



Hungarian household and industry natural gas consumption after the energy crisis - getting away from gas?

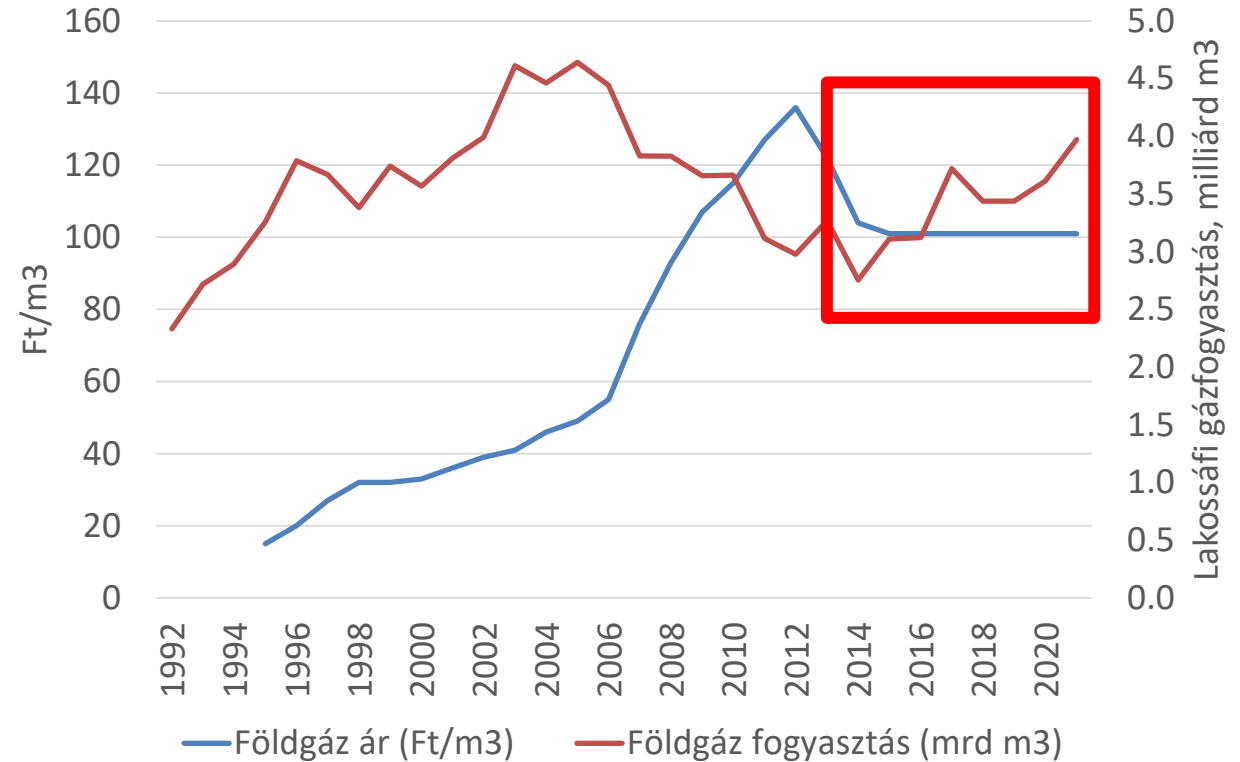
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Household's situation before the energy crises

- The household's consumption was around 3.4-4 bcm per year.
- Regulated price since 2013: around 23 EUR/MWh
- This means **a heavily depressed price** that does not reflect the cost at all.
- 80% of the households are connected natural gas grid
- The gas consumption slightly increased

