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How we organize a competitive market in the heat sector

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Past 15 years of Lithuania energy independency

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Diversified import and local production

(new connections to Poland and Sweden; Third Energy Package)

Competition enforced by

NORD POOL
A EURONEXT COMPANY

NordBalt

LitPol Link

Diversified import

(independent oil refining company)

Competition enforced by

open market

Diversified natural gas importers and diversified fuels

(LNG terminal and significant part conversion of NG to local biomass; Third Energy Package)

Competition enforced by

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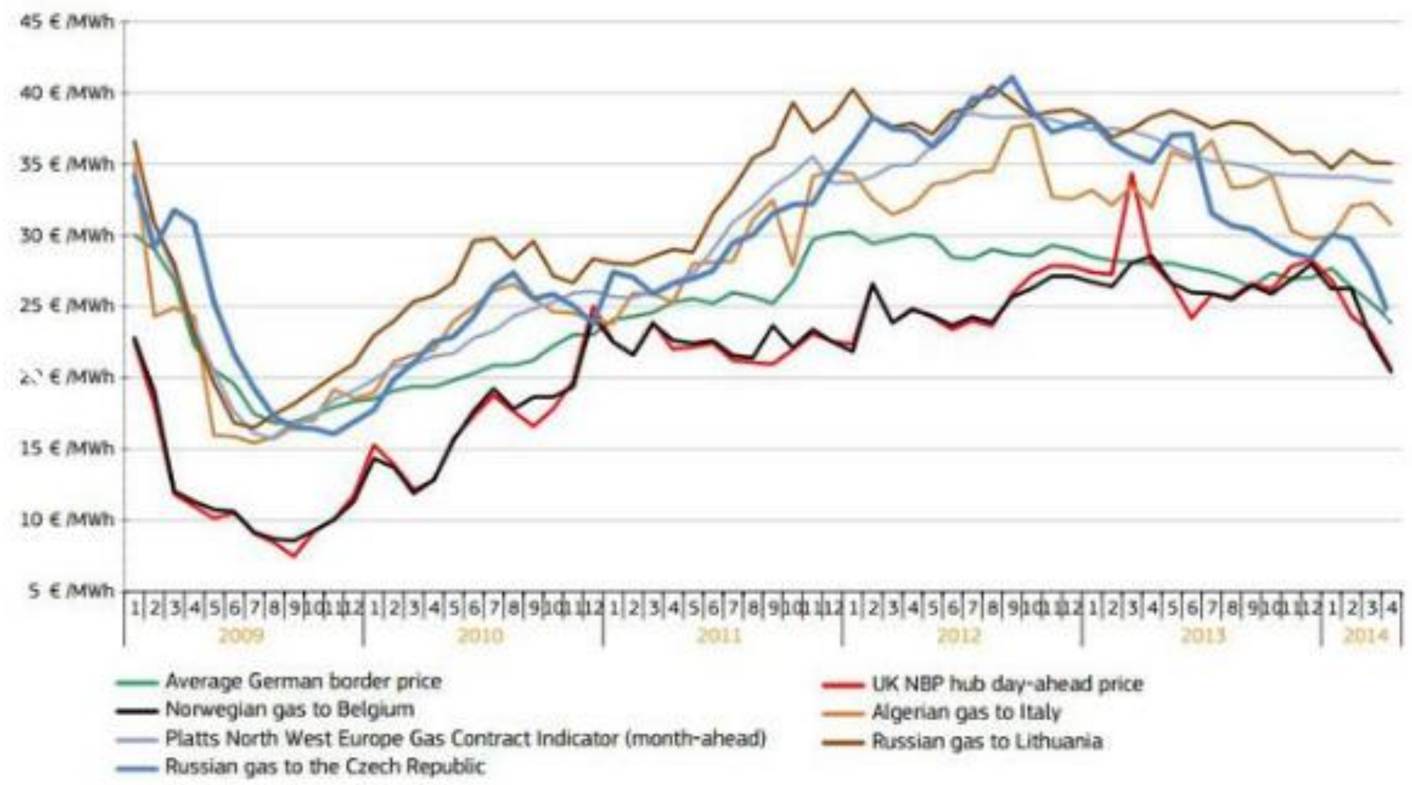
Political price for natural gas



