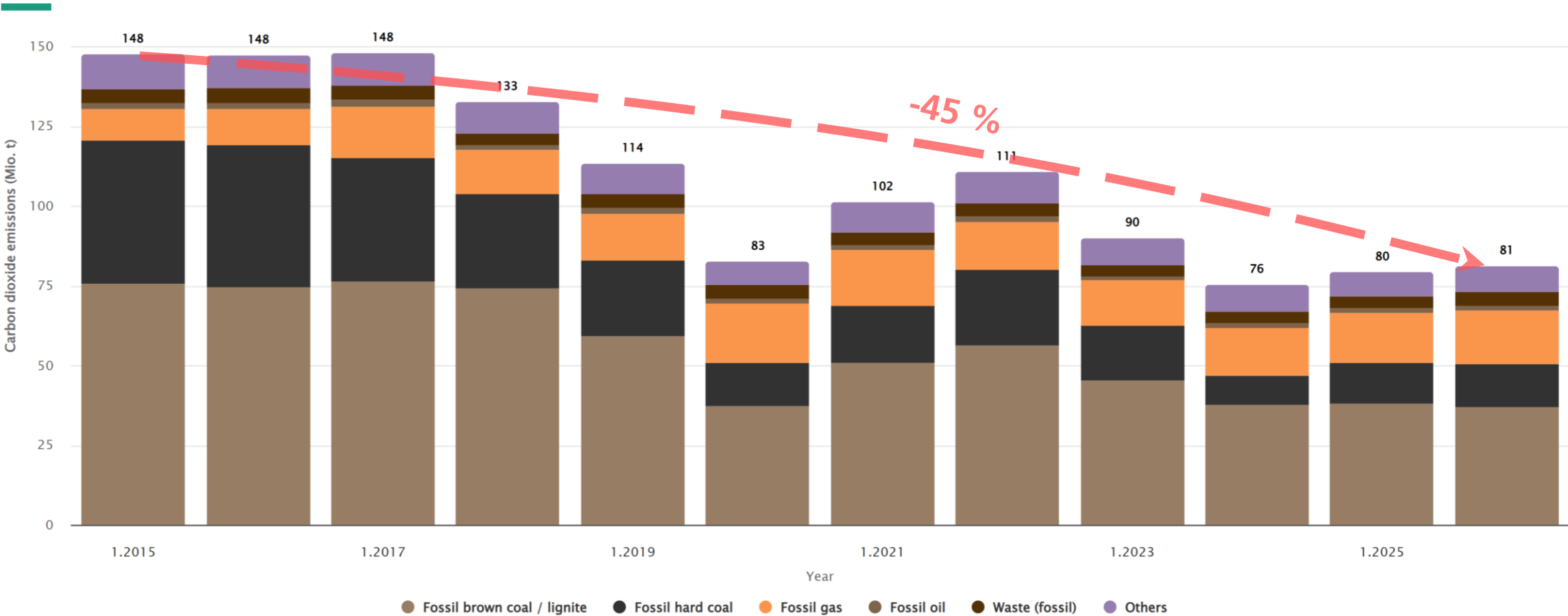
Full years from 2015 to 2025 and half a year in 2026



Energy-Charts.info - last update: 01.07.2026, 09:58 MESZ
https://www.energy-charts.info/charts/installed_power/chart.htm?l=en&c=DE&expansion=dp_inst_battery_storage&year=-1&legendItems=4x0

Estimation of CO2 Emissions from Electricity Generation

First half of 2016 - 2026



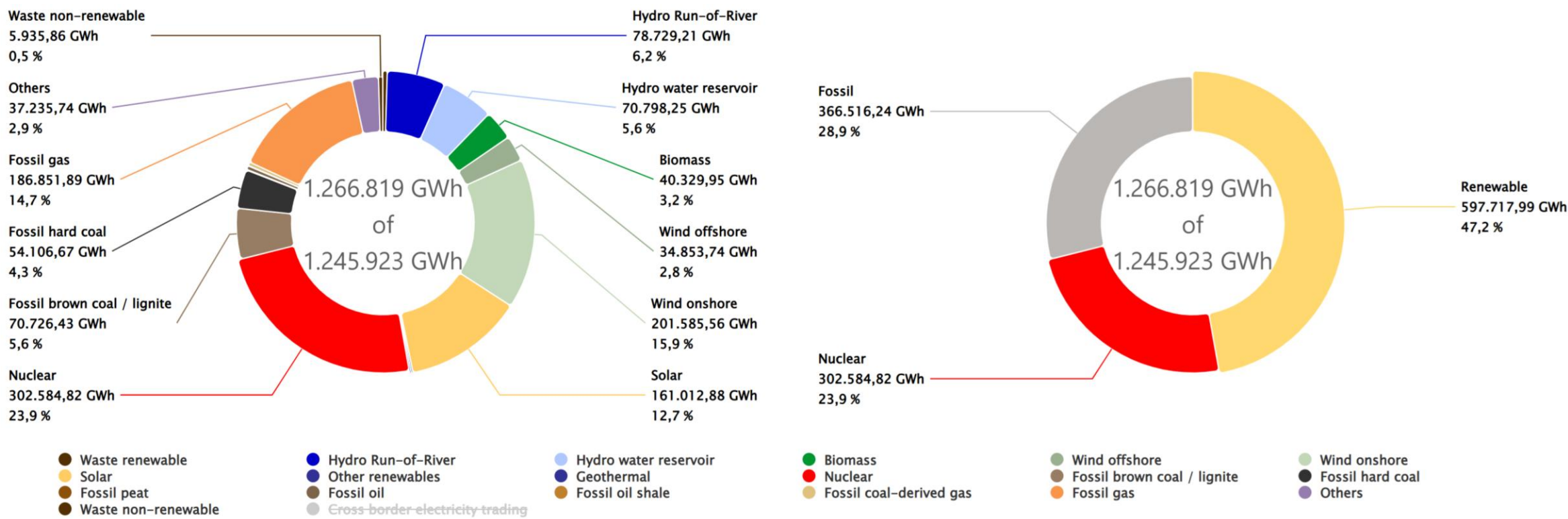
Energy-Charts.info - last update: 01.07.2026, 09:29 MESZ
https://energy-charts.info/charts/co2_emissions/chart.htm?l=en&c=DE&interval=halfyear&halfyear=1

