

Lithuanian Energy Consultants Association



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DISTRICT HEAT PRICING - FINANCING OF INVESTMENT PROGRAMME

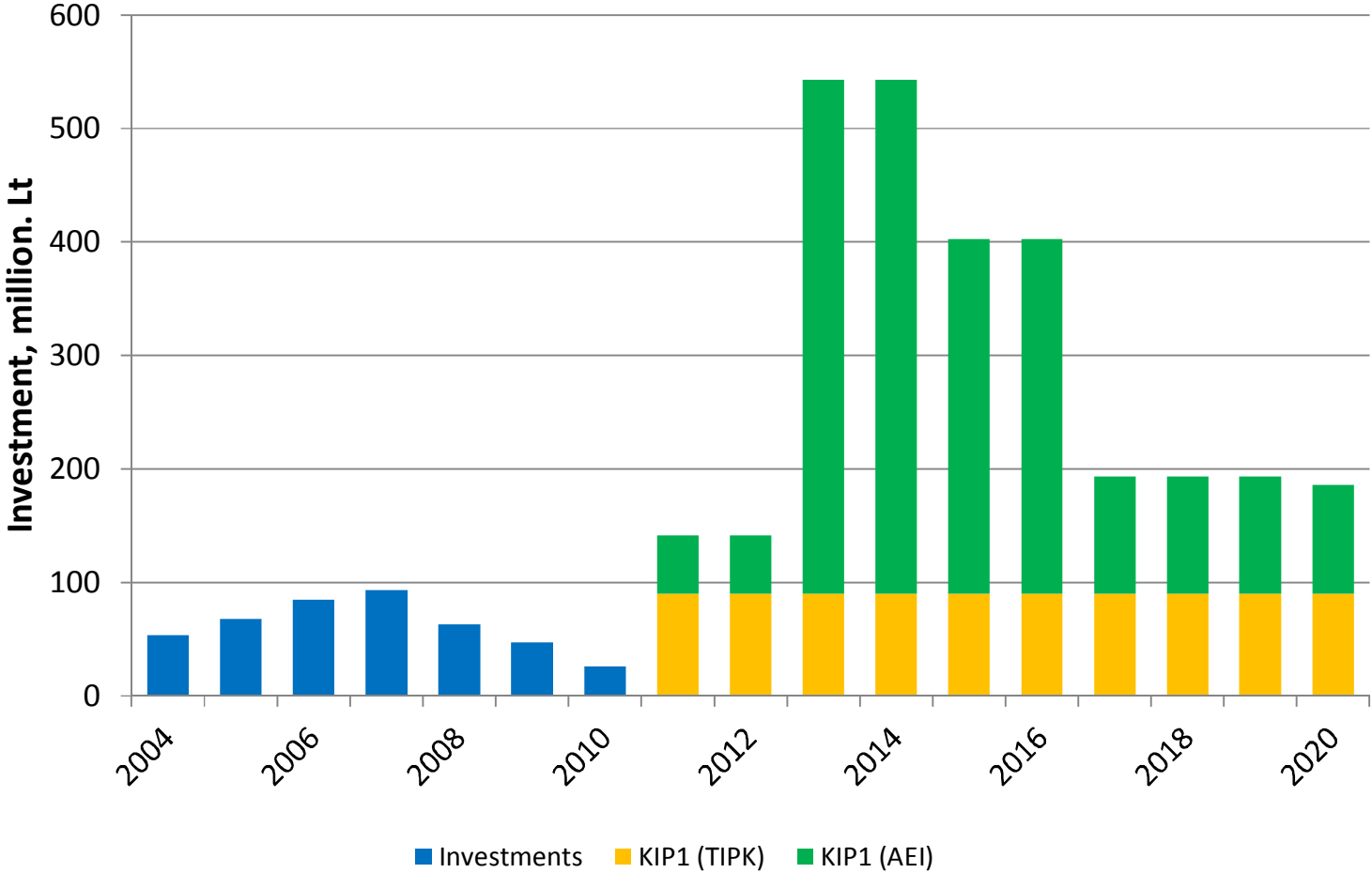
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President**