- Heating expenses mostly impacts poorest people budgets
- Price for natural gas initiate transformation of heating sector from natural gas to biomass

A nightmare in the heat sector in 2008

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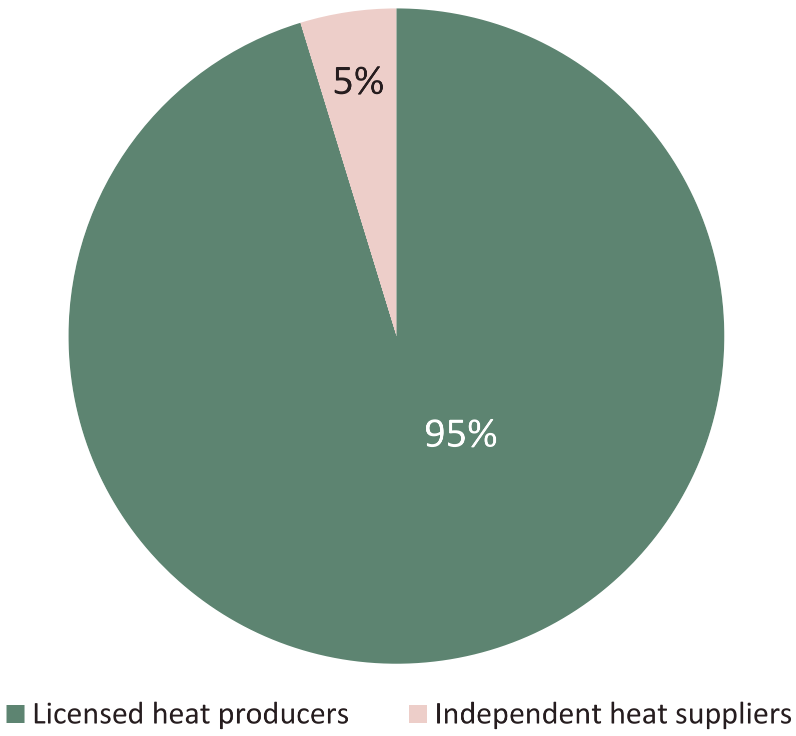
Heat producers distribution in 2008



- Gas – 77%, renewables – 17%;
- Gas price 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%.

Heat sector reform

Part of national energy independent 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 heat grid;

Mandatory purchase for cheap heat – licensed heat producers are obliged to purchase heat from independent heat producers;

Price cap – regulators establish heat price for licensed heat producers.

Tailored solutions for every fuel category

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Market competition rules were changed:

For 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.

