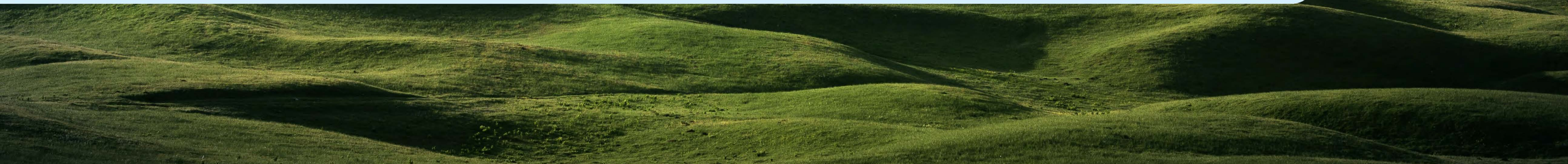
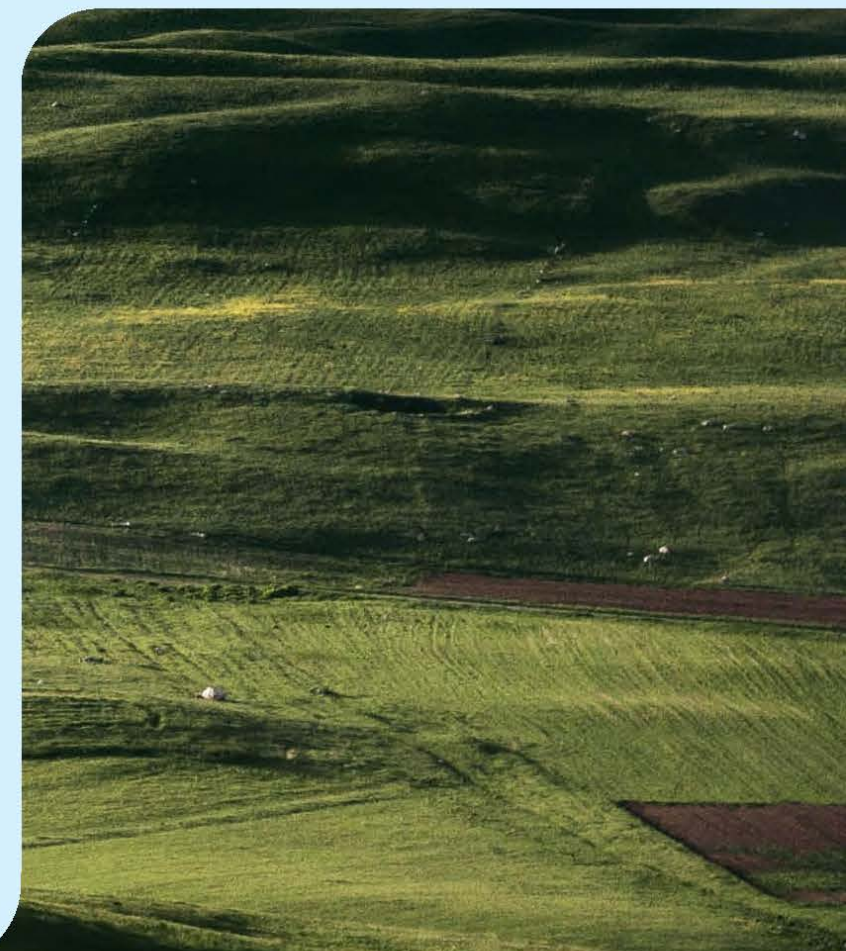