Agenda

1. Net Public Electricity Generation in Germany in the First Half of the Year
2. Net Public Electricity Generation in Europe in the First Half of the Year

Net Public Electricity Generation in the European Union (EU-27)

First half of 2026

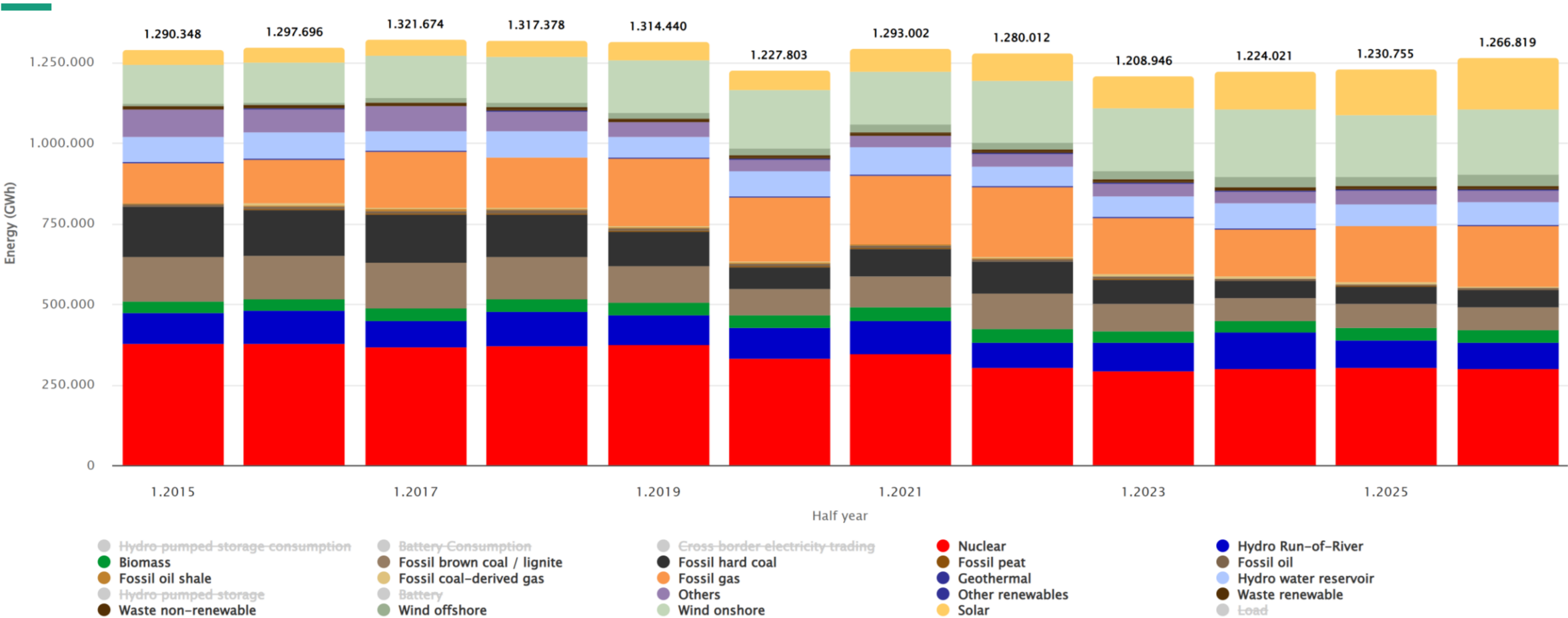


Energy-Charts.info - last update: 02.07.2026, 08:43 MESZ

https://www.energy-charts.info/charts/energy_pie/chart.html?l=en&c=EU&interval=halfyear&year=2026&halfyear=1

Net Public Electricity Generation in the European Union (EU-27)

