District heating in PGE Group as a cornerstone for decarbonisation and energy security

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Leading in the green transition

Decarbonisation of buildings through district heating: natural gas, power-to-heat, biomass or what else?

More than 6 million households in Poland are connected to district heating. High-efficiency cogeneration is the only technically and economically feasible solution for district heating in Poland. It will allow to largely deploy renewable gases, such as biomethane and hydrogen in the future.

OPPORTUNITIES

Quicker emissions reduction, improved air quality

Additional funds for district heating

CHALLENGES

Long-term investments, uninterrupted heat supply

No renewable gases market, limited waste heat potential, limited biomass supply

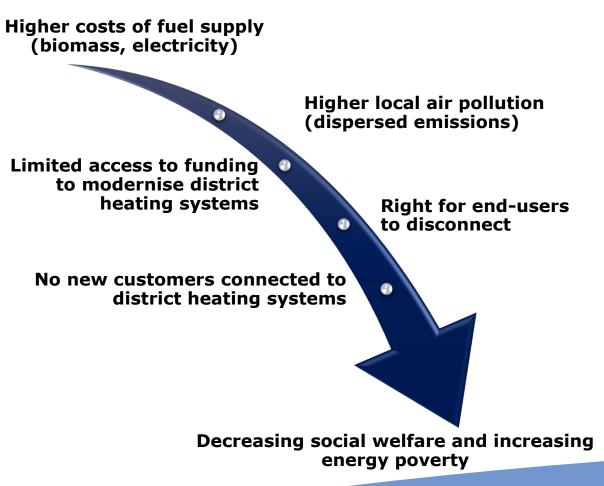
Required temperature parameters in heating networks

Insulation of buildings crucial for low-temperature renewables



Impact of amendments to the EPBD in the report adopted in ITRE on district heating and new buildings' owners

- According to the report of ITRE Committee, a new ZEB may be supplied by an efficient district heating and cooling systems complying with a new EED definition, but only to the extent that this energy is renewable.
- > ZEB owners will most likely not connect to existing district heating systems if they are not 100% renewable.
- That translates to a degradation of existing systems and significant challenges for customers forced to seek and invest their own resources in another heat source.





EPBD should enable ZEBs to include energy from highefficiency cogeneration under certain conditions

Zero-emission building

Primary energy demand: 60 kWh/m²/year Energy demand breakdown

Heating: 50 kWh/m²/year

Electricity: 10 kWh/m²/year

System level

District heating: 10 kWh/m²/year

20% RES, 80% CHP

Individual heating: 40 kWh/m²/year

80% of demand (the rest)

RES onsite, RES communities etc.



District heating is facing tremendous regulatory changes under the "Fit for 55" package

EC proposal	Council's GA	EP position
EED: New definition of an efficient district heating and cooling system excluding non-renewable high-efficiency cogeneration as of 2035	Keeps non-renewable high-efficiency cogeneration after 2035 to a limited extent	Adds 2 years to application of a new definition
EED: New emission criterion for high-efficiency cogeneration as of 2026	Criterion only for new and substantially refurbished after the transposition	Follows the Commission's proposal
EPBD: Requirement for new and renovated zero-emission buildings to be supplied only with renewables or waste heat, including in district heating	Yes, to all efficient district heating systems	To be adopted in mid- March