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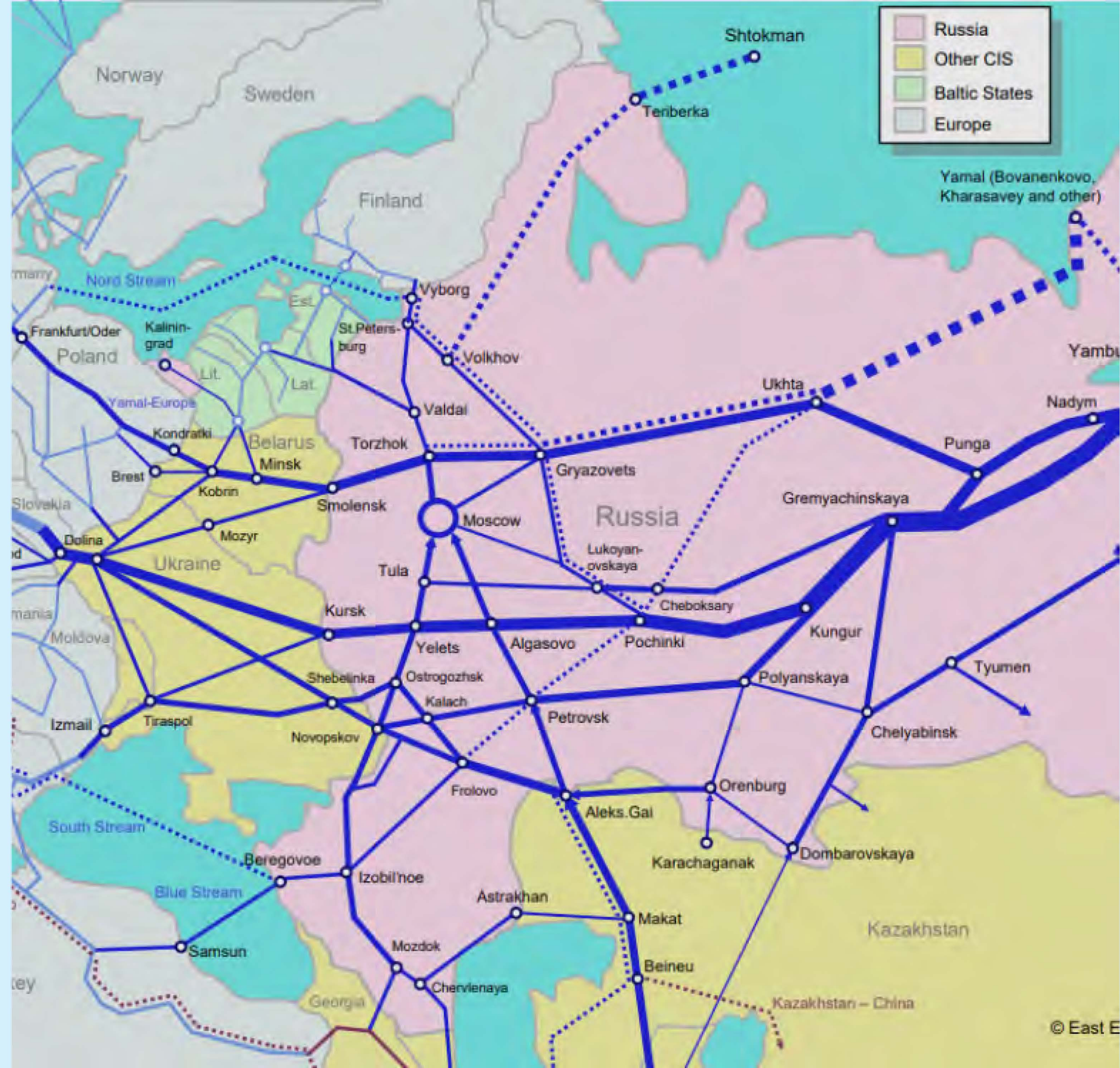
# Overview of heating sector in Lithuania





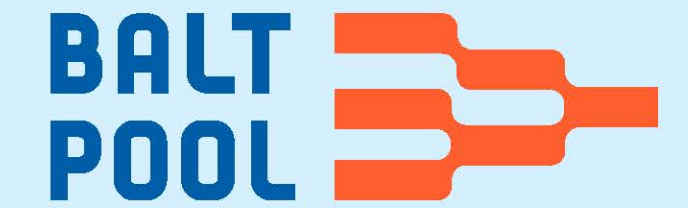
# Region gas geopolitics

- Profitability, transparent markets, and payback are unknown topics in this geopolitical game.
- It is obvious that gas geopolitics cannot end positively.





# 10 years of Lithuanian energy independence



## Electricity. 10 TWh

Diversified import and local production.  
(new connections to Poland and Sweden;  
Third Energy Package)

### Competition enforced by:

- Nordpool;
- NordBalt;
- LitPol Link.

3



## Liquid fuels. 18 TWh

Diversified import.  
(independent oil refining companies)

### Competition enforced by the open market



## Heat. 20 TWh

Diversified natural gas importers and  
diversified fuels.  
(LNG terminal and significant part NG  
conversion to local biomass.  
Third Energy Package)