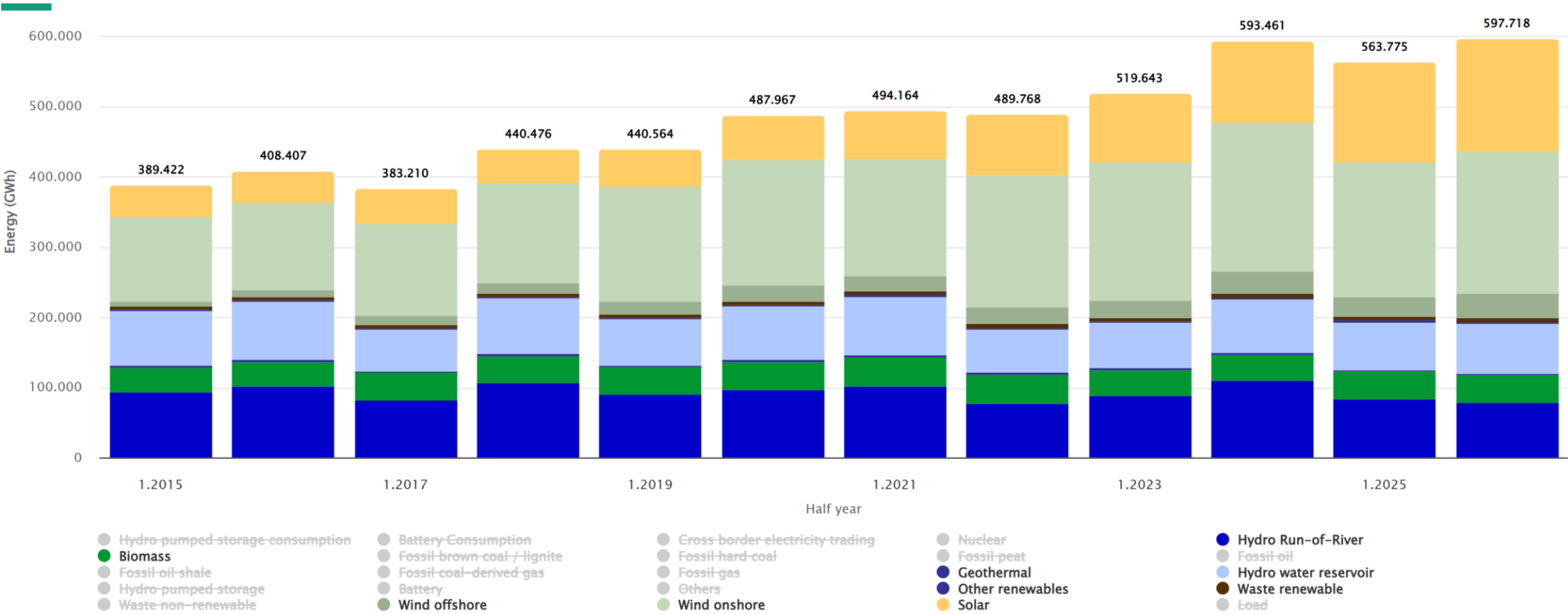
First half of 2015 - 2026



Energy-Charts.info - last update: 02.07.2026, 08:43 MESZ
https://www.energy-charts.info/charts/energy/chart.html?l=en&c=EU&chartColumnSorting=default&interval=halfyear&year=-1&halfyear=1&stacking=stacked_absolute&partsum=0&sum=1

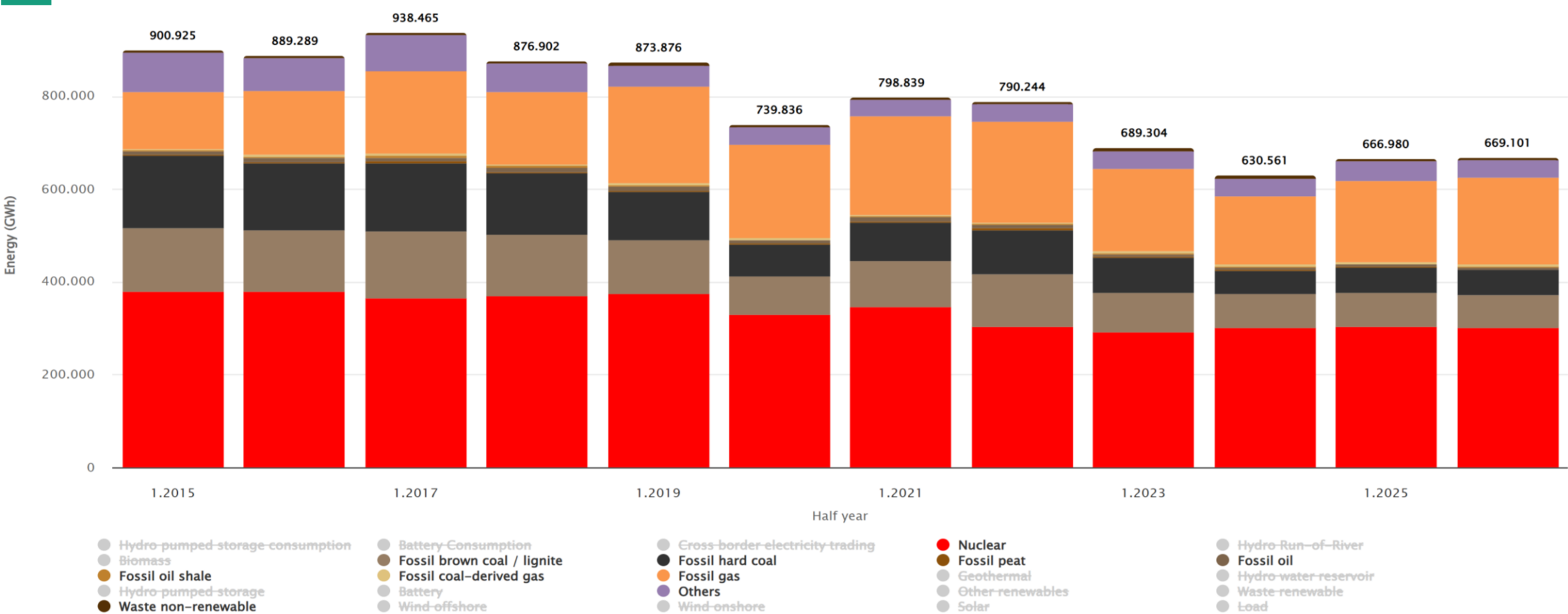
Net Public Electricity Generation in the European Union (EU-27)

Renewable power generation, first half of 2015-2026



Net Public Electricity Generation in the European Union (EU-27)

