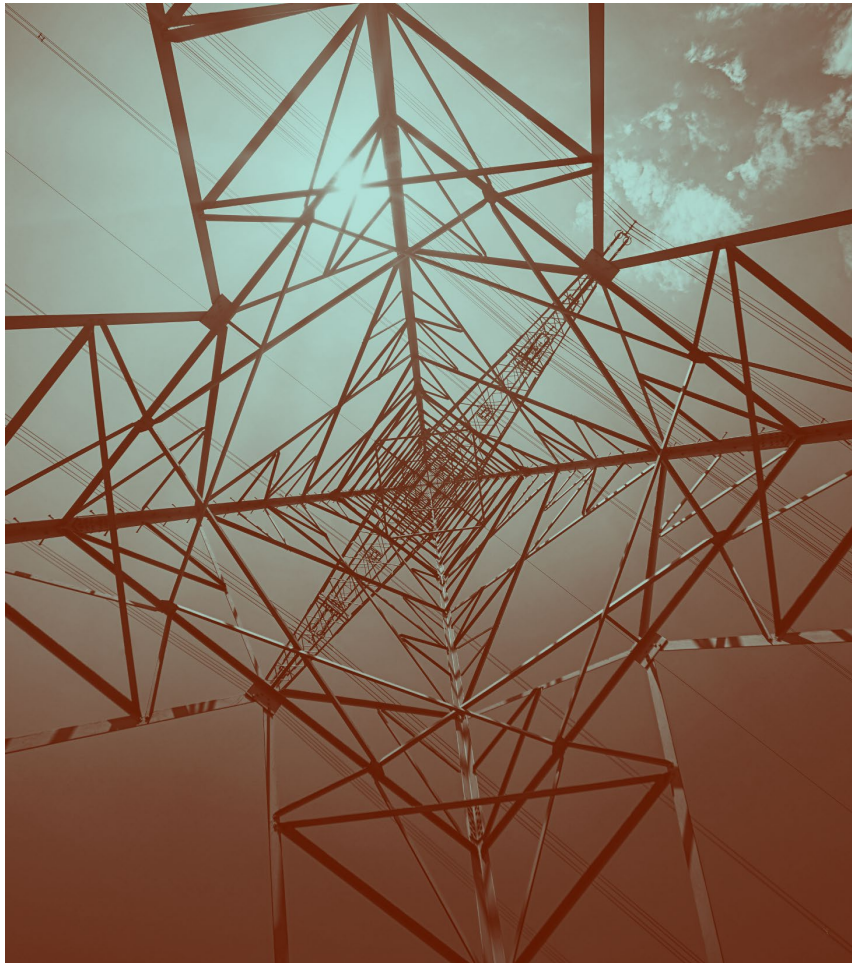


Energy Transition in Poland Yearbook 2026

Tobiasz Adamczewski, Vice President, Forum Energii
Kacper Kwidziński, Project Manager, Forum Energii

September 2026

Forum Energii

Part 1

National Power System

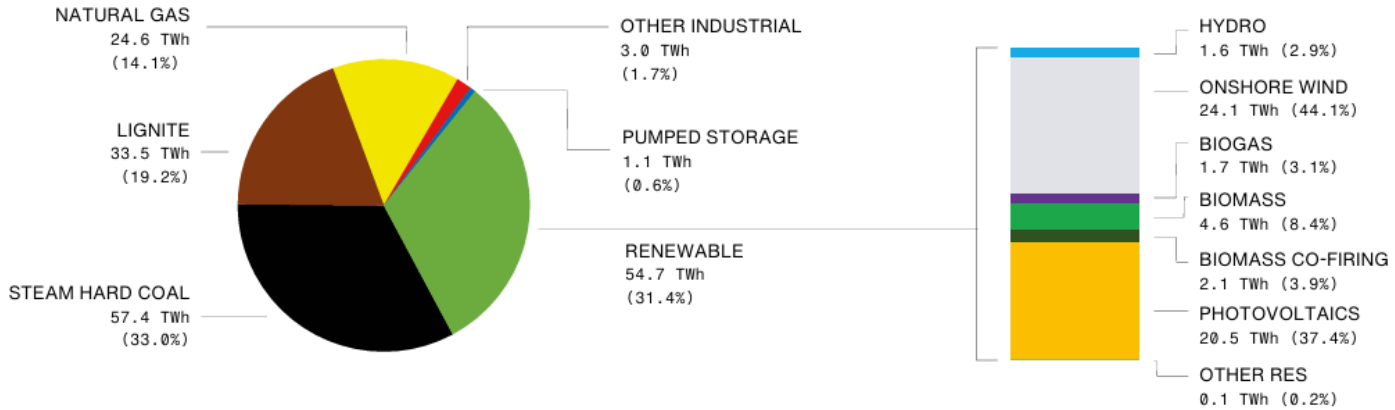
The elextricity mix in 2025 – coal getting closer to 50%

52.2%
Share of coal in energy mix
lowest in history

31.4%
Share of RES
highest in history

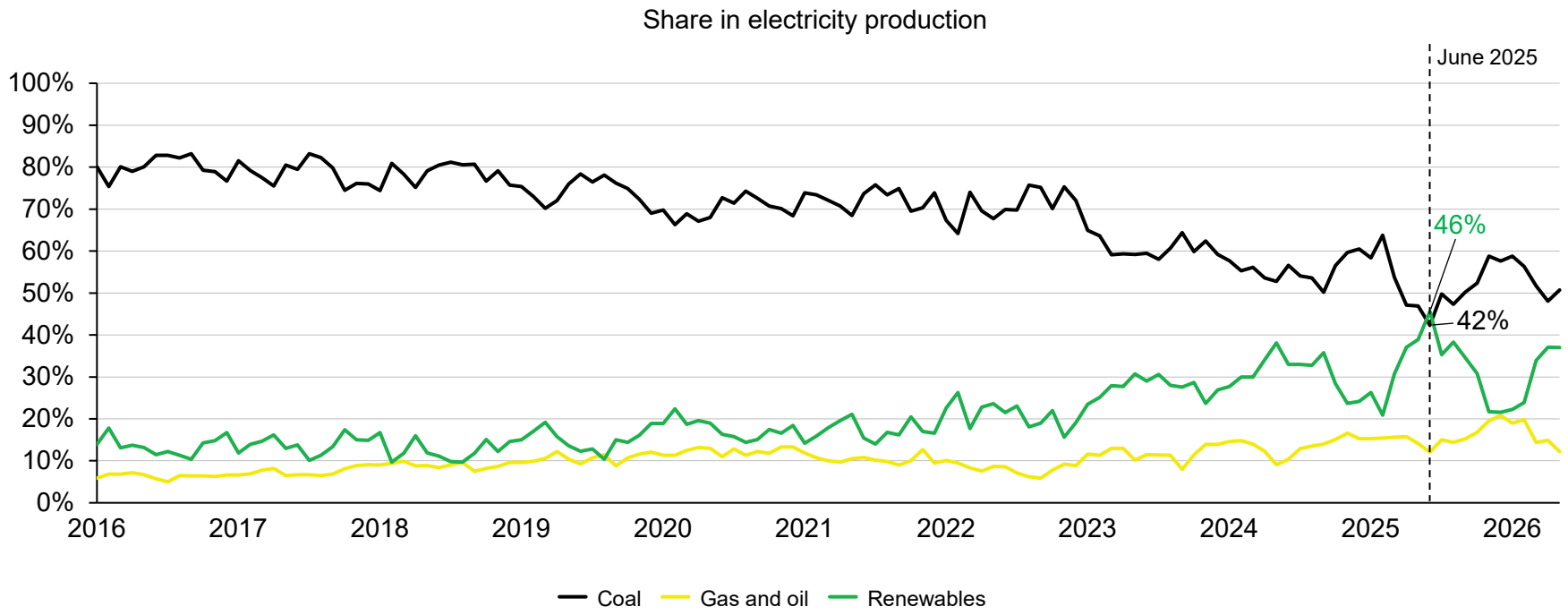
24.6 TWh
Production from natural gas
the importance of natural gas is growing

Electricity generation in 2025



Source: own elaboration based on data from: ERO, MCE

RES temporarily overtakes coal



Source: own elaboration based on data from: ERO, MCE, ENTSO-E

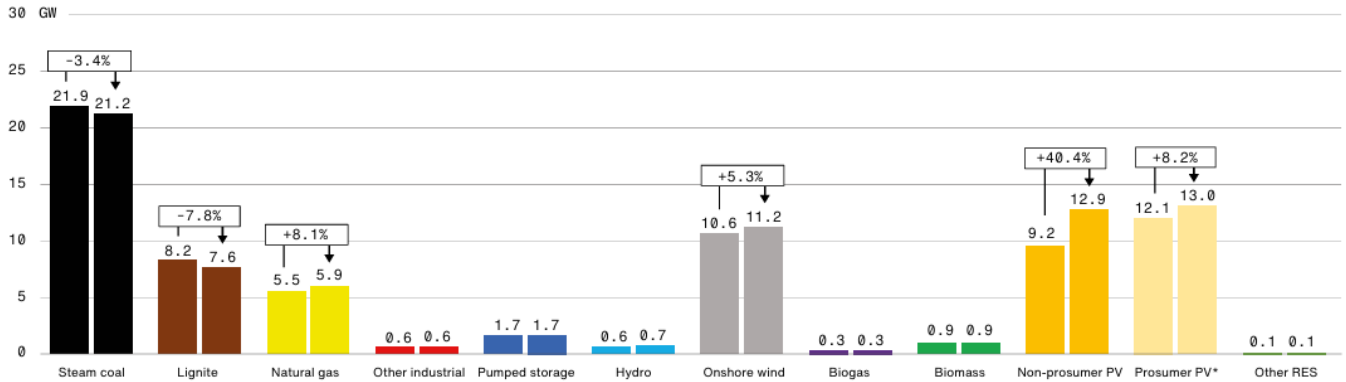
RES accounted for more than half of the total achievable capacity

