

Czech Republic Strategy of stabilization and development of district heating

8th Plenary Meeting Concerted Action for the Energy Efficiency Directive

Wednesday 24 March 2021, 13:00-14:00



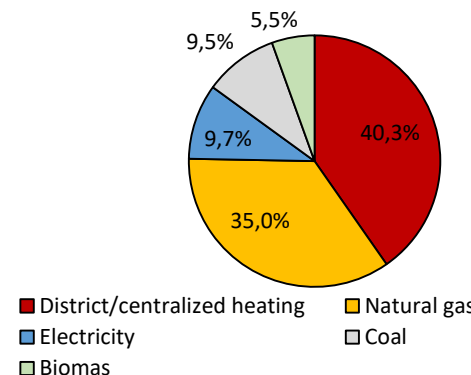
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The role of the DH in CZ (1/2)

- ➔ **An important role in the supply of the Czech citizens:** The supply of heat from the district heating systems in the Czech Republic covers app. 50% of the total heat consumption. Approximately 1.6 million households in the Czech Republic are connected to the district heating systems, which corresponds to app. 4 million inhabitants of the Czech Republic.
- ➔ **The most common method of heating households:** In 2015, when the last statistical survey with regards to household sector was conducted, the share of households connected to district heating systems were app. 40%, making it the most common method of heating.

Relative share of dwellings/households with different heating options/fuels



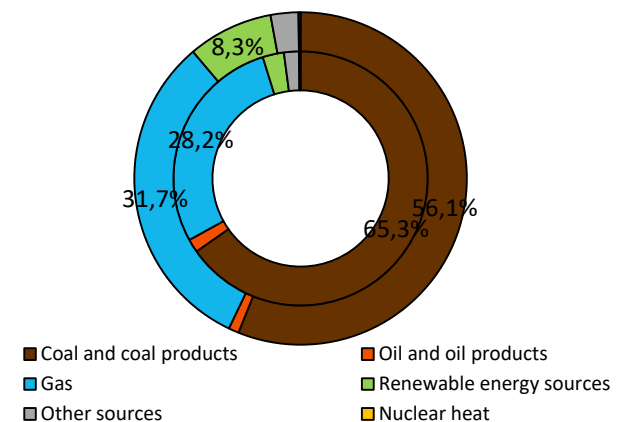
Source: Association for district heating of the Czech Republic based on ENERGO 2015

The role of the DH in CZ (2/2)

➔ **Dominant role of coal:** Coal (mostly subbituminous, but also hard) remains the dominant source of energy for centralized heat production in the Czech Republic. Although its share has been gradually declining for a long time, according to the current statistics of the Energy Regulatory Office, which concern license holders for the production of thermal energy, it reaches approximately 60%.

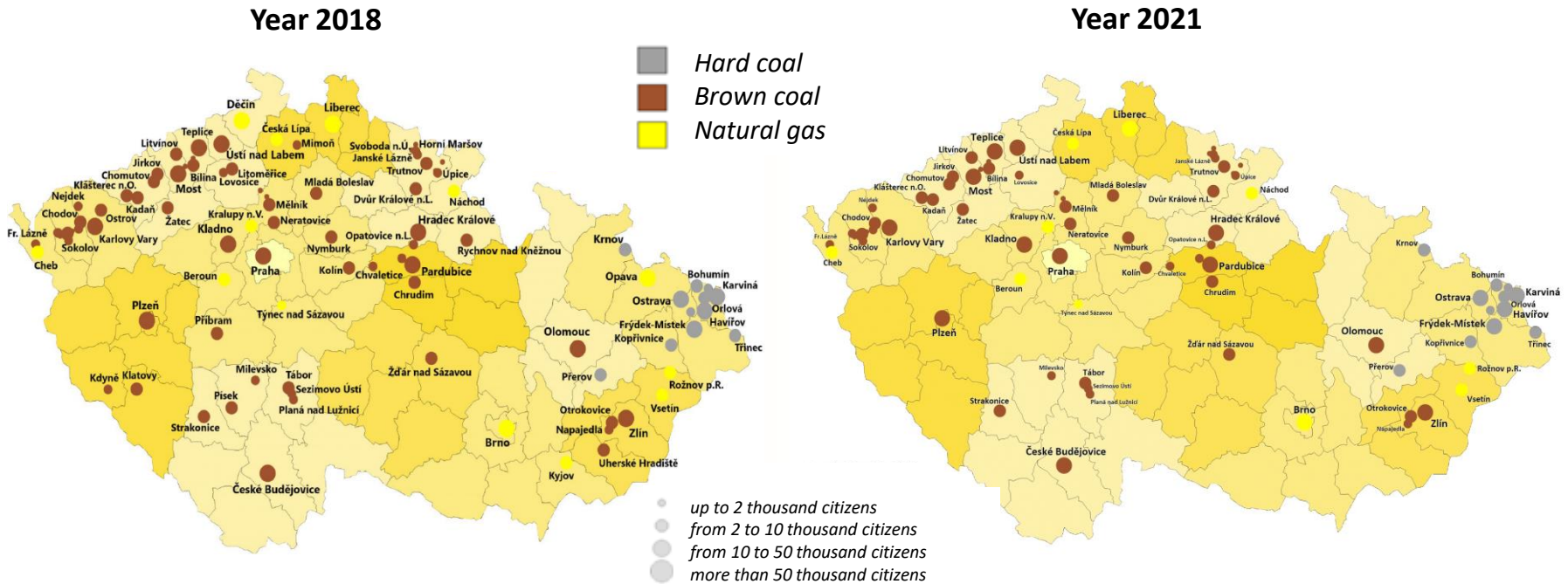
➔ **Important role for industry:** There is a number of industrial CHP sources that are mostly based on coal, which provides a heat for the industrial processes. Some of the process requires high potential heat.