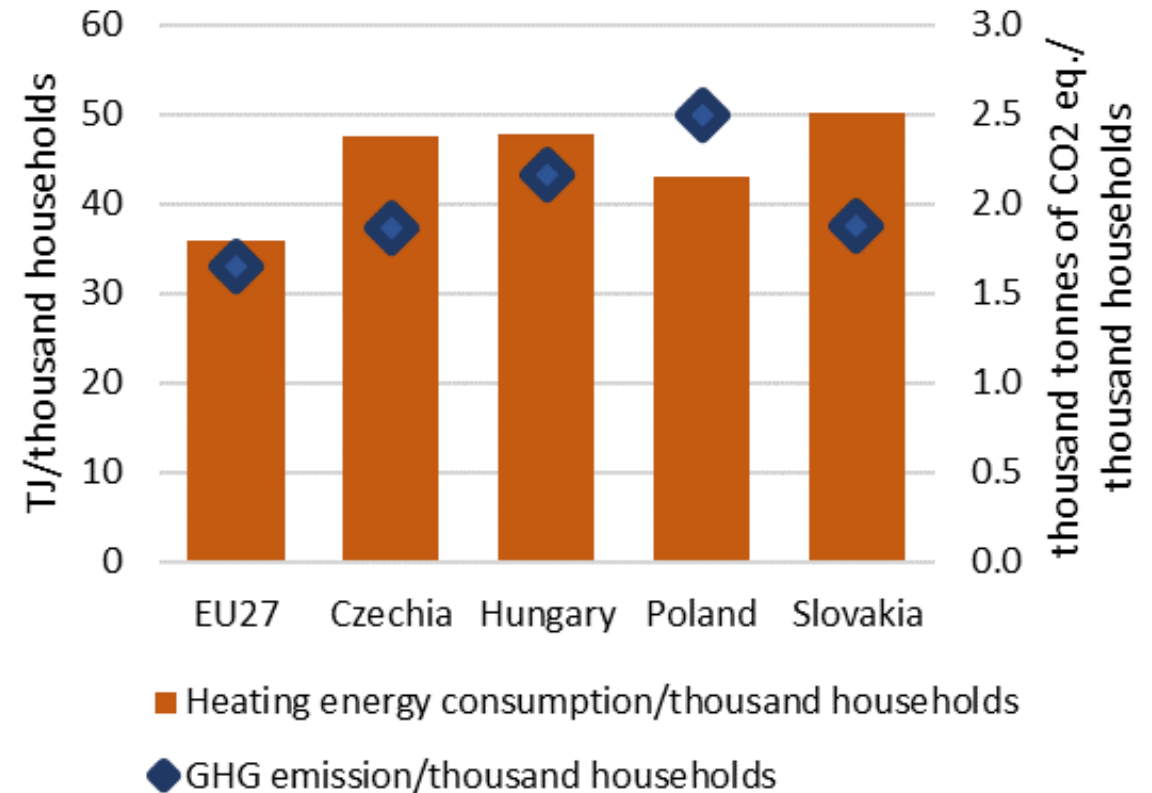
Household's yearly gas consumption and gas price



