



OUTLINE OF REFORMS IN DISTRICT HEATING TARIFF SYSTEM IN UKRAINE

Diana KORSAKAITE,
DH Sector Lead, USAID Energy Security Project

April 27, 2021

OUTLINE

- Regulatory architecture in Ukrainian DH
- Regulatory approaches coexisting
- Gas PSO removal implications
- Climate policy implications



REGULATORY ARCHITECTURE FOR UKRAINIAN DH SECTOR

- RULE MAKERS AND IMPLEMENTERS IN THE AREA OF TARIFF MAKING



REGULATORY ARCHITECTURE FOR DH ENTITIES.

DISPERSION OF REGULATORY FUNCTIONS

Criteria		Licensee of Regional State Administrations	Licensee of NEURC
	I. Generation Volume of TE	Less 170 thousand Gcal	More 170 thousand Gcal
	II. Share of commercial metering (metering devices installed, houses)	<i>and/or</i> Less 90%	<i>and</i> More 90%

≈50% generation
1400 DHCs

≈50% generation
26 DHCs



Licensing function



Methodology-level
function



Tariff-level function

REGULATORY ARCHITECTURE FOR DH ENTITIES.

APPROACH UNDER CONSIDERATION

Category if DHC	Regulatory allocation - current	Regulatory allocation - considered
Volume of GEN >170 Gcal Level of metering >90% TPP/CHP/NPP n.a. Number of DHCs 9	DH tariff 	DH tariff
Volume of GEN >170 Gcal Level of metering >90% TPP/CHP/NPP operated Number of DHCs 18	DH tariff 	DH tariff
Volume of GEN >170 Gcal Level of metering <90% TPP/CHP/NPP any Number of DHCs 30-40	DH tariff 	DH tariff
Volume of GEN <170 Gcal Level of metering any TPP/CHP/NPP any Number of DHCs ≈1350	DH tariff 	DH tariff

REGULATORY APPROACHES FOR DH TARIFF MAKING

- TWO MAJOR APPROACHES FOR DH TARIFF ESTABLISHMENT



REGULATORY MODELS FOR DH TARIFF SETTING.

HELICOPTER VIEW on APPROACHES



Cost Plus Approach

PROS

Simple to implement
Straightforward to justify
No over-profit allowed
...

CONS

Coverage of costs less 100%
No push for efficiency
Short-termism
...



C+ modified - in use



Incentives Based Approach

PROS

“You get what you order”
Push for efficiency
Long-term horizon
...

CONS

Admin resource intensive
Over-profits by end-R-period
Strong commitment needed
...

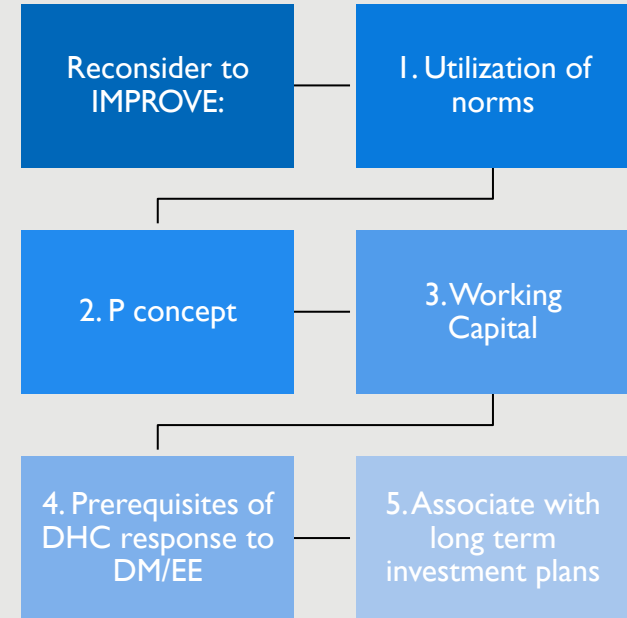


IBR (RAB) at the initial phase

REGULATORY MODELS FOR DHTARIFF SETTING IN UA.