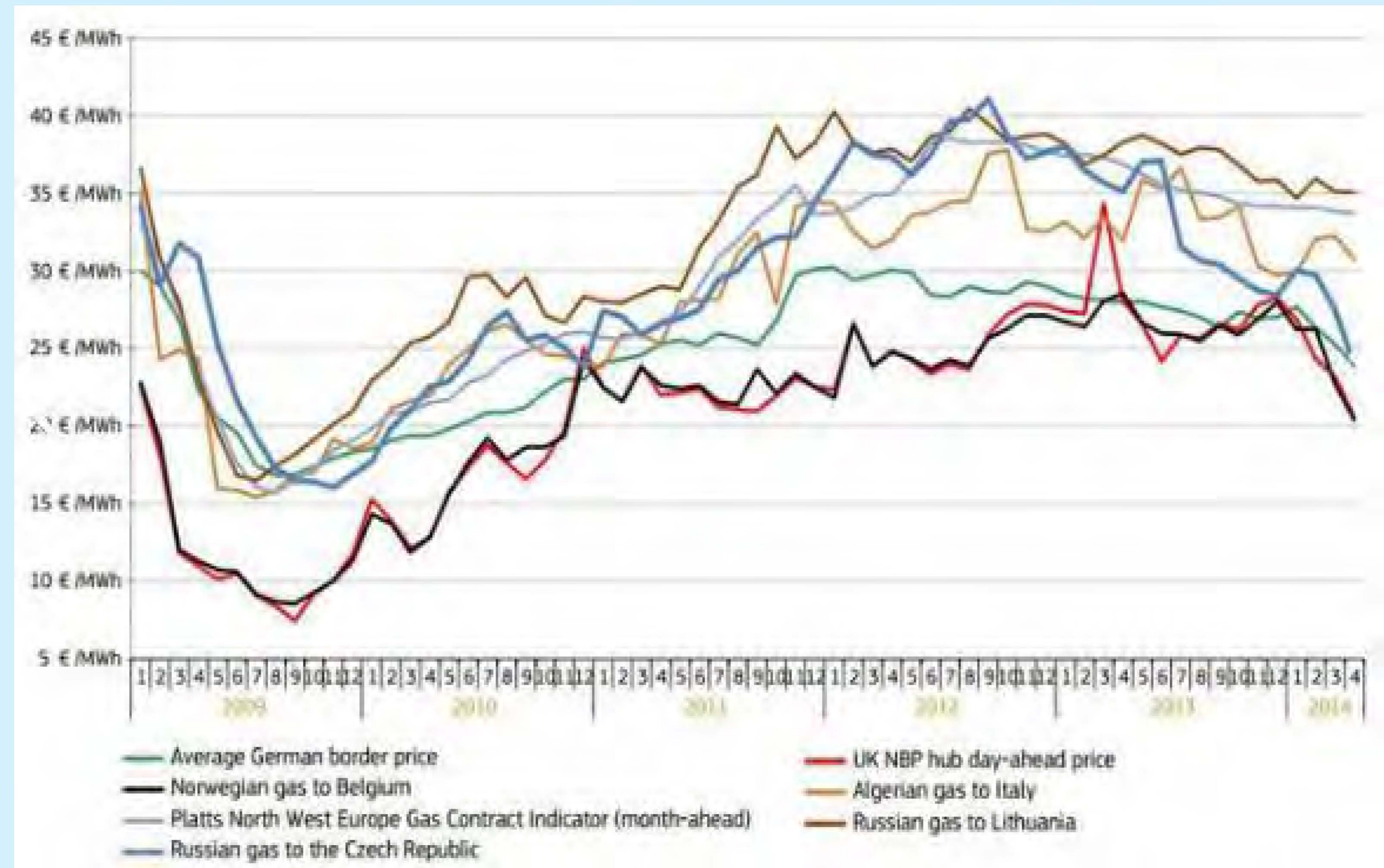
### Competition enforced by:

- GET Baltic;
- Baltpool;
- Independence.



# The political price of natural gas

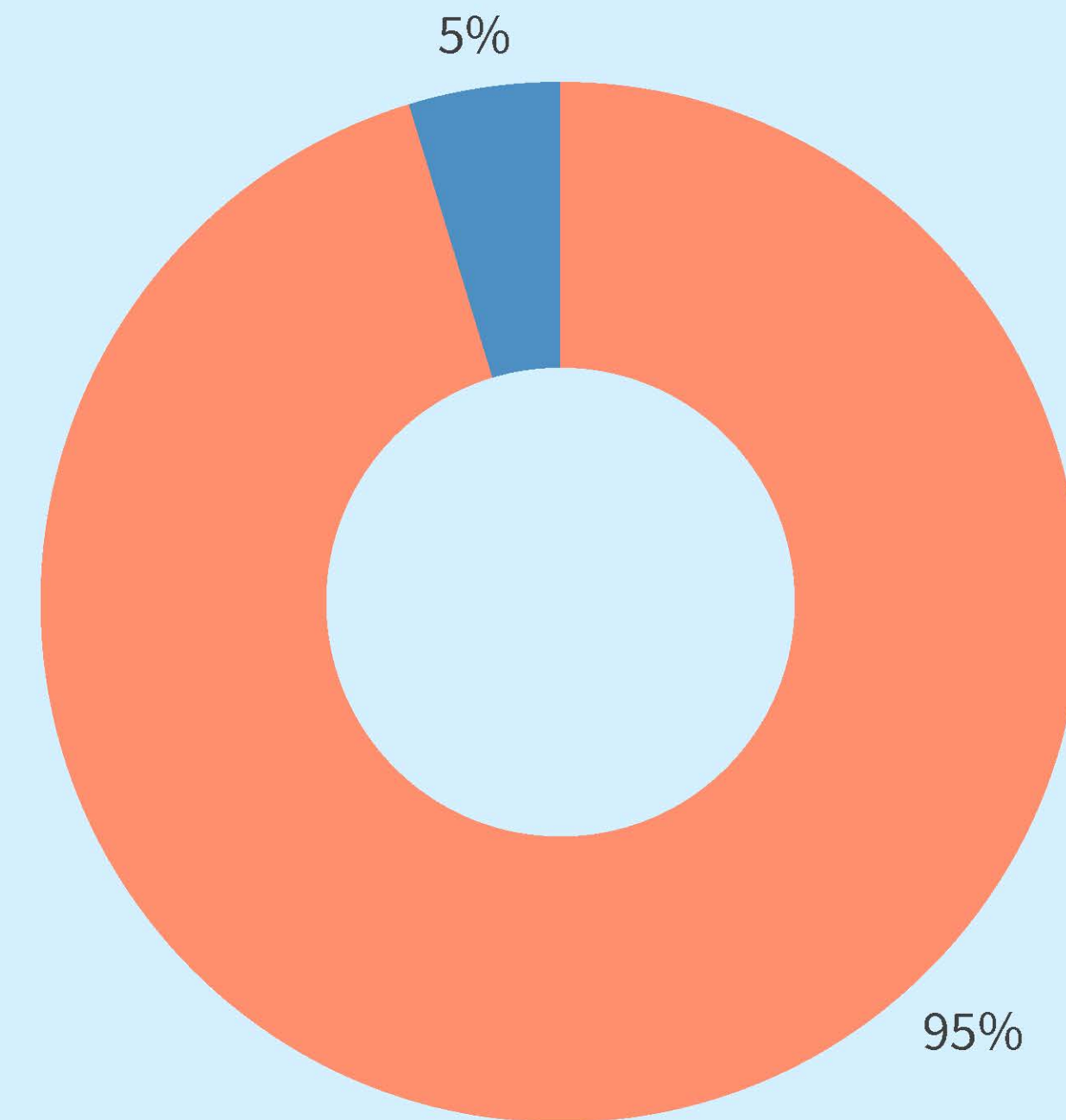
- Heating expenses mostly impact the budgets of low-income citizens.
- The price of natural gas initiates transformation of the heating sector from natural gas to biomass