Independent heat producer's regime

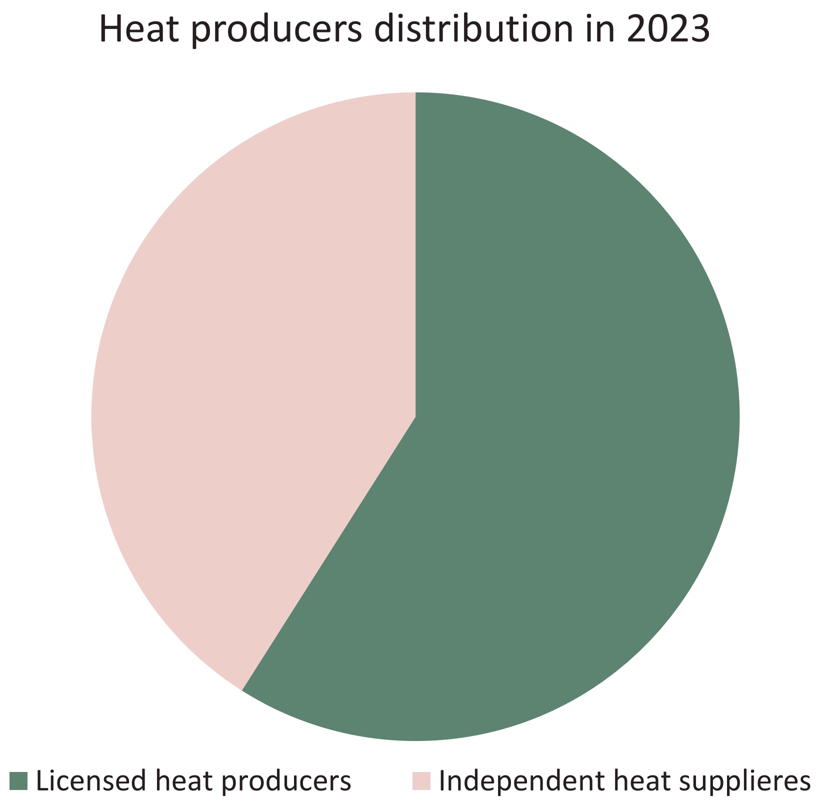
AUCTION IS MANDATORY

Regulated independent heat producer if:

- State support for construction or modernization,
- Feed-in tariff for electricity,
- Dominant position in city heat market (more than 1/3).