COST+

- Implemented to generation, transport, supply.
- Methodological outlook:
 - 12 months period
 - Formula is conventional – establishes total eligible costs for a type of activity (G, T, S), based on norms and adjustments
- $TC_T = C_M + C_{T3} + C_{TL} + C_P + C_{other}$
 - P – allowance for investment, allowance to credit-body repayment, allowance $\geq 2\%$ for Working Capital, profit tax
- $T = (TC + P + \Delta)/Q$
 - Tariff: can be flat rate or two-part;
 - Obligingly differentiated to residential, public, religious and other consumers.
- Special accounts operationalized to secure priority payments for gas supplier(s), gas TSO and DSO, IFI credit repayments, etc.



REGULATORY MODELS FOR DH TARIFF SETTING IN UA.

IBR (RAB)

- **IBR (RAB) for TE transportation** regulatory package:
 - NEURC adopted in 2017-2018, following the opportunity in the Law on Natural Monopolies;
 - COM decision pending.
- Law provided condition: **asset shall be revaluated** prior to switching to IBR (RAB) tariff model:
 - methodology on asset revaluation by SPF – no sufficient political support to further the issue;
 - sector complains having no financial means to implement asset revaluation.

- **Methodological outlook:**

- 5(3)Y regulatory period.
- Approved long term investment programs 5(3) years.
- Established efficiency obligations: network technological losses; electricity for technology; personnel for technology; target quality indicator (2nd period); regulatory return.

- $RR_T = C_c + C_{nc} + C_{TL} + C_{TE} + D + RRR$

- $RRR = 12.5\%$

- Annual correction indices applied to RR (regulatory revenue): producer price index; average salary index; consumer price index; deviations of actual from projected values.

- $T = RR/Q$

Reconsider to
UNLOCK:

1. Asset value
2. Long term
investment plan

3. RRR

4. Clusterization
& Benchmarking

5. Formal
resolutions

6. Real pilot(s)

REGULATORY MODELS FOR DH TARIFF SETTING.

ROLE TO BE PLAYED - GENERALLY

- CONSUMER to pay fair price, DHC to be not overcompensated
- QUALITY to be ensured and stimulated
- COST EFFICIENCIES to be incentivized
- ADMINISTRATIVE burden to be reasonable both to regulator and a DHC
- MAINTENANCE of existing infrastructure to be ensured, needed EXPANSION of network to be supported
- INTEGRATION of fragmented systems to be facilitated
- INNOVATIONS, EE improvements and DM measures to be incentivized



REGULATORY MODELS FOR DH TARIFF SETTING: BASELINE TASKS YET TO BE ACCOMPLISHED

The need for DH investment



Modernization of heat generation capacities

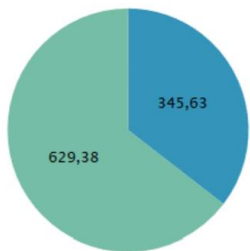


Replacement, repair and/or insulation of networks

Total

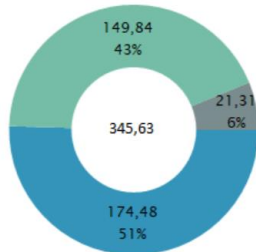
	Modernization of heat generation capacities	Replacement, repair and/or insulation of networks	Total
Investment needs	~USD 3 bn	~USD 3 bn	~USD 6 bn
Annual operational savings	USD 0,4 bn	USD 0,5 bn	USD 0,9 bn
Annual natural gas savings	1,1 bcm	1,3 bcm	2,4 bcm