# A nightmare in the heating sector in 2008

Heat producers distribution in 2008



 Independent heat suppliers  Licensed heat producers

- Gas – 77%, renewables – 17%;
- Gas prices at all-time high. Global economic crisis;
- Customer debt 15% of total revenue;
- All licensed producers experiencing operational loss;
- Regulator determined heat price – 15% below cost;
- No cash flow for investments into gas conversion to biomass;
- Heat distribution losses – 16.7%.

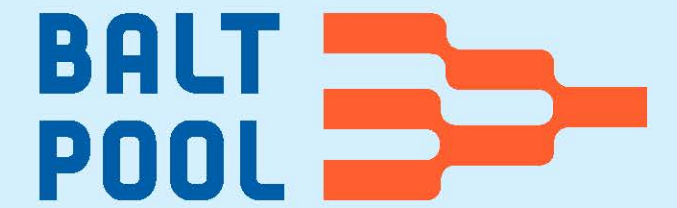
# A fundamental market problem

Criteria	Biomass	Natural gas
Number of suppliers	Market dependent on a limited number of suppliers	Only Gazprom
Competition	Oligopoly	Monopoly
Profit margins	Superprofit	Superprofit
Market barriers	Impossible to conclude a contract with buyers	Only one trading hub
Contract duration	Long term (Most longer than 3 years)	Long term (over 5 years)

- By 2012, purchases of biomass, natural gas and oil in Lithuania in the CHP sector were carried out according to the same rules
- The biomass and natural gas sectors had become indistinguishable for consumers
- The market was unable to regulate itself. Result for consumers -> high fuel prices = higher heating prices



# Tailored solutions for every fuel category



## Market competition rules were changed:

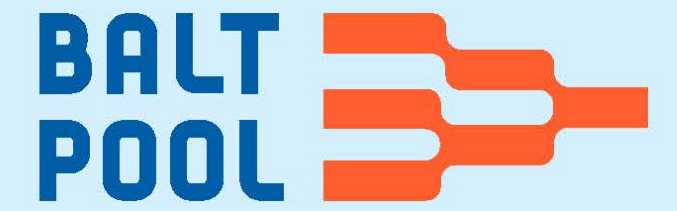
### For the biomass market

- State support for heat producers in conversion from gas to biomass;
- Biomass exchange for transparency.

### For natural gas market

- LNG terminal for alternative suppliers;
- Natural gas exchange for transparency.