51.3%
Share of RES in avaiable capacity
by the end of 2025

+4.7 GW
PV capacity
of this, 1 GW comes from prosumers

+0.4 GW
Natural gas capacity
expected accelerated growth in the coming years

Change in achievable capacity in 2025 compared to the end of 2024



*prosumer PV capacity = installed capacity

Source: own elaboration based on data from: ERO, MCE, PSE

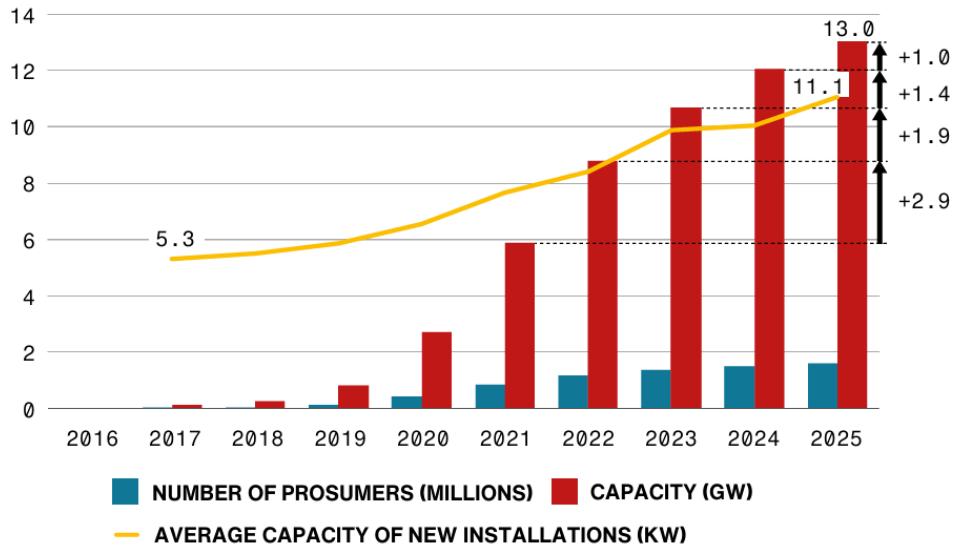
Prosumer capacity is growing

13.0 GW
Capacity of prosumer installations
of this, 99.97% applies to PV

1.6 million
prosumers
by the end of 2025

11.1 kW
The average capacity of new PV installations
the power capacity of new installations is twice as high as it was in 2017

Growth and average power capacity of new prosumer installations



Source: own elaboration based on data from: ERO, MCE

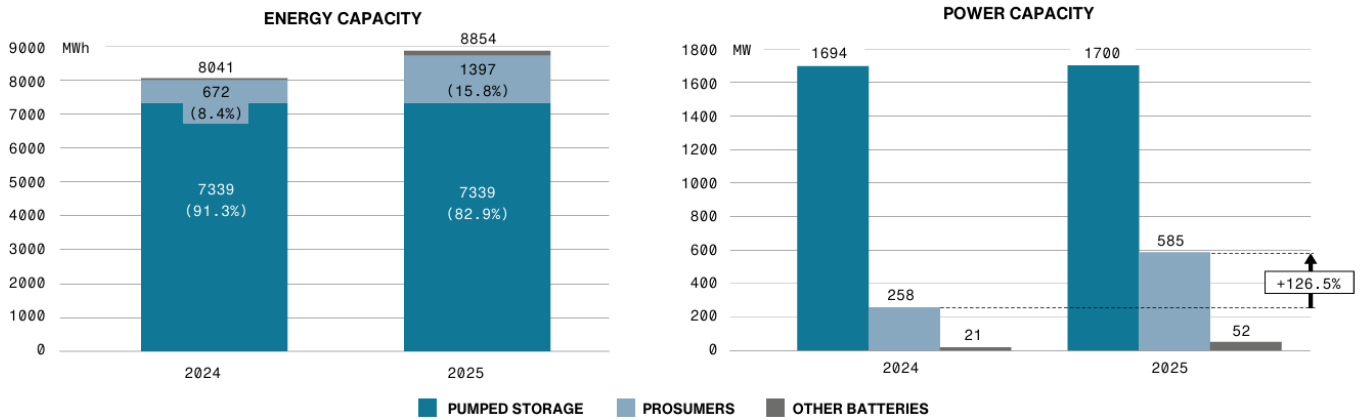
Prosumer energy storage systems doubled their capacity in 2025

Prosumer BESS doubled
their energy and power capacity
in 2025

¼ of the installed capacity
of energy storage in Poland
is accounted for the prosumer installations

Pumped storage still over 80%
of energy storage capacity.
development od BESS is driven primarily by prosumers

Energy and power capacity of energy storage



Source: own elaboration based on data from: ERO, MCE

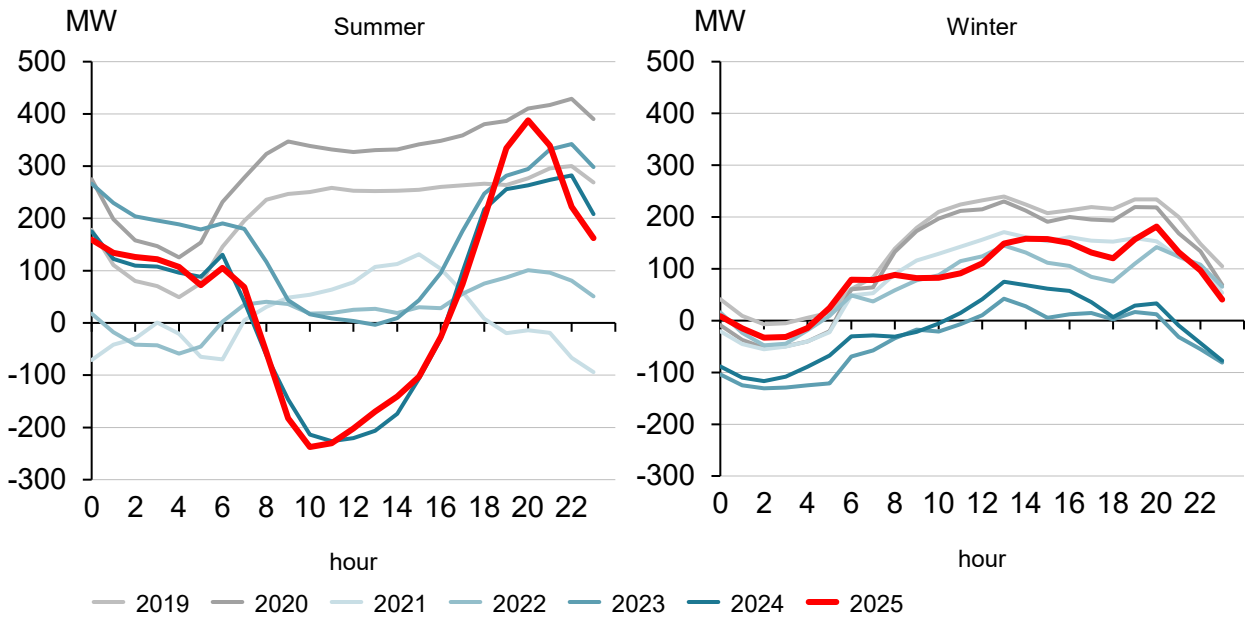
Cross-border exchange as a new source of flexibility

1 TWh
Electricity net import
a decrease of about 50% compared do 2024

0.5%
Share of electricity net import
in electricity consumption

Poland was net exporter
To Ukraine
in 2024-2025

Average daily profile of cross-border electricity exchange



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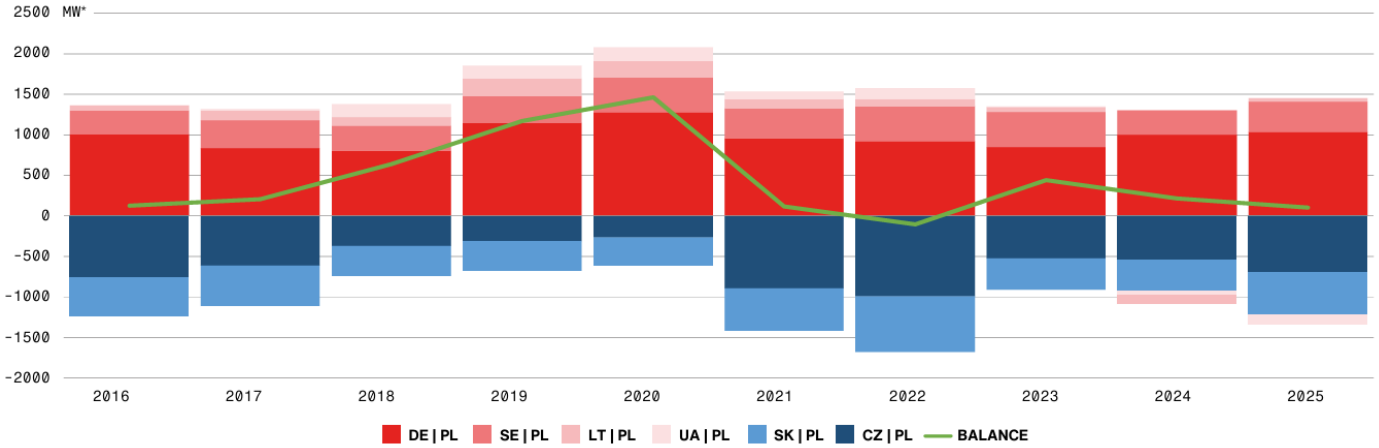
Average annual cross-border transmission power



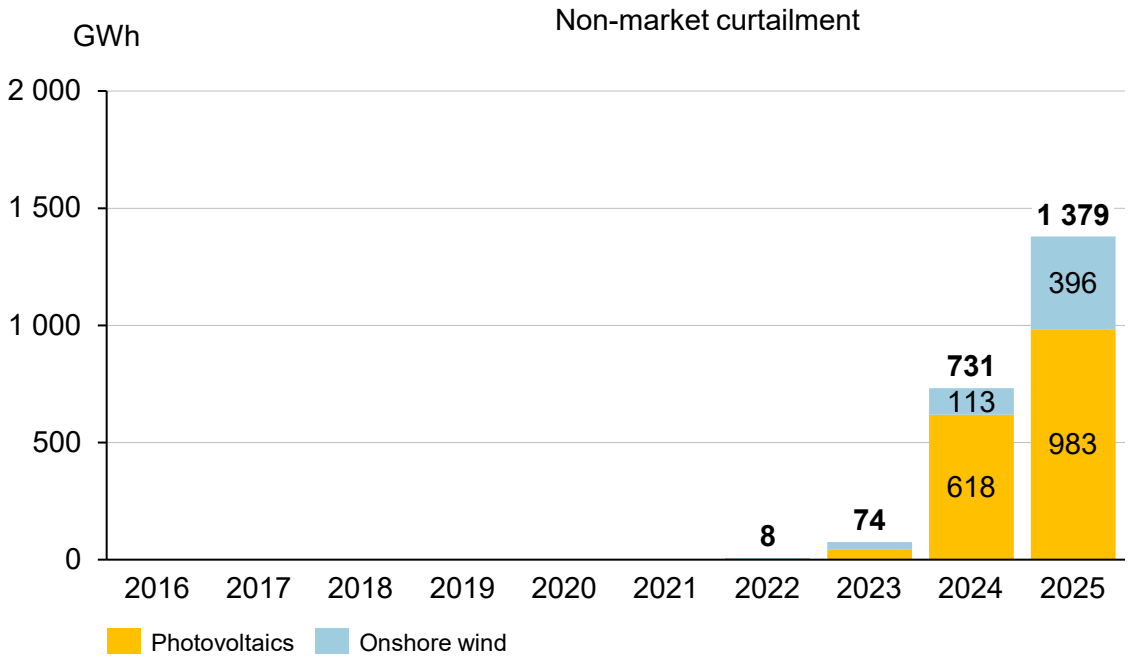
Source: own elaboration based on data from: ENTSO-E