Source: Minregion



DH-INV,
via DH tariff

DH-INV,
IFIs funds



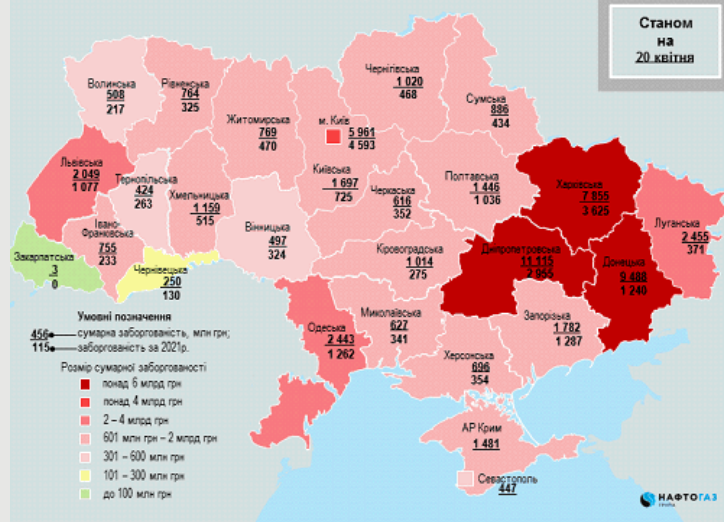
P allowance

Other

Depreciation

Current debts of DHCs for gas account to EUR ≈1.9 billion
58 206 млн грн

Динаміка сумарної заборгованості за 13 – 20 квітня 2021р.: зменшення на 1 196 млн грн (2,0%)



Debts of consumers to DHCs, end-2020, accounted to USD ≈0.9 billion [UAH 24 billion]

GAS REFORMS AND ASSOCIATED DH TARIFF CHALLENGES

- THE GUARANTEED SUPPLIES OF FUEL AT PREFERENTIAL TERMS ARE BEING REMOVED
 - EXPECTED IMPLICATIONS ON DHC ACTUAL COSTS
 - ANTICIPATED IMPACT ON FINANCIAL STATE OF DHCs
 - ADEQUATE TARIFF MODEL RESPONSE



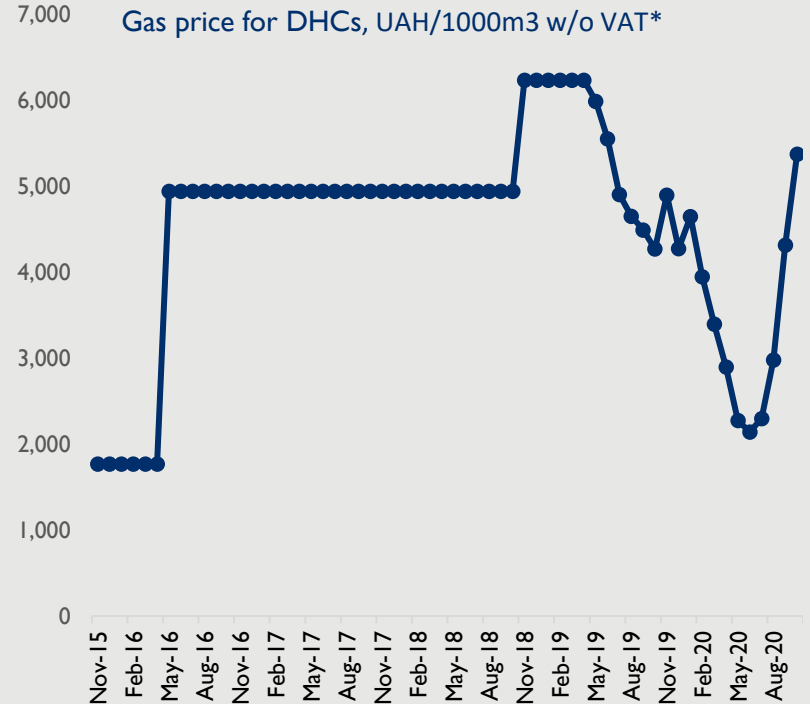
GAS REFORMS AND DH TARIFF CHALLENGES.