# Heat sector reform (part of National Energy Independence strategy)

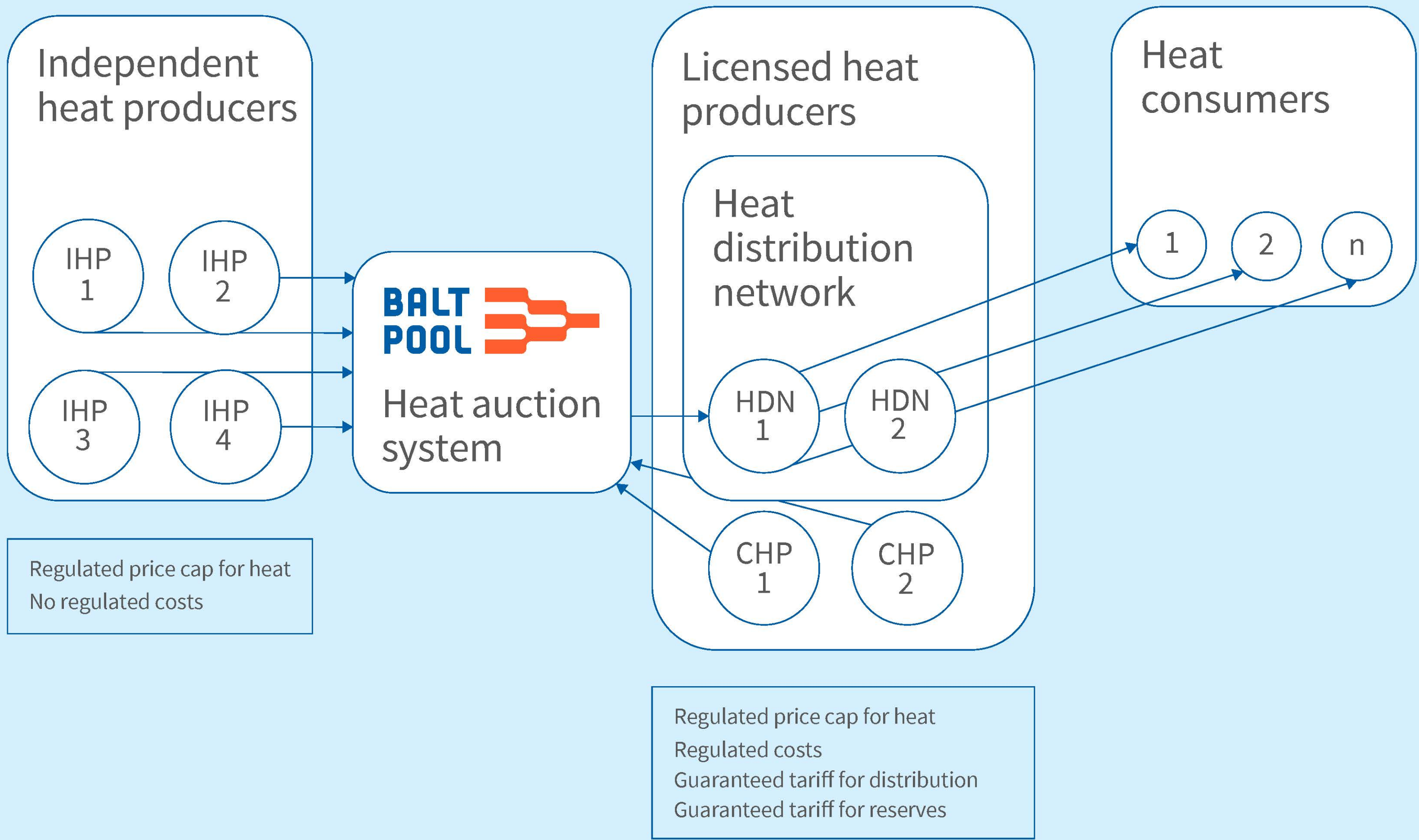


The rules for competition in the heat market were changed:

- **Liberalized connection to the grid** – every independent heat producer gets conditions for connection to the heat
- **Mandatory purchase for cheap heat** – licensed heat producers are obliged to purchase heat from independent heat producers;
- **Price cap** – regulators establish the heat price for licensed heat producers.



