

# Advisory services on the assurance of financial sustainability of the GTSO

## Final report

Reliance Restricted  
16 August 2021 | (Report)



## Table of Contents

Key terms and abbreviations .....	iv
Background .....	vii
Assumptions, limitations and reservations .....	viii
Executive summary .....	x
1. Introduction .....	14
2. General review of the nature of deviant off-takes .....	15
2.1. Description of deviant off-takes adversely affecting the GTSO .....	15
2.1.1. Legal nature of deviant off-takes damaging the GTSO and existing responsibility .....	15
2.1.2. Description of contractual relationships of market participants and allocation rules .....	27
2.1.3. Preliminary quantification of imbalances situation .....	31
2.2. Potential negative consequences for the GTSO .....	38
3. Detailed review of hypotheses on reasons for deviant off-takes .....	41
3.1. Market design reasons .....	41
3.1.1. DSOs' failure to fulfill responsibilities of balancing their portfolios .....	42
3.1.2. Contradictions in the PSO regime .....	45
3.1.3. Issues of implementation of neutrality charge .....	47
3.1.4. Unequal levels of late payment penalties for commercial market participants and household consumers .....	48
3.2. Economic and financial reasons .....	49
3.2.1. DSOs .....	49
3.2.2. DHCs .....	58
3.3. Liability and enforcement reasons .....	69
3.3.1. Absence of effective options to collect debts .....	69
3.3.2. Statutory prohibition to cut-off certain protected consumers .....	72
3.3.3. Insolvency ban .....	73
4. Detailed review of proposed solutions .....	75
4.1. Ensure the proper use of DSOs' tariff revenues by introducing accounts with a special regime .....	77
4.2. Change the model for providing all DSOs with natural gas for own needs by introducing mandatorily licensed suppliers to supply natural gas for technological consumption of DSOs .....	79
4.3. Abandon the practice of prohibiting cut-offs of Consumers in default and not directly subject to the PSO (the Supplier under the PSO should be completely prohibited from cutting off and terminating supply of natural gas) .....	83
4.4. Amend the Regulation on Imposing Special Obligations (PSO) on Natural Gas Market Participants to resolve problems with the absence of an unconditional PSO .....	84
4.4.1. Unconditional PSO .....	84
4.4.2. State compensation for fulfilment of the PSO .....	85
4.5. Bring the mechanism of calculation of the neutrality charge in compliance with the peculiarities of the gas market in Ukraine and start performing settlements between the transmission services customers and the GTSO on a monthly basis starting from gas year 2021/22 .....	86

4.6. Amend the methodology for determining and calculating the tariff for natural gas distribution services and the procedure for establishment of the tariffs for heat energy, its production, transmission and supply to ensure the objectivity of initiating the tariffs' review .....	95
4.7. Develop and implement a mechanism of temporary administration for materially non-compliant DSOs/DHCs .....	98
4.8. Oblige market participants to sell a certain amount of extracted natural gas through the commodity exchange .....	105
4.9. Ensure the review and establishment of reasonable gas consumption norms for household consumers to stimulate the achievement of 100% commercial metering .....	107
4.10. Implement an incentive-based and transparent methodology for tariffs calculation for DSOs and DHCs .....	108
4.11. Resolve the issue of accumulated debts of DSOs and DHCs through mechanisms that will not create incentives for the formation of new debts .....	118
4.12. Ensure the ability to sell and purchase natural gas on commodity exchanges with the participation of the GTSO, SSO and DSOs to promote the development of the liquid market	121
5. Roadmap for implementation .....	122
Annex 1: Draft changes to the PSO regulation on unconditional PSO .....	130
Annex 2: Draft changes to Gas Market Law on the PSO compensation .....	132
Annex 3: Draft changes to the Distribution Tariff Methodology .....	133
Annex 4: Draft changes to Regulation of the NEURC No. 528 .....	134

## KEY TERMS AND ABBREVIATIONS

Gas market participants	
CHPP	Combined heat and power plant
Consumer	Individual or legal entity that consumes natural gas for own needs based on a natural gas supply agreement
DHC	District heating company
Direct consumer	Consumer that has direct connection to the GTS
DSO	Distribution system operator
GTS customer	Legal entity or individual entrepreneur that purchases one or several of transmission services based on a gas transmission agreement signed with the GTSO (e.g., DSO, Wholesale trader or Supplier)
GTSO	LLC Gas Transmission System Operator of Ukraine
Naftogaz	National Joint Stock Company "Naftogaz of Ukraine"
NPP	Nuclear power plant
SoLR	Supplier of Last Resort
SSO	Storage system operator
Supplier	Legal entity performing natural gas supply activity based on a relevant license
TPP	Thermal power plant
TSO	Transmission system operator
UEEX	Ukrainian Energy Exchange
Wholesale trader	Entity that purchases gas and sales it to non-final consumers based on sale and purchase agreements
Laws and regulations	
BAL NC	Commission Regulation (EU) establishing a Network Code on Gas Balancing of Transmission Networks No. 312/2014 dated 26 March 2014
Civil Code	Civil Code of Ukraine No. 435-IV dated 16 January 2003
Commercial Code	Commercial Code of Ukraine No. 436-IV dated 16 January 2003
Distribution Agreement	Standard Agreement on Distribution of Natural Gas, adopted by Resolution of the NEURC No. 2498 dated 30 September 2015
Distribution Tariff Methodology	Methodology for Defining and Calculation of Tariff for Natural Gas Distribution Services adopted by Resolution of the NEURC No. 236 dated 25 February 2016.
Gas Market Law	Law of Ukraine "On the Natural Gas Market" No. 329-VIII dated 9 April 2015
GDS Code	Code on Gas Distribution Systems, adopted by Resolution of NEURC No. 2494 dated 30 September 2015
GTS Code	Code on Gas Transmission System, approved by Resolution of NEURC No. 2493 dated 30 September 2015
Law on Banks	Law of Ukraine "On Banks and Banking Activity" No. 2121-III dated 7 December 2000
Law on DGF	Law of Ukraine "On Individuals' Deposit Guarantee System" No. 4452-VI dated 23 February 2012
Law on Heat Supply	Law of Ukraine "On Heat Supply" No. 2633-IV dated 2 June 2005
Law on NEURC	Law on Ukraine "On NEURC" No. 1540-VIII dated 22 September 2016
Law on Utilities	Law of Ukraine "On Utilities" No. 2189-VIII dated 9 November 2017
Licensing Terms for Distribution of Natural Gas	Licensing Terms for Performing Commercial Activity of Distribution of Natural Gas adopted by Resolution of the NEURC No. 201 dated 16 February 2017

Procedure on Control over Compliance with Licensing Terms	Procedure on Control over Compliance with Relevant Laws and Licensing Terms by Licensees that Perform Activities in Energy and Utilities Areas adopted by Resolution of the NEURC No 428 dated 14 June 2018
Procedure on Licensing of Activities Regulated by the NEURC	Procedure on Licensing of Commercial Activities State Regulation of which is Performed by the NEURC adopted by Resolution of the NEURC No. 548 dated 3 March 2020
PSO Regulation	Regulation on Imposing Special Obligations on Natural Gas Market Participants to Ensure Public Interests During Functioning of Natural Gas Market adopted by Resolution of the CMU No. 867 dated 19 October 2018
Resolution on Balancing Incentives	Resolution of the NEURC "On Amending Certain NEURC's Resolutions" No. 1611 dated 26 August 2020
Resolution No. 1752	Resolution of the NEURC "On Approving Amendments to Certain Resolution of the NEURC" No. 1752 dated 23 September 2020
Supply Security Rules	Rules on Security of Natural Gas Supply adopted by the Order of the Ministry of Energy and Coal Industry No. 686 dated 2 November 2015
SoLR Agreement	Standard Agreement on Supply of Natural Gas by SoLR adopted by Resolution of the NEURC No. 2501 dated 30 September 2015
Supply Agreement for Households	Standard Agreement on Supply of Natural Gas to Household Consumer adopted by Resolution of the NEURC No. 2500 dated 30 September 2015
Supply Rules	Rules for Supply of Natural Gas adopted by Resolution of the NEURC No. 2496 dated
Tariff Approval Procedure	Procedure for Establishment and Revision of Tariffs for Services of Transmission, Distribution, Supply of Natural Gas, Injection, Storage and Withdrawal of Natural Gas adopted by Resolution of the NEURC No. 369 dated 3 April 2013
Transmission Agreement	Standard Agreement on Transmission of Natural Gas, adopted by Resolution of the NEURC No. 2497 dated 30 September 2015
<b>Other terms</b>	
CMU	Cabinet of Ministers of Ukraine
Deviant off-takes	Unauthorized off-takes and unpaid imbalances
DGF	Deposit Guarantee Fund
GDS	Gas Distribution System
GTS	Gas Transmission System of Ukraine
ECS	Energy Community Secretariat
EIC	Energy Identification Code
E&P	Exploration and Production
IFC	International Finance Corporation
LFS	Linepack Flexibility Service
MOE	Ministry of Energy of Ukraine
NU	Network user
PSO	Public Service Obligations
Regulator or NEURC	National Energy and Utilities Regulatory Commission
Report	This Final Report
RGC	Regional Gas Company
STSP	Short term standardized product
Technological consumption	Production needs, technical losses and commercial losses
WB	The World Bank

Units of measure	
b	Billion
bcm	Billions of cubic meters
cm	Cubic meter
m	Million
mcm	Millions of cubic meters
tcm	Thousands of cubic meters
ths	Thousand
Currencies	
EUR	Euro
UAH	Ukrainian Hryvnia
USD	United States Dollar

## BACKGROUND

The GTSO is the transmission system operator of Ukraine's gas transmission system, properly certified and licensed by the NEURC. Since the beginning of 2020, the GTSO has been facing the same issue that the former TSO – JSC "Ukrtransgaz" – had been struggling with for a long time – deviant off-takes of natural gas from the GTS.

Deviant off-takes, a stipulated term that we will use in this Report when jointly referring to unauthorized off-takes and unpaid imbalances, result from actions of various market participants. For example, Ukrainian DSOs off-take gas from the GTS without payment to cover their own technological consumption, justifying this by the fact that these costs are not covered by the gas distribution tariff established by the NEURC in the required amount. In addition, DHCs excluded from Suppliers' registers of consumers (e.g., for exceeding the levels of indebtedness permitted by regulations) continue off-taking gas from the GDS/GTS without payment, while resolutions of the CMU protect them from being cut off, but do not identify Suppliers for such situations.

Deviant off-takes of natural gas from the GTS may adversely affect the financial standing of the GTSO. Currently, unpaid imbalances of market participants owed to the GTSO already exceed UAH 1.6 billion.

The GTSO is looking for possible ways to solve the issue with deviant off-takes of natural gas. For this purpose, the GTSO gained support of the World Bank, which initiated the project "Advisory services on the assurance of financial sustainability of the GTSO" (the "**Project**") to investigate the issue and develop relevant mechanisms to address it. The Project should help the GTSO and other relevant stakeholders solve the existing problems with unauthorized off-takes and unpaid imbalances.

*Ernst & Young LLC*

## ASSUMPTIONS, LIMITATIONS AND RESERVATIONS

The Report is subject to the following assumptions, limitations and reservations:

- ▶ The comments that we present in the Report may require modification if additional information/documents are disclosed to us or if any information or assumptions specified in the "Background" section of this Report are incorrect or incomplete.
- ▶ The Report does not address, and was not intended to address, any matters other than those described in the "Background" section of this Report.
- ▶ Whenever we assess relevance, difficulty or other aspects of any proposed solution below, it is inevitably judgmental, as we perform our assessment based on our professional experience and expertise, as well as on reasonably available information. Any third party may take a different view on the assessment, and we assume no responsibility for such cases.
- ▶ Whenever we refer to "law", "Ukrainian law" or "effective law" in this Report, this reference should be interpreted in a broad manner and should include the effective Ukrainian laws and regulations. All references are valid as of the date of this Report.
- ▶ The comments we present in the Report are based on the effective Ukrainian law and on the practice as known to us at the date of our analysis. In this respect, please note that Ukrainian legislation appears to include (i) numerous gaps; (ii) ambiguous wording; (iii) lack of clarity, specificity and consistency; (iv) frequent changes (sometimes with retroactive effect), and (v) potential conflicts with other laws, and/or regulations. This could create interpretation and implementation difficulties and leaves ample room for the authorities' or courts' discretion. Notably, court and other legal practice (e.g., authorities' rulings) on various matters often appear to be inconsistent and arbitrary.
- ▶ As you are aware, Ukrainian law very often lacks clarity and contains conflicting provisions, which gives considerable room for discretion on the part of the state authorities. Moreover, many aspects contained in the laws have not been properly (and in many cases have not been at all) complemented by relevant regulations and instructions. For these reasons, the comments contained in the Report are based on our interpretation of Ukrainian law and on the practice of its application known to us as of the date of this Report. However, we may not rule out that the authorities or the courts could adhere to an interpretation of the provisions of Ukrainian law that could differ from that expressed in this Report.
- ▶ Also, please appreciate that this Report is not a formal legal or tax opinion and should not be construed as such. This Report is also not a formal advice on matters of foreign law even where any foreign regulations or practices are described; all references to those are given for information purposes. Our Report is not binding on the authorities and we can give no assurance that the authorities will not have a view of the law different from the one we set out in this Report. We assume no responsibility for any such interpretations, nor do we assume responsibility for anything occurring or brought to our attention after the date of this Report.
- ▶ Any decisions to be adopted by any authorities or regulators should be made in accordance with the powers of the relevant authorities and the relevant decision-making procedures, including their own analysis and justification of such decisions, and should not be based solely on this Report and information, which it contains, as a basis for making a decision.



- ▶ It is possible that the regulatory framework could change at any time. We cannot envisage the timing or nature of any such changes, though at this time we are not aware of any upcoming/pending changes likely to materially affect this Report (other than those specifically mentioned in this Report).
- ▶ This Report is intended to be read and used as a whole and not in parts. Separation or alteration of any section or page from the main body of the Report is expressly forbidden and invalidates the Report except for specifically agreed terms.
- ▶ Neither EY, nor any of its employees, has a financial interest in the analyzed matter. Additionally, the fee for our services is not contingent upon the analysis results provided in this Report.
- ▶ This Report is solely for the use and benefit of the World Bank and is not to be relied upon by any other person or entity.