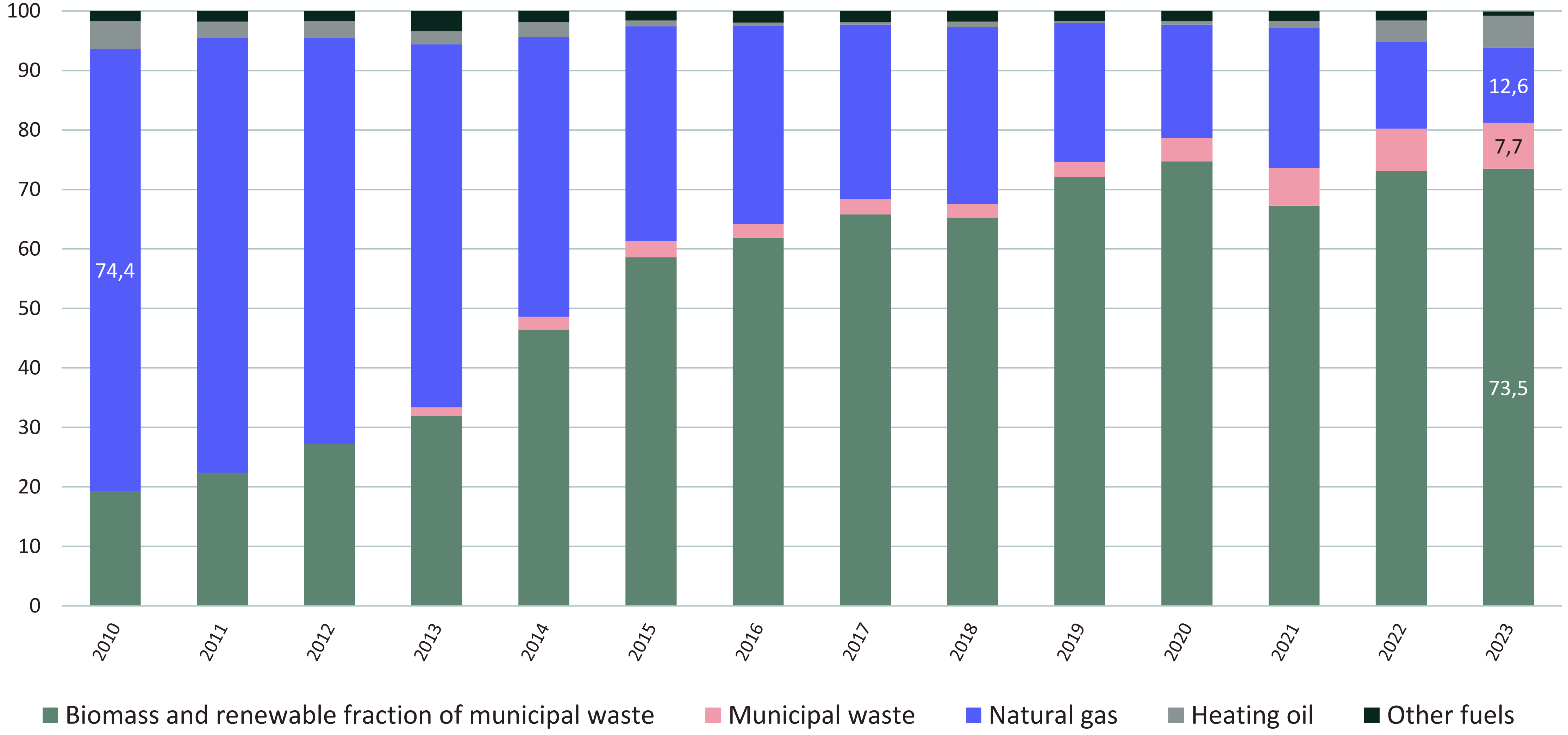
Not regulated independent heat producer

Results of reform



- Gas – 13%, renewables – 81%;
- Biomass price 2-2.5 times lower than gas price, 90% acquired in biomass exchange;
- Average heat price – 10% less compared to 2008 (taking into account 90 % inflation and more than 1 billion Euros of new investments into the sector);
- 20% more customers compared to 2008.

Fuel balance



Fundamental biomass market problem