RES curtailment as a sign of flexibility deficit

1.4 TWh
RES curtailment in 2025
twice as much as in 2024

700k
Curtailed energy could cover the yearly demand of this many **households in Poland.**

~ PLN 500 millions
The estimated cost of fuel and emissions allowances,
Which could be avoided by using the curtailed RES energy



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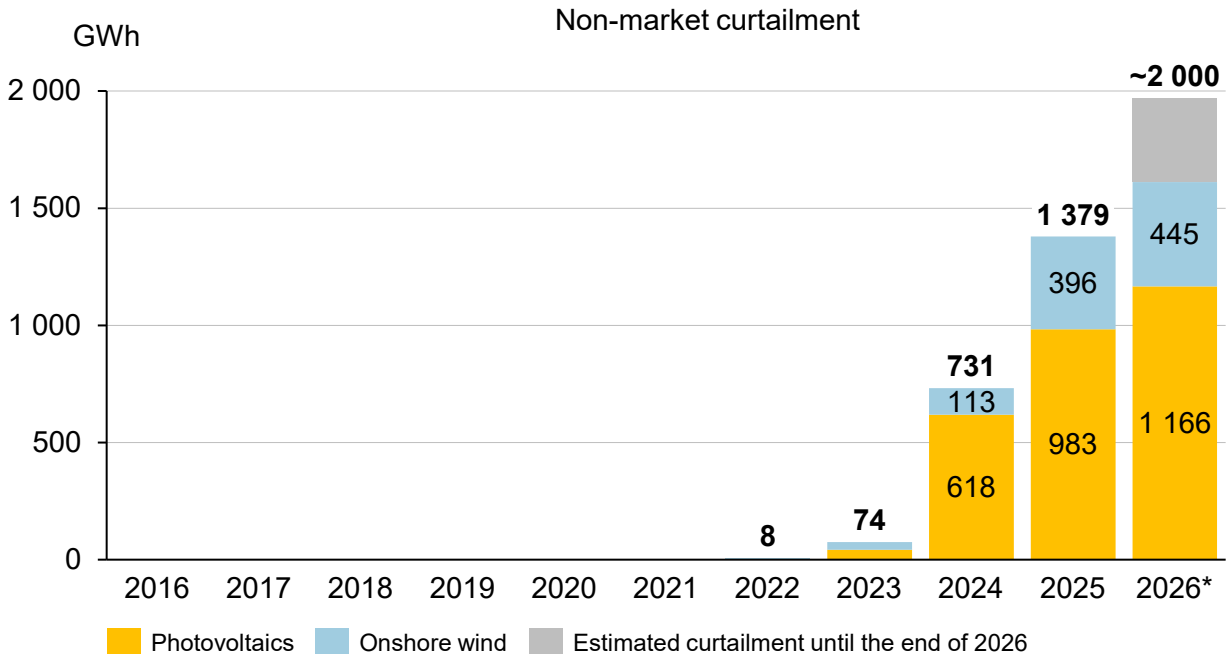


* Assuming that the curtailment for September–December 2026 will be the same as that for the corresponding period in 2025.

Source: own elaboration based on data from: PSE

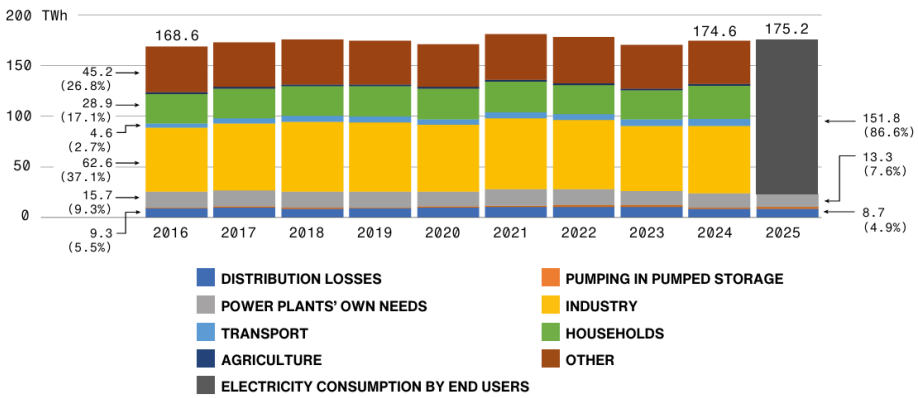
Which sector consumes the most electricity in Poland?

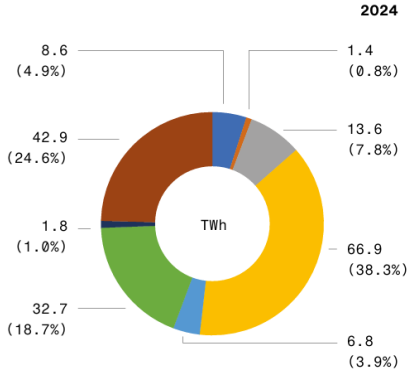
175.2 TWh
Electricity consumption
in 2025

38.3%
Share of industry in electricity consumption
66.9 TWh in 2024

18.7%
Households consume 1/5 of electricity
32.7 TWh in 2024

Structure of electricity consumption





Source: own elaboration based on data from: ERO, MCE, Statistics Poland

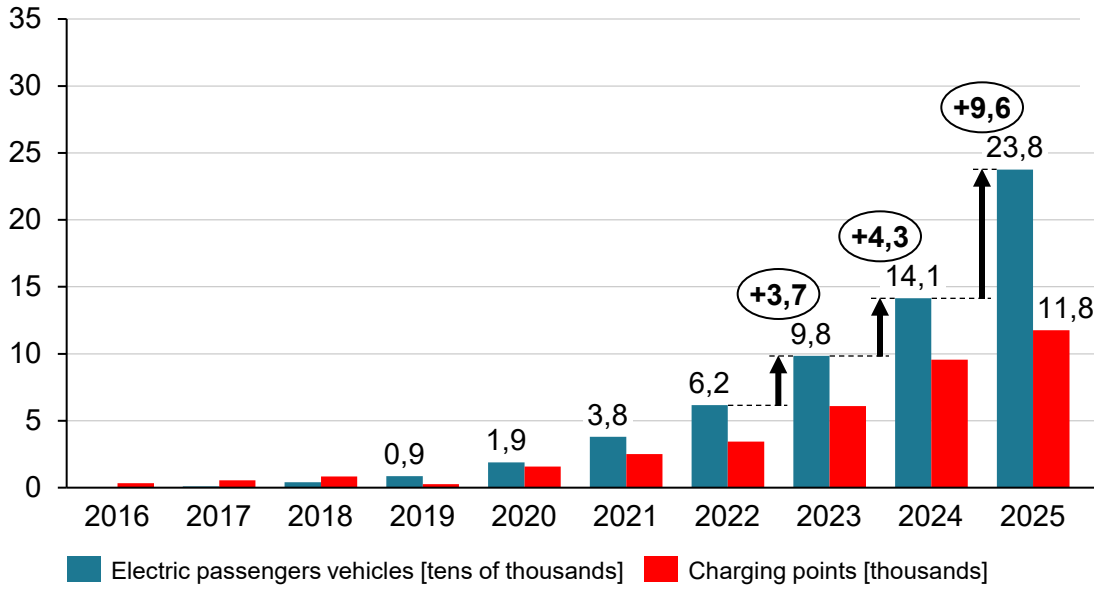
Road transport electrification shifts into a higher gear

238k
Electric vehicles
by the end of 2025

11.8k
Charging stations
by the end of 2025

96k
or 40% of polish EV fleet
consists of cars that hit Polish roads in 2025

Number of electric vehicles (BEVs and PHEVs) and charging stations



Source: own elaboration based on data from: PSNM

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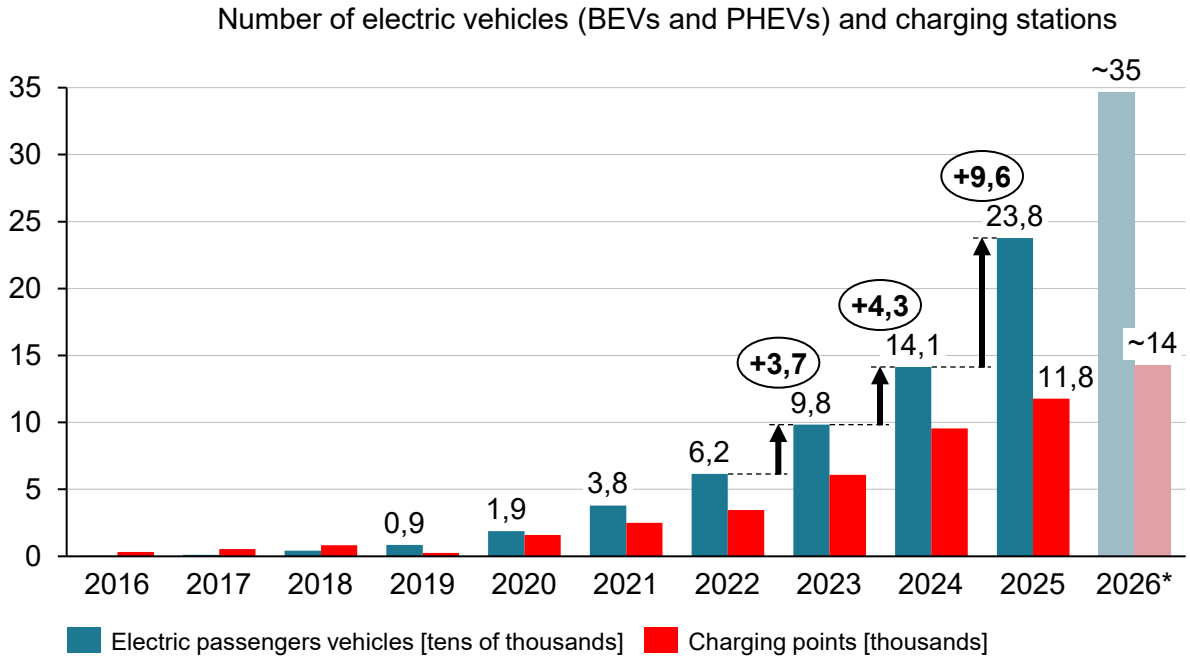


* The data for 2026 were estimated based on actual data for the period from January through July 2026. For the remaining months, figures from the corresponding period in 2025 were used.