## EXECUTIVE SUMMARY

In this Report, we describe in detail the issue of deviant off-takes (unauthorized off-takes and unpaid imbalances) made by some market participants, which adversely affects GTSO's financial sustainability. While describing the nature of deviant off-takes, we cover, *inter alia*, the following matters:

- ▶ Description of deviant off-takes adversely affecting the GTSO
- ▶ Legal nature of deviant off-takes damaging the GTSO and existing responsibility
- ▶ Description of contractual relationships of market participants and allocation rules
- ▶ Preliminary quantification of imbalances situation
- ▶ Potential negative consequences for the GTSO.

From the legal perspective, the nature of deviant off-takes can be described as follows:

- ▶ **Unpaid imbalances.** These are imbalances of contractual nature created and not paid by GTS customers (mainly DSOs<sup>1</sup>) while using transmission services. Some of them may be indirectly caused by off-takes of DHCs having no Suppliers. This is currently the most significant category of off-takes by volume.
- ▶ **Unauthorized off-takes.** These are clearly defined by the GTS Code as off-takes with certain violations of legislative requirements (e.g., off-takes without concluding an appropriate agreement, through an unauthorized connection and/or with intentionally damaged natural gas metering devices).

Deviant off-takes jeopardize the financial position of the GTSO. After unbundling, newly created operator faced the same problem as the previous GTSO JSC "Ukrtransgaz", which had suffered losses of UAH 44 billion during 2015 - 2019 . Currently, this problem creates a systemic risk for the GTSOU. In the first year of operation, UAH 1.6 billion of debt to the GTSO was accumulated by market participants for negative imbalances. Moreover, according to GTSO's estimates, by 2025 the amount of debt may reach UAH 22.3 billion with an increase to UAH 58.8 billion in 2030.

Such amount is 42.4% higher than the total funds provided for development of the GTS in 10-year GTS Development Plan and may lead to the reduction in investments for the renewal and maintenance of existing infrastructure. Moreover, the financial position of OGTSU is expected to deteriorate in the long run (negative EBITDA after 2025 and a corresponding decrease in cash flow), which may adversely affect the ability of GTSOU to generate payments to the budget (taxes and dividends). Based on a thorough analysis of the nature of deviant off-takes and our discussions of the main problems with the stakeholders, we have built our hypothesis and understanding of the key reasons that lead to the creation of unauthorized off-takes and unpaid imbalances.

As of April 27, 2021, the total amount of debt of the DSOs for gas withdrawn from the GTS is about UAH 10 billion, including UAH 3.5 b of overdue debt UAH 6.5 b accrued. The latter amount of UAH 6.5 b was accumulated due to the actions of DSOs, which were caused by changes in the mechanism of payment for the withdrawn gas, introduced by the NEURC Resolution №235 of 17.02.2021. The

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<sup>1</sup> According to the information provided by the GTSO.

Resolution provided DSOs with the opportunity to make payments for the period February-March 2021 with a 90-day delay.

As a result, most DSOs took advantage of this opportunity. As of April 27, 2021, Kyivoblgaz has become a «key debtor». Its liabilities to the GTSOU increased 19.7 times, amounting to 12% of the total accumulated debt. However, this debt, like most others accumulated in the 1st quarter of 2021, is accrued, but not overdue.

Based on the rigorous analysis of the nature of deviant off-takes and our discussions of the major issues with the relevant stakeholders, we built our hypotheses and understanding of the key reasons that lead to creation of the unauthorized off-takes and unpaid imbalances.

We hypothesized that the existing reasons for issues with unauthorized off-takes and unpaid imbalances may be generally divided into three groups:

► **Market design reasons**

This group includes reasons related to the current structure of relationships between market participants, the scope of their rights and obligations, as well as drawbacks in procedural regulations. The key problem may be the imperfect design of the certain elements of the regulatory framework and their implementation that leaves room for ambiguous interpretation that negatively reflects on the behavior of the market participants.

► **Economic and financial reasons**

This group includes reasons of economic and financial nature. Due to significant state involvement in the regulation of the natural gas market, market players sometimes may be forced to carry out their activities in an economically unjustified manner. Because of the inefficient management of the economic side of the natural gas market, its participants may not be able to ensure the appropriate level of settlements under their contractual and other obligations.

► **Liability and enforcement reasons**

This group includes reasons related to liability of market participants and means of enforcement of their proper behavior. The effective law sometimes does not allow to financially expose certain market participants in default in case of inappropriate level of settlements for the provided services, unauthorized off-takes of natural gas and other market misconduct.

The mentioned groups of hypotheses were tested for their applicability to the general problem. For this purpose, we used the following sources of information:

- Currently effective Ukrainian laws and secondary legislation
- Reports on audits conducted by the NEURC during 2017-2020 (for DSOs, DHCs and Suppliers)
- Data provided by the GTSO for 2020
- Other publicly available information, including comments provided by market participants.

Based on our analysis of the key regulatory and economic reasons for unauthorized off-takes and unpaid imbalances, we developed the draft list of potential solutions.

We assessed the feasibility and viability of such solutions by testing them against our hypotheses on how their implementation would affect the market participants and the financial sustainability of the

GTSO. Finally, we interviewed selected market participants to clarify controversial aspects and to independently verify our key findings.

Based on discussion of preliminary solutions with the World Bank and the GTSO, it was decided to abandon less relevant solutions based on the evaluation and comments of the GTSO, as well as alternative solutions already covered by main solutions.

After making all relevant clarifications and changes, we discussed this list with relevant stakeholders and developed an updated and agreed-on list of solutions. It was also proposed to arrange the solutions into several groups based on the main goal of the implementation of relevant solution(s).

Based on these discussions, to address the issue of unpaid imbalances and unauthorized off-takes and ensure the financial stability of the GTSO, the relevant stakeholders would need to implement at least the following solutions:

- ▶ Ensure the proper use of DSOs' tariff revenues by introducing accounts with a special regime
- ▶ Change the model for providing all DSOs with natural gas for own needs by introducing mandatorily licensed suppliers to supply natural gas for technological consumption of DSOs
- ▶ Abandon the practice of prohibiting cut-offs of Consumers in default and not directly subject to the PSO (the Supplier under the PSO should be completely prohibited from cutting off and terminating supply of natural gas)
- ▶ Amend the Regulation on Imposing Special Obligations (PSO) on Natural Gas Market Participants to resolve problems with the absence of an unconditional PSO
- ▶ Bring the mechanism of calculation of the neutrality charge in compliance with the peculiarities of the gas market in Ukraine and start performing settlements between the transmission services customers and the GTSO on a monthly basis starting from gas year 2021/22
- ▶ Amend the methodology for determining and calculating the tariff for natural gas distribution services and the procedure for establishment of the tariffs for heat energy, its production, transmission and supply to ensure the objectivity of initiating the tariffs' review
- ▶ Develop and implement a mechanism of temporary administration for materially non-compliant DSOs/DHCs
- ▶ Oblige market participants to sell a certain amount of extracted natural gas through the commodity exchange
- ▶ Ensure the review and establishment of reasonable gas consumption norms for household consumers to stimulate the achievement of 100% commercial metering
- ▶ Implement an incentive-based and transparent methodology for tariffs calculation for DSOs and DHCs
- ▶ Resolve the issue of accumulated debts of DSOs and DHCs through mechanisms that will not create incentives for the formation of new debts
- ▶ Ensure the ability to sell and purchase natural gas on commodity exchanges with the participation of the GTSO, SSO and DSOs to promote the development of the liquid market.

The detailed review of proposed solutions is provided in section 4 of this Report.

Finally, after discussing all solutions and necessary actions, we prepared a detailed Roadmap for implementation, which is provided in section 5 of this Report.

## 1. INTRODUCTION

The implementation of the Project was divided into several key stages, each of which has own specific tasks and scope.

At the first stage, we collected and analyzed relevant information about the issue of deviant off-takes and developed preliminary approaches to solving this issue, including:

- ▶ Describing the issue in detail, indicating its quantification and division into segments and sectors
- ▶ Defining the scope of the issue and potential negative consequences, if no measures are taken
- ▶ Identifying reasons and potential viable solutions for the issue
- ▶ Interviewing stakeholders and market participants on the issue and proposed solutions
- ▶ Developing preliminary proposals to solving the problem of unauthorized off-takes and unpaid imbalances, both short-term and long-term, based on the results of previous steps.

Then at the second stage we reviewed selected solutions for the issue of deviant off-takes and prepared their description for discussion with stakeholders, including:

- ▶ Describing each selected solution in detail
- ▶ Providing relevant information on EU best practices (where available)
- ▶ Identifying the necessary steps for implementation of each solution
- ▶ Interviewing stakeholders on the issue and proposed solutions
- ▶ Developing the final list of solutions for addressing the issue of deviant off-takes for approval of the World Bank.

This Report is the Final Report under the Project, and it comprises the results of the analysis performed within the First Interim Report and the Second Interim Report prepared at the previous stages. In this Report, we provide the summarized and finalized results of our work based on our analysis and discussions with relevant stakeholders.

This Report includes the following sections:

- ▶ Section 1 - Introduction
- ▶ Section 2 - General review of the nature of deviant off-takes
- ▶ Section 3 - Detailed review of hypotheses on reasons for deviant off-takes
- ▶ Section 4 - Detailed review of proposed solutions
- ▶ Section 5 - Roadmap for implementation
- ▶ Annexes with draft changes to certain Ukrainian laws and regulations.

## 2. GENERAL REVIEW OF THE NATURE OF DEVIANT OFF-TAKES

### 2.1. DESCRIPTION OF DEVIANT OFF-TAKES ADVERSELY AFFECTING THE GTSO

In this Section, we describe the nature of deviant off-takes performed by market participants that cause damages to the GTSO, their legal qualification from the Ukrainian law perspective, legal distinction between different forms of deviant off-takes and give an overview of market participants responsible for such off-takes.

From the practical standpoint, deviant off-takes of natural gas by market participants from the GTS/GDS may have different forms, including:

- ▶ Off-take of gas by DSOs for technological consumption or to compensate for their losses from off-takes by other persons from DSOs' networks without compensation
- ▶ Off-take of gas by DHCs for operating purposes from the GDS without a Supplier
- ▶ Off-takes by Consumers that have no Supplier (not registered in a Register of consumers of any Supplier)
- ▶ Intentional imbalances created by GTS customers (which may distort gas prices in the market and create balancing burden for the GTSO)
- ▶ Off-takes of gas by unmetered Consumers from the GDS above consumption norms
- ▶ Off-takes using unauthorized connections and/or with intentionally manipulated natural gas metering devices.

The above categories of deviant off-takes are qualified differently from the legal perspective. Therefore, the nature and causes of each type of off-takes are different. Below we provide a high-level description of the nature and causes of deviant off-takes and a distinction between unauthorized and unpaid off-takes.

#### 2.1.1. Legal nature of deviant off-takes damaging the GTSO and existing responsibility

The law and the GTS Code do not contain specific rules addressing each specific category of off-takes described above.

From the legal perspective, one may potentially try to apply different qualification to the above cases of off-takes depending on different circumstances. Generally, we see several potentially applicable qualifications for off-takes of market participants relevant for the purposes of our analysis:

- ▶ Unauthorized off-take (a category currently narrowly regulated by the GTS Code)
- ▶ Unpaid imbalance created in the GTS (sale/purchase of gas within balancing actions)
- ▶ Misappropriation (unauthorized use) of GTSO's/DSO's natural gas.

Below we provide a detailed description of each potential option for qualification.

### (A) Unauthorized off-takes

The GTS Code contains a very narrow definition of an "unauthorized off-take". This definition does not appropriately cover all deviant off-takes of market participants relevant for the purposes of this Report.

Specifically, according to the GTS Code, unauthorized off-take of natural gas only occurs when at least one of the following criteria is met:<sup>2</sup>

- ▶ Consumer is absent in a Register of consumers of any Supplier in the relevant billing period
- ▶ Off-take is made without concluding an appropriate agreement with a Supplier
- ▶ Off-take is made through an unauthorized connection and/or with intentionally damaged natural gas metering devices or out of reach of metering devices
- ▶ Consumer resumes consumption without permission.

The above limited list of conditions for unauthorized off-takes does not cover imbalances created by DSOs, GTS customers and other entities within contractual relations (please see section 2.1.2 for more details on contractual relations). Thus, the legal nature of unpaid gas withdrawals by market participants is different from unauthorized off-takes.

In addition, in case of unauthorized off-takes of natural gas, the GTSO is obliged to stop (restrict) the transmission of natural gas at the point of entry into the GTS or the point of exit from the GTS.<sup>3</sup> At the same time, in practice, sometimes it is impossible, as:

- ▶ Some categories of customers may not be cut off from gas supply according to the regulations
- ▶ GTSO has no physical control over customers that are connected not directly to the GTS, but through a GDS
- ▶ GTSO may not cut off DSOs from the GTS, as it would automatically cut off all their customers.

The GTS Code provides certain specific rules for allocation of unauthorized off-takes:<sup>4</sup>

- ▶ Unauthorized off-takes of Consumers are generally attributed to the allocation of the relevant DSO (or the GTSO, if the Consumer has direct connection).
- ▶ In the case of a written request of a Supplier/GTSO to a DSO to terminate gas distribution to the customer and after expiration of the term for such termination after the request, allocation of actual gas consumption by such Consumer is attributed to the DSO.
- ▶ In the case of a written request of a Supplier to the GTSO to terminate gas transmission to a Direct consumer and after expiration of the term for such termination after the request, allocation of actual gas consumption by such Direct consumer is included in the allocation of the GTSO.

Based on the above rules, we understand that from the legal perspective in most cases unauthorized off-takes are allocated to DSOs or the GTSO itself. This is especially relevant for long-term unauthorized off-takes that may happen after expiration of the term for termination of

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<sup>2</sup> Paragraph 5, chapter 1, section I of the GTS Code.

<sup>3</sup> Paragraph 2, chapter 1, section X of the GTS Code.

<sup>4</sup> Paragraph 7, chapter 6, section XII of the GTS Code.



distribution/transmission of gas (or if such termination is impossible, e.g., due to the statutory prohibition). As a result, in such cases DSOs and GTSO bear the cost of such off-takes.

## **(B) Unpaid imbalances**

The GTS Code defines an imbalance as a difference between volumes of natural gas provided by a user for transmission at a point of entry and volumes withdrawn by such user from the GTS at an exit point, determined according to the allocation.<sup>5</sup>

A negative imbalance is created when the amounts of natural gas taken from the GTS exceed the amounts of natural gas supplied to the system, and a positive imbalance is created when the amounts of natural gas supplied exceed the amounts of natural gas taken from the GTS at exit points.<sup>6</sup> Therefore, when a market participant off-takes more gas from the system than provided by entry nominations, it creates a negative imbalance.