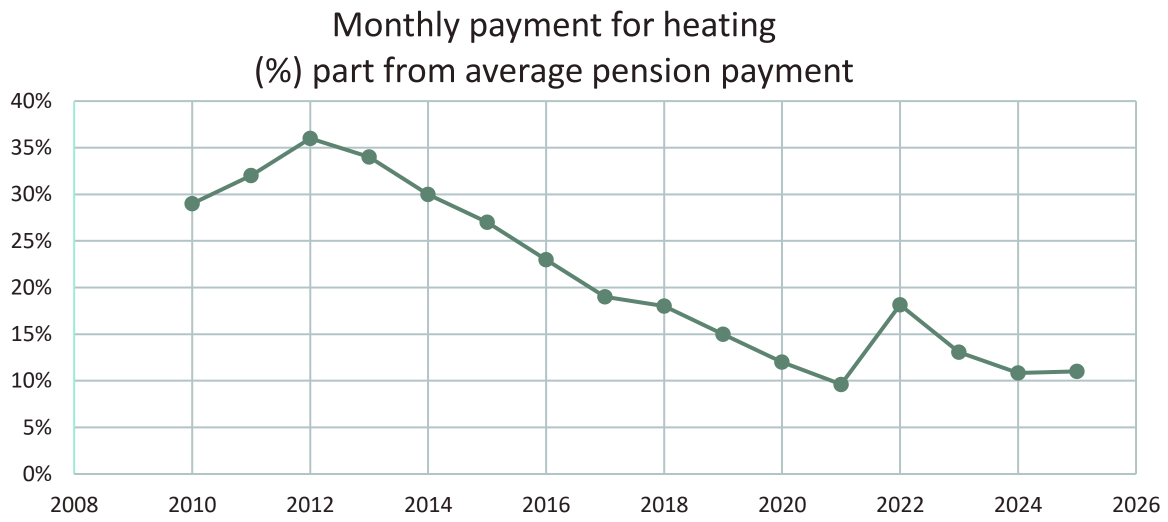
- By 2012, purchases of biomass, natural gas and oil in Lithuania in the CHP sector were carried out according to the same rules
- The biomass and natural gas sectors had become indistinguishable for consumers

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

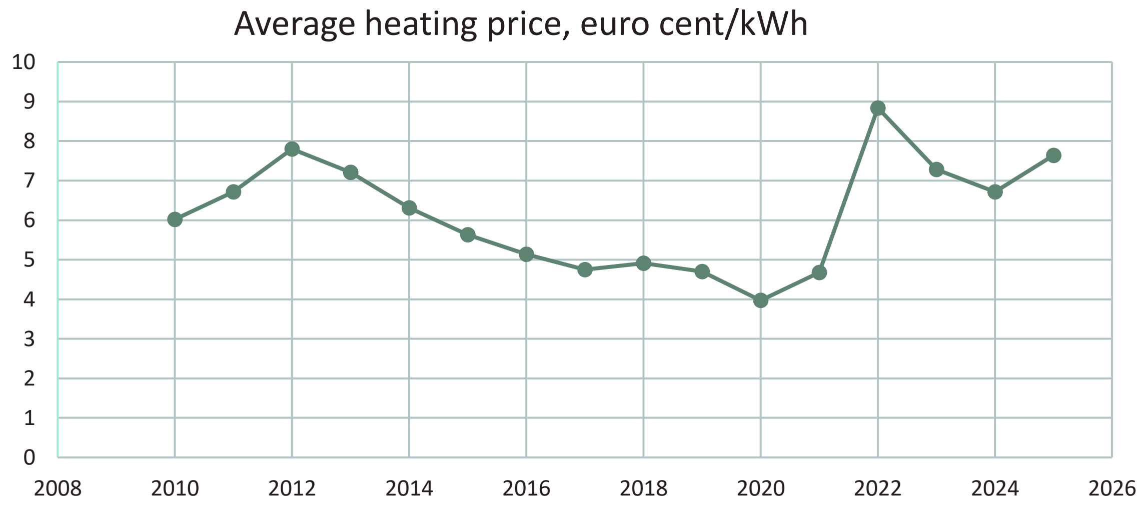
- The market was unable to regulate itself. Result for consumers ➔ high fuel prices = high heat prices