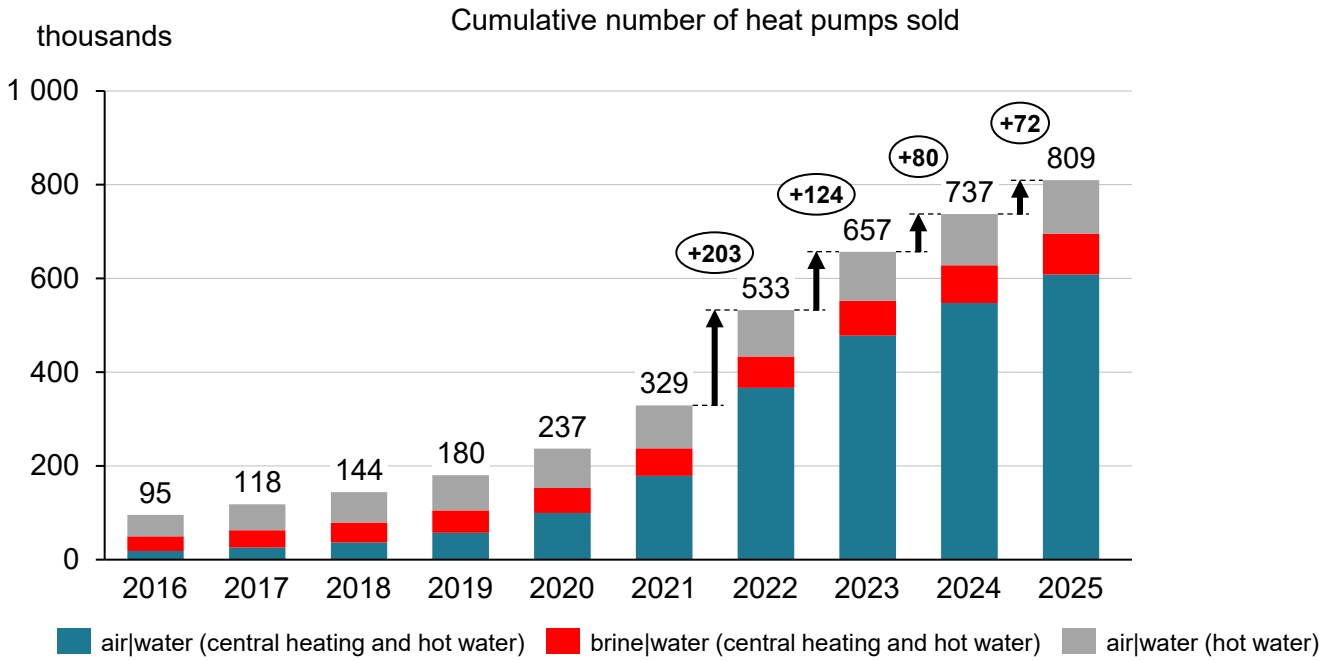
Source: own elaboration based on data from: PSNM

Electrification of heating has slowed down

809k
Of heat pumps
by the end of 2025

75% of heat pumps
are air|water installations
used for both central heating and hot water

2026 with possible comeback
S1 shows 20% increase of heat pumps sales
compared to the same period in 2025



Source: own elaboration based on data from: PORT PC

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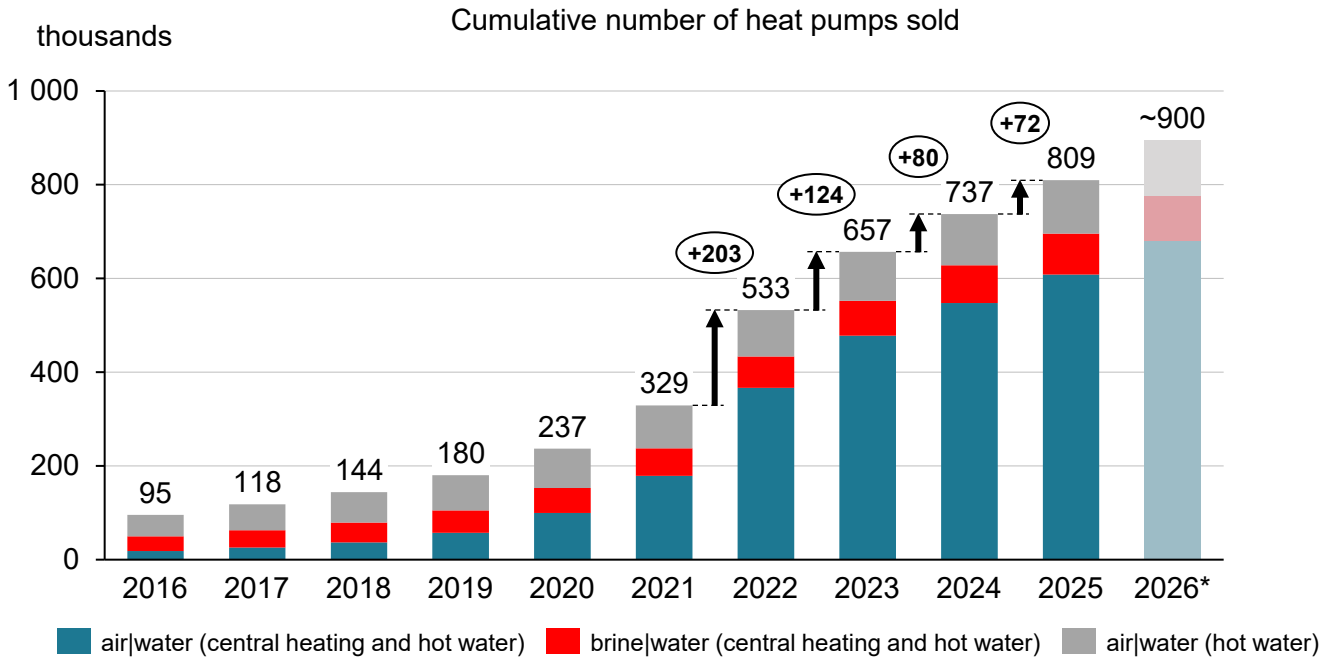
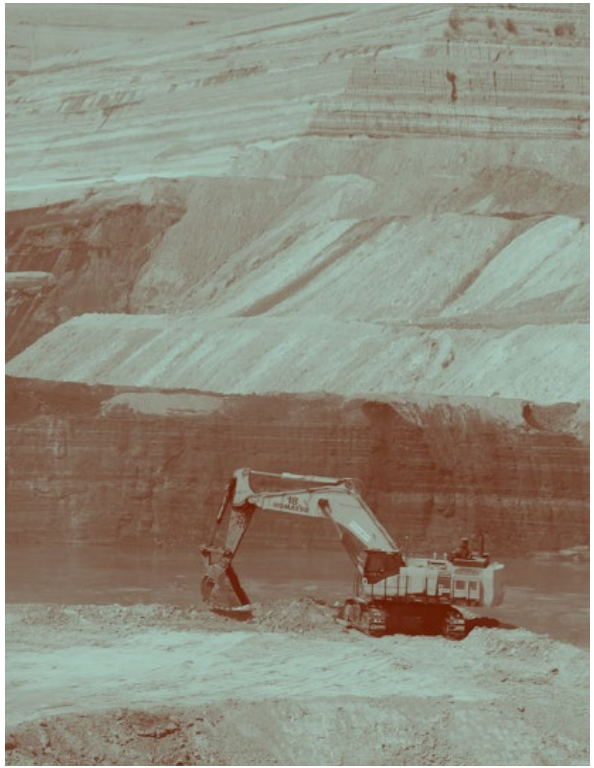


* PORT PC forecast from August 2026

Source: own elaboration based on data from: PORT PC

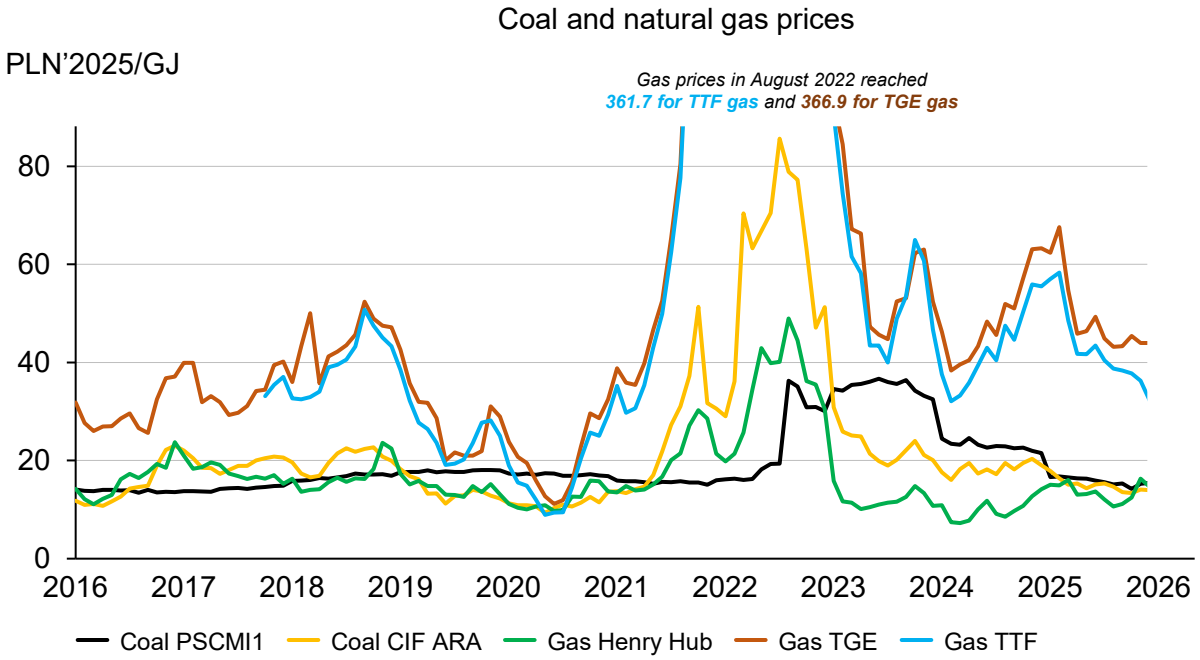


Part 2
Energy raw materials and emmissions

Fuel prices have fallen…

Gas prices have fallen, but LNG prices have risen
Compared to the end of 2024.
TGE – down 31%
TTF – down 42%
Henry Hub – up 19%