# Heating sector principal scheme

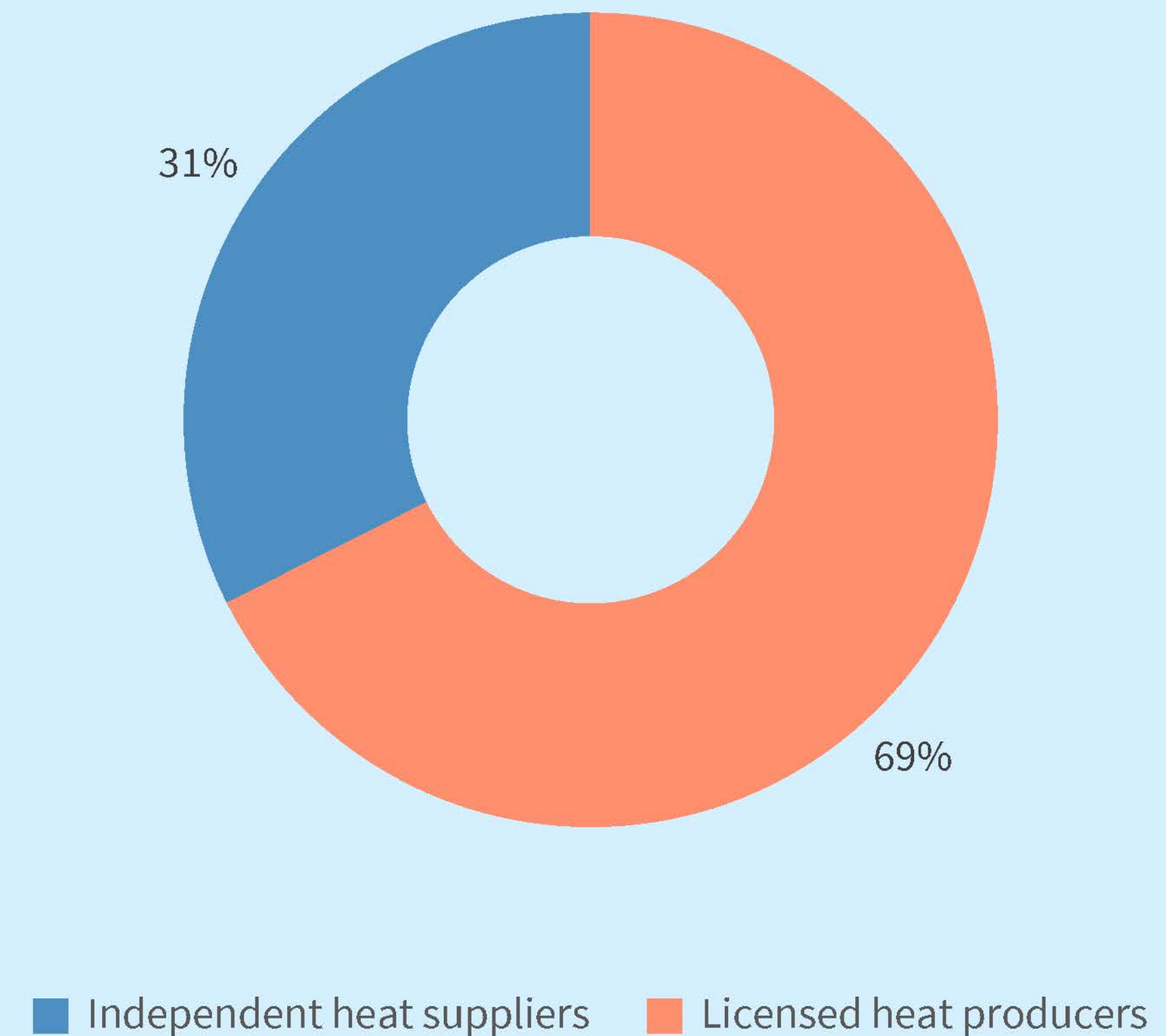




# Results of the reform

- Gas – 17%, renewables – 69%;
- Biomass price 2.5 times lower than gas price, 90% acquired in biomass exchange;
- Average heat price – 10% less compared to 2008 (taking into account inflation and 610 million Euros of new investments into the sector);
- 20% more customers compared to 2008.