The GTSO bears an obligation to carry out balancing<sup>7</sup> while providing gas transmission services. Balancing is required to maintain the physical balance of the GTS, and it covers physical and commercial balancing:<sup>8</sup>

- ▶ Physical balancing means measures performed by the GTSO to ensure the integrity of the GTS, namely, the proportion of the natural gas amounts that physically came through entry points and the amounts of natural gas that was taken off at exit points.
- ▶ Commercial balancing means identifying and settling imbalances that arise from differences between the amounts of gas that came through entry points and the amounts of gas taken off at exit points per user of the GTS, which is performed based on allocations.

Generally, according to the GTS Code, GTS customers are required to:

- ▶ Physically supply and withdraw amounts of natural gas according to their nominations<sup>9</sup>
- ▶ Timely settle their imbalances<sup>10</sup>
- ▶ Balance their portfolio during the balancing period to minimize the need for balancing actions of the GTSO.<sup>11</sup>

However, certain market participants create significant negative imbalances and then avoid fulfilling their balancing obligations under the GTS Code. As a result, the GTSO is required to make additional efforts to perform balancing and ensure the integrity of the GTS.

Subsequently, according to the GTS Code, each GTS customer that created a negative imbalance is required to compensate the GTSO for the natural gas in the amount of imbalance. For these purposes,

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<sup>5</sup> Paragraph 5, chapter 1, section I of the GTS Code.

<sup>6</sup> Paragraph 3, chapter 1, section XIV of the GTS Code.

<sup>7</sup> Paragraph 4, part 2, article 22 of the Gas Market Law.

<sup>8</sup> Paragraph 5, chapter 1, section I, and paragraphs 1 and 9, chapter 1, section VIII of the GTS Code.

<sup>9</sup> Paragraph 1, section XIII of the GTS Code.

<sup>10</sup> Paragraph 2, section XIII of the GTS Code.

<sup>11</sup> Paragraph 1, chapter 1, section XIV of the GTS Code.

the GTSO calculates the relevant marginal prices and issues invoices to market participants that created negative imbalances.<sup>12</sup>

Some GTS customers, however, reportedly do not pay their invoices for created negative imbalances. This leads to accumulation of unpaid negative imbalances within the GTSO as a result.

Failure by a GTS customer to pay timely for balancing services (including the payment for exceeding capacity) under the transmission agreement concluded with the GTSO is a breach of its contractual obligations. In case of such a violation, the GTS customer is obliged<sup>13</sup> to pay a penalty equal to the amount of late payment times double key policy rate of the National Bank of Ukraine applicable in that period for each day of delay.<sup>14</sup> In addition, according to the general rules of the Civil Code, the GTSO may also claim a compensation of inflation and a compensation for use of their funds of three percent per annum of the amount of debt.<sup>15</sup>

One may argue that currently within the Ukrainian regulatory framework no other liability exists for GTS customers for their unpaid imbalances beyond the above contractual penalty and compensation for use of funds and inflation. This is particularly because deviant off-takes are generally treated not as misappropriation, but as a breach of a transmission agreement or regular imbalances within such agreement.

### **Abuse of market rules**

Based on our discussions with the GTSO, we understand that some GTS customers intentionally fail to balance their portfolios.

These GTS customers abuse the difference between the market natural gas price and the balancing charge for negative and positive imbalances. The balancing charge for negative balances is usually less than the market gas price, while the balancing charge for positive imbalances may be higher than the price for consumers. Therefore, it may be profitable for GTS customers to abuse the balancing charge mechanism instead of purchasing/selling gas in the market.

Although, according to the GTSO, such off-takes are not critical, provided that customers duly pay their balancing charge, the GTSO still faces some technical difficulties with balancing the GTS, in particular, this situation leads to the physical overload of the GTS and potential cases of termination of the transmission.

The above issue is directly related to the amount of balancing charge, which generally depends on the natural gas price. According to the effective regulation, the natural gas price used for calculation of the balancing charge is defined as:<sup>16</sup>

- ▶ Marginal sale price (in case of positive imbalance), which currently is defined as:<sup>17</sup>

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<sup>12</sup> Chapter 6, section XIV of the GTS Code.

<sup>13</sup> The Transmission Agreement provides for a penalty for late payment. However, from a practical standpoint, this penalty may only be enforced in court if the other party is not willing to pay it.

<sup>14</sup> Paragraph 13.5 of the Transmission Agreement.

<sup>15</sup> Part 2 of Article 625 of the Civil Code.

<sup>16</sup> Paragraph 8, chapter 6, section XIV of the GTS Code.

<sup>17</sup> Paragraphs 11 and 12, chapter 6, section XIV of the GTS Code.

- ▶ Price of the natural gas purchased by the GTSO in provision of balancing services during the gas day decreased by the adjustment, or
- ▶ Purchase price of the natural gas acquired by the GTSO during the gas month decreased by the adjustment (if it is not possible to use the previous method)
- ▶ Marginal purchase price (in case of negative imbalance), which is currently is defined as:<sup>18</sup>
  - ▶ Price of natural gas purchased by the GTSO in provision of balancing services during the gas day increased by the adjustment, or
  - ▶ Purchase price of natural gas acquired by the GTSO during the gas month increased by the adjustment (if it is not possible to use the previous method).

Until 1 September 2020, the adjustment was equal to 10 percent for both negative and positive imbalances.<sup>19</sup> If a GTS customer's imbalance stayed within the 10-percent tolerance margin, the GTSO did not apply the adjustment to the calculation of balancing charges.<sup>20</sup>

However, on 26 August 2020 the NEURC adopted amendments the GTS Code to address this issue and introduce the relevant incentives for GTS customers to properly balance their portfolios. The relevant changes became effective on 1 September 2020. The changes, *inter alia*, provide for:<sup>21</sup>

- ▶ Decrease of imbalance tolerance level from 10 to 3 percent (7.5 percent for DSOs). Consequently, GTS customers would need to thoroughly balance their portfolios to avoid application of the adjustment to their balancing charges if they exceed the tolerance threshold
- ▶ Increase of adjustment rate from 10 to 20 percent if the imbalance of GTS customers exceeds 5 percent (15 percent for DSOs) tolerance margin. It will lead to increase/decrease of the marginal sale/purchase price in relevant cases.

As a result, the balancing services of the GTSO should become less attractive to GTS customers. The NEURC expects that these changes will incentivize GTS customers to take relevant balancing actions and to create less imbalances. At the same time, the temporary changes to this mechanism adopted by the regulator should be taken into account.<sup>22</sup>

However, we understand that market participants do not welcome such changes using the following argumentation:<sup>23</sup>

- ▶ Some GTS customers say that they lack efficient tools to balance their portfolios by themselves, since, in their opinion, there is no functioning liquid trading platform that would offer viable options for balancing
- ▶ Other GTS customers state that there are no production and consumption forecasts available to them, so they are not able to properly balance their portfolios

<sup>18</sup> *Ibid.*

<sup>19</sup> Paragraphs 16 and 17, chapter 6, section XIV of the GTS Code.

<sup>20</sup> Paragraph 15, chapter 6, section XIV of the GTS Code.

<sup>21</sup> Paragraph 1 of the NEURC Resolution on Balancing Incentives.

<sup>22</sup> Resolution of the NEURC "On Measures Aimed at Uninterrupted Distribution of Natural Gas to Consumers" No. 235 dated 17 February 2021

<sup>23</sup> Available at: <https://www.facebook.com/notes/3283198528403250/>.

- ▶ Some GTS customers believe that the three-percent tolerance level is too low, as it does not cover technical variations that occur differently in various kinds of equipment.

At the same time, according to the GTSO, we understand that the Regulator disagrees with these claims of market participants and provided them with the response in letter No. 2946/16.3.2/7-20 dated 16 March 2020.

### (C) Misappropriation

In this section, we review the possibility of qualification of certain types of deviant off-takes (specifically, imbalances of DSOs to compensate technological consumption, off-takes with no registered Supplier or through unauthorized connections) as wrongful acquisition of assets.

Ukrainian civil law also contains two concepts of acquisition of property that may be potentially applied for qualification of unpaid off-takes of natural gas:

- ▶ Illegal acquisition of assets ("*незаконне заволодіння майном*")
- ▶ Acquisition of assets without sufficient legal basis ("*заволодіння майном без достатньої правової підстави*")

The law provides two respective means for protection of owner's rights:

- ▶ Revindication claim ("*віндикаційний позов*")
- ▶ Reclamation claim ("*кондикційний позов*").

Illegal acquisition of assets occurs where an owner's asset is transferred to a third party that:<sup>24</sup>

- ▶ Knowingly acquires the asset without any legal basis (undiligent transferee), or
- ▶ Acquires the asset from a person that had no right to dispose of the asset, if the third party does not know about the lack of capacity of its counterparty (diligent transferee)

Because market participants knowingly off-take natural gas from the GTS, in this report we will refer only to illegal acquisition carried out by an undiligent transferee. In this case, the owner is entitled to collect its property from undiligent transferee by filing a revindication claim.<sup>25</sup> Should it be the case, the owner bears the burden of proof that includes the following criteria:

- ▶ The claimant (i.e., the GTSO) was the owner or the diligent transferee of the asset at issue<sup>26</sup>
- ▶ The asset was transferred without any legal basis
- ▶ Intention or gross negligence of the transferee aimed at acquisition of the asset was present.

<sup>24</sup> Part 1 of article 388, part 1 of article 390 of the Civil Code.

<sup>25</sup> Part 1 of article 400 of the Civil Code.

<sup>26</sup> Par. 23 of Resolution of the Plenum of the High Specialized Court of Ukraine on Civil and Criminal Cases No. 5 dated 7 February 2014.

Acquisition of assets without sufficient legal basis occurs where somebody's asset is transferred to a third party provided that:<sup>27</sup>

- ▶ No legal grounds for such acquisition were present, or such legal grounds are no longer present
- ▶ Transferee and the owner are not parties to any agreement related to the asset.

The owner may collect the asset from the transferee in court if it proves that:

- ▶ Transferee received the property
- ▶ There were no legal grounds for the acquisition.

The above concepts, as well as the relevant legal remedies, may be potentially applicable to unauthorized/unpaid off-takes of natural gas:

- ▶ DSOs/consumers that carry out unauthorized off-takes of natural gas from the GTS may be treated as undiligent transferees that knowingly acquired the property without any legal basis, since such gas was consumed from the GTS without appropriate nomination, and considering this gas was purchased and owned by the GTSO to balance the GTS.
- ▶ Alternatively, one may argue that DSOs/consumers that carry out off-takes from the GTS may be treated as transferees that acquired the asset without sufficient legal basis, i.e., that there was no law or agreement that provided for such acquisition.

However, there are several obstacles for application by the GTSO of the above concepts against the GTS customers in court:

- ▶ **Natural gas is generic property.**<sup>28</sup> The court practice of the Supreme Court shows that revindication claims should not be used in relation to generic property.<sup>29</sup> Therefore, the GTSO would not be able to protect its rights by a revindication claim, since the revindication claim may only relate to individual property.
- ▶ **Legal grounds for acquisition are present.** Under the effective Ukrainian law and relevant court practice, the agreements between the Consumer, Supplier, DSOs and GTSO form sufficient legal basis for acquisition of natural gas. Therefore, if there are off-takes of gas above nominations, such off-takes are allocated as imbalances according to the GTS Code and contractual rules, and they should not be considered acquisition of assets without sufficient legal basis.
- ▶ **GTSO's ownership of consumed gas may be not acknowledged by the court.** The court may attribute the relevant ownership rights to the Supplier or DSO that signed the agreement with the Consumer.<sup>30</sup>

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<sup>27</sup> Part 1 of article 1212 of the Civil Code.

<sup>28</sup> Article 184 of the Civil Code.

<sup>29</sup> Resolution of the Supreme Court in case No. 653/1096/16-ц dated 4 July 2018, available at: <http://www.reyestr.court.gov.ua/Review/75296538>.

<sup>30</sup> In this Report we do not specifically discuss in detail who should be deemed the owner of natural gas that is being transmitted through or off-taken from the GTS in each specific case. Generally, the ownership, as well as obligations of market participants to each other, is defined according to the allocation rules of the GTS Code. Ukrainian courts, while interpreting the GTS Code, may disagree with the GTSO on the appropriation of natural gas according to the GTS Code. Specifically, they may attribute the relevant ownership rights to the Supplier or DSO that signed the agreement with the Consumer, which would not allow the GTSO to claim the misappropriation.

- ▶ **Unauthorized off-takes form DSO imbalance.** Current court practice refers to unauthorized off-takes as to GTS imbalances that should be settled between the GTSO and DSOs. Thus, the court may consider GTSO's reclamation claims to be ill-founded.

Therefore, the current Ukrainian energy market regulations, as well as the current court practice, may be interpreted to not support the enforceability of GTSO's claims in terms of wrongful acquisition of the natural gas (illegal acquisition or acquisition without sufficient legal basis). As a result, this concept may likely be not applicable in practice to any kind of deviant off-take. Therefore, we do not discuss this approach further throughout the Report.

One may argue that unauthorized off-takes may be also classified under Ukrainian criminal law. However, based on our analysis, we believe that it is unlikely that unauthorized off-takes of other market participants, may be qualified as criminal offences, as the Criminal Code of Ukraine currently does not provide for the relevant legally defined crime.

#### **(D) Summary of the legal description of the deviant off-takes issue**

The effective regulation covers the off-takes made without or in excess of nomination. If the Consumer off-takes natural gas without a natural gas supply agreement, the amount of actually consumed gas is allocated to the relevant DSOs. Imbalances created by market participants within the Transmission Agreement are allocated to relevant market participants.

Thus, the effective regulation generally makes it possible to identify the relevant market participant that performed a deviant off-take, and formally allows to hold it liable for such off-takes. However, there are other issues that affect the current situation with deviant off-takes:

- ▶ DSOs may fail to fulfil responsibilities of balancing their portfolios
- ▶ Debtors may lack financial resources or the willingness to settle their accounts with Suppliers or the GTSO
- ▶ Market players may fail to duly implement the effective regulations or abuse market rules
- ▶ GTSO and other market participants may lack effective means of enforcement to collect the debt.

Therefore, the focus should rather be made on developing mechanisms that would prevent deviant off-takes from the GTS, ensure financial stability and/or provide effective tools for enforcement for market participants. We elaborate on relevant reasons for deviant off-takes and their full description in the following sections.

#### **(E) Existing responsibility for unauthorized off-takes and unpaid imbalances**

The existing types of liability for unpaid/unauthorized off-takes may be generally divided into two groups:

- ▶ Contractual liability for violations under relevant agreements
- ▶ Administrative liability for violation of market rules provided by the law.