Heating price was removed from political debate before elections

- Typical soviet multiapartment (not renovated)
- Living space - 60 m^2
- Average consumption per winter month – 1030 kWh



- 2020 was the cheapest heating price in 13 years.
- Sanctions against Russia/Belarus increased biomass prices
- Heat price is lower than in 2012.
- CPI in period 2012-2020 – 61,1 %.



Breaking down the heat tariff: key components

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Fixed costs
(fixed for 5 years, with every year review)

- Other expenses
- WACC
- Maintenance
- Depreciation and amortization
- Staff salary

Heat tariff

Heat producing price

Fixed costs	Variable costs

Heat transmitting price

Fixed costs	Variable costs

Variable component
(reviewed every month)

- Fuel expenses
- Heat from independent producers
- Electricity
- Water

Regulatory oversight of heat tariff components’

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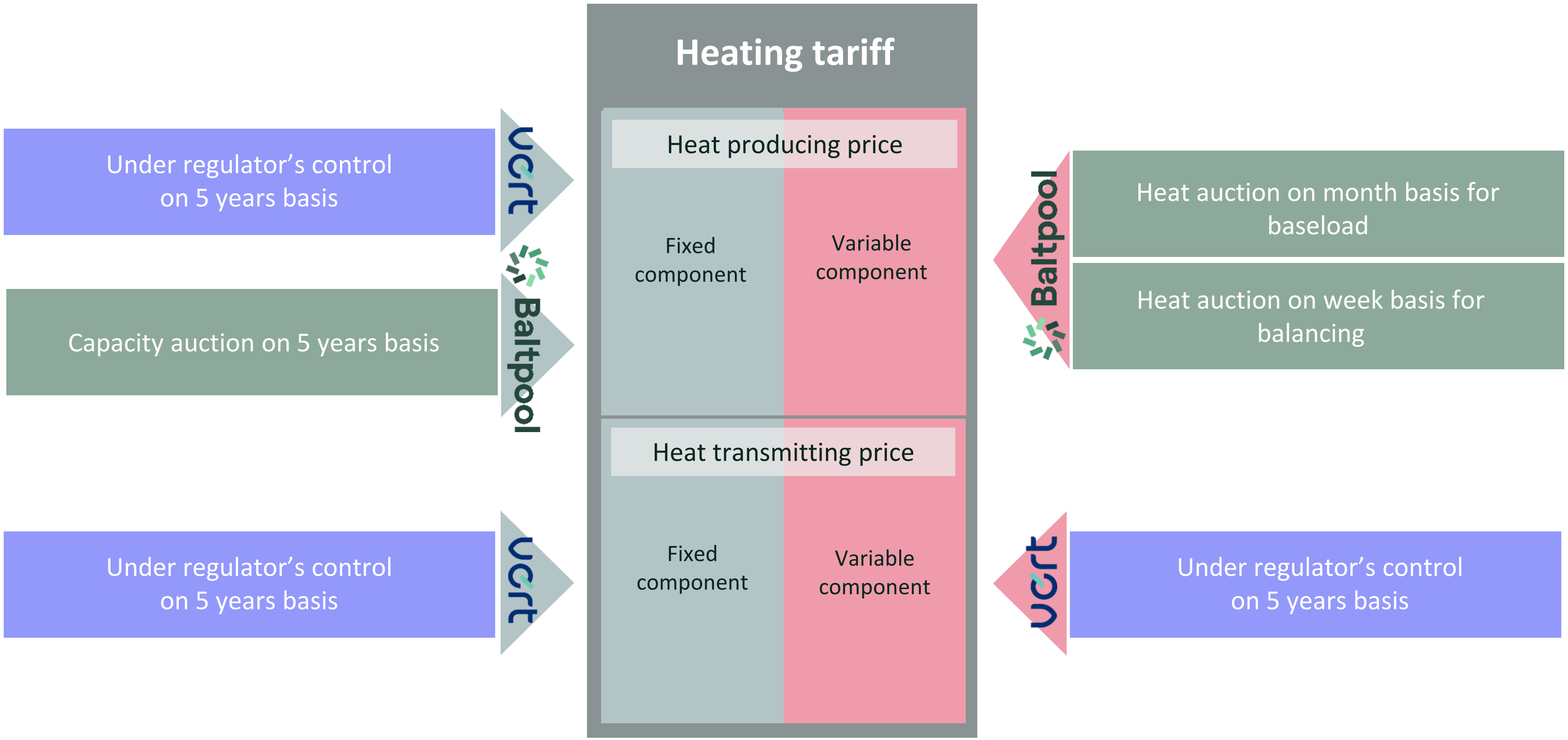