2013-2022: the period of comfort

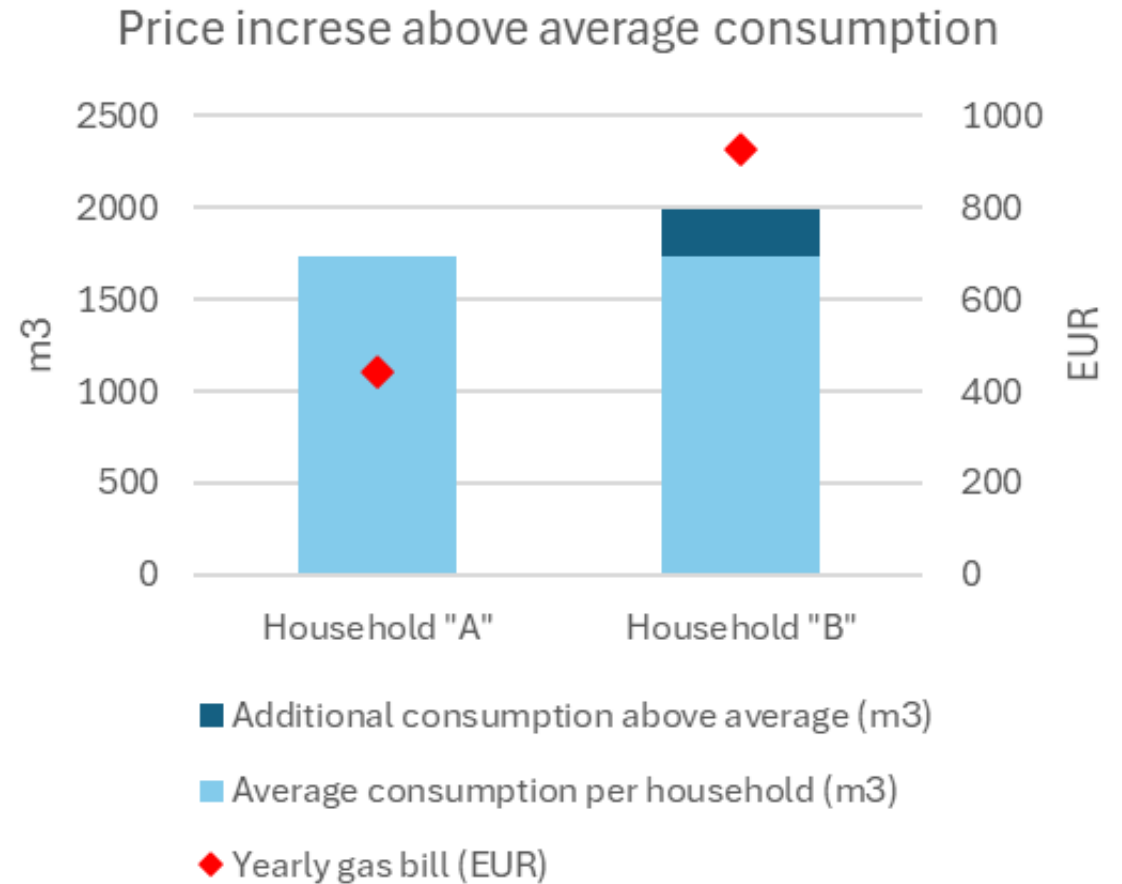
- Lack of extensive energy efficiency programs
- Lack of investments to the household's renovation
- Wasteful consumption became more common: heating our homes to 23-24 Celsius
- Households were not financially motivated in investing in energy efficiency, because the energy prices were so low.

Heating energy consumption and GHG emission per thousand household



Changes in price regulation: introducing the two-tier tariff system

- The Hungarian government could not maintain the low natural gas prices for the residential sector
- In 2022 a two-tier tariff system was introduced
- **Up to the average consumed volume the households pay the previous low price, but for the amount exceeding that they have to pay a more than 7 times higher price.**



Expected effect of price increase vs. reality

Result of REKK's price elasticity analysis:

- Household consumers will reduce their consumption by 0.3-0.5 percent in case of a 1 percent price increase
- Gas consumption will decrease by 8-10%

Reality:

- **Not only those reacted who were above the average but also those who were afraid of the high tariff may also affect them**
- Decrease: 15% compared to 2022 and around 25% compared to 2021.