The GTS Code only contains general provisions regarding responsibility, and it does not concern volumes of off-taken gas, but instead concerns transmission capacity:

- ▶ Transmission service customers shall bear responsibility for excess of ordered capacities in accordance with the natural gas transmission agreement.<sup>31</sup>
- ▶ If unauthorized off-take is made by a Direct consumer, they shall bear responsibility for the actually used capacity as for excess of capacity at the exit point.<sup>32</sup>

The actual amounts of liability are defined in transmission and distribution agreements. In particular, contractual liability includes the following penalties for consumer's failure to pay for GTSO's/DSO's services in a timely manner:

- ▶ For GTSO's customers: penalty equal to the amount of late payment for balancing services times double key policy rate of the National Bank of Ukraine applicable in that period for each day of delay<sup>33</sup>
- ▶ For DSO customers: penalty equal to the amount of late payment for balancing services times double key policy rate of the National Bank of Ukraine applicable in that period for each day of delay<sup>34</sup>
- ▶ For DSO household customers: penalty in amount of 0.01 percent of the debt for each day of delay, but no more than 100% of the debt.<sup>35</sup>

In addition to the above, according to the general rules of the Civil Code, the GTSO/DSOs may also claim from their customers a compensation of inflation and a compensation for use of their funds of three percent per annum of the amount of debt.<sup>36</sup>

Administrative liability for violations in the natural gas market is generally defined by the Gas Market Law. The law provides for several types of violations relevant for the purposes of this report, including:<sup>37</sup>

- ▶ Unauthorized off-take of natural gas
- ▶ Use of natural gas by Consumers in the amounts exceeding those confirmed by Suppliers (i.e., exceeding nomination)
- ▶ Unauthorized interference in functioning of gas infrastructure
- ▶ Unauthorized connection to the system that affects the safety of delivery of natural gas of its measurement results
- ▶ Refusal to provide access to metering devices for representatives of the GTSO/DSOs
- ▶ Unreasonable rejection to sign a statement of transfer and acceptance of natural gas.

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<sup>31</sup> Paragraph 15, chapter 1, section IX of the GTS Code.

<sup>32</sup> Paragraph 11, chapter 1, section IX of the GTS Code.

<sup>33</sup> Paragraph 13.5 of the Transmission Agreement.

<sup>34</sup> Paragraph 8.2 of the Distribution Agreement.

<sup>35</sup> *Ibid.*

<sup>36</sup> Part 2 of Article 625 of the Civil Code.

<sup>37</sup> Part 2 of article 59 of the Gas Market Law.

Generally, according to the law, for violation of the gas market regulations the NEURC may apply (i) warnings, (ii) fines, (iii) suspension of a license and/or (iv) revocation of a license to relevant gas market participants.<sup>38</sup>

## Fines

Fines for the above violations (and other violations of rules regarding market functioning) range from UAH 51,000 (approx. USD 1,900) up to UAH 850,000 (approx. USD 31,500), and the actual amount is decided by the NEURC on a case-by-case basis.

The law also provides certain additional administrative liability for violations in the gas market for individuals and officials:

- ▶ For company's officials: penalty from UAH 340 to UAH 15,300 (approx. from USD 12 to USD 555) for the above violations (and other violations of rules for market functioning) <sup>39</sup>
- ▶ For company's officials: penalty from UAH 170 to UAH 1,700 (approx. from USD 6 to USD 60) for violation of the gas consumption regime, gas consumption bypassing metering devices, or unauthorized resumption of gas consumption.<sup>40</sup>
- ▶ For company's officials: warning or penalty from UAH 510 to UAH 1,360 (approx. from USD 18 to USD 50) for unauthorized use of natural gas with deceptive purposes that did not cause significant damage.<sup>41</sup>
- ▶ For individuals: penalty from UAH 170 to UAH 850 (approx. from USD 6 to USD 30) for unauthorized use of natural gas with deceptive purposes that did not cause significant damage.<sup>42</sup>

Generally, the existing liability does not correspond to the actual amount of off-takes made by market participants. One may reasonably argue that the existing liability does not stimulate market participants for proper behavior.

## Suspension/revocation of a license

According to the natural gas market regulations, the suspension/revocation of a license may be potentially applied to DSOs that off-take natural gas from the GTS without payment. Below we provide a brief description of regulations on this matter.

The Licensing Terms for Distribution of Natural Gas provide that a DSO should:

- ▶ Comply with the requirements set out in the GDS Code<sup>43</sup> (which includes purchasing natural gas for DSO's own needs from the owners of natural gas (including producers, Wholesale traders or Suppliers) based on the market conditions)<sup>44</sup>

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<sup>38</sup> Part 3 of article 59 of the Gas Market Law.

<sup>39</sup> Paragraph 6 of part 4 of article 59 of the Gas Market Law.

<sup>40</sup> Article 101 of Code of Ukraine for Administrative Offences No. 8073-X dated 7 December 1984.

<sup>41</sup> Article 103-1 of Code of Ukraine for Administrative Offences No. 8073-X dated 7 December 1984.

<sup>42</sup> *Ibid.*

<sup>43</sup> Subparagraph 14, paragraph 2.2., section 2 of the Licensing Terms for Distribution of Natural Gas.

<sup>44</sup> Paragraph 4, chapter 6, section III of the GDS Code.



- ▶ Use proceeds from provision of distribution services to cover the relevant expenses according to the structure of the tariff<sup>45</sup> (which includes costs for use of natural gas for DSOs' technological consumption)<sup>46</sup>
- ▶ Conclude the Transmission Agreement with the GTSO and pay for the transmission services<sup>47</sup> (which includes access to capacity, physical transmission and daily balancing).<sup>48</sup>

In view of the above, the NEURC may potentially consider a DSO's failure to purchase natural gas for its technological consumption and to pay for daily imbalances a violation of licensing terms. In addition, the NEURC may also reasonably question the use of proceeds from the tariff, considering that the tariff includes costs for DSOs' needs of natural gas.

Thus, based on the above, the NEURC may potentially decide to suspend and/or revoke the license of the DSO that violates the above requirements of the licensing terms.

At the same time, the NEURC may only apply such sanctions to DSOs following the specific procedure provided by its regulations. Below we outline the most relevant cases:

Suspension of license <sup>49</sup>	Revocation of license <sup>50</sup>
<p>The NEURC is entitled to suspend the license if, <i>inter alia</i>:</p> <ul style="list-style-type: none"> <li>▶ Licensee fails to perform the NEURC's decision on rectification of violations of licensing terms, which is confirmed by the relevant audit act of the NEURC.</li> </ul>	<p>The NEURC is entitled to revoke the license if, <i>inter alia</i>:</p> <ul style="list-style-type: none"> <li>▶ Licensee fails to rectify the circumstances that lead to suspension of the license, which is confirmed by the relevant audit act of the NEURC</li> <li>▶ Licensee repeatedly violates the licensing terms and other energy and utilities regulations, which is confirmed by the relevant audit act of the NEURC.</li> </ul>

Therefore, the suspension/revocation of the license may be performed only after the second audit of the NEURC, in which it identifies that the licensee either failed to remove the violation or repeatedly committed it.

The NEURC carries out scheduled audits once per year according to the schedule that is adopted by the NEURC on a risk-based approach.<sup>51</sup> In addition, the NEURC may also initiate an unscheduled on-site or remote audit, *inter alia*, in the following cases:

- ▶ On-site audit:<sup>52</sup>
  - ▶ Based on a reasoned complaint of an individual / legal entity on violation of their rights by the licensee
  - ▶ Based on a reasoned complaint of a market participant / consumer about violation of licensing terms by the licensee
  - ▶ For audit of performance of the previous NEURC decision on removal of violations.

<sup>45</sup> Subparagraph 16, paragraph 2.2., chapter 2 of the Licensing Terms for Distribution of Natural Gas.

<sup>46</sup> Paragraph 4 pf section III of the Distribution Tariff Methodology.

<sup>47</sup> Subparagraphs 27 and 28, paragraph 2.2., chapter 2 of the Licensing Terms for Distribution of Natural Gas.

<sup>48</sup> Paragraph 1 of chapter 1 of section VIII of the GTS Code.

<sup>49</sup> Paragraph 6.4 of the Procedure on Licensing of Activities Regulated by the NEURC.

<sup>50</sup> Paragraph 7.1 of the Procedure on Licensing of Activities Regulated by the NEURC.

<sup>51</sup> Paragraph 7.1 of the Procedure on Control over Compliance with Licensing Terms.

<sup>52</sup> Paragraph 4.1 of the Procedure on Control over Compliance with Licensing Terms.

- ▶ Remote audit:<sup>53</sup>
  - ▶ Based on a reasoned complaint of an individual / legal entity on violation of their rights by the licensee supported with relevant documents that confirm such violation
  - ▶ Based on a reasoned complaint of a market participant / consumer about violation of licensing terms by the licensee supported with relevant documents that confirm such violation
  - ▶ In case the NEURC identifies misuse of proceeds provided under the established structure of the tariffs and/or approved investment program during monitoring of licensee's reports.

Within the audit, the NEURC may identify the abovementioned violations of licensing terms by a DSO. Should it be the case, the NEURC considers the case and makes its decision on application of sanctions within 30 days of the audit.<sup>54</sup> The NEURC also notifies the licensee of the decision.<sup>55</sup> Upon the receipt of the notification, the licensee should rectify the violations of the licensing terms and submit to the NEURC a written report with supporting documents by the deadline specified in the decision.<sup>56</sup>

If the licensee fails to comply with the NEURC's decision (i.e., to rectify the violation and/or submit the report), the NEURC initiates an unscheduled audit of the licensee.<sup>57</sup> If within this audit the NEURC identifies that the licensee failed to rectify the violation, it may suspend its license for up to six months.<sup>58</sup> Then, the NEURC revokes the license if the licensee fails to rectify the violation during this term.<sup>59</sup>

In addition, the NEURC may also revoke the license if the licensee commits repeated violation<sup>60</sup> within one year of the adoption of the NEURC's decision on rectification of violations.<sup>61</sup>

Accordingly, license suspension and revocation generally would involve the following key stages:

- ▶ Initiation of the NEURC's audit
- ▶ Issuance of the NEURC's decision on rectification of violations of the licensing terms
- ▶ Suspension of the license, if the DSO failed to rectify violations
- ▶ Revocation of the license, if the DSO failed to rectify initial violations within a 6-month term
- ▶ Revocation of the license, if the DSO committed a repeated violation within one year after NEURC's decision on rectification of violations.

However, the NEURC applies relevant sanctions at its own discretion and it should adhere to the principles of proportionality of violations and penalties, as well as of effectiveness of restraining

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<sup>53</sup> Paragraph 5.1 of the Procedure on Control over Compliance with Licensing Terms.

<sup>54</sup> Paragraph 7.4 of the Procedure on Control over Compliance with Licensing Terms.

<sup>55</sup> Paragraph 10.5 of the Procedure on Control over Compliance with Licensing Terms.

<sup>56</sup> Paragraph 10.8 of the Procedure on Control over Compliance with Licensing Terms.

<sup>57</sup> Paragraph 10.11 of the Procedure on Control over Compliance with Licensing Terms.

<sup>58</sup> Paragraph 6.4 of the Procedure on Licensing over Activities Regulated by the NEURC.

<sup>59</sup> Paragraph 7.1 of the Procedure on Licensing over Activities Regulated by the NEURC.

<sup>60</sup> Paragraph 1.5 of the Procedure on Control over Compliance with Licensing Terms.

<sup>61</sup> Paragraph 7.1 of the Procedure on Licensing over Activities Regulated by the NEURC.

sanctions.<sup>62</sup> Therefore, the NEURC may not apply suspension/revocation of the license if it does not consider these sanctions to be proportionate to the DSO's violation of licensing terms.

At the same time, we identified at least one case where the NEURC used the above argumentation and identified the violation of licensing terms by Ternopilniskgaz PrJSC, which failed to fulfil responsibilities of balancing its portfolio and pay for created imbalances to the GTSO.<sup>63</sup> The NEURC imposed a fine of UAH 850,000 (approx. USD 30,000) on Ternopilniskgaz PrJSC by its resolution dated 17 June 2020.<sup>64</sup> Later, the NEURC scheduled an extraordinary inspection of Ternopilniskgaz PrJSC to review whether it complied with the resolution on imposition of a fine.<sup>65</sup> As of now, we have no information on the further NEURC's actions regarding this case. Therefore, one may conclude that the NEURC does consider the DSO's failure to pay for created imbalances to the GTSO a violation of licensing terms.

However, we cannot exclude that the NEURC may refuse to apply suspension/revocation of the license to DSOs, as all DSOs are monopolies in their regions, and suspension/revocation of DSO's license may potentially negatively affect the market functioning and gas supply to all consumers in the relevant region.

#### 2.1.2. Description of contractual relationships of market participants and allocation rules

For the purposes of this Report, we consider the following key relevant natural gas market participants that have contractual relationships between each other: GTSO, DSOs, DHC, Suppliers, Wholesale traders, households, other Consumers.

All these market participants conclude following types of agreements between each other:

- ▶ Transmission agreements – for obtaining access to capacity at entry and exit points of the GTS, physical transportation of technical gas by the GTS and taking actions for settlement of daily imbalance
- ▶ Distribution agreements – for physical delivery and/or 24-hour access of consumers' objects to the GDS
- ▶ Connection agreements (standard for DSOs<sup>66</sup>) – for connection of objects to GTS/GDS
- ▶ Technical agreements (standard for connections between DSO and an adjacent market participant (e.g., other DSO, SSO, LNG, gas producer), except for the GTSO and consumer<sup>67</sup>) – for accounting of gas at entry and exit points
- ▶ Supply agreements (standard versions were approved for households and SoLR, essential conditions are provided in the Supply Rules) – for supply of natural gas to consumer by a licensed Supplier

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<sup>62</sup> Paragraph 10.1 of the Procedure on Control over Compliance with Licensing Terms.

<sup>63</sup> Act of audit No. 136 dated 18 May 2020, available at:

[http://www.nerc.gov.ua/data/filearch/Catalog8/naftogas/2020/18.05.2020/Akt-\\_Ternopilniskgaz\\_\\_18.05.2020-136.pdf](http://www.nerc.gov.ua/data/filearch/Catalog8/naftogas/2020/18.05.2020/Akt-_Ternopilniskgaz__18.05.2020-136.pdf).