Heat producers distribution in 2020



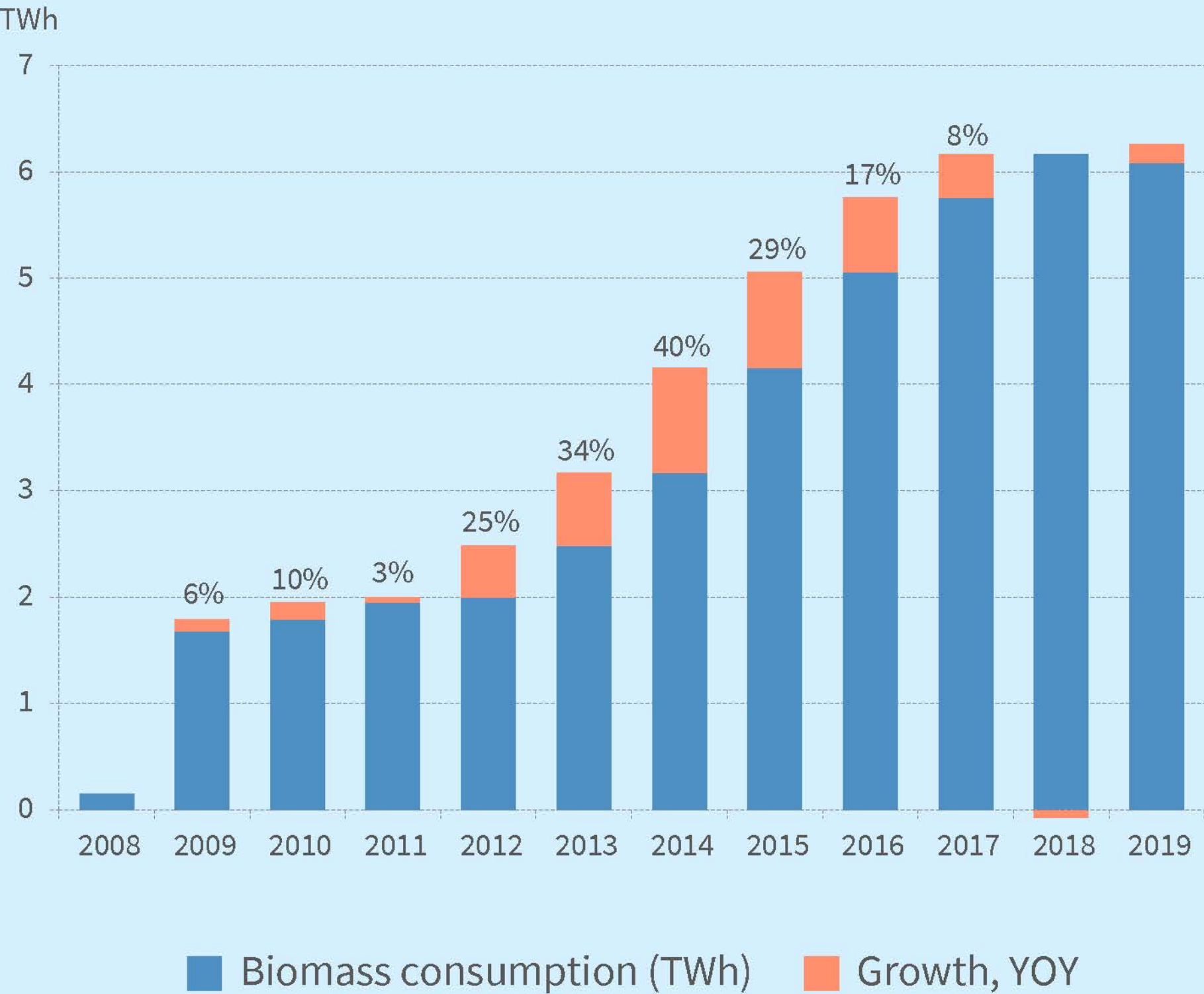


# Biomass has become a strategic energy resource in the Lithuanian energy sector

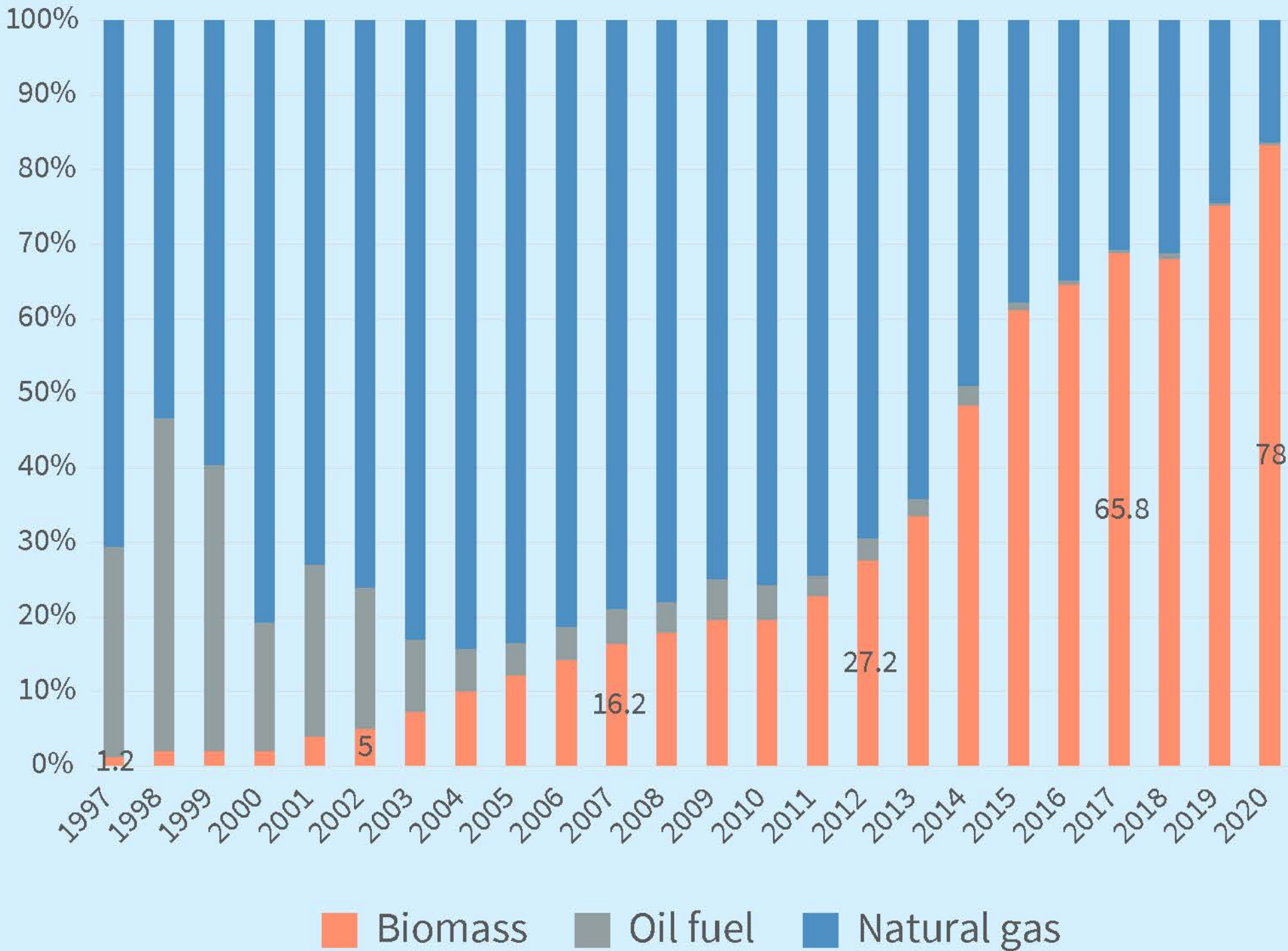


— Biomass has become a strategic energy resource in the Lithuanian energy sector.