Coal prices have fallen again
Compared to the end of 2024
PSCMI1 – down 28%
CIF ARA – down 27%



Source: own elaboration based on data from: ARP, Argus McCloskey, TGE, Stooq, NBP

Fuel prices have fallen… but not for long

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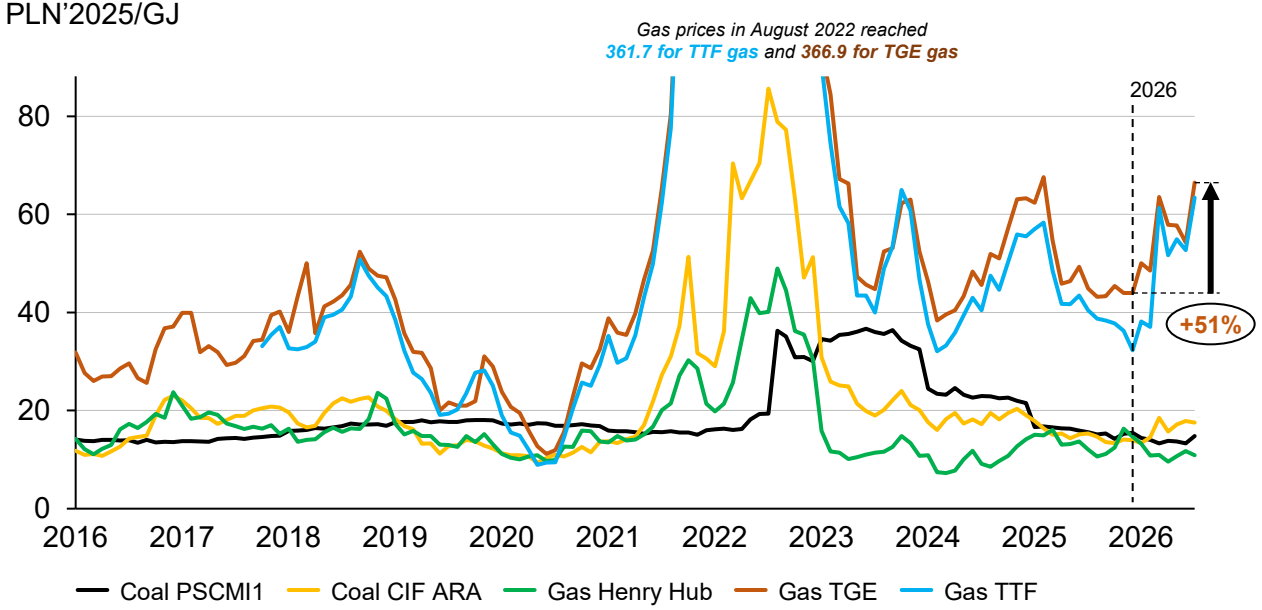
Compared to the end of 2025 (as of the end of July 2026)
TGE – up 51%
TTF – up 96%
Henry Hub – down 26%
PSCMI1 – down 4%
ARA/Rotterdam Coal – up 26%

Coal and natural gas prices



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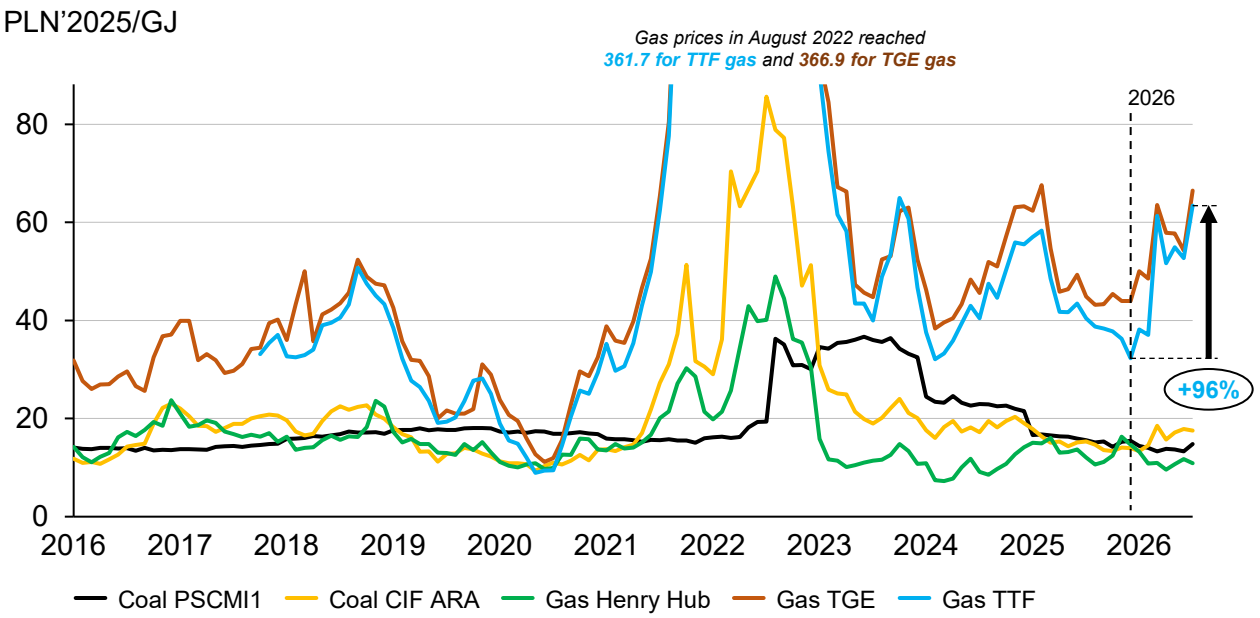

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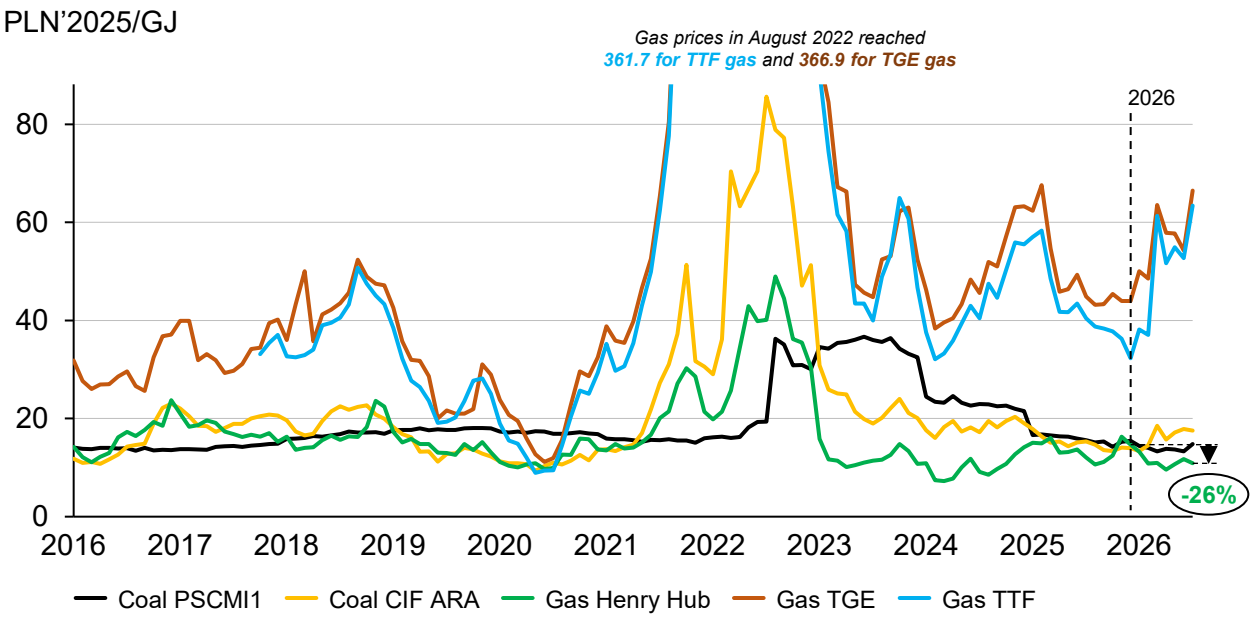

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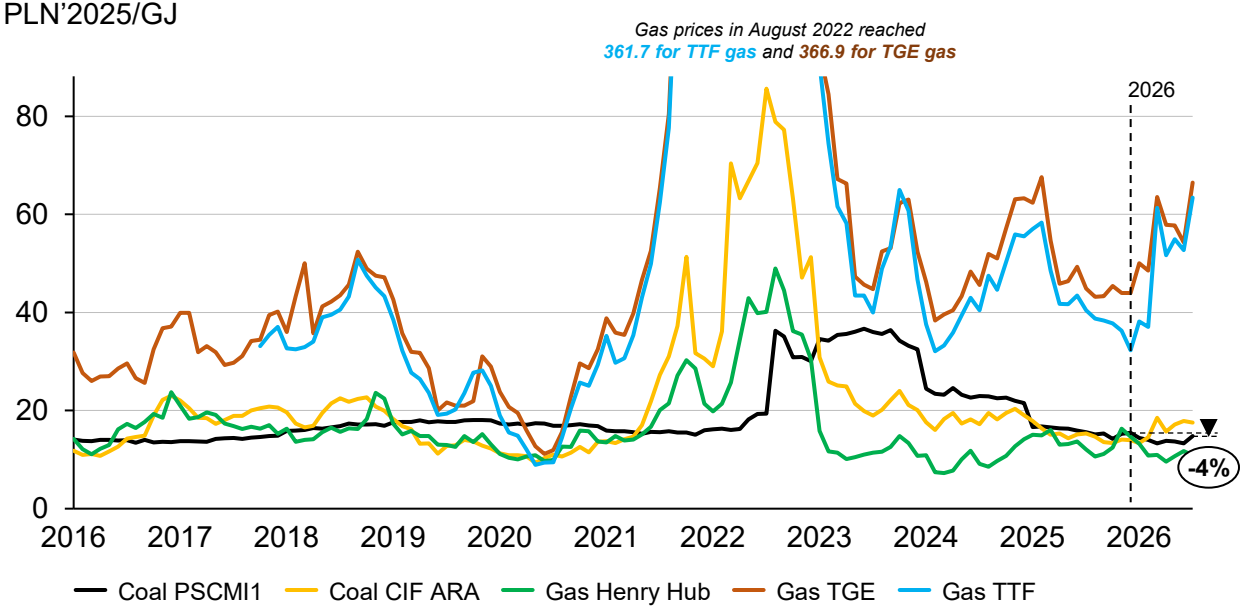