<sup>64</sup> Resolution of the NEURC "On Imposition of a Fine on Ternopilniskgaz PrJSC for Violation of Licensing Terms for Performing Commercial Activity of Distribution of Natural Gas and Application of State Regulation Measures" No. 1137 dated 17 June 2020.

<sup>65</sup> Resolution of the NEURC "On Appointment of the Extraordinary Outdoor Inspection of Ternopilniskgaz PrJSC" No. 1637 dated 2 September 2020.

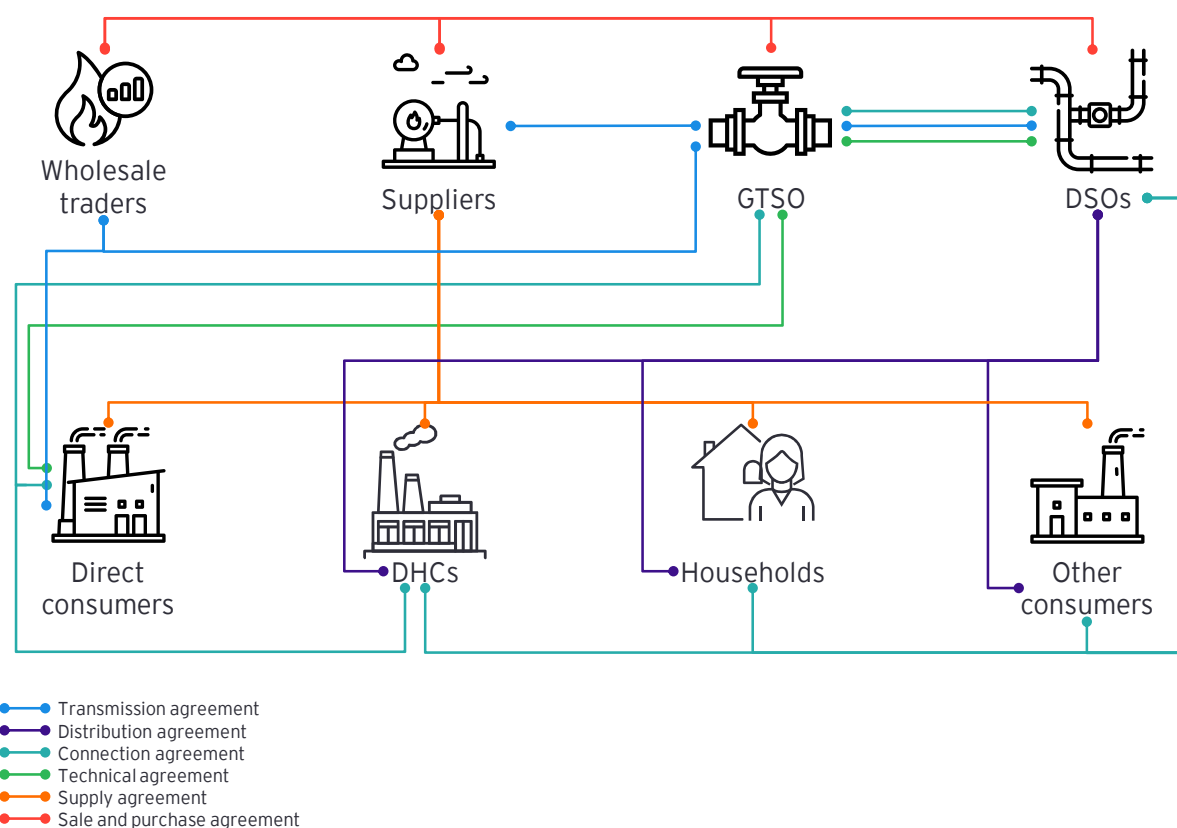
<sup>66</sup> Annexes 11 and 12 of the GDS Code.

<sup>67</sup> Annex 2 to the GDS Code.

- ▶ Sale and purchase agreements – for purchase and delivery of natural gas between market participants (other than between Consumers and Suppliers).

Below we provide a figure with representation of relevant contractual relations and connections and a description of contractual relationships of the parties involved.

Figure 1: Contractual relationships



The GTSO concludes the following types of agreements with the following market participants:

- ▶ Connection agreements with DSOs and Direct consumers<sup>68</sup>
- ▶ Technical agreements with DSOs and Direct consumers<sup>69</sup>
- ▶ Transmission agreements with DSOs and Suppliers.<sup>70</sup>

DSOs conclude the following types of agreements with the following market participants:

- ▶ Sale and purchase agreements with Wholesale traders<sup>71</sup>
- ▶ Transmission, connection and technical agreements with the GTSO

<sup>68</sup> Paragraph 5, chapter 1, section I and paragraph 9, chapter 1, section VI of the GTS Code.

<sup>69</sup> Paragraph 9, chapter 2, section III of the GTS Code.

<sup>70</sup> Paragraph 5, chapter 1, section I and paragraph 1 and 9, chapter 1, section VIII of the GTS Code.

<sup>71</sup> Paragraphs 1, 4, chapter 6, section III and paragraph 9, chapter 1, section VI of the GDS Code.

- ▶ Distribution agreements with Consumers.<sup>72</sup>
- ▶ Connection agreements with Consumers and adjacent market participants (e.g., other DSO, SSO, LNG, gas producer)<sup>73</sup>
- ▶ Technical agreements with adjacent market participants (e.g., other DSO, SSO, LNG, gas producer).

Suppliers conclude the following types of agreements with the following market participants:

- ▶ Sale-purchase agreements with Wholesale traders<sup>74</sup>
- ▶ Transmission agreements with the GTSO
- ▶ Supply agreements with Consumers.

DHCs and other consumers conclude the following types of agreements with the following market participants:

- ▶ Distribution and connections agreements with DSOs
- ▶ Technical and connection agreements with the GTSO (for Direct consumers)
- ▶ Supply agreements with Suppliers.<sup>75</sup>

The GTS Code provides for standard exit points allocation rules for the market participants:

- ▶ The GTSO performs preliminary daily allocation on a daily basis. Natural gas off-takes from the GTS should be attributed to relevant transmission service customers of the GTSO by way of allocation. Allocation of gas off-taken by a Consumer is made only to the existing supplier of such a consumer.<sup>76</sup>
- ▶ The volume of natural gas off-taken at points of exit to the GDS is attributed to relevant GTS customers by determining the allocation. If the volume of natural gas transferred to the GDS (taking into account the volume provided by gas producers and the adjacent DSOs) exceeds the total amount of natural gas taken by consumers from the GDS, then the relevant difference should be treated as an off-take of the DSO.<sup>77</sup>
- ▶ At the points of exit to the Direct consumer, the GTSO allocates the volume of natural gas to a Consumer's existing Supplier based on the Register of consumers of the Supplier.<sup>78</sup>
- ▶ Unauthorized off-takes of consumers are generally attributed to the allocation of a relevant DSO (or the GTSO, if the consumer has direct connection).<sup>79</sup>
- ▶ Final allocation of daily inputs into and off-takes from the GTS is performed on a monthly basis.<sup>80</sup>

<sup>72</sup> Paragraph 4, chapter 1, section I; paragraph 2, chapter 1, section VI; paragraph 1, chapter 3, section VI of the GDS Code.

<sup>73</sup> Paragraph 4, chapter 1, section I and paragraph 4, chapter 1, section V of the GDS Code.

<sup>74</sup> Paragraphs 21 and 22, article 1 of the Gas Market Law.

<sup>75</sup> Article 12 of the Gas Market Law, paragraph 3, section I of the Supply Rules.

<sup>76</sup> Chapter 6, section XII of the GTS Code.

<sup>77</sup> Paragraph 4, chapter 6, section XII of the GTS Code.

<sup>78</sup> Paragraph 5, chapter 6, section XII of the GTS Code.

<sup>79</sup> Paragraph 7, chapter 6, section XII of the GTS Code.

<sup>80</sup> Chapter 7, section XII of the GTS Code.

- ▶ The final allocation per customer/consumer with daily metering equals to the sum of preliminary allocations, unless there are changes in accrual modes of natural gas.
- ▶ The final allocation per customer/consumer without daily metering (with metering by a commercial metering unit equipped with a corrector), as well as the final daily allocations for such consumers are adjusted and equal to the actual consumption for the relevant gas day of the gas month according to the metering corrector, unless there are changes in accrual modes of natural gas.
- ▶ If the actual monthly volume of off-take/consumption is equal to the sum of previous daily allocations for the month (for consumption without daily metering and with a commercial metering unit without a corrector), the daily final allocations are equal to preliminary daily allocations.
- ▶ Otherwise (if actual volumes of off-takes/consumption is not equal to the sum of previous daily allocations without daily metering and with a commercial metering unit without a corrector), relevant correction should be made to daily allocations to determine final daily allocations.
- ▶ Information on actual consumption of natural gas should be provided by DSOs to the GTSO for purposes of the final allocation.<sup>81</sup>

Based on the rules for allocation (as described in this section and section 2.1.1(A) above), we understand that:

- ▶ Off-takes of Consumers performed without registration in the Supplier's Register of consumers are attributed to allocation of DSOs (or, for Direct consumers, to the GTSO).
- ▶ Off-takes performed by Consumers without registered Supplier or through unauthorized connections are considered unauthorized and are attributed to allocation of DSOs (or, for Direct consumers, to the GTSO).
- ▶ Off-takes of DSOs are attributed to allocation of these DSOs.
- ▶ Off-takes performed by Suppliers (and their Consumers) above the nominations are attributed to allocation of such Suppliers.
- ▶ Preliminary daily allocations are adjusted for the amount of actual consumption.

The above contractual framework allows the parties to claim compensation for violations by the other party of contractual obligations and applicable natural gas market regulations:

- ▶ If a Supplier off-takes at exit points more than it pumped into the GTS at entry points, the Supplier must pay daily imbalance charge and payment for exceeding capacity to the GTSO (as a regular payment for transmission services).<sup>82</sup> If the payment for services is not made, it becomes an unpaid imbalance and relevant sanctions may apply to the Supplier, as described in section 2.1.1(E).
- ▶ If a Consumer consumes more or less than nominated, the Consumer must compensate to the Supplier the difference between the actual and nominated volumes, plus damages for excess consumption.<sup>83</sup>

<sup>81</sup> Paragraph 6, chapter 3 and paragraph 5, chapter 4 of section IX of the GDS Code.

<sup>82</sup> Paragraph 9.3, section IX of Transmission Agreement.

<sup>83</sup> Paragraphs 1, 4 and 6, section VII of Supply Rules.

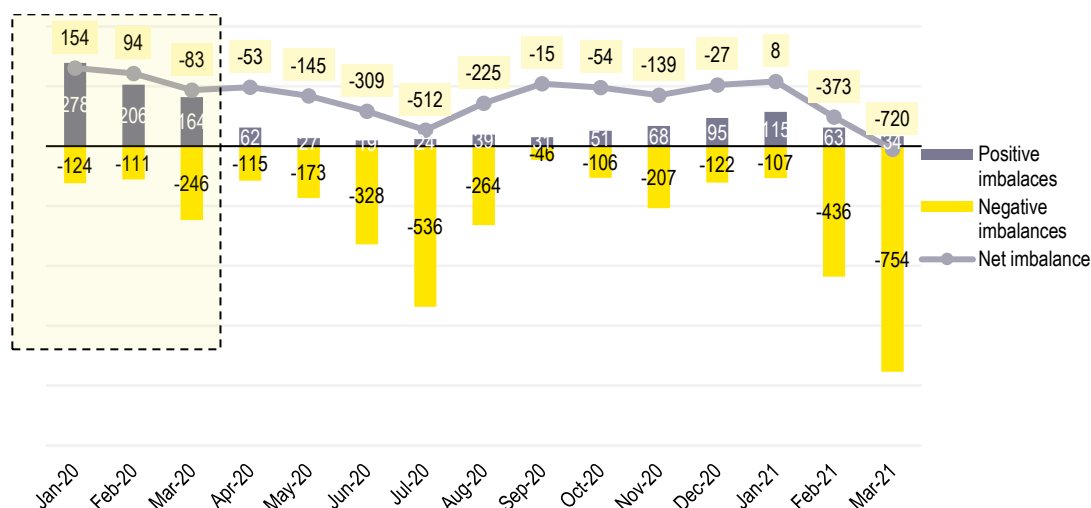
- ▶ If the Consumer denies access to Supplier's representatives for verification of actual amounts of supply, the Supplier may claim payment for consumed gas and damages under a special formula.<sup>84</sup>
- ▶ If the Consumer carries out unauthorized off-takes of natural gas, the GTSO/DSO may suspend supply of natural gas to such a Consumer.<sup>85</sup>
- ▶ If the Consumer carries out unauthorized off-takes of natural gas, the amount of actually consumed natural gas is allocated to the relevant DSO (or the GTSO, if the gas is off-taken by the Direct consumer) that would then need to pay for negative imbalance.<sup>86</sup>

We will provide more detailed description of relevant contractual terms in section 3 below.

### 2.1.3. Preliminary quantification of imbalances situation

As was noted earlier, there are positive and negative gas imbalances in the GTS. Most of the positive imbalances arose during the 1Q2020 of operation of the GTSO and amounted to 648 mcm (60.9% of the total amount of positive imbalances accumulated during the whole 2020). At this time, the amount of negative imbalances was small, which led to a positive net monthly balance. Starting March 2020, the balance turned negative, with the gap between the imbalances constantly widening. Thus, by the middle of the year (the period from June to August), 1,128 mcm of negative unbalances were accumulated, which amounted to 47.5% of the total volume of negative imbalances of 2020.

Chart 1. Correlation of daily gas imbalances (monthly), mcm<sup>87</sup>



Traditionally, volumes of gas imbalances depend on prices - in cases where the base gas price for the imbalance is lower than the market one, network users take benefits by creating negative imbalances and buy gas from GTSO. Otherwise, if the base price is higher than the market one, network users create positive imbalances and sell gas to GTSO. For example, 1Q2020 was quite unusual as due to sharp drop in gas prices (see graph below), Customers intentionally created positive imbalances (by

<sup>84</sup> Subparagraph 3, paragraph 1, section VII of Supply Rules.