Relative fuel share on supplied (sold) heat in 2010 (internal) and 2018 (external)



Geographical distrib. of major heat prod.

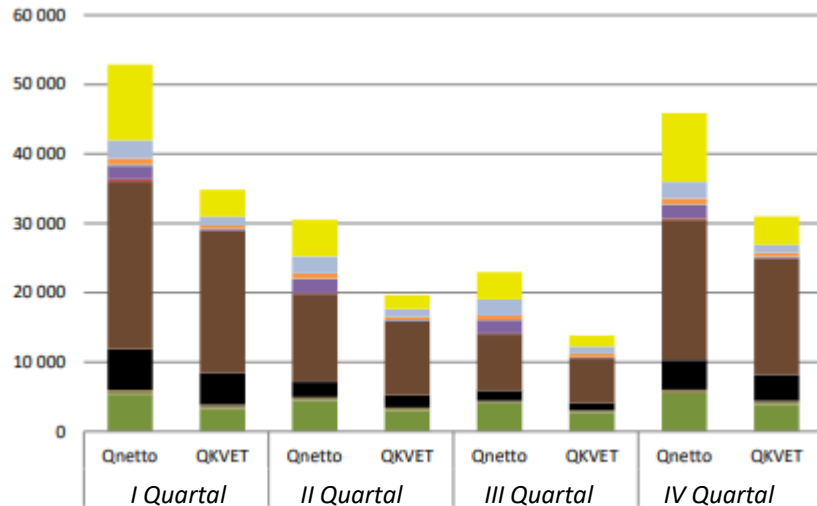
Map of CHP plants with fossil fuels that are included in EU ETS system



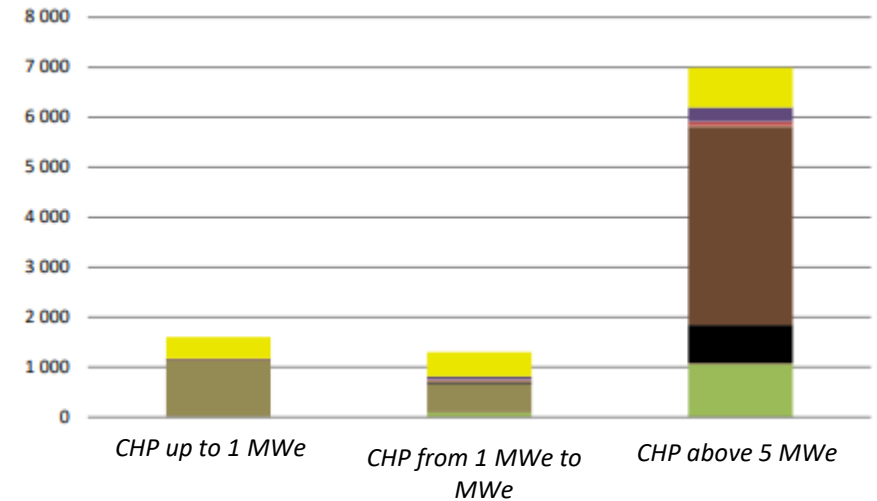
Source: Association for district heating of the Czech Republic