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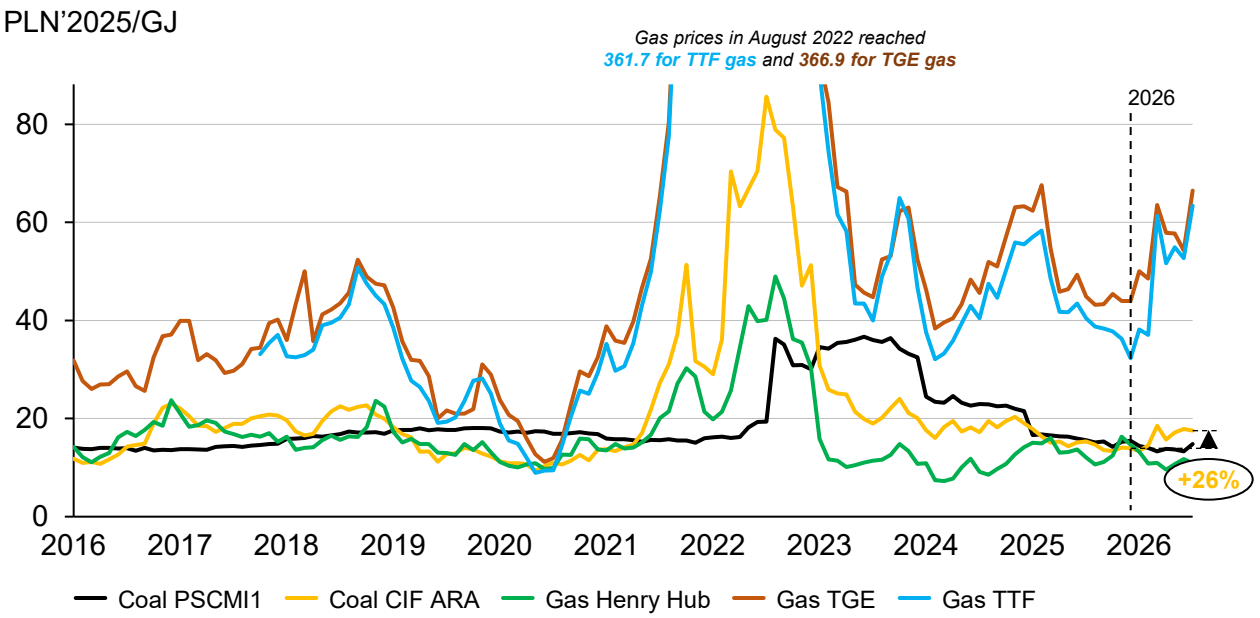


Source: own elaboration based on data from: ARP, Argus McCloskey, TGE, Stooq, NBP

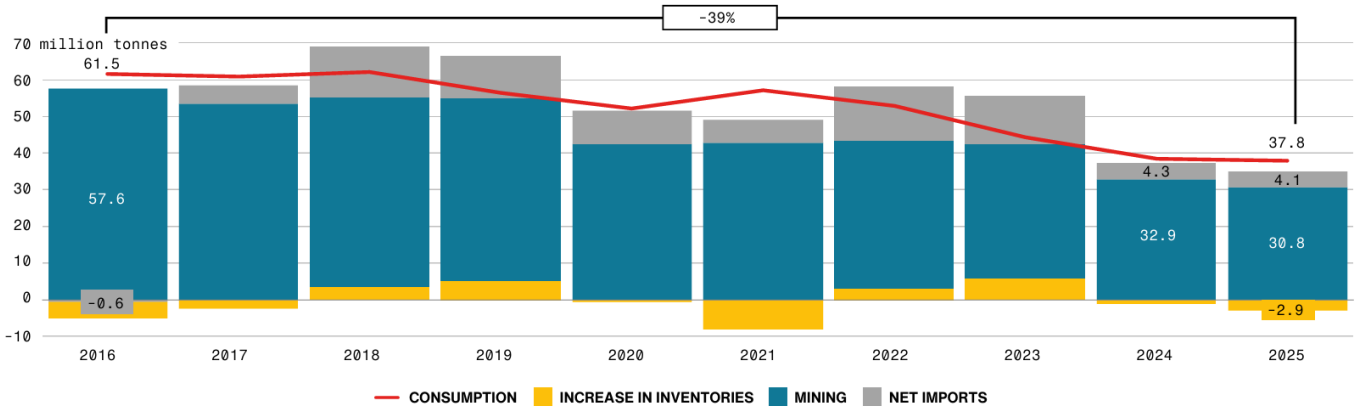
Hard coal consumption is plummeting

37.8 Mt
Steam hard coal consumption
39% decline over 10 years

30.8 Mt
Mining of steam hard coal
47% less than in 2016

4.1 Mt
Net import of steam hard coal
The lowest since 2016, when Poland was net exporter of hard coal

Steam hard coal balance



Source: own elaboration based on data from: ERO, MCE, Statistic Poland, ARP, Eurostat

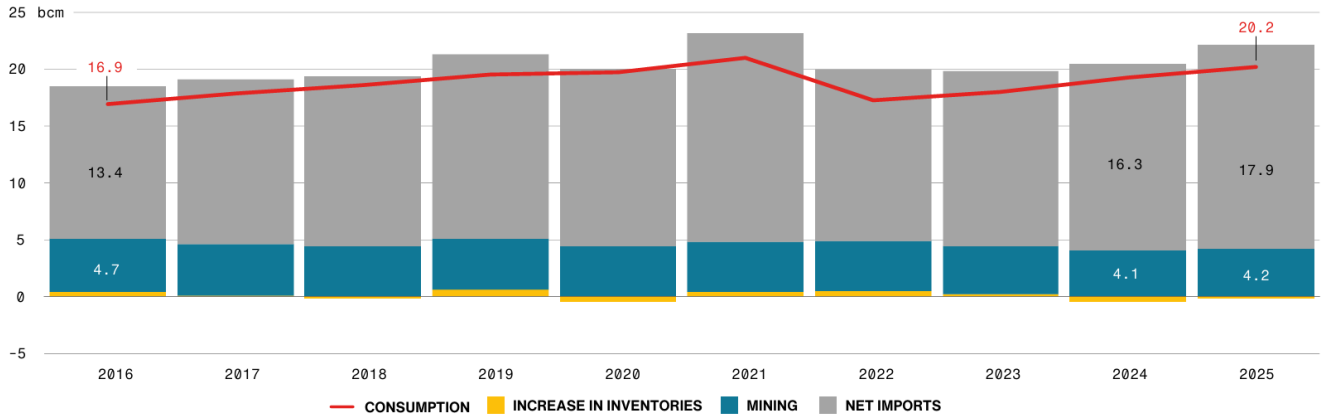
Natural gas consumption is returning to levels before Russian invasion on Ukraine

20.2 bcm
Natural gas consumption
Which represents a 23% increase over 10 years, meaning that consumption has returned to the same level as before Russian invasion on Ukraine

17.9 bcm
Net import of natural gas
The majority of consumed natual gas comes from abroad

4.2 bcm
Domestic extraction of natural gas
has remained at a similar level over the past decade

Natural gas balance



Source: own elaboration based on data from: ERO, MCE, Statistics Poland, ENTSOG

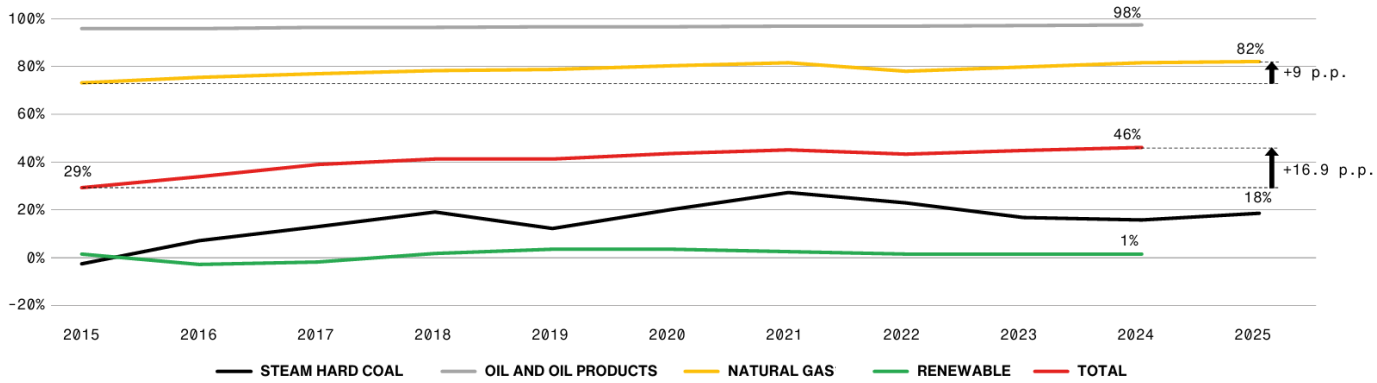
Nearly half of the energy used in Poland comes from imports

46%
Poland's import dependence in 2024
increase by 17 p.p. from 2015

98%
Dependence from crude oil import in 2024
consistent over the years

82%
Estimated dependence from natural gas import in 2025
Increase by 9 p.p. from 2015

Poland's import dependence on fuels



Source: own elaboration based on data from: ERO, MCE, Statistics Poland, Eurostat

Over PLN 100 bln for imports

PLN 104 bln
Net cost of raw Energy materials import
In 2025

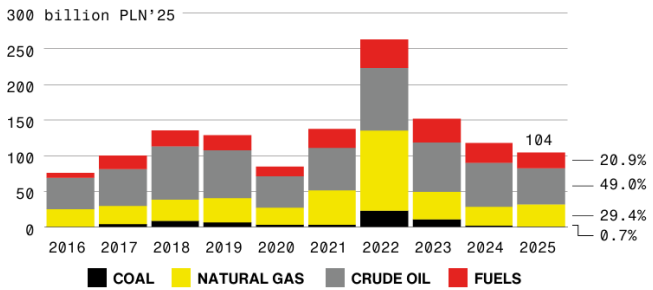
PLN 51 bln
Cost of crude oil import
Nearly half of net import cost