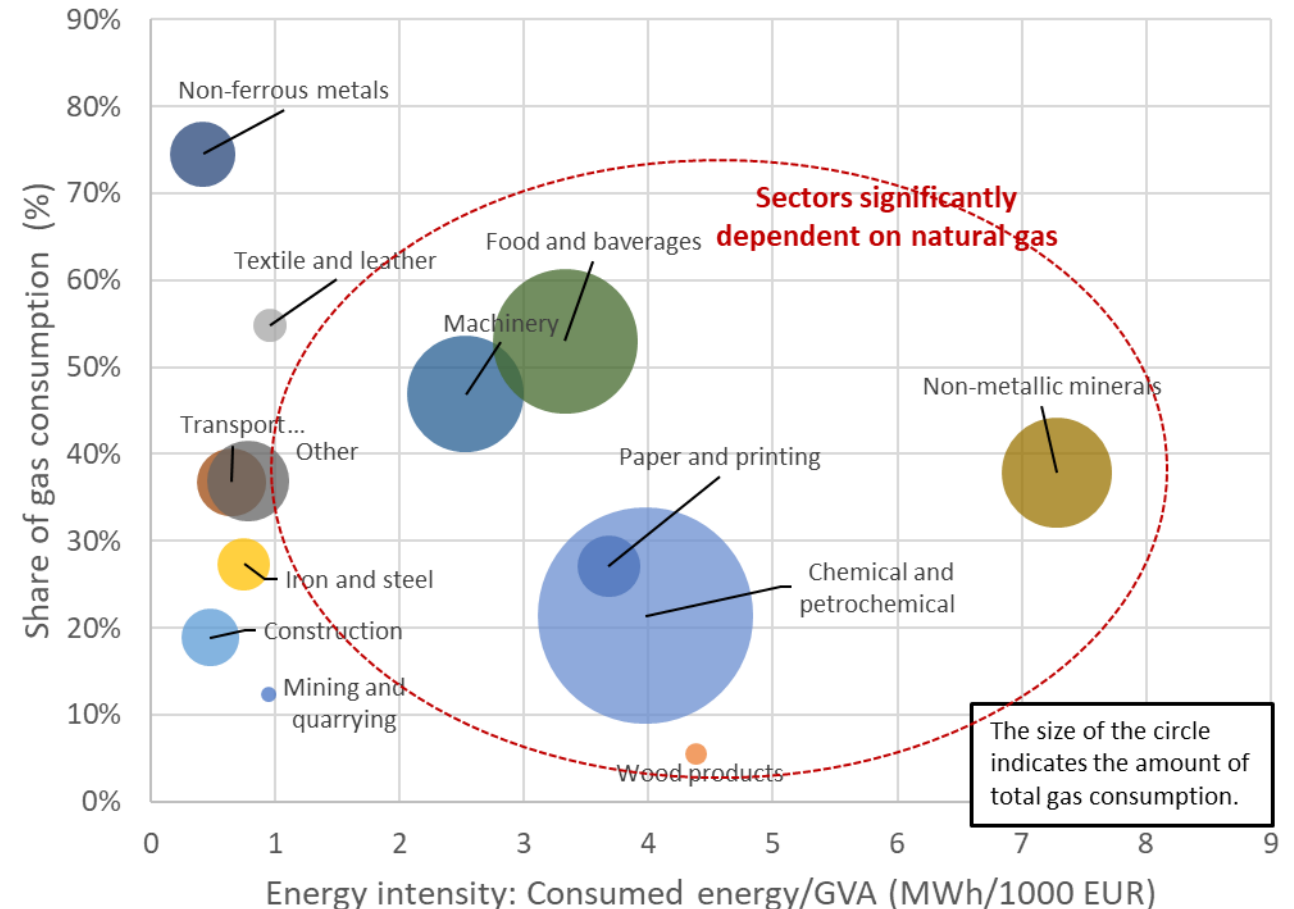
Consequences of the energy crisis: households

- **Households started energy efficiency investments, tried to find alternative heating options and also started to pay attention for their consumption and started to behave more rational**
- We do not see a bounce-back in the 2024 statistics: In 2023 the gas consumption of the residential sector were under 3 bcm, the expectation for 2024 is similar.
- The changes of the regulation have an effect on the decarbonization of the heating sector:
 - Households are sensitive to the energy prices
 - The radical regulation scheme caused even stronger reactions in consumption
- Hungarian heating sector still mainly rely on gas, however the last two years showed that it can change, and the change can clearly be accelerated by the development of prices.
- Instead of energy efficiency measures, Hungary still provides one of the largest fossil fuel subsidy for households