Current state of CHP

Net heat production and heat production from CHP by fuels (TJ)



Electricity produced in CHP by fuel in 2019 (in GWh)



- Biomass
- Biogas
- Hard coal
- Brown coal
- Coke
- Waste heat
- Other liquid fuels
- Other solid fuels
- Other gasses
- Other
- Heating oil
- Natural gas

Source: Statistical reports (Energy Regulatory Office)

Policies for the transformation of H&C (1)

- ➔ **New schemes for operational support:** new system of operational support is introduced, focused not only on the new sources of heat, but also on modernization of current sources; includes new scheme of support for CHP production based on competitive auctioning (feed in premiums support for small CHPs).
- ➔ **New schemes of investment subsidies:** Number of investment support schemes are being finalized. Most important programs: Modernization Fund, Just Transition Fund, Recovery and resilience fund, EU/cohesion funds (OP TAK, OPŽP).
- ➔ **Other financial and economic forms of support:** From 1 January 2020, the rate of value added tax on the supply of heat and cold was reduced from 15% to 10%.

Policies for the transformation of H&C (2)

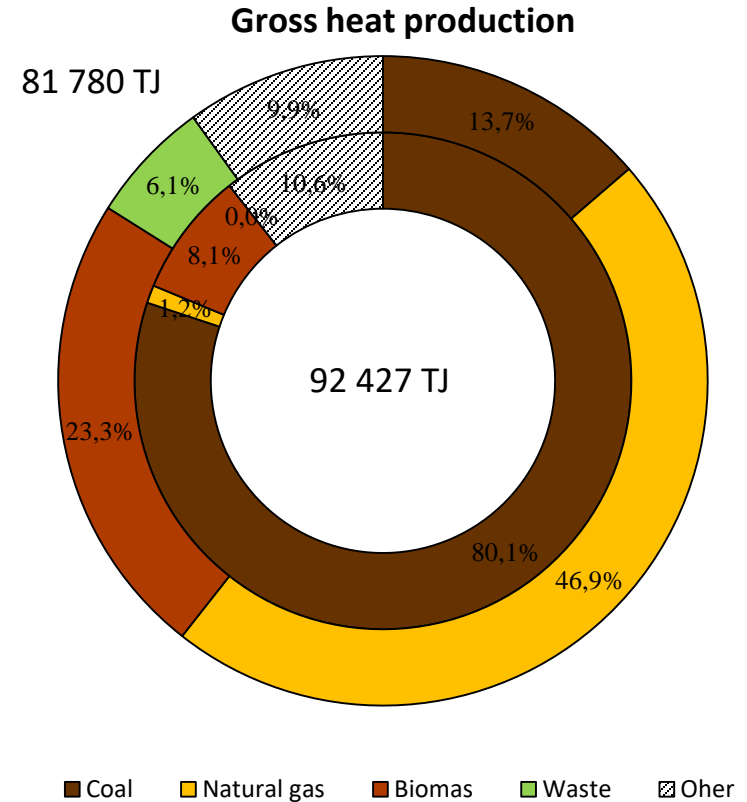
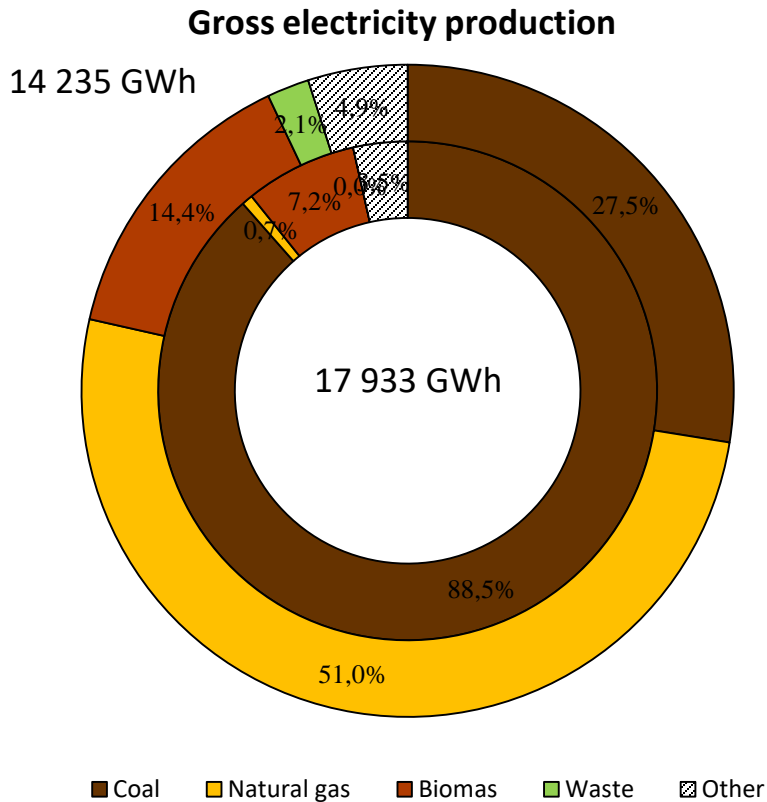
- ➔ **New model of price regulation:** a new, more deregulated, model of regulation of the district heating industry is being prepared (this effort is led by ERO).
- ➔ **Effective protection of heat supply systems:** new requirements for disconnection from district heating systems have been introduced, which should prevent disconnection from the system with possible negative impacts (on energy efficiency, the environment, etc.).
- ➔ **Technical rules for heat measurement:** technical rules for remote readings and requirements for billing and verification of correctness of billing of costs for heating and hot water supply are being modified/introduced.