The largest beneficiaries

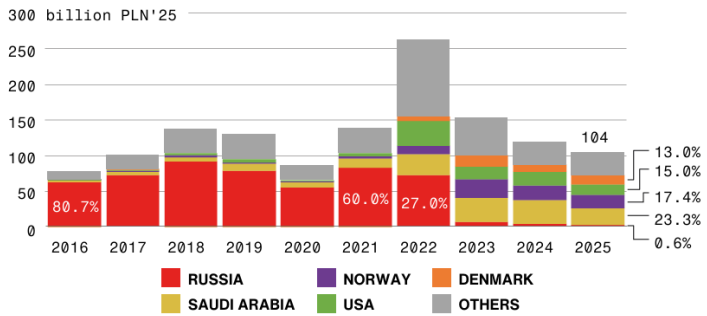
The largest cash flows were directed to:

- Saudi Arabia
- Norway
- USA
- Denmark

Net import cost by raw material and fuel



Net import cost by supplier



Source: own elaboration based on data from: Statistics Poland, Eurostat, NBP

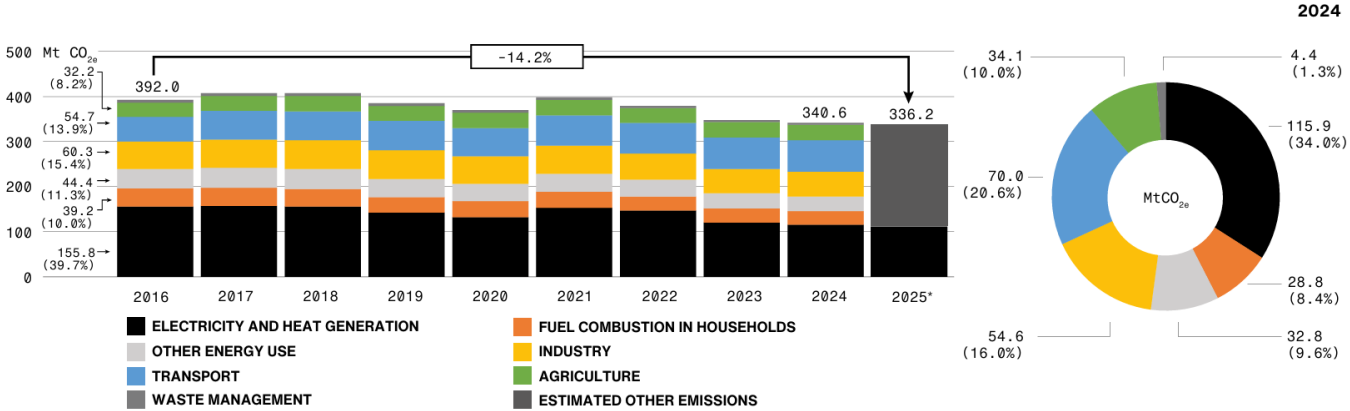
Emissions in Poland are decreasing

336 Mt CO_2
Estimated greenhouse emissions
In 2025

34%
Share of energy sector in Poland's emissions in 2024
transport held second place with 21%

-14%
Decrease of the emissions over the decade
(392 Mt CO_2 in 2016)

Greenhouse emissions structure



Source: own elaboration based on data from: EEA, KOBiZE, ERO, MCE, Statistics Poland

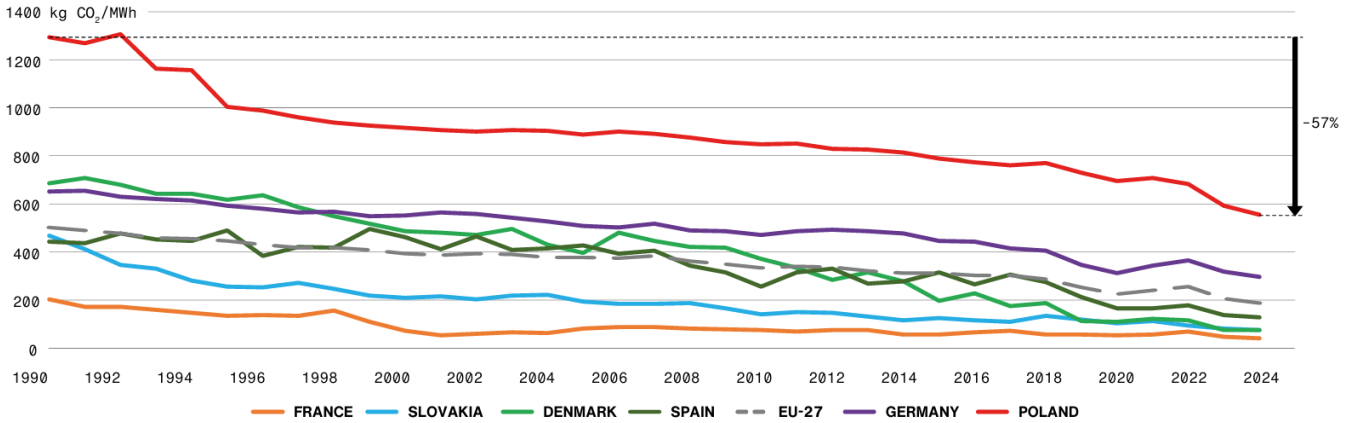
Electricity generation emmissivity is decresing but still 3x bigger than EU average

554 kg CO_2/MWh
Was the emmissivity of electricity production in Poland in 2025. It is 3x more than the average in European Union (187 kg CO_2/MWh)

-57%
Decrease of emmissivity since 1990
Rapid decrease can be seen since 2021 (down 22%)

Poland was in 2nd place in EU
In terms of electricity generation emmissivity in 2024
Estonia ranked first

Changes in electricity generation emmissivity



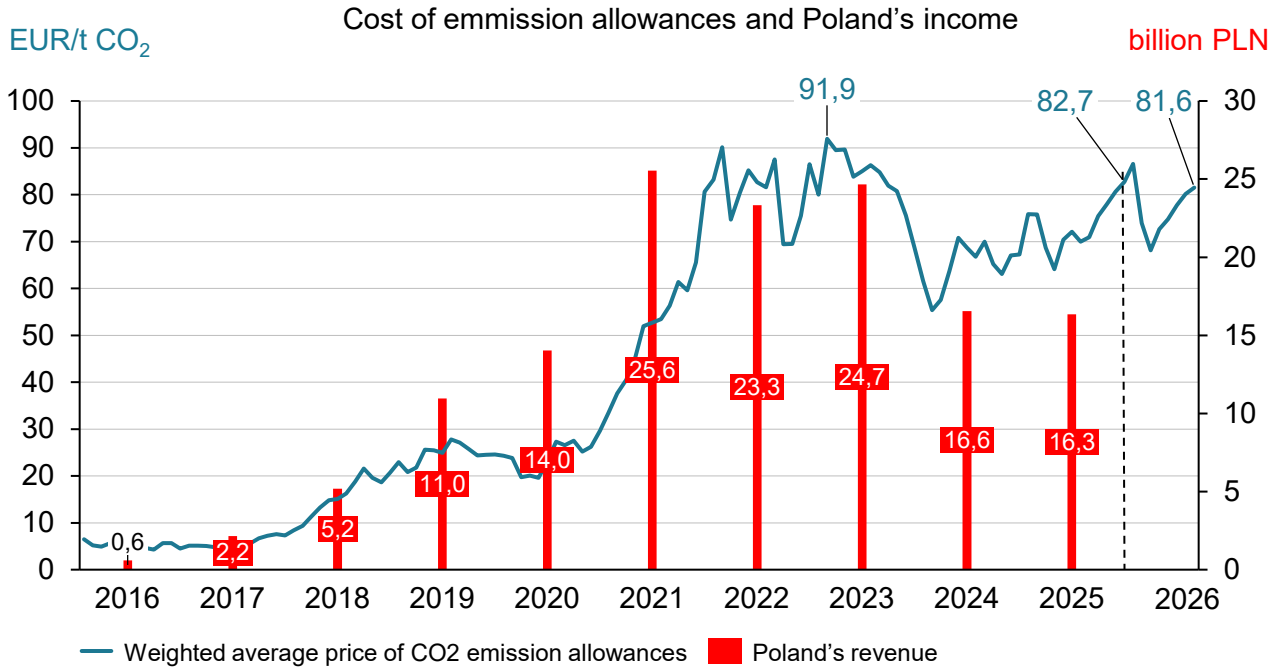
Source: own elaboration based on data from: EEA

The ETS as a source of funding for the energy transition

73.4 EUR/t CO_2
Average annual price of CO_2 emmission allowances in 2025
At the end of the year it was 82,7 EUR/t CO_2

PLN 16.3 bln
was Poland's budget income in 2025
Due to sale of CO2 emmission allowances, and since 2016, after taking the inflation into account it was PLN 171.4 bln.