IMPLICATIONS OF MOVE TO COMPETITIVE TERMS FOR GAS



	Post May 2021: without PSO
Guarantee of gas supply	No
Imbalances. Settlement of imbalances	Both medium-term (quarterly / monthly) and daily planning for each metering point is required. In case of non-compliance, the price of gas may increase significantly
Gas price (commodity)	Determined on a contractual basis each case individually. Supplier markup is not regulated.
Privileged terms to pay for gas transportation	Requirement to provide financial collateral. Need to book transportation capacities for DH consumers. Pre payment for infrastructure services (pre-payments). Special accounts are removed; no protection from accounts blocking.
Privileges in terms of payments for gas (commodity)	Usually, pre payment for gas commodity or additional payments guarantees to be provided. Special accounts are removed; no protection from accounts arrest.

Gas price for DHCs, UAH/1000m3 w/o VAT*



GAS REFORMS AND DH TARIFF CHALLENGES.

KEY AREAS TARIFF MODEL CAN ADDRESSES

Settlement of debts to Naftogaz, which occurred prior to gas PSO lifting

Impact: ability to switch to another supplier, improve financial standing.

Providing DH companies with tools to ensure payment discipline of consumers

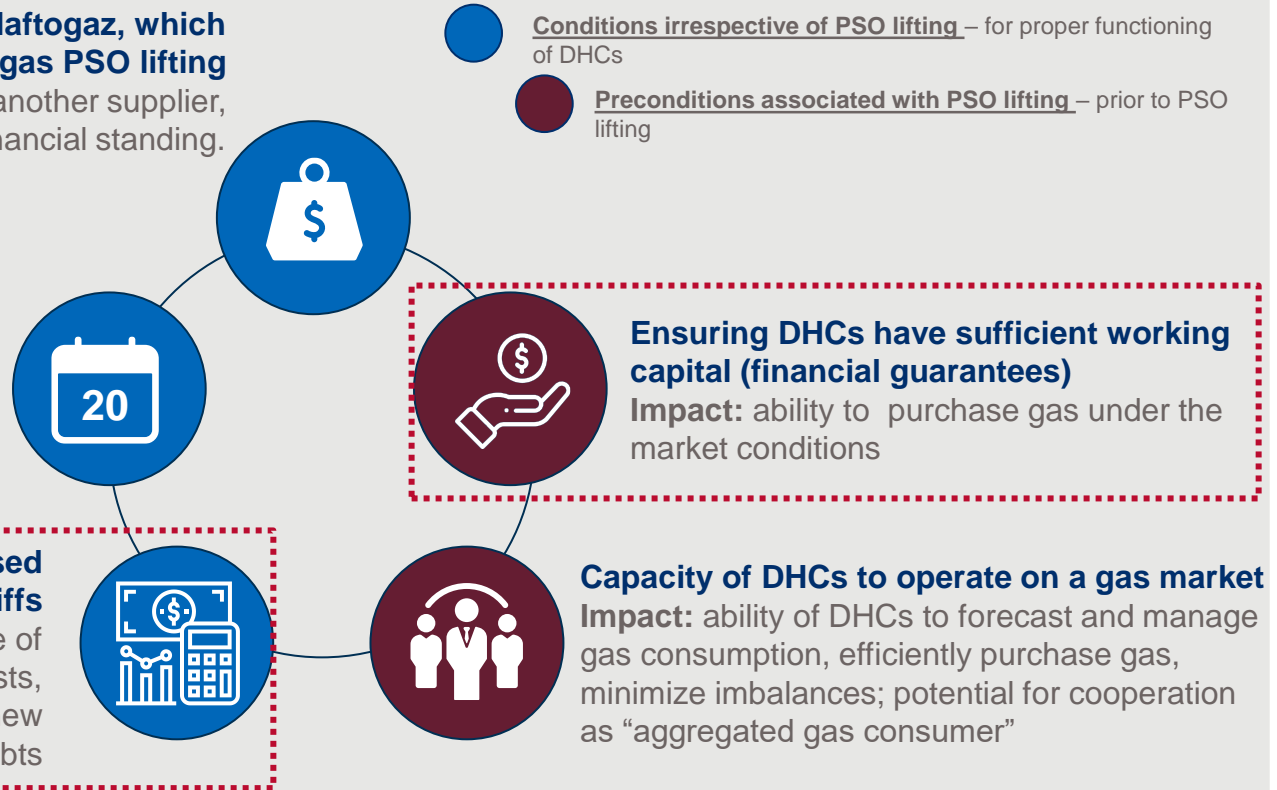
Impact: ability to pay on DH liabilities, maintaining working capital, no new debts