Heat auctions’ basic principles

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- Individual heat price cap for every separate grid
- Black box auction principle
- Grid operator announces demand for next heating month/week
- Every boiler house has 2 separate bids to sell
- Winers are those with the lowest bids

The regulator principle

Basic parameter in price cap calculation is biomass market price, from biomass exchange

The fair market price is based on the liquidity of the exchange

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Statistics for 2024

Countries
4

Biomass products
15

Turnover (M Eur)
>170

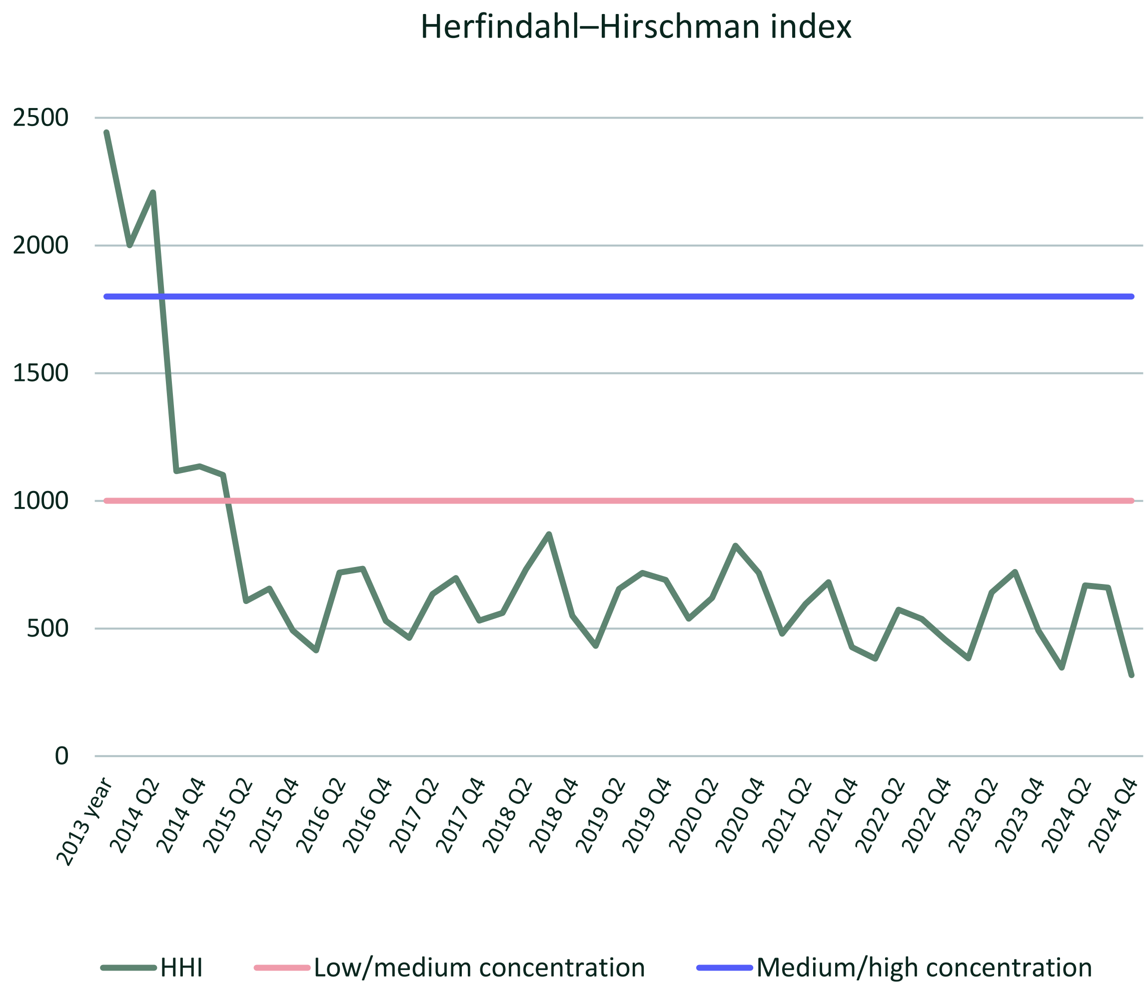
Turnover (TWh)
8,5

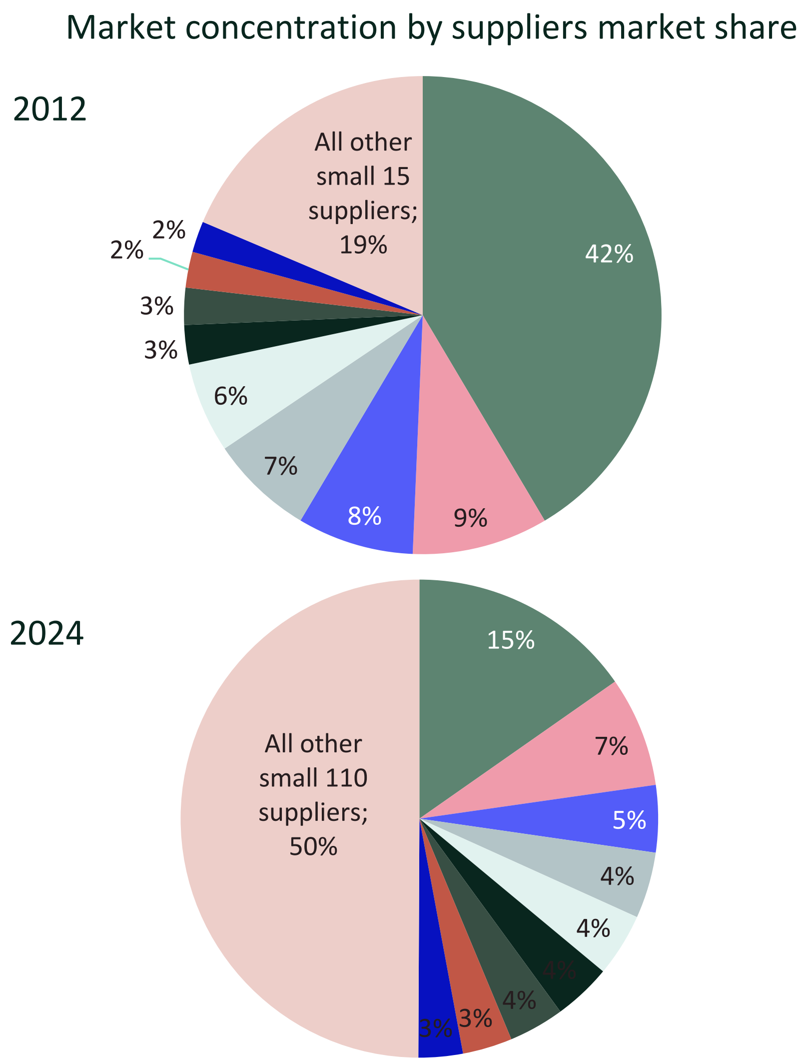
Participants
~100 buyers
150 sellers

Max. suppliers to one buyer
52 suppliers/year

Delivered trucks of biomass
~130 K
>500 trucks/day

Key indicators of market competitiveness





Sustainable biomass policy

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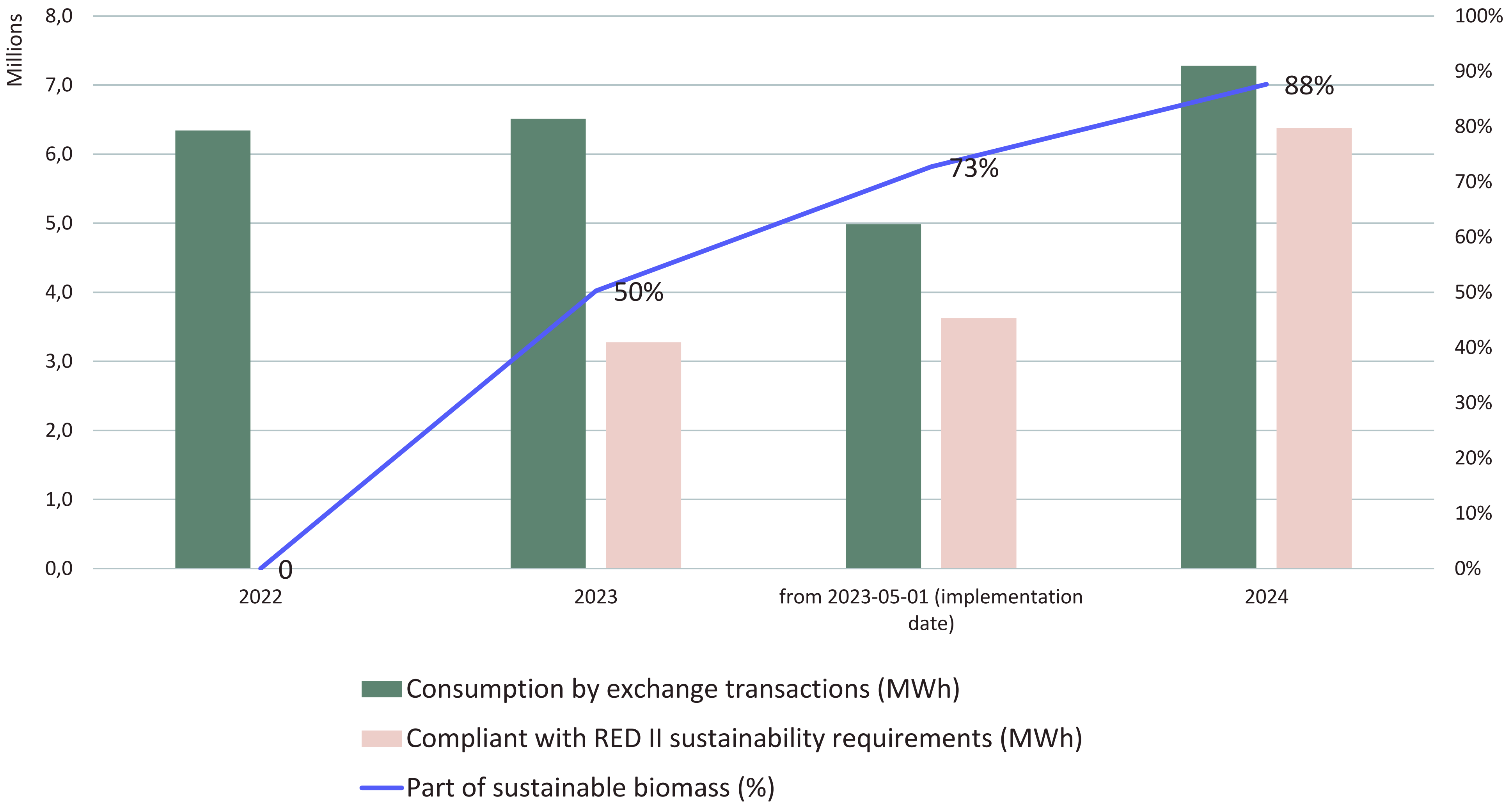

Thank you

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