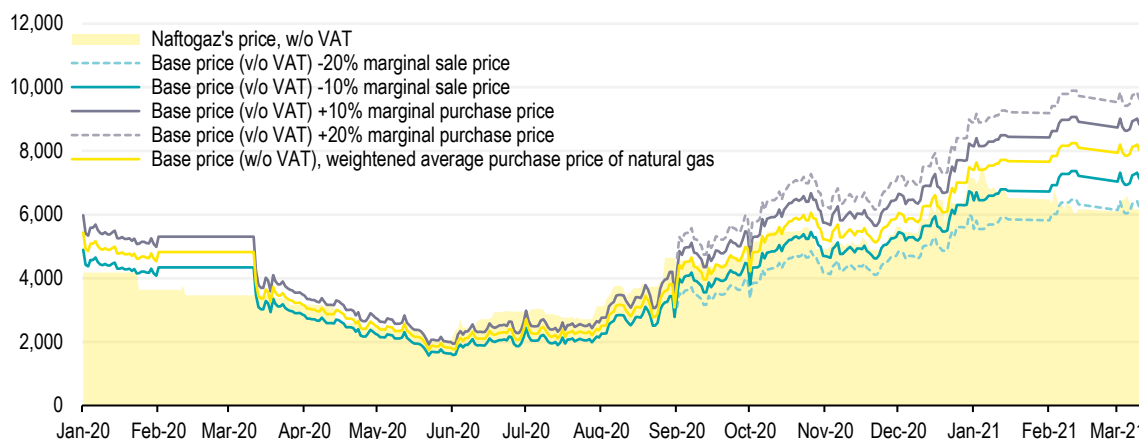
<sup>85</sup> Subparagraph 1, paragraph 2, chapter 1, section X of the GTS Code.

<sup>86</sup> Paragraph 7, chapter 6, section XII of the GTS Code.

<sup>87</sup> GTSO, EY calculations and analysis

making quasi-sale to GTSO) to benefit from higher compensation for positive balance. However, as soon as price dynamics changed and corrective measures were introduced (see “abuse of market rules”, section 2.1.1), “usual normal” (prevailing negative imbalances) became frequent (see graph above).

*Chart 2. Comparison of the gas prices of Naftogaz and the actual prices of purchase / sale of gas by GTSO, UAH per tcm<sup>88</sup>*



The average purchase price of GTSO in January 2020 was UAH 4,835 per tcm, which was 19.8% higher than the average prices of Naftogaz. The difference in prices remained until mid-March and amounted to an average of 17.8%. Such discrepancy stimulated market participants to create artificial positive imbalances. As the weighted average purchase price of GTSO converged to the market one, such market gambling with imbalances was eliminated.

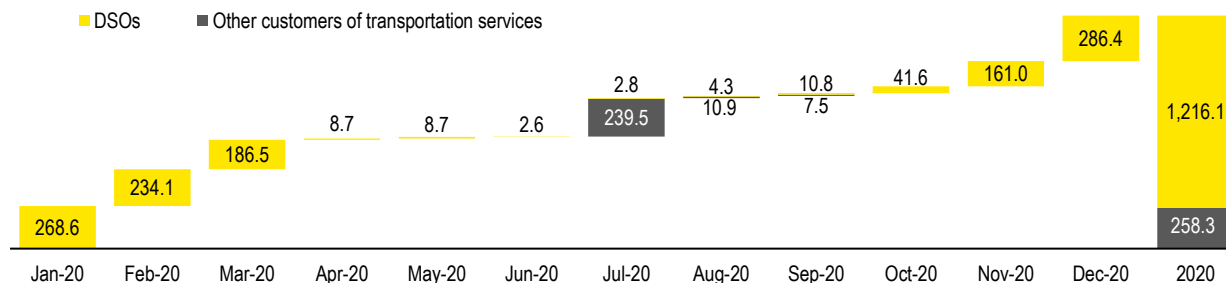
During the analyzed period, the GTSO fully fulfilled its obligations and paid on time and in full for the positive imbalances created by market participants, which in 2020 reached 1.1 bcm with a total value of UAH 5.5 b<sup>89</sup>. At the same time, the cost of negative imbalances was not compensated to the GTSO or was compensated partially. The main two groups of consumers that accumulate debts are DSOs and other customers of transportation services. As of 27 April 2021, the debt of these market participants was in 2020 amounted to 82.5% and 17.5%, respectively (Chart 3).

<sup>88</sup> GTSO, Naftogaz's official website

<sup>89</sup> GTSO official web site. Available at: <https://tsoua.com/news/za-2020-rik-uchasnyky-rynku-gazu-zaborguvaly-ogtsu-16-milyarda-gryven/>



Chart 3. Accumulated debts to GTSO by groups of market participants in 2020, UAH b<sup>90</sup>



In total, DSOs have accumulated a debt for negative imbalances to GTSO in the amount of more than UAH 1.2 b during 2020. These debts are unevenly distributed - 83% of are caused by five DSOs, namely Donetskoblغاز (UAH 374 m), Luhanskغاز (UAH 270 m), Ternopilmiskغاز (UAH 269 m), Kyivoblغاز (UAH 59 m), Umangاز (UAH 34 m).

Table 1. Accumulated debts of DSOs to GTSO during 2020, UAH m<sup>91</sup>

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2020	Share, %
Donetskoblغاز	5.5	17.0	12.1	-	-	-	-	-	-	12.7	111.7	214.5	373.5	31%
Luhanskغاز	-	142.2	128.3	-	-	-	-	-	-	-	-	-	270.4	22%
Ternopilmiskغاز	57.5	58.6	34.7	7.3	5.7	0.8	1.7	2.6	4.1	16.0	29.0	51.1	269.2	22%
Kyivoblغاز	59.0	-	-	-	-	-	-	-	-	-	-	-	59.0	5%
Umangاز	-	-	-	0.4	2.6	1.6	0.6	0.9	2.7	7.0	10.7	7.7	34.1	3%
Mykolaivغاز	28.4	-	-	-	-	-	-	-	-	-	-	-	28.4	2%
Kharkivغاز	3.6	13.2	8.7	-	-	-	-	-	-	-	-	-	25.5	2%
Melitopolغاز	-	3.2	2.7	1.0	0.3	0.1	0.4	0.4	0.7	1.2	6.3	9.1	25.5	2%
Zakarpatغاز	23.7	-	-	-	-	-	-	-	-	-	-	-	23.7	2%
Lvivغاز	20.9	-	-	-	-	-	-	-	-	-	-	-	20.9	2%
Other	69.9	-	-	-	-	-	0.2	0.3	3.2	4.7	3.3	3.9	85.8	7%
<b>Total</b>	<b>268.6</b>	<b>234.1</b>	<b>186.5</b>	<b>8.7</b>	<b>8.7</b>	<b>2.6</b>	<b>2.8</b>	<b>4.3</b>	<b>10.8</b>	<b>41.6</b>	<b>161.0</b>	<b>286.4</b>	<b>1,216.1</b>	<b>100%</b>

Donetskoblغاز is the biggest debtor to GTSO for unpaid negative imbalances as of April 27, 2021. The core amount of the debt was accumulated in October-December 2020. During this period, Donetskoblغاز have withdrawn 42.2 mcm, following by additional 24.2 mcm withdrawn in January, 2021<sup>92</sup>. During the year, Donetskoblغاز paid only for 30% of the volume used, whereas additional UAH 373.5 m are to be paid to the TSO. The volumes of withdrawn gas appear to be unreasonable as for technological consumption, constituting up to 25% of total distribution volume of the DSO. On a comparative basis, this share amounts to 4-5% for other DSOs on average.

<sup>90</sup> GTSO, EY calculations and analysis.

<sup>91</sup> GTSO, EY calculations and analysis.

<sup>92</sup> GTSO official web site. Available at: <https://tsoua.com/news/operator-gts-ukrayiny-zvernuvsya-do-pravoohoronnyh-organiv-shhodo-perevirky-diyalnosti-doneczkoblغازu/>

Taking into account that Donetskoblgas had no unpaid imbalances to GTSO during April-September, increase in debts in the 4Q2020 (considering UAH 16.5 m in October with 4.25 times in November and 6.25 times growth in December) may constitute a threat for the GTSO financial stability.

Luhanskgas is also of particular concern. The main part of Luhanskgas's debt to GTSO was accumulated during February-March for gas consumed by Luhansk TPP. According to Luhanskgas, Luhansk TPP produces heat and electricity and under the PSO regulation have concluded agreements with Naftogaz. The problem is that Lugansk TPP did not have a supplier after February 2<sup>nd</sup> 2020 which was confirmed by the notification received by Luhanskgas from the information platform of the GTSO on 28 January 2020<sup>93</sup>. According to the GDS Code, in case the consumer does not have an existing supplier, the consumer has no right to consume / withdraw natural gas from the gas distribution system. As a result, Luhansk TPP was informed of the need to stop consumption in early February 2020. In fact, gas distribution at Luhansk TPP was not stopped and gas withdrawal was made without a supplier. During this period, 55 mcm of gas were withdrawn from the networks of Luhanskgas by Luhansk TPP. The entire debt of Luhanskgas to GTSO was accumulated during this period - UAH 270.5 m.

To protect its rights, the GTSO applied to the court to collect UAH 295.3 million from Luhanskgas, including UAH 286.4 million of unpaid daily imbalances, UAH 6.6 million of penalty for late payment of monetary obligations, UAH 1.2 million of inflation indexation and UAH 1.1 million of interest accrued on the amount of debt. Naftogaz and DTEK Skhidenergo were also involved in the court proceedings on the side of the the GTSO and the Luhanskgas, respectively. However, the court of first instance decided that the actions of Luhanskgas in February-March 2020 did not violate the requirements of the GTS Code and denied the GTSO in the satisfaction of its claims in full.

Later, the GTSO appealed the decision of the court of first instance in the Eastern Commercial Court of Appeal. The court of appeal considered the arguments and objections of the parties and decided to dismiss the appeals of the GTSO and Naftogaz without satisfaction based on the conclusion that "the are no legal grounds in the disputed legal relationship for Naftogaz to the exclude the thermal energy producer DTEK Skhidenergo from the Register of Suppliers with Special Responsibilities according to the Clause 3 of Chapter 5 of Section IV of the GTS Code and Clause 3 of the PSO Regulation." The court also noted that: "the gas off-take of the latter [of DTEK Skhidenergo] in February, March 2020 cannot be considered unauthorized, i.e., committed in violation of applicable law within the meaning of paragraph 5 of Chapter 1 of Section I of the GTS Code, which, in turn, excludes the liability of Luganskgas as a DSO, according to the provisions of paragraph 2, Clause 7 of Chapter 6 of Section XII of the GTS Code and Clause 4 of Chapter 5 of Section VI of the GDS Code."<sup>94</sup>

To challenge this decision, Naftogaz filed a cassation claim to the Supreme Court, and the hearing is scheduled on 29 April 2021.<sup>95</sup>

Ternopilniskgas is another DSO that may pose a serious risk to the stability of GTSO. It is the third largest DSO in terms of debt to GTSO. Ternopilniskgas violates the terms of the gas transmission agreement with the GTSO at the point of payment for daily imbalances. Despite the fact that the

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<sup>93</sup> Act of audit No. 242 dated 26 June 2020, available at:

[http://www.nerc.gov.ua/data/filearch/Catalog8/naftogas/2020/26.06.2020/Akt-AT\\_Lugankgaz\\_26.06.2020-242.pdf](http://www.nerc.gov.ua/data/filearch/Catalog8/naftogas/2020/26.06.2020/Akt-AT_Lugankgaz_26.06.2020-242.pdf).

<sup>94</sup> Resolution of the Eastern Commercial Court of Appeal in case No. 913/345/20 dated 1 February 2021 roky, available at: <https://reyestr.court.gov.ua/Review/94655258>

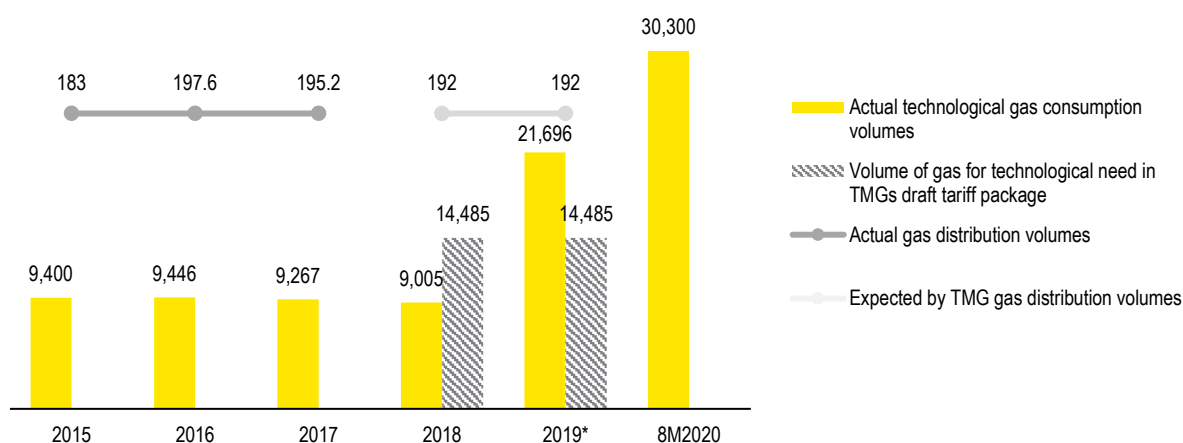
<sup>95</sup> Ruling of the Supreme Court in case No. 913/345/20 dated 19 March 2021, available at: <https://reyestr.court.gov.ua/Review/95642785>

relevant funds were included in its tariff, this DSO has not purchased a single cubic meter of gas for its own technological consumption since the beginning of the year.<sup>96</sup>

To protect its rights, the GTSO filed a claim to the National Police and the court to force Ternopilmyskgas to pay for negative imbalances. According to GTSO, Ternopilmyskgas itself does not deny or challenge the GTSO requirements, but does not intend to make any settlements. In total, during 8M2020, Ternopilmyskgas withdrew 30.3 mcm of natural gas which remain unpaid. The principal amount of Ternopilmyskgas's debt was accumulated during the cold period of the year - UAH 155.7 m and UAH 80.1 m during January-March and November-December, 2020 respectively. Such amounts contribute to 86.1% of debt accumulated by the DSO during the year. During 2020, Ternopilmyskgas did not take any measures to improve the situation and eliminate its debts to the GTSO.<sup>97</sup>

According to the position of Ternopilmyskgas, the reason for the appearance and increase in debt is the lack of tariff funds to cover all costs, including gas for technological needs and own consumption. Historically, Ternopilmyskgas operated at a loss for the period from 2015 to 2017, with annual losses of UAH 41.2 m, UAH 6.5 m and UAH 164.8 m, respectively. At the same time, the cost of gas for technological needs and own consumption exceeded the amount established by the tariff by 2-3 times. During 2015-2018, the volume of gas for technological needs in physical terms remained stable - at the level of 9-9.5 mcm.<sup>98</sup>

Chart 4. Volume of gas for technological needs and own consumption of Ternopilmyskgas and gas distribution volumes, 2015-2020, mcm<sup>99</sup>



Note: Actual volume is stated for 1H2019

Such volumes of consumption within 4 consecutive years can give an understanding of the real needs of the DSO for technological gas. Starting from 2018, Ternopilmyskgas wanted to increase its

<sup>96</sup> Act of audit No. 136 dated 18 May 2020, available at: [http://www.nerc.gov.ua/data/filearch/Catalog8/naftogas/2020/18.05.2020/Akt-\\_Ternopilmyskgas\\_\\_18.05.2020-136.pdf](http://www.nerc.gov.ua/data/filearch/Catalog8/naftogas/2020/18.05.2020/Akt-_Ternopilmyskgas__18.05.2020-136.pdf).