RECENT CHALLENGES FOR DH SECTOR

- ⊙ Tasks related to climate changes:
 - Expansion of cogeneration for primary energy savings (state policy);
 - Wider usage of renewable fuels, energy, waste heat, utilization of city wastes, etc.;
 - Reduction of CO₂ emission;
 - ⊙ Increment of access to the DH networks;
 - ⊙ Fuel diversification - energy independence;
 - ⊙ Introduction of new environmental technologies;
- SOME NONECONOMICAL INVESTMENT
NEEDED***

INVESTMENT IN HEAT PRODUCTION SOURCES DURING THE PERIOD 2004-2020



SPECIFIC ISSUES IN DH OF “TRANSITION” COUNTRIES

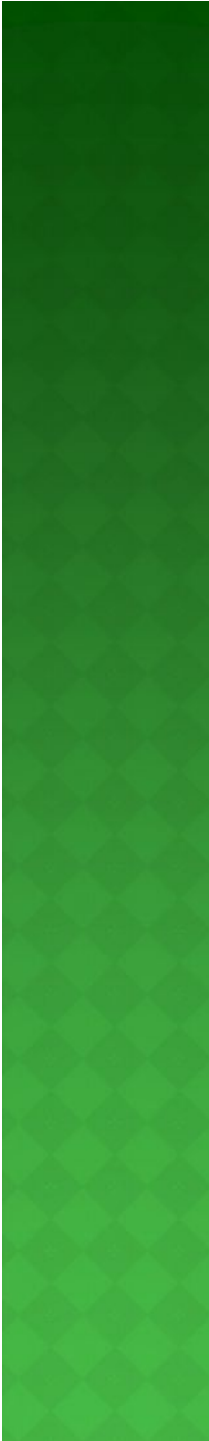
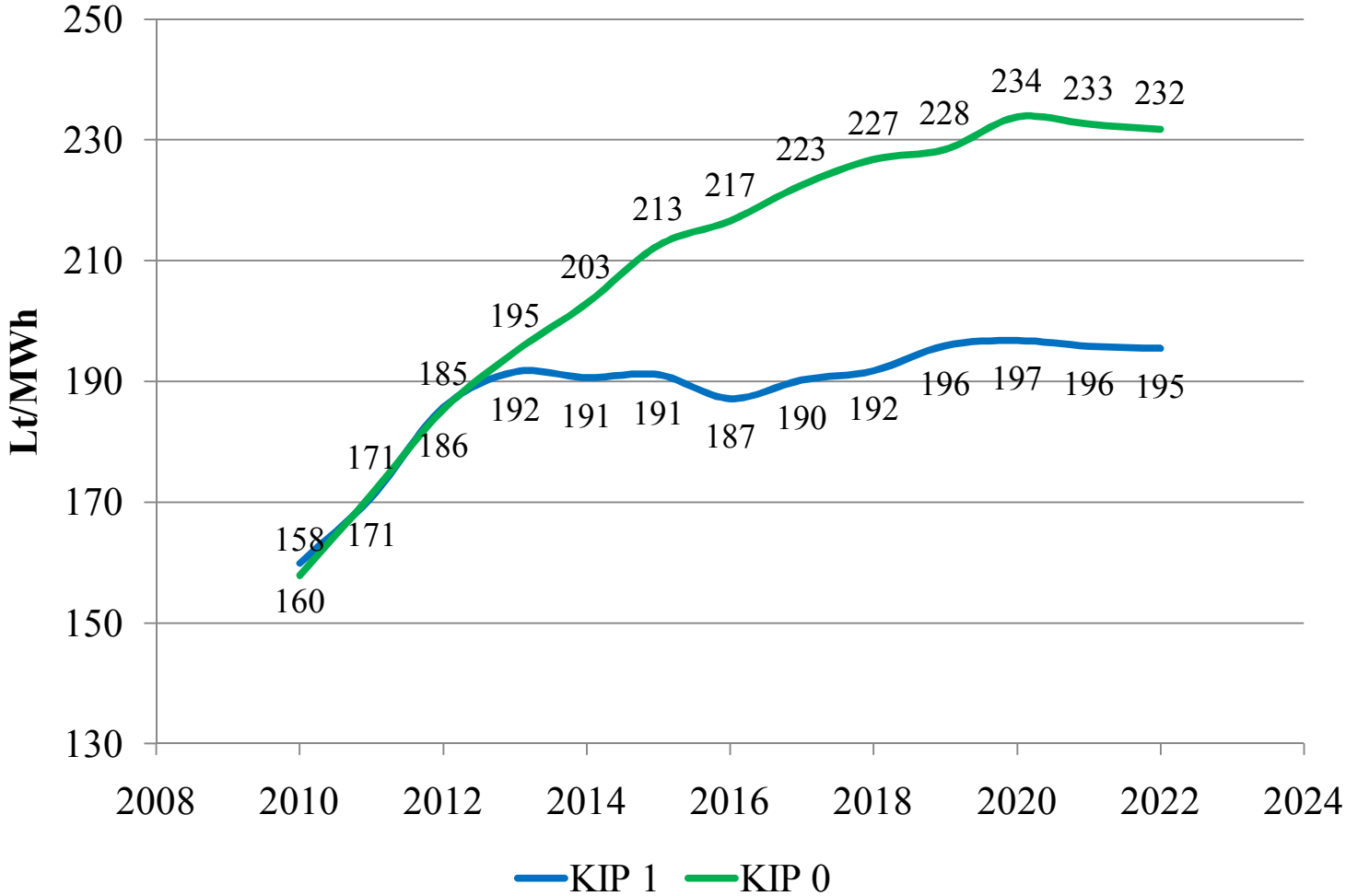
- ⊙ Low economical power of a big part of heat consumers;
- ⊙ Poor quality of residential buildings causes high energy consumption – renovation is slow;
- ⊙ No individual regulation of heating – inadequacy between heat consumption and living standard;
- ⊙ Main assets require renovation;
- ⊙ Targets in the frame of national energy policy;
- ⊙ Heat prices growing faster than economical power;