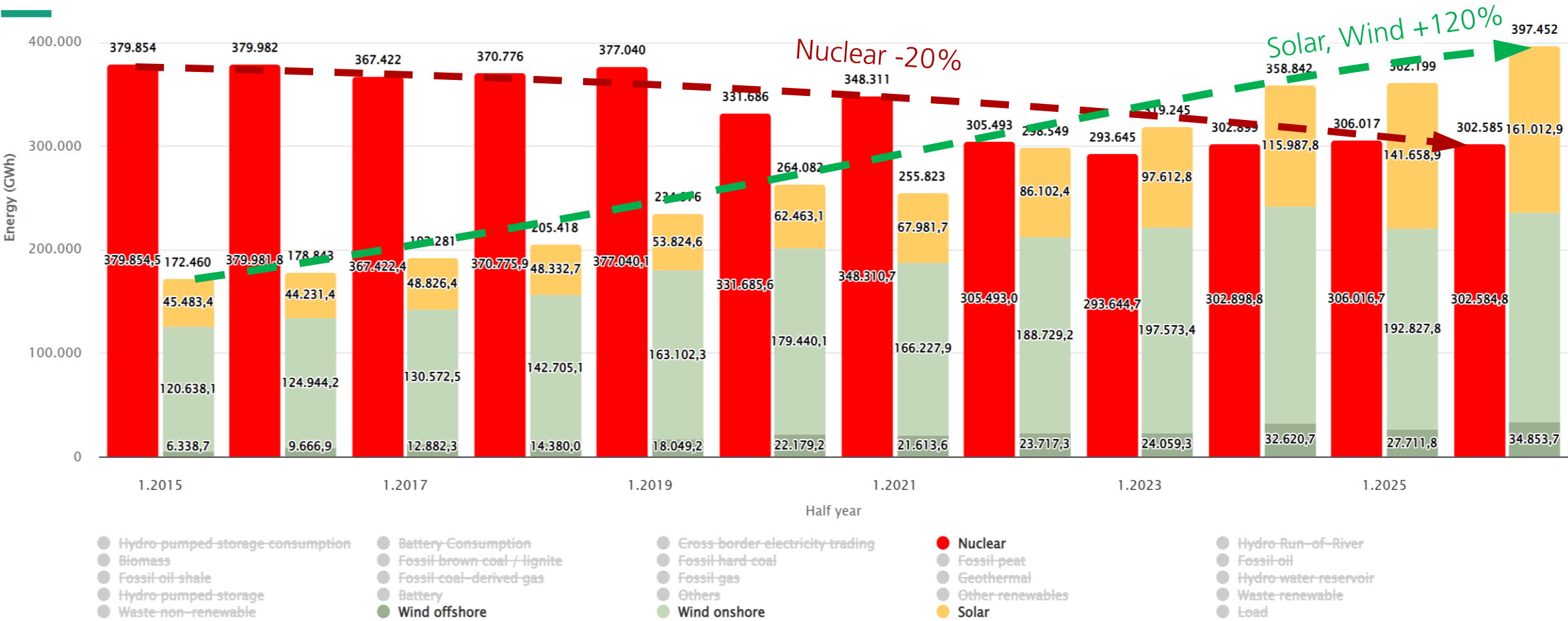
Non-renewable power generation, first half of 2015-2026



Energy-Charts.info - last update: 02.07.2026, 08:43 MESZ
https://www.energy-charts.info/charts/energy/chart.html?l=en&c=EU&chartColumnSorting=default&interval=halfyear&year=-1&halfyear=1&stacking=stacked_absolute&partsum=0&sum=1&legendItems=0x2fs4g

Net Public Electricity Generation in the European Union (EU-27)

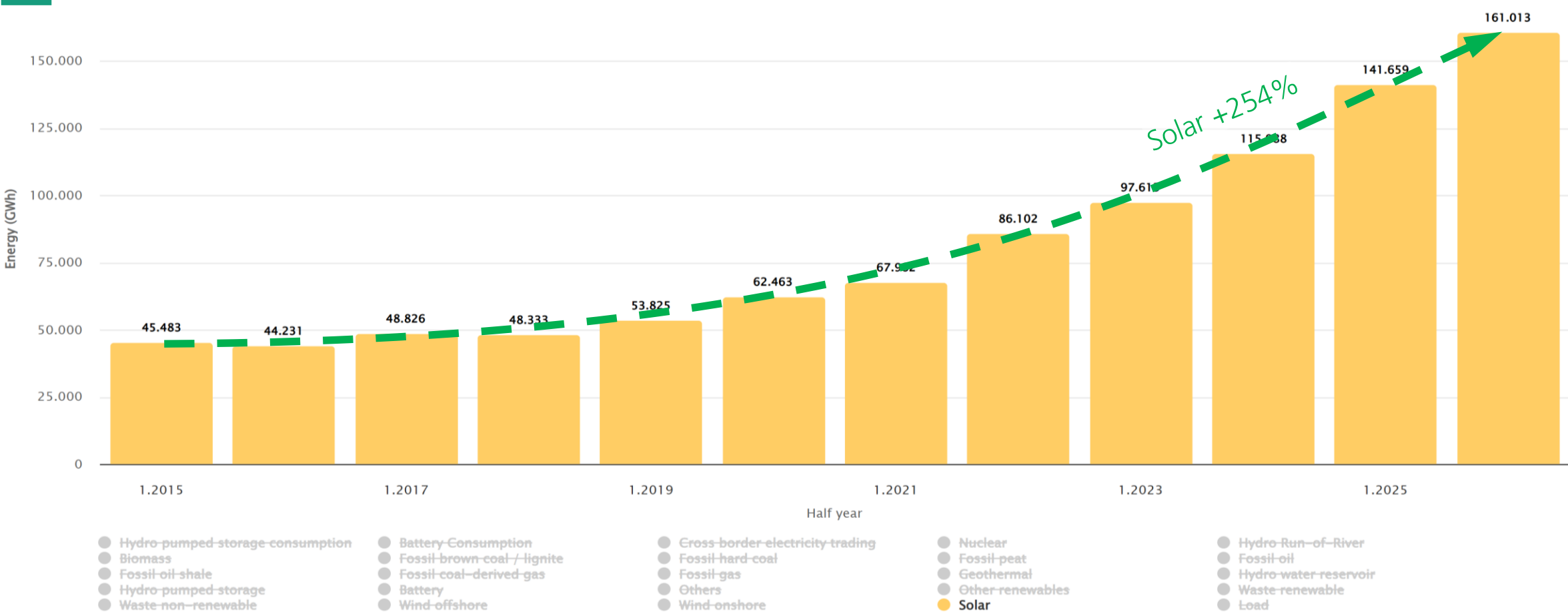
Comparison of Nuclear with Solar and Wind, first half of 2015 - 2026