<sup>97</sup> Ibid.

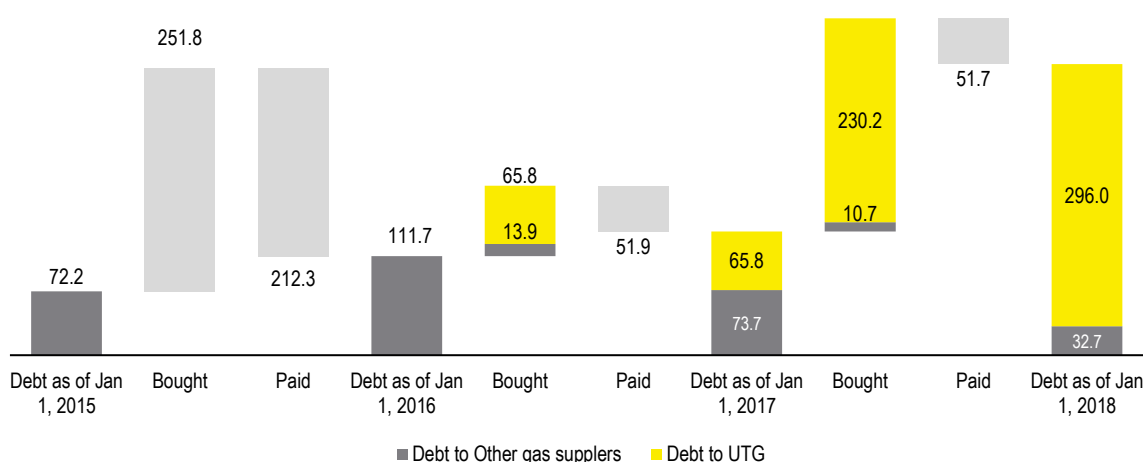
<sup>98</sup> Ibid.

<sup>99</sup> NEURC Act of audit #258 dated of July 16, 2018, pages 33,38,43, Project of tariff structure of Ternopilmyskgas, available at: [http://www.tmgaz.te.ua/fckfiles/file/obg\\_tar\\_2019.PDF](http://www.tmgaz.te.ua/fckfiles/file/obg_tar_2019.PDF)

consumption to 14.5 mcm without an explained reason – there was only an insignificant increase in the number of connected consumers or distribution volumes, etc. Already in 1H2019, the actual gas consumption for technological needs of the DSO amounted to 21.7 mcm, 2.5 times more than the average annual historical consumption. The volume of gas consumption for the period January-August 2020 amounted to even more – approximately 30.3 mcm.

Another problem associated with Ternopilmiskgaz is the low level of payment for gas for technological consumption and for the balancing services. During the period from 2015 to 2017, UAH 320 million of debt was accumulated. According to the NEURC Acts of Audit, the average level of payment was 65.6%, 12.3% and 4.2%, respectively.

Chart 5. Dynamics of accumulation of debt for gas by Ternopilmiskgaz to counterparties, UAH million<sup>100</sup>



At the same time, the debt to gas suppliers for the analyzed period decreased from UAH 72.2 m to UAH 32.7 m. The debt to Ukrtransgaz only grew. During 2016-2017, less than 1% of the debt to UTG for balancing services was repaid. As a result, as of January 1, 2018, the debt for balancing services accounted for 90% of the total debt of Ternopilmiskgaz.

During 2020, some DSOs have improved its payment discipline. For example, from May to September, DSOs operating under the RGC brand reduced their debt for balancing services by almost a quarter (from UAH 420 m to UAH 319 m), and three companies paid off the GTSO in full. Moreover, the total debt of the DSOs operating under the RGC brand from September to December decreased by another 26.8%<sup>101</sup> by the end of 2020.

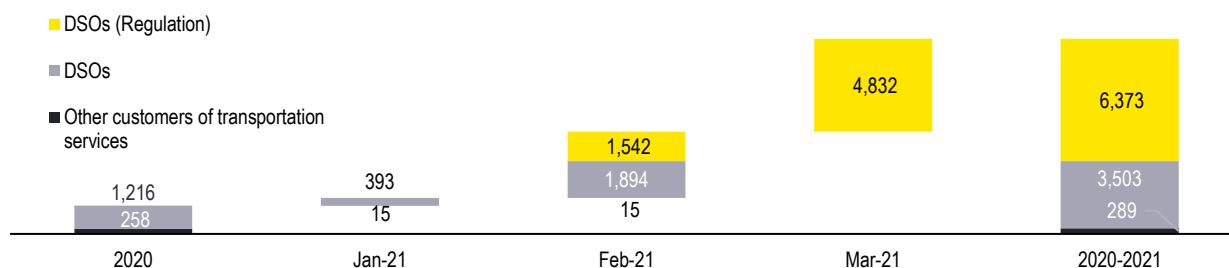
Despite the repayment by RGC, the situation on the gas market remains unsolved as of end of 2020. At the same time, as some debtors continue to systematically create negative imbalances in the GTS and not pay for it, they create risks of gas supply to consumers and the reliable operation of the whole GTS.

<sup>100</sup> NEURC Act of audit #258 dated of July 16, 2018, pages 37-40

<sup>101</sup> GTSO, EY calculations and analysis

However, the situation with unpaid imbalances has worsened since the beginning of 2021. In January DSOs withdrew 38 mcm of natural gas from the GTS. The drastic increase in withdrawal volumes intensified in the following months - 380 mcm and 675 mcm in February and March respectively.

Chart 6. Accumulated debts to GTSO by groups of market participants in 2021, UAH b<sup>102</sup>



As of April 27, 2021, the amount that DSOs are obliged to pay to the GTSO for the withdrawn gas is about UAH 10 billion. Of these funds, UAH 3.5 billion is overdue debt, and UAH 6.5 billion is accrued. Most probably, DSOs were motivated to act in such fashion by Resolution №235 of 17.02.2021. The NEURC Resolution provided the DSOs with the possibility to make payments for the period February-March 2021 with postponement of 90 days.

As a result, most of the DSOs have taken the possibility to benefit from such regulatory changes. As of April 27, 2021 Kyivoblgaz, become the key debtor. Its obligation to the GTSO has increased by 19.7 times, contributing 12% of the total accumulated debt amount. However, this debt, like most others, accumulated in the 1st quarter of 2021 is accrued but not overdue.

Table 2. Accumulated debts of DSOs to GTSO during 2020, UAH m<sup>103</sup>

	2020	Share,%	Jan-21	Feb-21	Mar-21	2021	Share,%	2020-2021	Share,%
<b>Kyivoblgaz</b>	59.0	5%	-	450.6	653.3	1,103.9	13%	1,162.9	12%
<b>Donetskoblbgaz</b>	373.5	31%	242.3	159.5	110.3	512.1	6%	885.6	9%
<b>Lvivgaz</b>	20.9	2%	-	326.3	489.3	815.6	9%	836.5	8%
<b>Kharkivgaz</b>	25.5	2%	-	238.1	322.9	561.0	6%	586.5	6%
<b>Dnipropetrovskgaz</b>	-	0%	0.5	228.4	299.7	528.6	6%	528.6	5%
<b>Vinnysyagaz</b>	18.2	1%	-	200.5	290.7	491.2	6%	509.4	5%
<b>Ternopilniskgaz</b>	269.2	22%	104.5	70.9	36.0	211.4	2%	480.6	5%
<b>Ivano-Frankivskgaz</b>	3.5	0%	3.3	188.2	279.1	470.6	5%	474.1	5%
<b>Khmelnyskysgaz</b>	6.9	1%	-	152.1	230.7	382.8	4%	389.7	4%
<b>Mykolaivgaz</b>	28.4	2%	-	132.1	196.8	328.9	4%	357.3	4%
<b>Other</b>	410.9	34%	41.9	1,289.2	1,922.8	3,253.9	38%	3,664.7	37%
<b>Total</b>	<b>1,216.1</b>	<b>100%</b>	<b>392.5</b>	<b>3,436.0</b>	<b>4,831.5</b>	<b>8,660.1</b>	<b>100%</b>	<b>9,876.1</b>	<b>100%</b>

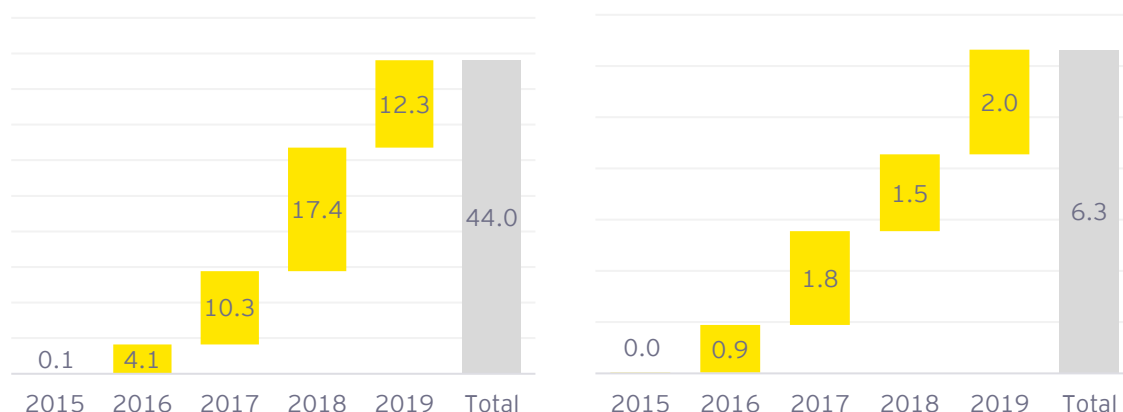
<sup>102</sup> GTSO, EY calculations and analysis.

<sup>103</sup> GTSO, EY calculations and analysis.

## 2.2. POTENTIAL NEGATIVE CONSEQUENCES FOR THE GTSO

After the implementation of new market regulations in 2015 Ukrainian former TSO JSC "Ukrtransgaz" faced a new challenge – unauthorized off-takes and unpaid imbalances. In 2016-2019 these off-takes resulted in losses in the range of UAH 44 billion for the former TSO. During the previous two years (2018-2019), the debt has grown by UAH 29.7 b and 3.5 bcm, which is 65.7% and 47.6% of the total debt as of the end of 2019 respectively (Chart 6).

Chart 7. Debts for negative imbalances to Ukrtransgaz 2016 - 2019, UAH m (LHS), bcm (RHS)<sup>104</sup>



Starting January 1, 2020, after unbundling from NJSC "Naftogaz of Ukraine" GTSO became a new TSO. At the same time, the indebtedness accumulated by Ukrtransgaz was not transferred to the new operator, therefore, at the time of foundation, GTSO had no indebtedness for negative imbalances. Nevertheless, the problem was not solved, so currently GTSO is experiencing the same situation – the ongoing increase of network users' debt for negative imbalances and unauthorized off-takes.

As of the end of 2020, the total indebtedness to GTSO for negative imbalances amounted to UAH 1.6 b<sup>105</sup>. Moreover, GTSO expects a significant increase in indebtedness over the next 10 years. According to the provided by GTSO calculations, given the settlement rate at the level of 70%, the total debt of the network users to the GTSO for negative imbalances by the end of 2030 may amount to UAH 58.8 billion.

It is expected that by the end of 2021 an additional UAH 2.5 b of debt could be accumulated. This figure is based on the assumption that during 2021 the average gas price will be at the level of UAH 4,394 per tcm (excl. VAT) and level of DSOs' settlements for negative imbalances at 70% on average. The gas price is expected to grow in line with the prices in Europe. It is possible that the amount of debt for negative imbalances by the end of the year 2021 may rise even higher due to the following reasons:

<sup>104</sup> Ukrtransgaz official website. Available at: <http://utg.ua/utg/media/news/2020/02/uchasnyky-rynku-zaborguvaly-ukrtransgazu-44-mlrd-grn-za-negatyvnyi-nebalans-pryrodного-gazu-na-kinets-2019-roku.html>.

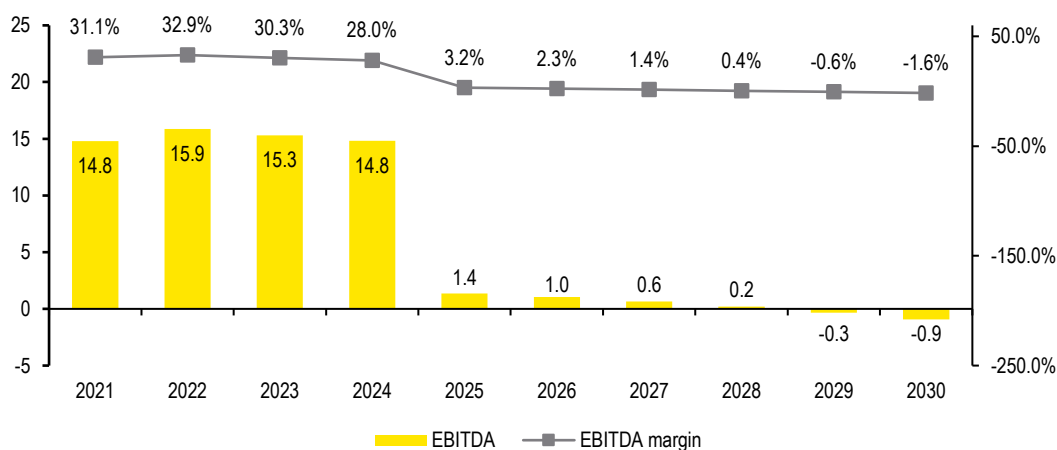
<sup>105</sup> GTSO official web site: <https://tsoua.com/news/za-2020-rik-uchasnyky-rynku-gazu-zaborguvaly-ogtsu-16-milyarda-gryven/>.