Changes in the industrial sector: the shock and reactions to it

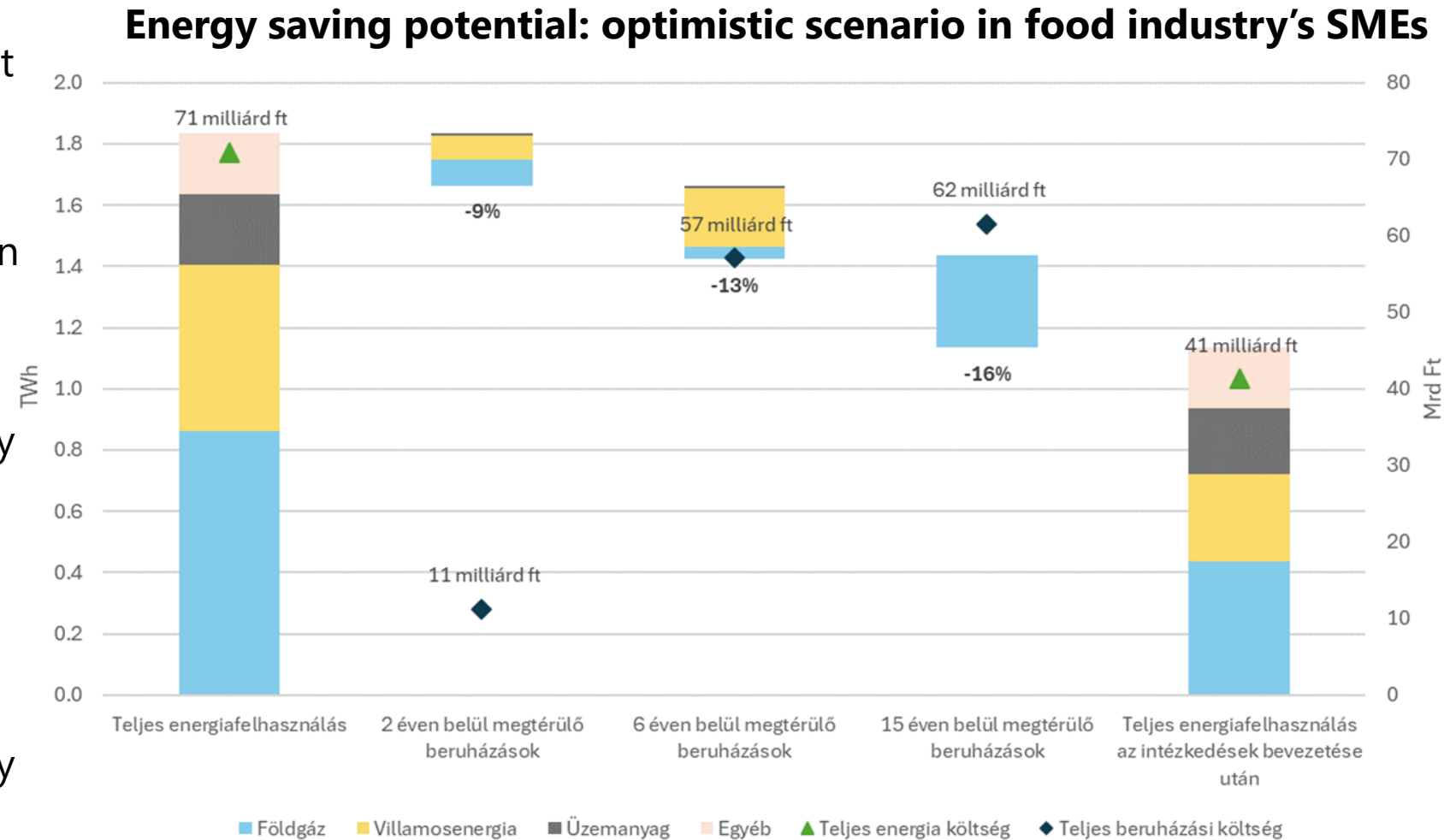
- Companies had to deal not only with the rise in energy prices, but also with inflation
- Answers for the price environment: raise their prices and start investing in energy efficiency
- Long-term investments with long-term effects on consumption: The total yearly Hungarian gas consumption will be around 8 bcm, this is 20% less the yearly "normal" consumption

Natural gas use of industrial subsectors



The situation of SMEs in the energy crisis: a path towards decarbonisation? (Food industry example)

- SMEs are less able to represent their interests effectively against energy traders
- Estimated the energy saving potential of the sector, based on the results of energy audits
- Realist scenario: the energy consumption can be reduced by 14% with measures pay for themselves within 15 years.
 - Natural gas: -21%
- Optimistic scenario: the gas consumption can be reduced by 50%.



What should we do to accelerate the decarbonization of SMEs?

- Currently, national programs need to be launched so that SMEs can reduce natural gas consumption. Technological alternatives are existing, a 20-year lock-in can be avoided.
- Although a significant part of the industrial use can be replaced, there will be areas in the industries with high gas consumption where gas consumption cannot (currently) be avoided. Such subsectors should be treated differently than those where alternatives already exist. As a first step, it is worth focusing on industries with alternatives.
- The slowness of transition from gas among SMEs is often caused by a lack of information and lack of knowledge of energy-efficient alternatives. The decarbonization of the sector can be encouraged not only with financial support, but also if, for example, they learn about their possibilities through energy audits.

THANK YOU FOR YOUR ATTENTION