SPECULATION AND POPULISM AROUND DH SECTOR;

APPROVAL OF INVESTMENT

1. Investment in **well paid back efficiency means** – financing by savings – pricing system promote;
2. Investment for **safety, reduction of emissions, reliability** and similar – to be decided by DH company and responsible state authorities – to be paid by heat consumers;
3. Investment for creation of **city energy infrastructure** – to be decided by municipality – combined financing (DH company and municipality);
4. Investment – for **implementation of national goals** (cogeneration, renewables etc.) – unfeasible part should be subsidized;

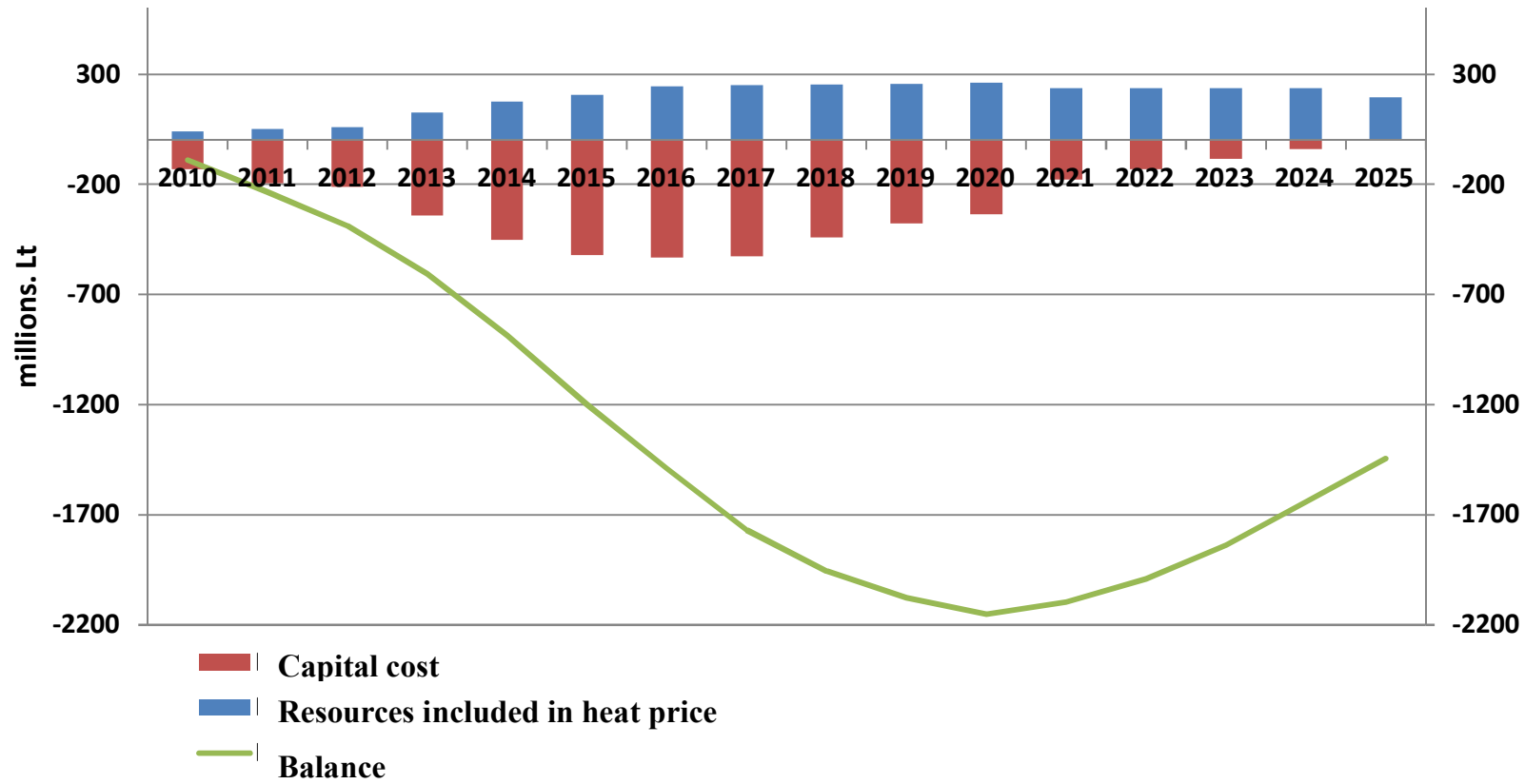
AVERAGE HEAT PRODUCTION COST IN TWO INVESTMENT SCENARIOS



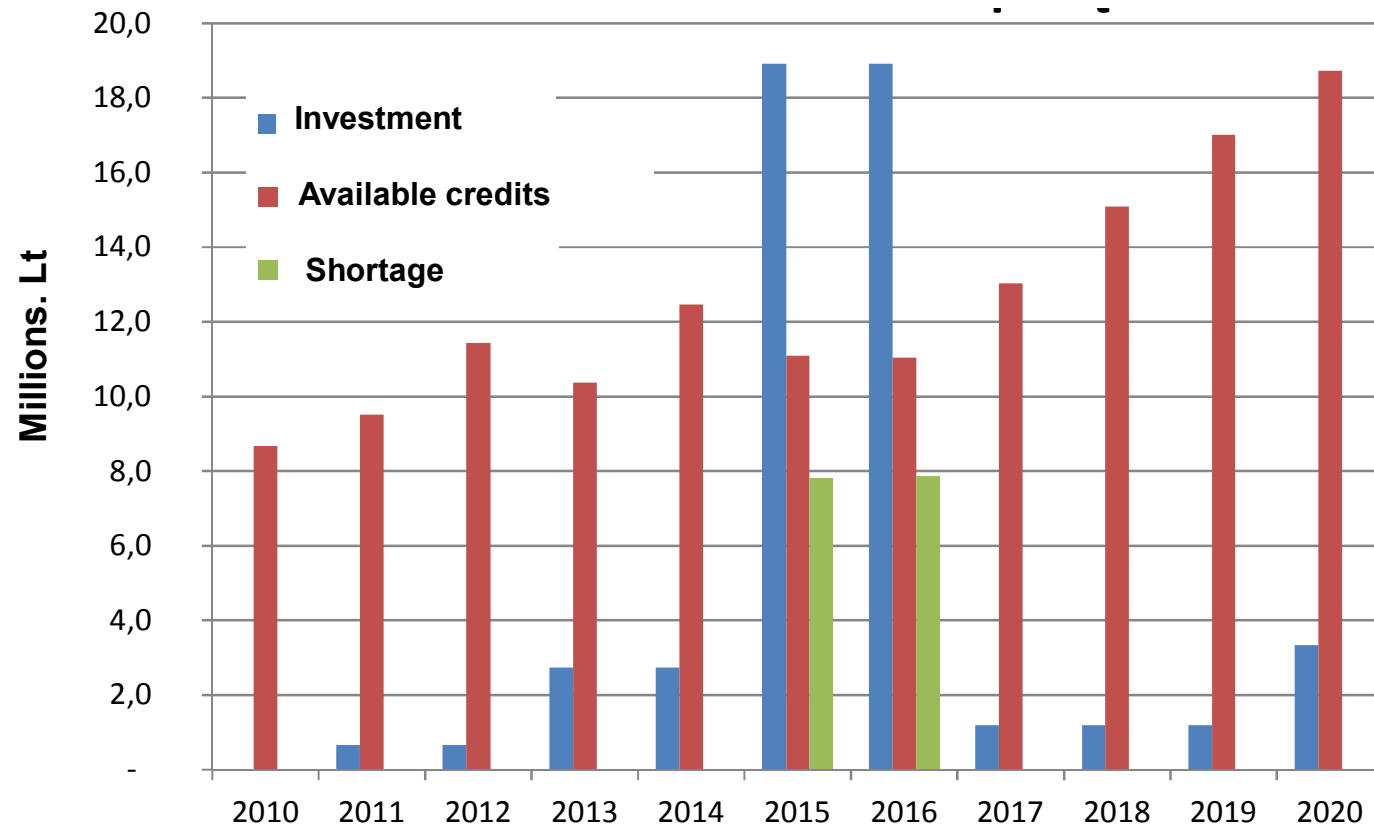
FINANCING OF INVESTMENT

- ⊙ Depreciation cost included into the heat price:
 - however value of old “worn out” assets very low;
 - revaluation of old assets allowed but not popular;
- ⊙ Separate “investment additive” above basic heat price for financing of concrete projects (if this is political decision of municipality and could increase heat price often is ignored);
- ⊙ Premium (bonus) included in the profit rate (acceptable for state or municipal owned DH enterprises);
- ⊙ Special outside funds or subsidies;

FINANCIAL FLOWS



TYPICAL DH MUNICIPAL ENTERPRISE