Energy-Charts.info - last update: 02.07.2026, 08:43 MESZ
https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=EU&interval=halfyear&year=-1&stacking=stacked_grouped&halfyear=1&partsum=1&legendItems=0x2000e

Net Public Electricity Generation in the European Union (EU-27)

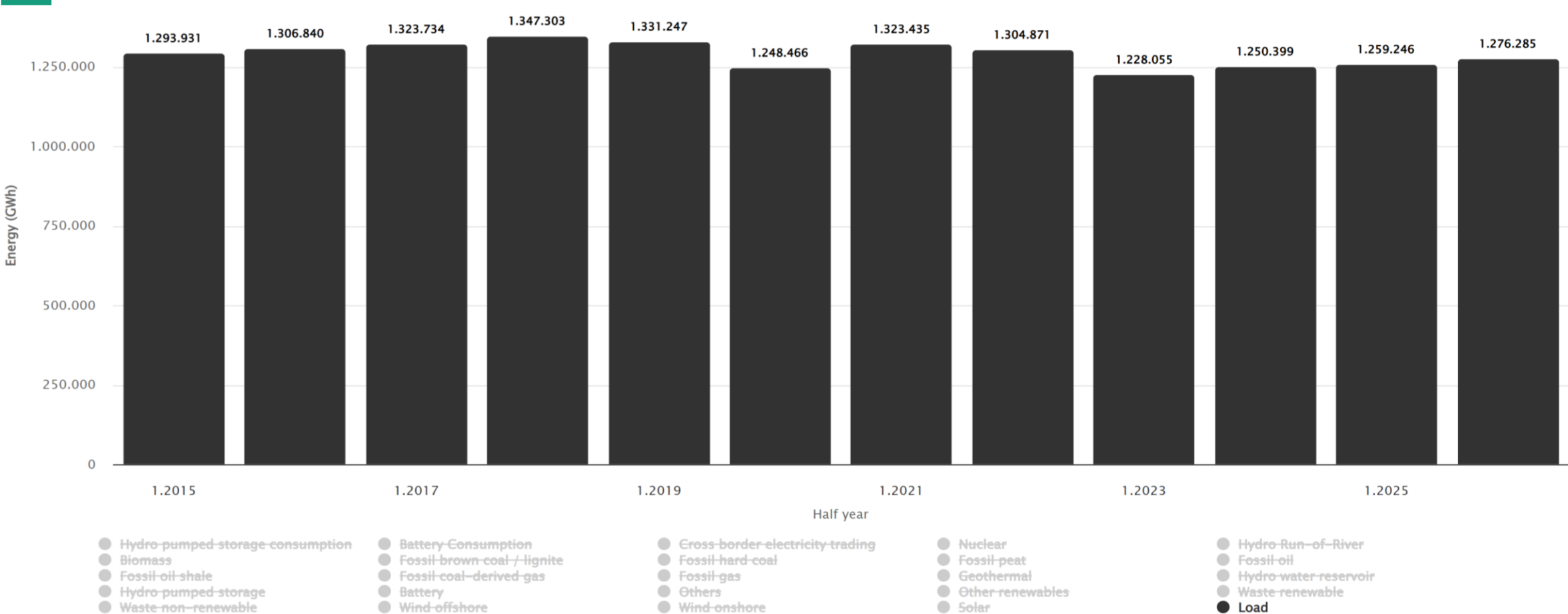
Solar power generation, first half of 2015 - 2026



Energy-Charts.info - last update: 02.07.2026, 08:43 MESZ
https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=EU&interval=halfyear&year=-1&stacking=stacked_grouped&halfyear=1&partsum=0&legendItems=pyn

Net Public Electricity Consumption in the European Union (EU-27)