Real & full cost of gas transposed timely in DH tariffs

Impact: timely and full tariff coverage of gas and other associated costs, maintaining working capital, no new debts

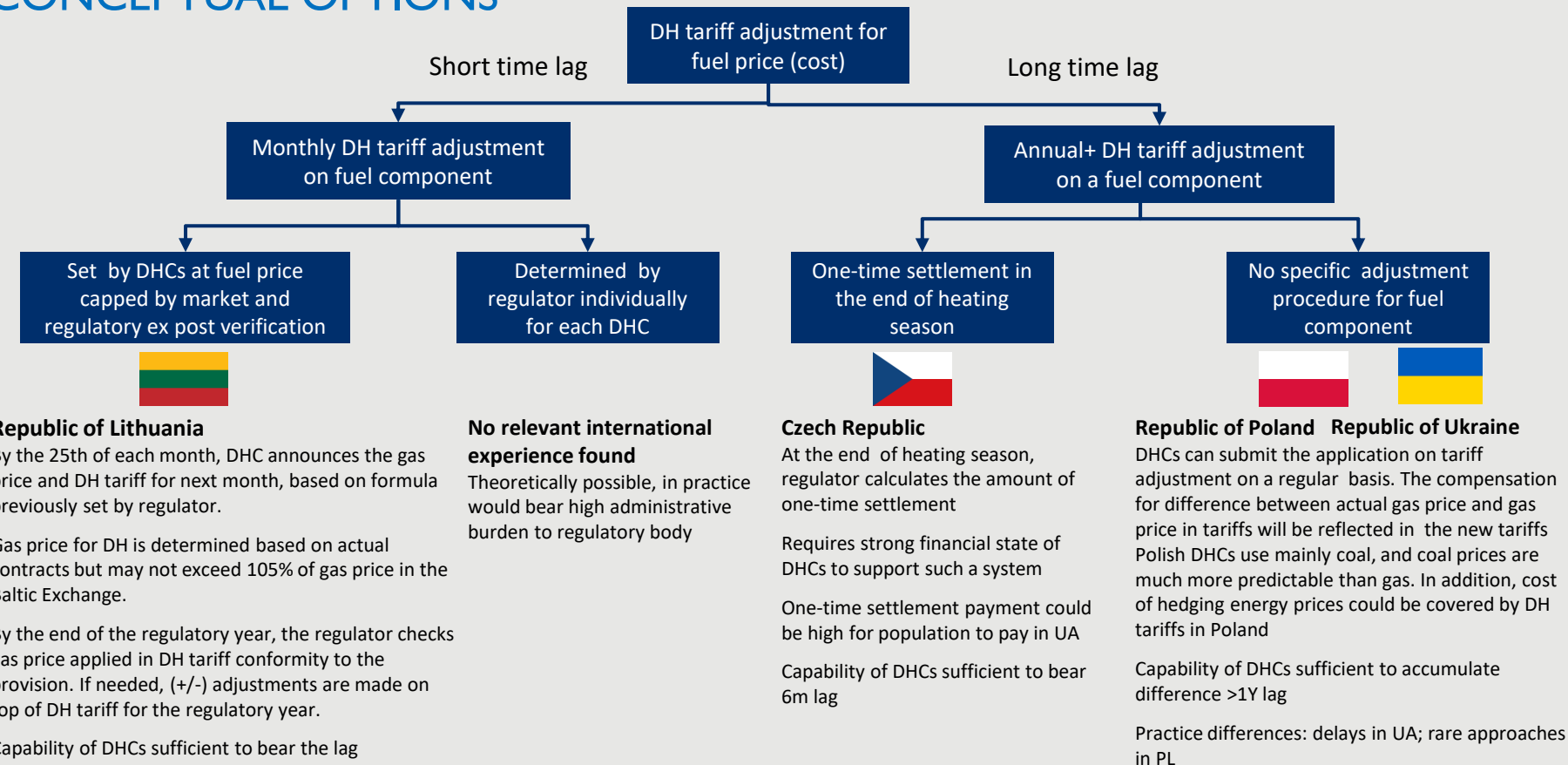
Conditions irrespective of PSO lifting – for proper functioning of DHCs