Public financing (investment support)

- ➔ **Operational fund for competitiveness:** focused on the modernization of heat distribution networks (such as steam to water switching); after 2020 this support will be replaced by the support through Recovery and resilience fund.
- ➔ **Modernization fund:** financed through the EU ETS revenues; period: 2021-2030; app. 150 bill. CZK available; one program is specially devoted to the transition of DH producers from coal to other low carbon sources.
- ➔ **Just transition fund:** three regions are eligible, bottom-up approach – some projects will probably also be focused on DH systems.
- ➔ **Recovery and resilience fund:** part related to district heating focuses on modernization of heat distribution networks (app. 115 km should be modernized).

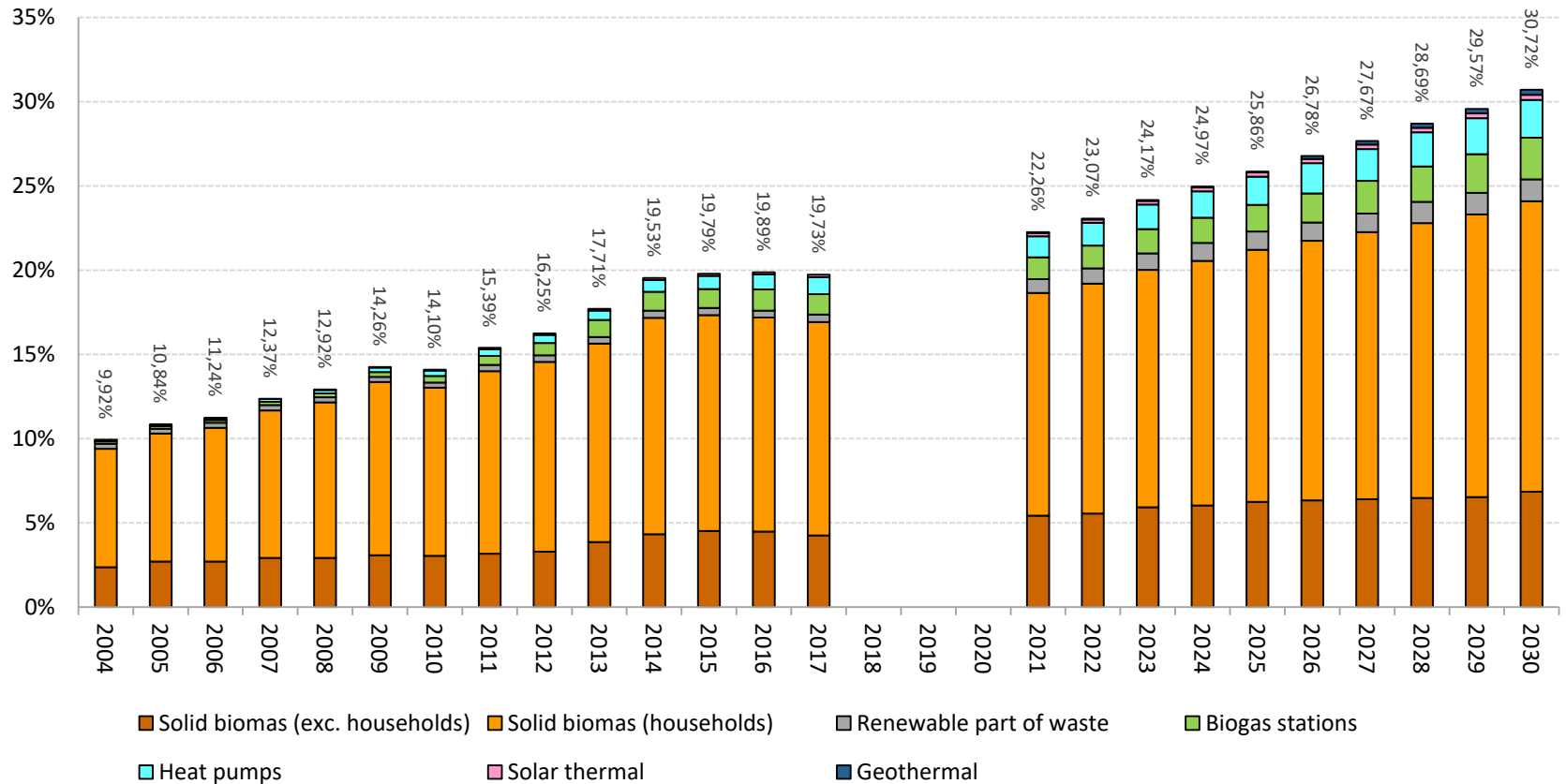
Transformation of DH by 2030

Planned transformation of coal CHP – comparison of year 2018 (inner circle) and year 2030 (outer circle)



Transformation of DH by 2030

Historical and targeted share of RES in heating and cooling sector

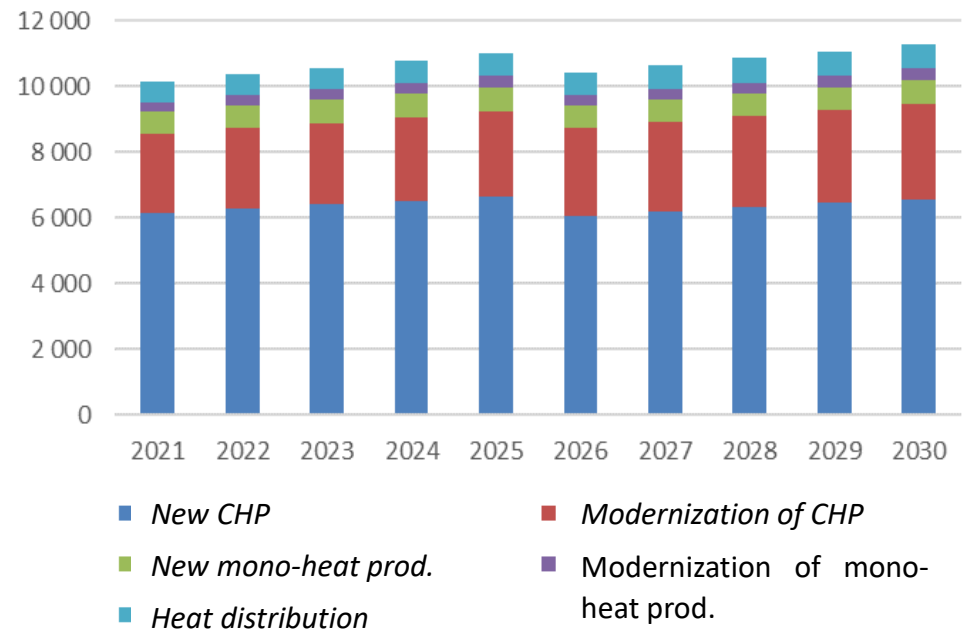


Source: National Energy and Climate Plan of the Czech Republic

Transformation of DH by 2030

Costs for modernization of district heating, conservative scenario, current prices of the given year, CZK million)