## Biomass Consumption in CHP in Lithuania



## Share of biomass in fuel supply in Lithuanian district heating companies

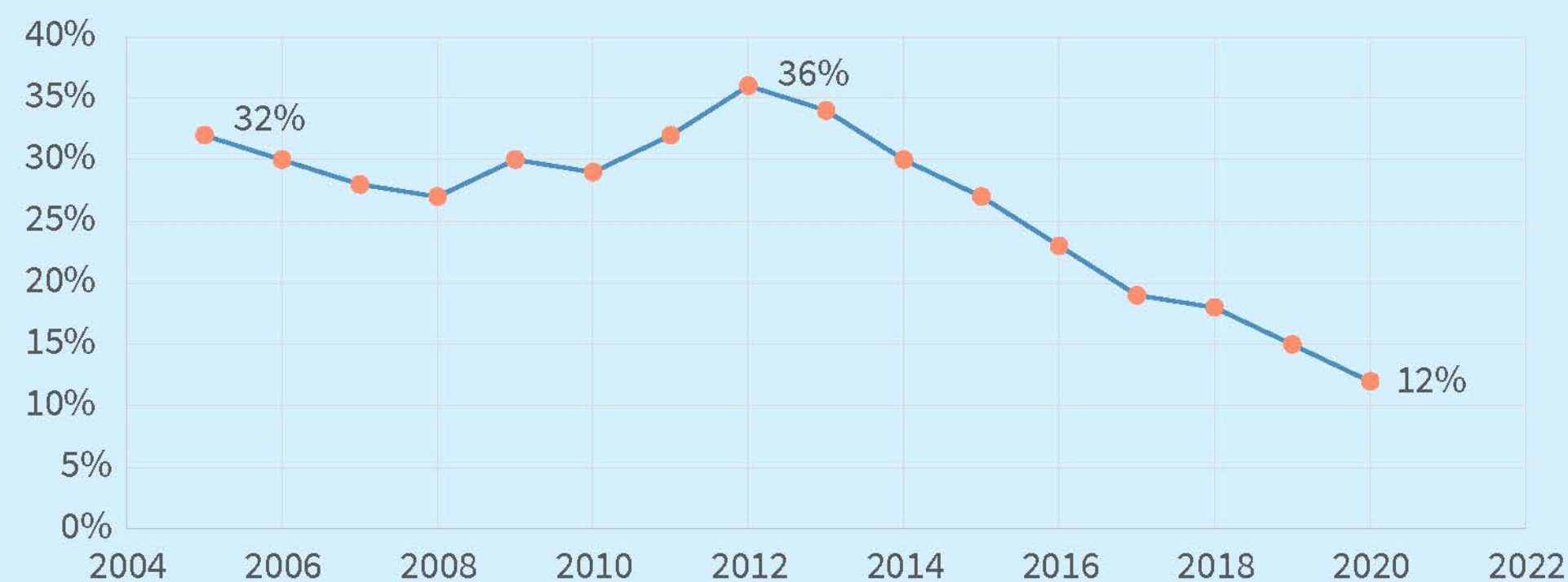




# Heating price was removed from political debate before elections

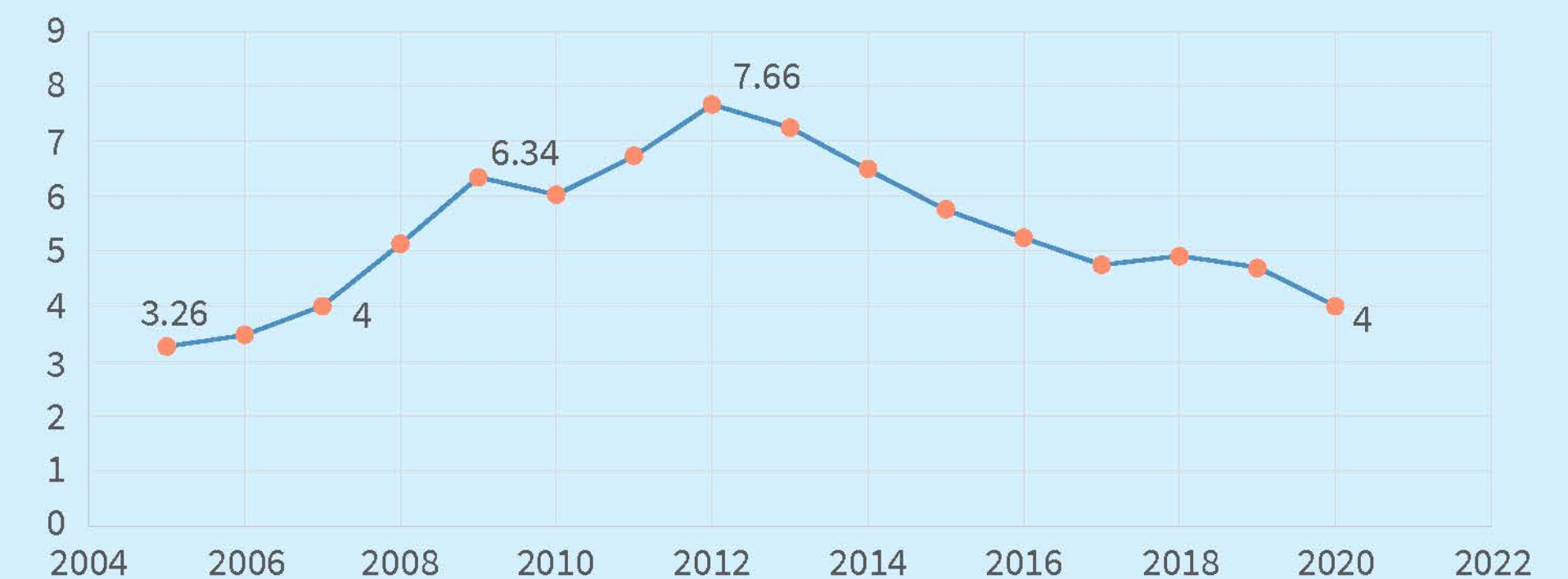
## Monthly payment for heating.

(%) part from average pension payment



- Typical Soviet multiapartment (not renovated)
- Living space - 60 m<sup>2</sup>
- Average consumption per winter month – 1030 kWh

## Average heating price , euro cent/kWh



- 2020 was the cheapest heating price in 13 years.
- From the highest price in 2012 price drop 47%.
- CPI in period 2012-2020 – 14,1 %.



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End of part 1

Q&A