Preconditions associated with PSO lifting – prior to PSO lifting



GAS REFORMS AND DH TARIFF CHALLENGES.

CONCEPTUAL OPTIONS



GAS REFORMS AND DH TARIFF CHALLENGES.

TARIFF MODEL ADEQUATE RESPONSE

TOTAL DHC COSTS

Variable costs, Q dependent

Non-variable, Q indifferent

Fuels (gas commodity) procurement costs

Third party TE procurement costs

CAPEX & OPEX, incl. those related to using fuel supply infrastructure

DH tariff, adjustable on monthly basis

Component of DH tariff, adjustable on monthly basis

Monthly billing, 1/12 on annual projected costs

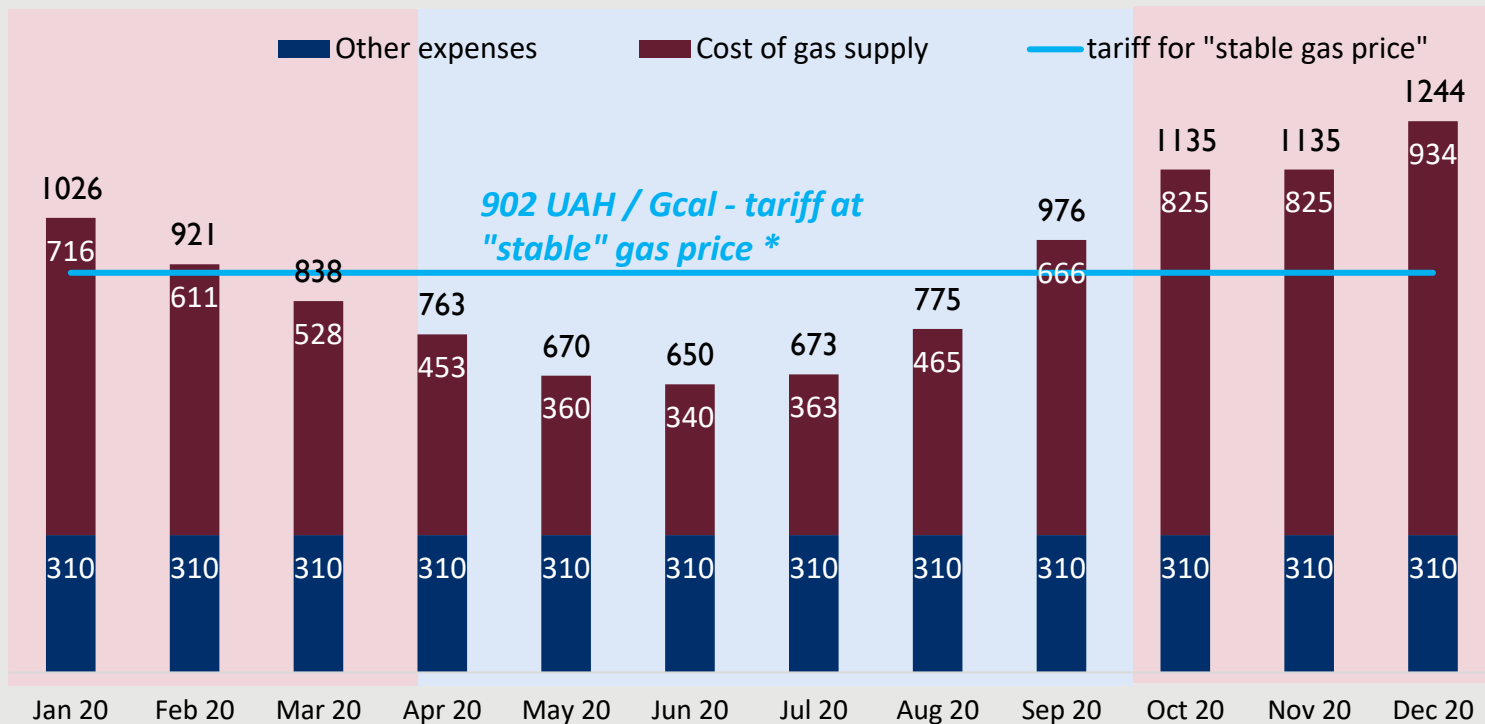
Approved by the regulating body for the entire tariff period