ETS prices today
At the end of August 2026
81,6 euro/t CO_2



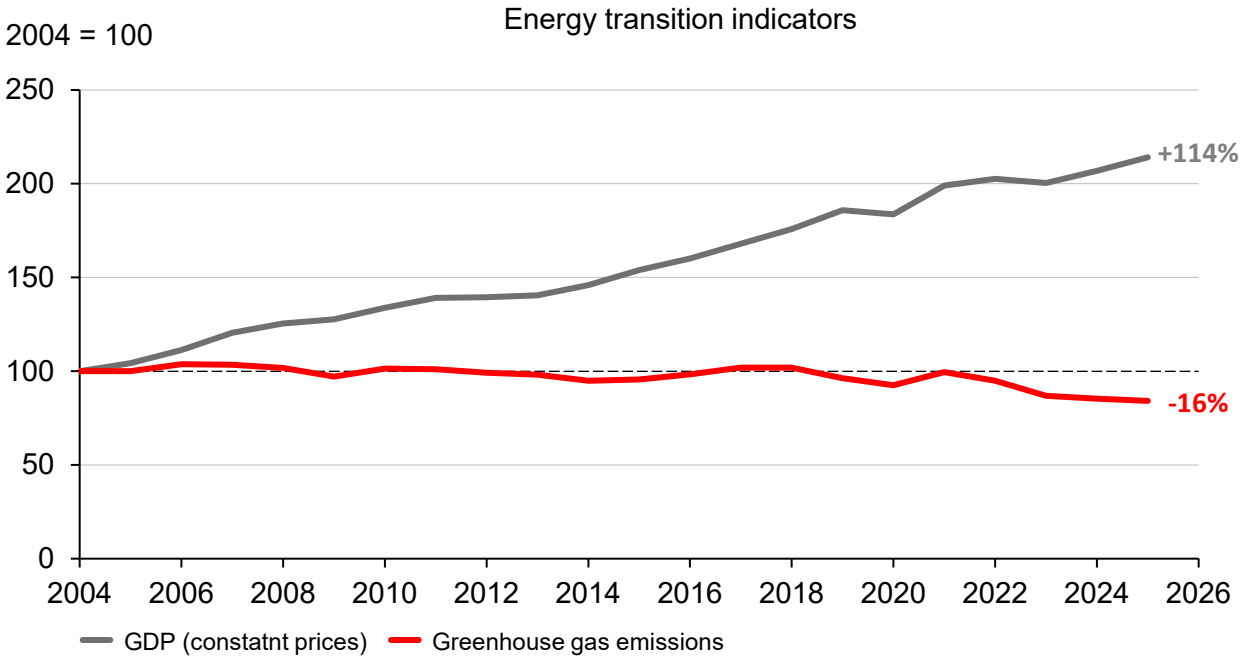
Source: own elaboration based on data from: EEX, NBP

The energy transition does not wait

Decoupling in the Polish economy
Despite steadily rising GDP, national emissions have decreased since Poland's accession to the EU

The structure of fuel consumption is changing
Since joining the EU, coal consumption has decreasd, while consumption of natural gas and crude oil has increased

The importance of renewable energy is growing
Since joining the EU, consumption of primary energy and electricity has increased, and renewable sources are meeting an ever-greater share of demand.



Source: own elaboration based on data from: ERO, MCE, Statistics Poland, EEA, ARP, ENSTOG, KOBiZE, Eurostat

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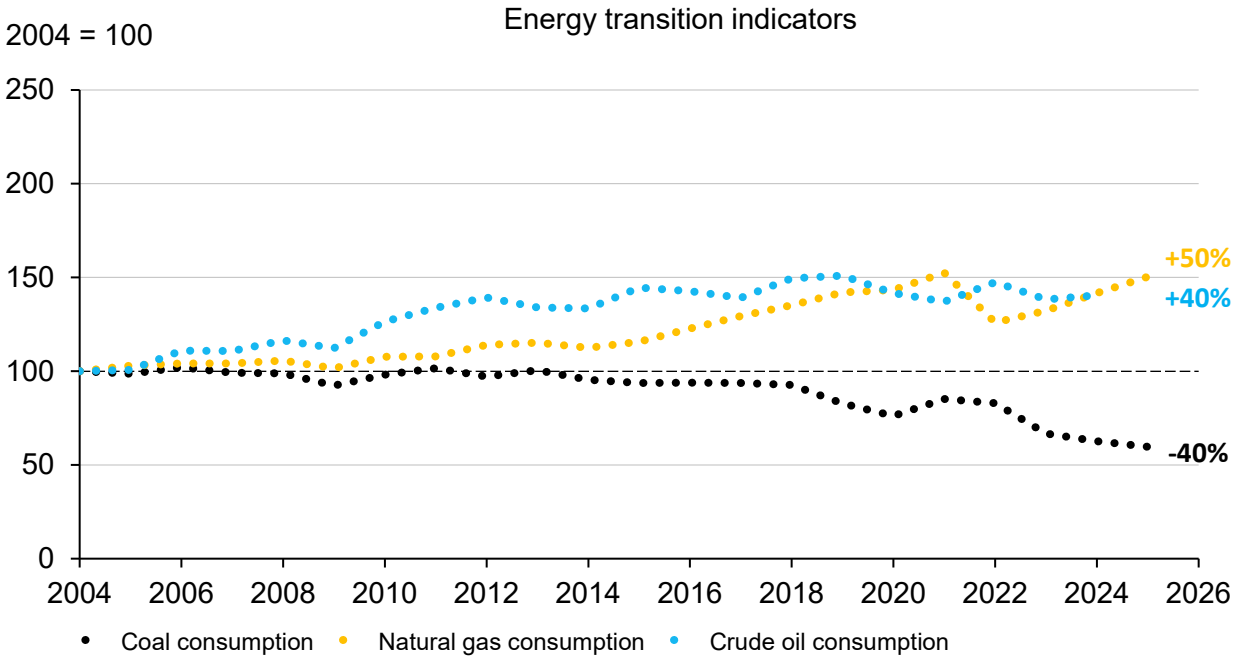

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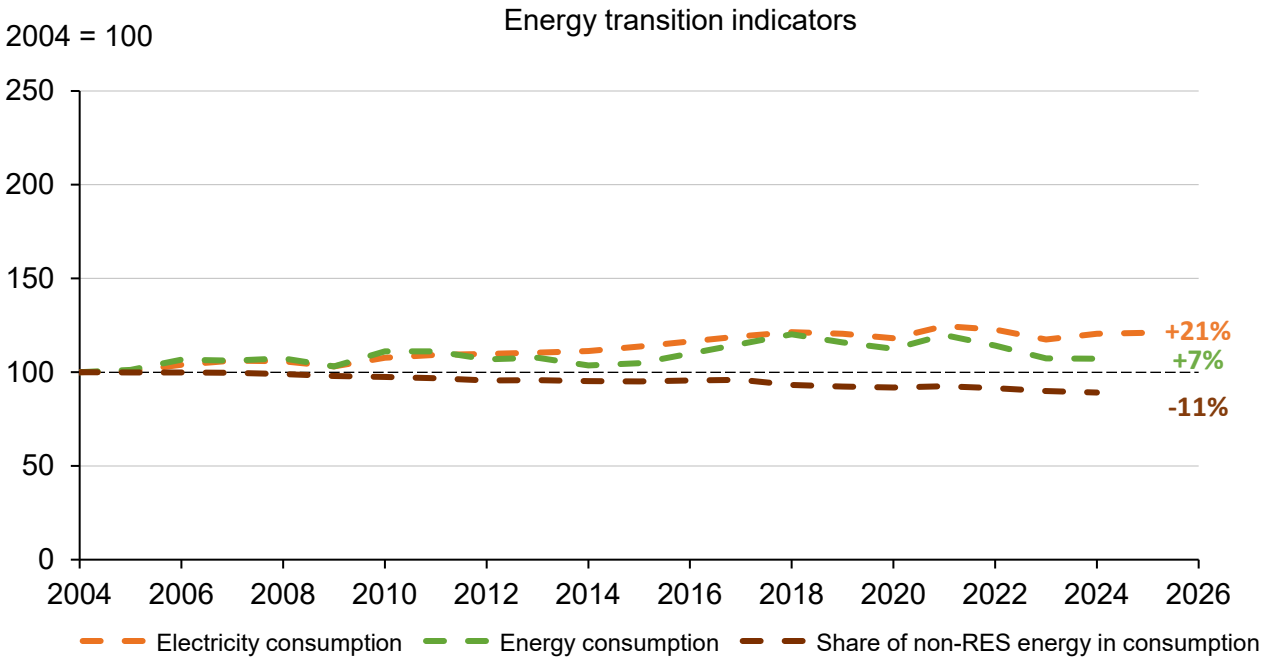

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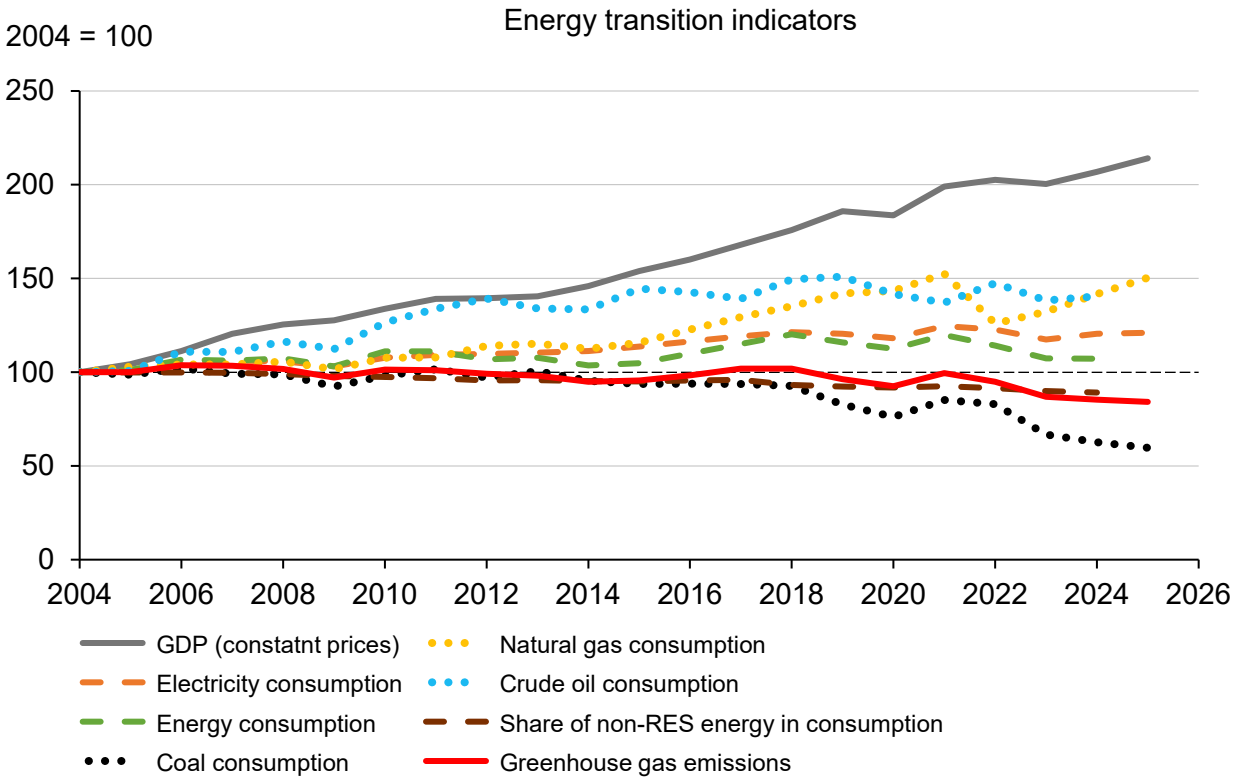

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Thank you for attention

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