MAIN PRINCIPALS OF HEAT PRICING SYSTEMS

- ① **Cost plus profit** – simple but not efficient method of heat price formation;
- ① **Long term heat pricing** with regular adjustment of separate components of heat price become most popular in the countries where energy regulator involved in regulation of DH sector;
- ① **Basic heat price** is mandatory for municipal or private operators of DH schemes. Lower price could be applied if there is financial resources for compensation of lost income. (Different from “price cap”);

EXAMPLE OF LITHUANIAN HEAT PRICE METHODOLOGY

- ① Long-term basic price for 3-5 years;
- ① Adjustment of heat price every year, but might be every 2 months if certain cost component significantly increased (reduced);
- ① Adjustment of price components by criteria:
 - Fuel component according to real fuel prices;
 - Fixed cost by inflation and volume of sold heat;
 - Depreciation cost corrected by new value of new assets introduced;

ELEMENTS OF LITHUANIAN HEAT PRICE METHODOLOGY

- ⦿ Normative profit based on WACC method;
- ⦿ Two limits of maximal allowed profit exist;
- ⦿ External subsidies for investment exclude depreciation cost in the period of life time;
- ⦿ Income from CO₂ permissions sales have to be invested in further reduction of emissions or accumulated for purchase;
- ⦿ Two part heat tariff can be chosen by consumers only;

EXAMPLES OF HEAT PRICING SYSTEMS

	RUSSIA	POLAND	LITHUANIA	DENMARK	FINLAND
Methodology	Federal Service for Tarrifs (FST)	Energy Regulator Office (ERO)	National Control Commission for Energy and Prices (NCC)	Danish Energy Regulatory Agency (DERA)	---
Regulatory period (years)	1(introduction of long term period)	2-5	3-5	Not determined	Not determined
Price adjustment	1	Annual	Annual (1-2 months)		
Profit	15% on cost	Reasonable	6-9% by WACC	0	Not regulated
Heat price setting	Regional Regulator	ERO above 5 MW Municipality below 5 MW	Municipality (NCC)	Company	Company
Control and final setting	Municipality	ERO	NCC	DERA	Antimonopoly Agency
Supervision	Regional Regulator	ERO	NCC, municipality	DERA	Antimonopoly Agency
Complaints	FST	Court	Court	Energy Board of Appeals	Court

DISCUSSIONS

- ⊙ Long-term pricing system creates stability of DH economy but hardly understandable!
- ⊙ How to harmonise non-economical investment and low heat price in transition countries?
- ⊙ Municipalities trend to take over heat price regulation!?
- ⊙ Conflict between municipal and federal interest?
- ⊙ Social acceptance of district heating in transition countries?

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THANK YOU FOR YOUR
ATTENTION!

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