Adjusted monthly

$$\left(\begin{array}{c} \text{DH tariff} \\ \text{UAH/Gcal} \end{array} \right) = \left(\begin{array}{c} \text{Cost of gas supply,} \\ \text{UAH/m}^3 \end{array} \right) \times \left(\begin{array}{c} \text{Gas volume,} \\ \text{m}^3/\text{Gcal} \end{array} \right) + \left(\begin{array}{c} \text{Other expenses*}, \\ \text{UAH/Gcal} \end{array} \right)$$

GAS REFORMS AND DH TARIFF CHALLENGES.

TARIFF MODEL UNDER DESK TESTING



* when gas price is 3948 UAH / ths m3

CLIMATE POLICY AND DH TARIFF CHALLENGES

- INVESTMENT OPPORTUNITIES UNDER CHANGE



CLIMATE POLICY AND DH TARIFF CHALLENGES.

IMPLICATIONS FOR INVESTMENT OPPORTUNITIES

- The latest EU policy framework documents, e.g., Taxonomy Regulation, EU Strategy for Energy System Integration, Sustainable Europe Investment Plan -
 - highlight DH role in climate mitigation efforts,
 - put Energy Efficiency principle first,
 - effect non-EU member states, where European investors operate.
- The principal infrastructure is of good coverage in Ukraine; however, its quality is dilapidated over decades and DH systems are being withdrawn.
- Considering the IFI investments into DH infrastructure objects get shaped by the climate policy objectives, the gap will need to be bridged by national solutions, including (not limited) tariff-based solutions.

CONCLUDING NOTES

- Tariff system reform in Ukraine is undergoing, and currently two essential changes – gas PSO removal and climate objectives are adding up on the complexity.
- USAID Energy Security Project is providing technical assistance to the Ministry of Territories and Communities Development and NEURC (selected):
 - Adjust to competitive terms of gas market
 - Improve cost+ model
 - Implement accounting by licensed types of activities, and respective reporting
 - Incorporate long term investment planning into tariff model duly respecting objectives of Heat Supply Schemes of the given settlement and RES/EE objectives
 - Finalize IBR(RAB) model framework
 - Apply IBR(RAB) model for pilot entities

— Thank you

Energy
Security
Project

This document is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents of this document are the sole responsibility of Tetra Tech ES, Inc., and do not necessarily reflect the views of USAID or the United States Government. This document was prepared by Tetra Tech ES, Inc., USAID Contractor for the Energy Security Project (ESP), USAID contract 72012118C00003.