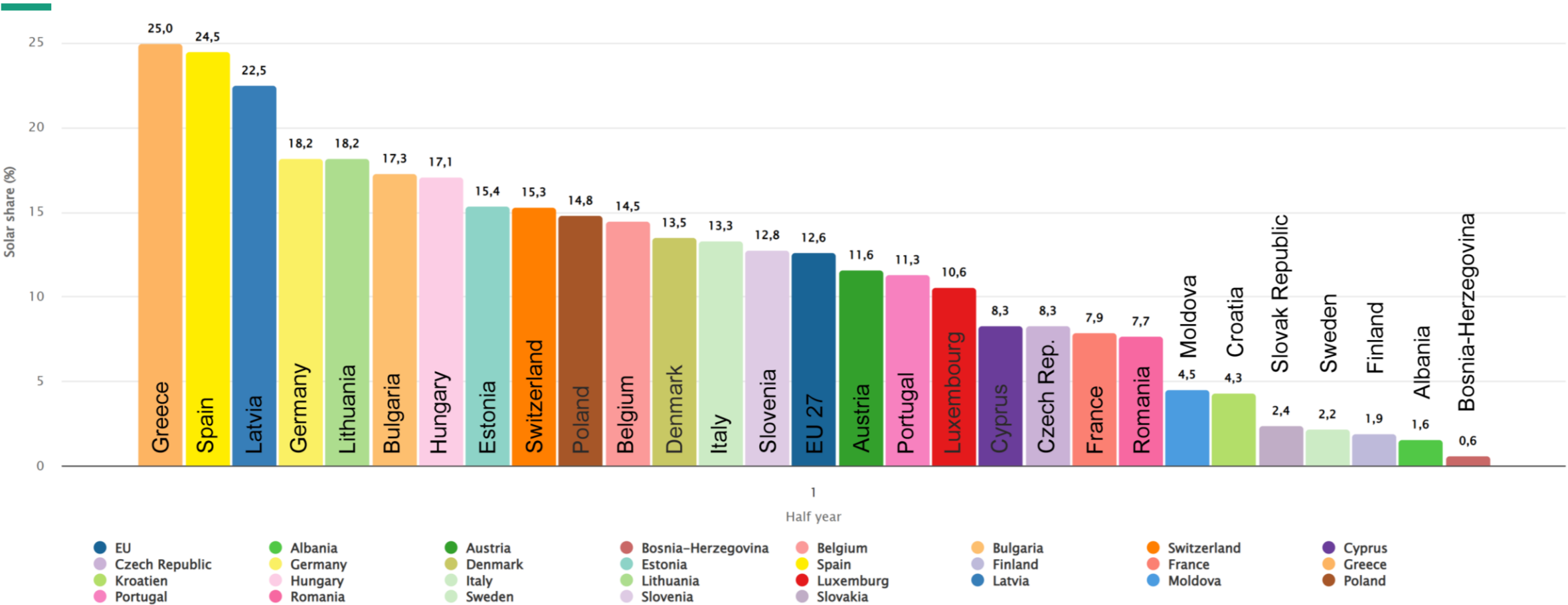
First half of 2015 - 2026



Energy-Charts.info - last update: 02.07.2026, 08:43 MESZ
https://www.energy-charts.info/charts/energy/chart.html?l=en&c=EU&chartColumnSorting=default&interval=halfyear&year=-1&halfyear=1&stacking=stacked_absolute&partsum=0&sum=1&legendItems=ow1

Share of Solar Energy in Electricity Consumption

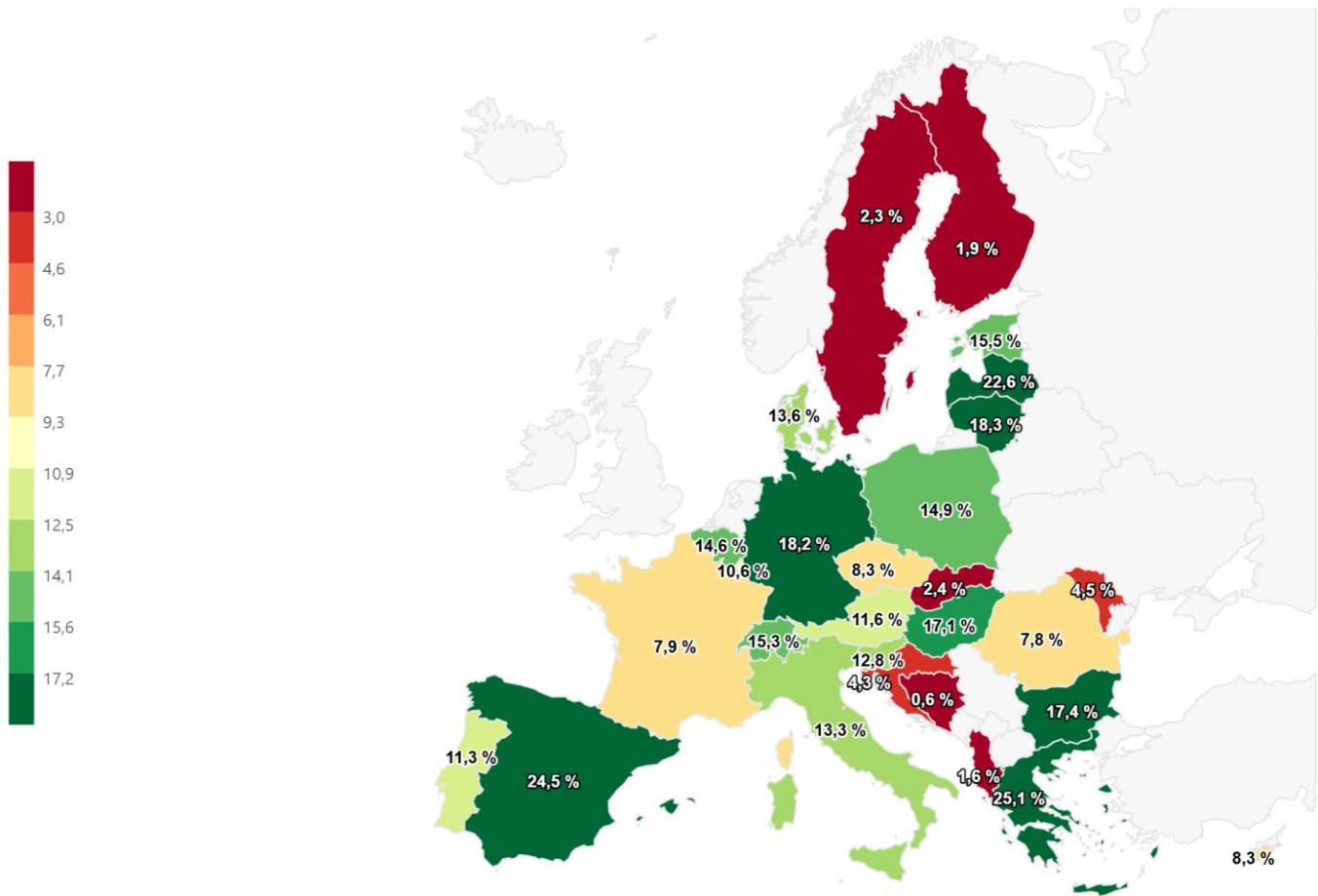
European countries, first half of 2026



Energy-Charts.info - last update: 01.07.2026, 09:04 MESZ
https://www.energy-charts.info/charts/energy/chart.htm?l=en&c=ALL&interval=halfyear&year=2026&source=solar_share&chartColumnSorting=descending&halfyear=1