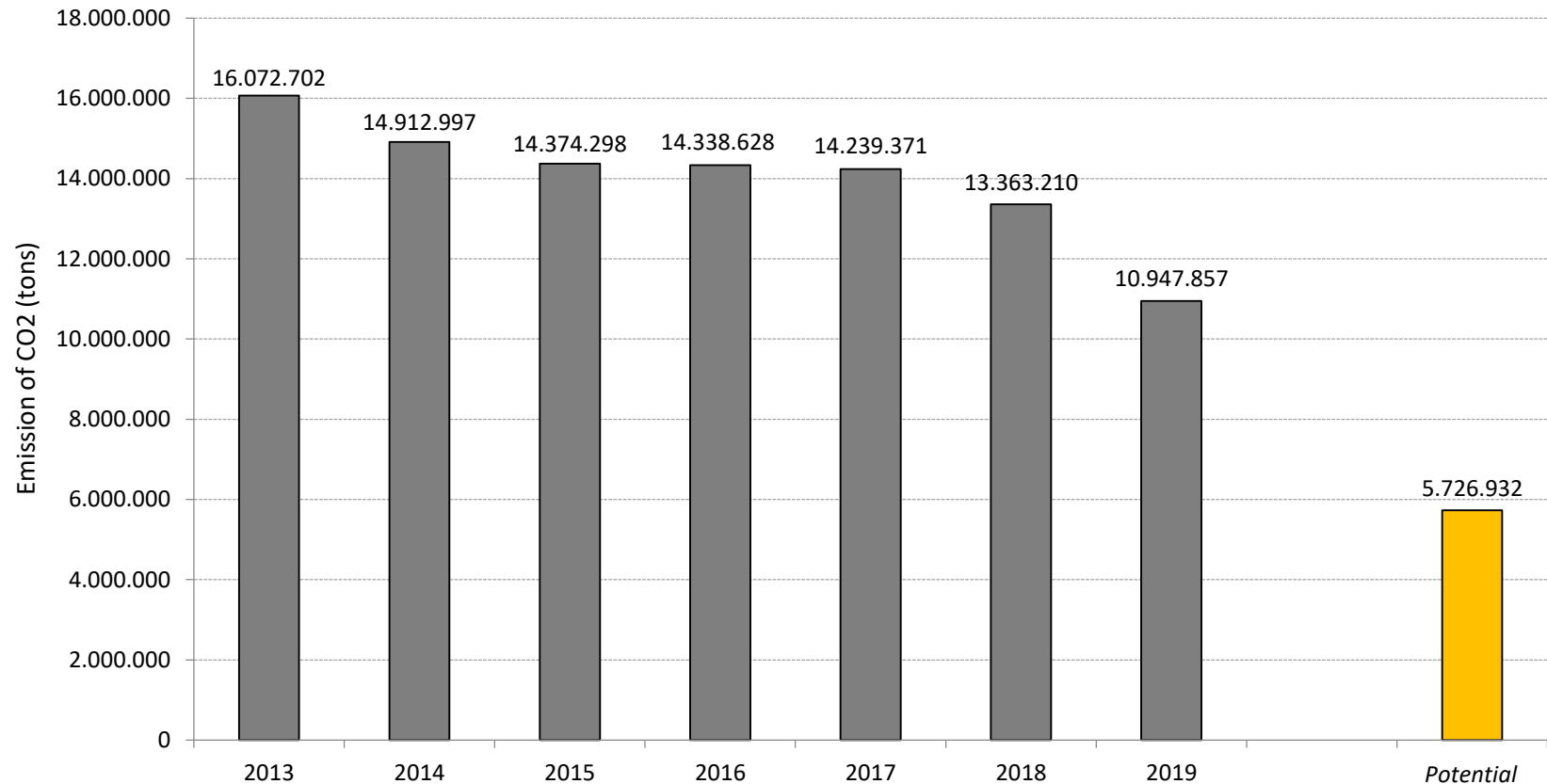
	up to 2025	2026-2030
New CHP	32 060	31 653
Modernization of CHP	12 442	13 861
New mono-heat prod.	3 487	3 462
Modernization of mono-heat prod.	1 611	1 697
Heat distribution networks	3 302	3 645
Total	52 901	54 318



Source: Climate and energy related investment in district heating in the period 2014-2030 (Czech technical university in Prague)

Transformation of DH by 2030

Potential of emission of CO2 reduction (mainly due to shift to natural gas)



Source: Climate and energy related investment in district heating in the period 2014-2030 (Czech technical university in Prague)

Thank you for your attention



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