Share of Solar Energy in Electricity Consumption

European countries, first half of 2026

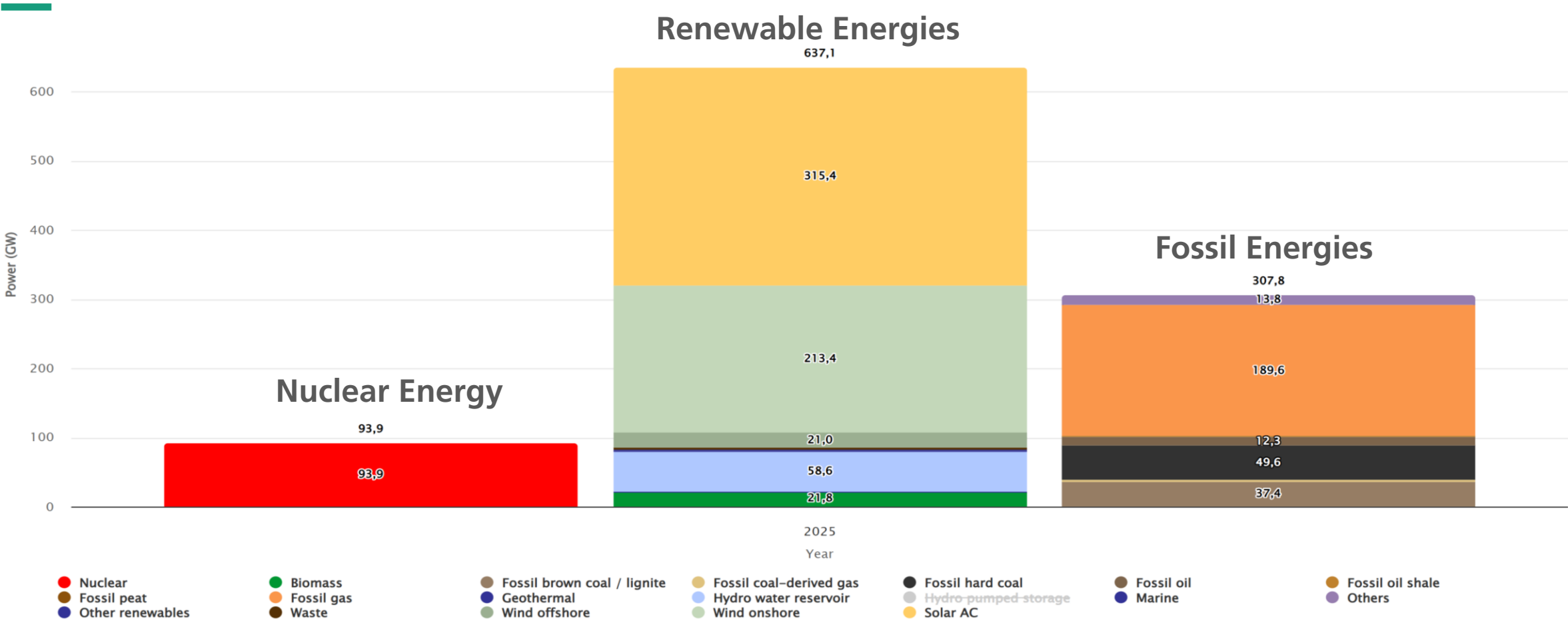


Energy-Charts.info; Last Update: 02.07.2026, 09:06 MESZ

https://www.energy-charts.info/charts/renewable_share_map/chart.htm?l=en&c=DE&interval=year&year=2026&share=solar_share_of_load

Net Installed Capacity for Electricity Generation

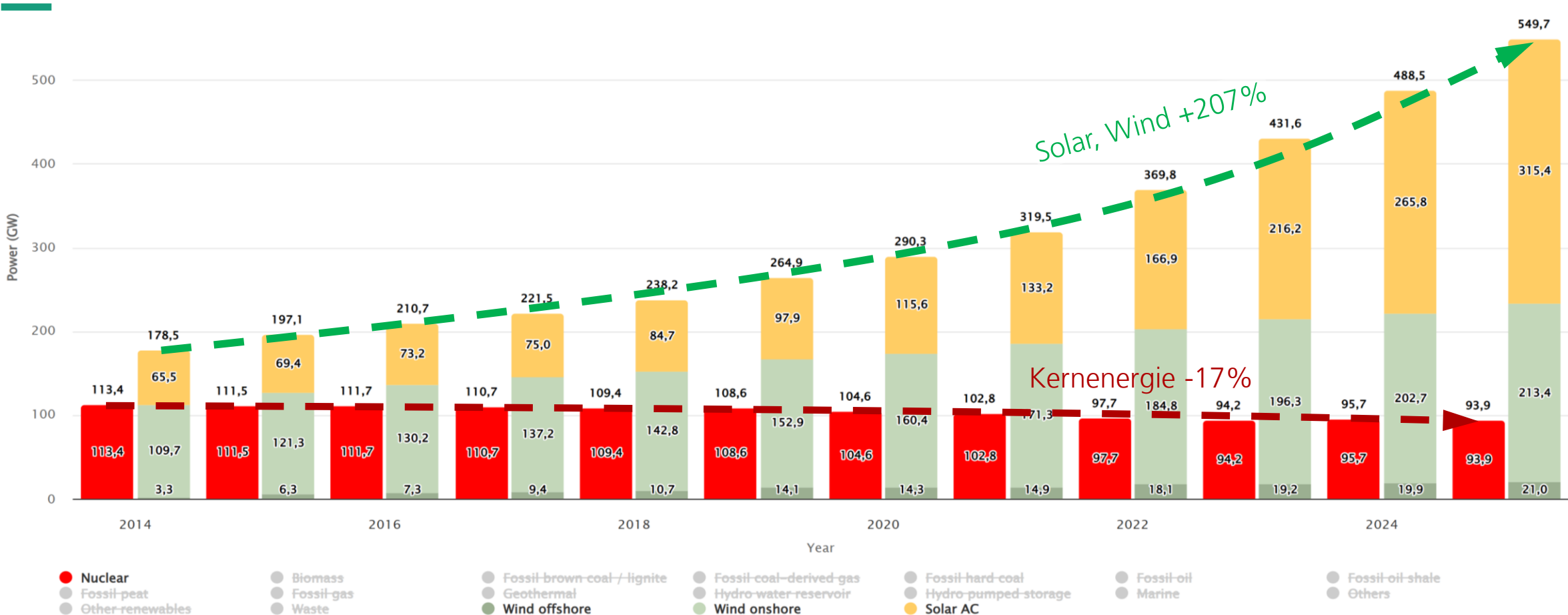
European Union (EU-27), end of 2025



Energy-Charts.info - last update: 02.07.2026, 05:28 MESZ
https://energy-charts.info/charts/installed_power/chart.html?l=en&c=EU&stacking=stacked_grouped&legendItems=jzb&sum=1&year=2025

Net Installed Capacity for Electricity Generation

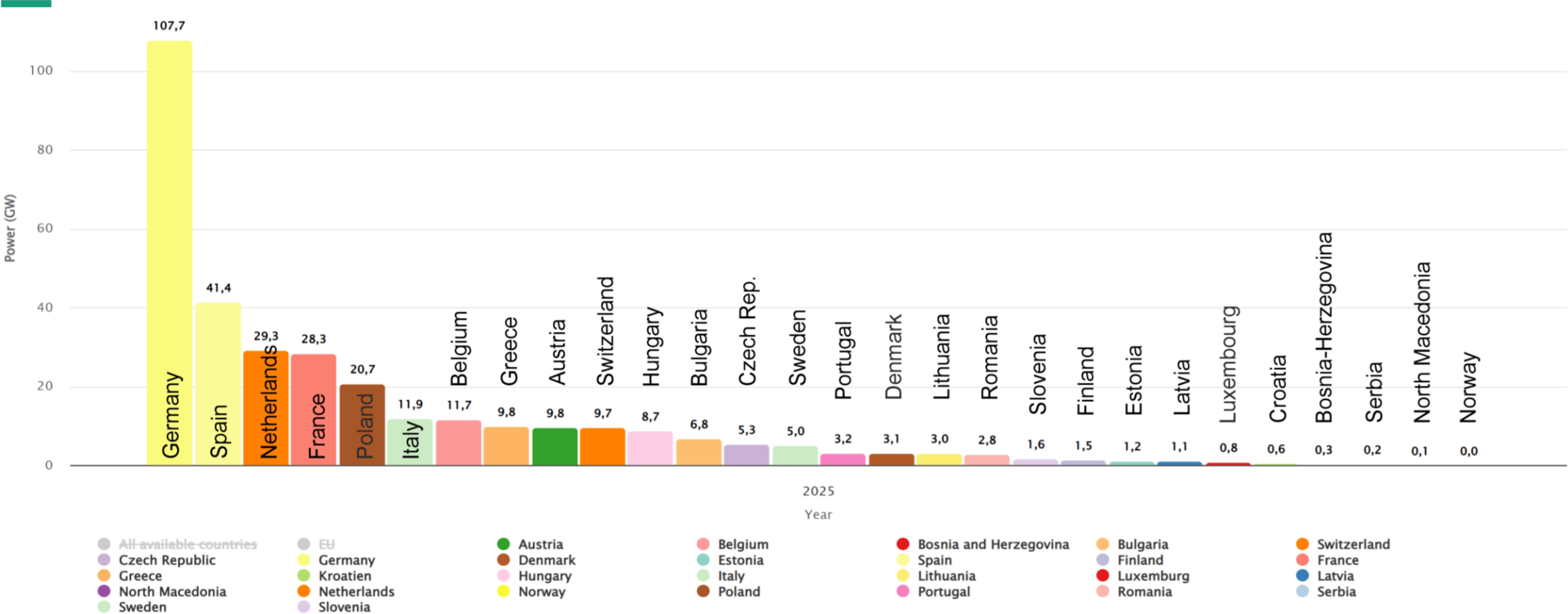
European Union (EU-27) 2015–2025



Energy-Charts.info - last update: 02.07.2026, 05:28 MESZ
https://www.energy-charts.info/charts/installed_power/chart.html?l=en&c=EU&year=-1&legendItems=1x8007&sum=1&stacking=stacked_grouped&partsum=1

Installed Solar Capacity

European Countries, End of 2025



Energy-Charts.info - last update: 02.07.2026, 05:29 MESZ
https://energy-charts.info/charts/installed_power/chart.html?l=en&c=ALL&year=2025&expansion=installed_solar_by_country&legendItems=2wq&chartColumnSorting=descending

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leonhard.gandhi@ise.fraunhofer.de