- ▶ Deterioration of payment discipline caused by COVID19 consequences and increase in tariffs for households since January 2021;
- ▶ Tariffs caps imposed by NEURC for 13 DSO in January, 2021<sup>106</sup>;
- ▶ Possible increase in DHCs off-takes without supplier after PSO elimination;

Without immediate actions, it is likely that the situation with off-takes could worsen, so a conservative forecast was taken as a basis for the period 2021 - 2030. It is expected that the annual debt to GTSO for negative imbalances will increase at a CAGR of 9.5%. Total debt of network users by 2025 is expected to reach 22.3 b, after which it will increase by another 2.6 times by 2030. Such imbalances jeopardize the financial position and profitability of the GTSO fundamentally.

Historically, such losses caused by network users' debts were covered by revenues from gas transit. Due to the implementation of network code requirements in accordance with the Energy Community *acquis*, cost-based (transit) network tariffs do not consider costs from the TSO's balancing function. Network tariffs are intended to cover operating costs and CapEx necessary to sustain the gas transmission system (and not to cover losses from balancing). Thus, the diversion of tariff revenues to cover of losses from balancing is at the expense of the substance and integrity of the gas transmission system. Furthermore, the transit source of income reduced due to decreased volumes under the gas agreement between Naftogaz and Gazprom. The agreement envisages the reduction of transit to 65 bcm in 2020 with a subsequent decrease to 40 bcm annually during 2021-2024. The possible complete cessation of transit should lead to GTSO's profitability decrease after 2024 (Chart 7).

Chart 8. Projected 10-Year EBITDA and EBITDA margin of GTSO, UAH b<sup>107</sup>

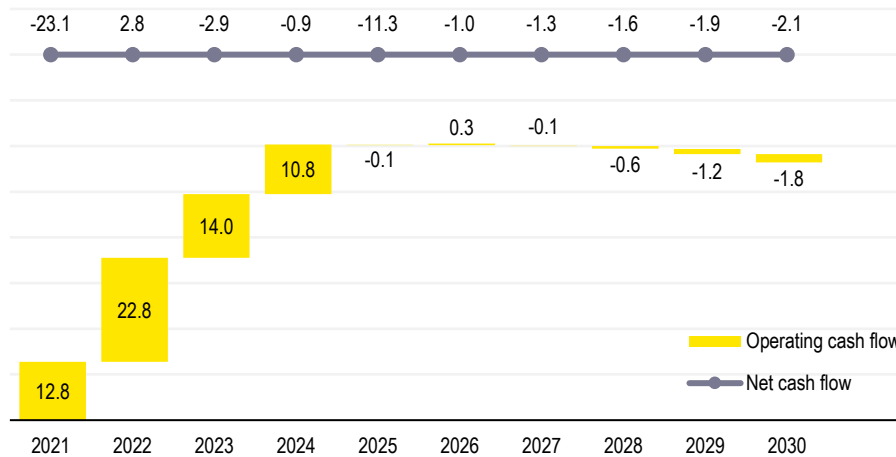


A similar impact is expected on the amount of the cash flow. Starting 2023, net cash flow is expected to be negative, while operating cash flow is expected to drop significantly after 2024 and become negative in the long term.

<sup>106</sup> NEURC. Available at: <https://www.nerc.gov.ua/?id=58126>.

<sup>107</sup> GTSO, EY calculations and analysis.

Chart 9. Forecast of Operational and Net Cash Flow of GTSO 2020-2030, UAH b<sup>108</sup>



In the forecasted period (2021 - 2030), financial position of GTSO may be jeopardized given the volatility of gas prices. For the analysis, a 10-year sensitivity table was constructed. As a result, an increase/decrease in gas price in range of UAH 2,000 per tcm and a change in the level of settlements between 50% and 90% can lead to a level of indebtedness for imbalances from UAH 10.4 b to UAH 138.8 b.

Table 3. 10-Year Sensitivity table of GTSO indebtedness to gas price and settlement level, UAH b<sup>109</sup>

		Forecasted 10-year average natural gas price, UAH per tcm								
		4,853	5,353	5,853	6,353	6,853	7,353	7,853	8,353	8,853
Level of settlements	90.0%	10.4	12.6	14.7	16.9	19.1	21.2	23.4	25.6	27.8
	85.0%	15.6	18.8	22.1	25.4	28.6	31.9	35.1	38.4	41.6
	80.0%	20.8	25.1	29.5	33.8	38.1	42.5	46.8	51.2	55.5
	75.0%	26.0	31.4	36.8	42.3	47.7	53.1	58.5	64.0	69.4
	70.0%	31.2	37.7	44.2	50.7	57.2	63.7	70.2	76.7	83.3
	65.0%	36.4	44.0	51.6	59.2	66.8	74.3	81.9	89.5	97.1
	60.0%	41.6	50.2	58.9	67.6	76.3	85.0	93.6	102.3	111.0
	55.0%	46.8	56.5	66.3	76.1	85.8	95.6	105.4	115.1	124.9
	50.0%	52.0	62.8	73.7	84.5	95.4	106.2	117.1	127.9	138.8

<sup>108</sup> GTSO.

<sup>109</sup> GTSO, EY calculations and analysis.



### 3. DETAILED REVIEW OF HYPOTHESES ON REASONS FOR DEVIANT OFF-TAKES

Based on our discussions of the major issues with the relevant stakeholders, we built our hypothesis and understanding of the key reasons that lead to creation of the unauthorized off-takes and unpaid imbalances.

Based on our analysis, we understand that the existing reasons for issues with unauthorized off-takes and unpaid imbalances may be generally divided into three groups:

► **Market design reasons**

This group includes reasons related to the current structure of relationships between market participants, the scope of their rights and obligations, as well as drawbacks in procedural regulations. The key problem may be the imperfect design of the certain elements of the regulatory framework and their implementation that leaves room for ambiguous interpretation that negatively reflects on the behavior of the market participants.

► **Economic and financial reasons**

This group includes reasons of economic and financial nature. Due to significant state involvement in the regulation of the natural gas market, market players sometimes may be forced to carry out their activities in an economically unjustified manner. Because of the inefficient management of the economic side of the natural gas market, its participants may not be able to ensure the appropriate level of settlements under their contractual and other obligations.

► **Liability and enforcement reasons**

This group includes reasons related to liability of market participants and means of enforcement of proper behavior. The effective law sometimes does not allow to financially expose certain market participants in default in case of inappropriate level of settlements for the provided services, unauthorized off-takes of natural gas and other market misconduct.

Our methodology was based on hypotheses testing to identify major issues that led to accumulation of unauthorized off-takes and unpaid imbalances. All hypotheses on reasons were tested for their applicability to the general problem. For this purpose, we used the following sources of information:

- Currently effective Ukrainian laws and secondary legislation
- Reports on audits conducted by the NEURC during 2017-2020 (for DSOs, DHCs and Suppliers)
- Data provided by the GTSO for 2020
- Other publicly available information, including comments provided by market participants.

Below we provide detailed description of each group of reasons.

#### 3.1. MARKET DESIGN REASONS

Based on information provided to us and our analysis, we understand that the primary market design problems refer to the distribution of rights and obligations between major market participants – transmission and distribution systems operators, consumers and suppliers.

Key reasons for issues with deviant off-takes of this group include the following:

- ▶ DSOs' failure to fulfill responsibilities of balancing their portfolios
- ▶ Contradictions in the PSO regime
- ▶ Issues of implementation of neutrality charge
- ▶ Unequal levels of late payment penalties for commercial market participants and household consumers.

### 3.1.1. DSOs' failure to fulfill responsibilities of balancing their portfolios

Considering the specifics of movement of natural gas through a gas distribution system, a DSO has technological consumption of gas. These losses are defined as gas lost in its transportation through gas distribution and in-house systems, as well as in maintenance and ongoing repairs.<sup>110</sup>

DSOs are required to purchase natural gas on the market to cover these needs.<sup>111</sup> However, some DSOs do not purchase gas for their technological consumption and offtake it from the GTS without paying for it. As a result, the GTSO accumulates accounts receivable from DSOs caused by these actions.

Such a problem arises because DSOs do not acquire natural gas from licensed suppliers based on continuous gas supply agreements, but are supposed to buy it on a case-by-case basis from other market participants under purchase agreements. Since the current Ukrainian regulation does not treat DSOs as consumers, the supply of gas to DSOs falls out of the legal framework regulating supplier-consumer relationships and respective safeguard mechanisms.

Under Ukrainian law, a consumer is a person or entity that acquires natural gas under a supply agreement to cover its own needs and not for commercial sale or processing.<sup>112</sup> A supplier is a licensed entity that performs natural gas supply activity. Thus, each consumer should conclude a natural gas supply agreement with the supplier.

However, according to the GTS Code, DSOs are treated as operators of adjacent systems, and not as regular consumers.

Furthermore, the GDS Code contains a direct rule according to which a DSO is supposed to purchase natural gas for conducting its business activity from an owner of natural gas (producer, Wholesale trader, Supplier) on a general basis and subject to market conditions (based on a *sale and purchase agreement*).<sup>113</sup> For this purpose, the DSO may conclude natural gas sale and purchase contracts in order to cover volumes (amounts) of technological consumption of natural gas in its GDS to ensure physical balancing of gas distribution system and its own business activity.<sup>114</sup>

<sup>110</sup> Paragraph 3, section 1 of the Methodology of Identifying Unit Technological Consumption of Natural Gas During its Transportation Through Gas Distribution Systems.

<sup>111</sup> Paragraph 4, chapter 6, section III of the GDS Code.

<sup>112</sup> Paragraph 37, part 1, article 1 of the Gas Market Law.

<sup>113</sup> Paragraph 4, chapter 6, section III of the GDS Code.

<sup>114</sup> Paragraph 1, chapter 6, section III of the GDS Code.

Generally, as opposed to the model of Wholesale trader - DSO relationships, the existing model of supplier-consumer relationships manages the negative consequences of consumer's misconduct by establishing the following mechanisms:

- ▶ Financial liability of the supplier before the GTSO in case of imbalances created by the supplier's consumer<sup>115</sup>
- ▶ Provision of financial guarantee or prepayment for GTSO's transmission services by the supplier<sup>116</sup>
- ▶ Consumer's liability before the supplier in case of imbalances created by such a consumer.<sup>117</sup>

Such a structure of relationships protects the GTSO from damages stemming from consumer's violations as each consumer has a relevant supplier. In addition, the supplier may also apply the following measures in case the consumer violates its obligations:

- ▶ Charge payment and penalties for the consumption of the natural gas over the contractual limits<sup>118</sup>
- ▶ Cut-off the supply.<sup>119</sup>

At the same time, the contractual relationships under a natural gas purchase agreement (the agreement on sale and purchase of natural gas concluded between DSOs and producers, Wholesale traders, Suppliers) significantly differ from supplier-consumer relationships described above. The DSOs' counterparties (for instance, Wholesale traders or mining companies) under natural gas sale and purchase agreements do not fall within the category of licensed suppliers. As a result, such sellers are not liable for any imbalances and other DSOs' misconduct that may lead to financial damages for the GTSO.

Because of the absence of suppliers, DSOs enter into transmission agreements as regular GTS customers (otherwise, DSOs would not be GTS customers, but rather Suppliers would order transmission services for volumes of gas that is ordered by DSOs).

The contractual framework of DSO-GTSO relations currently establishes the structure where DSOs are on their own liable for imbalances created in case of off-takes. Currently, contractual relations between the GTSO and DSOs are based on three types of agreements:

- ▶ **Application for connection and technical agreement.** These documents contain general provisions on the procedure for connection to the GTS, information exchange, metering at the enter and exit points, procedure and calculation for defining technical losses after commercial metering devices, rules for transfer and acceptance, rules for management of balancing account etc.<sup>120</sup> They do not elaborate on issues relevant to unauthorized off-takes.

<sup>115</sup> Paragraph 2, chapter 6, section XIV of the GTS Code.

<sup>116</sup> Chapter 2, section VIII of the GTS Code.

<sup>117</sup> Paragraph 10, section II of the Supply Rules.

<sup>118</sup> *Ibid.*

<sup>119</sup> Paragraph 13, section II of the Supply Rules.

<sup>120</sup> Paragraphs 7 and 9 of chapter 2 of section III, paragraph 2 of chapter 1 of section IV, paragraph 8 of section XIII of the GTS Code.

- ▶ **Transmission Agreement.** According to this agreement, a DSO is obliged to balance its portfolio, use the GTS within allocated capacity, pay for imbalance and excessive use of capacity.<sup>121</sup> Accordingly, DSOs have practically the same obligation as Suppliers under the Transmission Agreement.

Considering the DSOs' status as operators of adjacent systems, the effective contractual framework generally represents rights and obligations of the parties in relevant way. Therefore, there should be no distinct need to amend the above agreements (at least until the relevant changes to the status of DSOs are introduced). At the same time, considering that the GTSO has no ability to disconnect DSOs from the GTS, it creates a situation where DSOs can off-take gas with practically no limits. Considering that DSOs do not provide financial guarantees / prepayments for balancing, the only available means of protection for the GTSO is going to court. Therefore, this issue could be potentially addressed whether through change of the DSOs' status and obligation, or by introduction of a requirement to provide relevant financial guarantees / prepayments for imbalances.

Generally, the issue with deviant off-takes of DSOs exists because DSOs fail to fulfill responsibilities of balancing their portfolios as operators of adjacent systems and prefer to off-take natural gas from the GTS instead of purchasing it in the market. However, from the GTSO's point of view, this issue exists because DSOs, first and foremost, are supposed to perform balancing on their own. If all DSOs were forbidden to purchase gas in the market and required to have a relevant Supplier responsible for supply of natural gas for DSOs' needs (working under the rules for Suppliers, as described in this section above), the GTSO would be able to hold such Suppliers accountable for any created negative imbalances.

In addition to the above, on 17 February 2021 the NEURC adopted a resolution that provides some special rules for off-taking natural gas from the GTS.<sup>122</sup> Specifically, during February - March 2021, the GTSO is obliged:

- ▶ To settle daily imbalances of DSOs by purchasing natural gas within public procurement procedures and withdrawing natural gas from the storage
- ▶ For the purposes of calculating the daily imbalance fee for DSOs, apply the marginal natural gas purchase/sale price that is determined by increasing/decreasing by 5% the weighted monthly average of the purchase price and the price of own natural gas withdrawn from the storage facilities (taking into account the costs of storage (injection, withdrawal))
- ▶ To define the term of payment of the invoice for daily imbalance for DSOs at 90 calendar days following the end of the month of providing the transmission service
- ▶ Not to include any expenses and income incurred as a result of the implementation of this resolution to the calculation of the neutrality charge.

By adopting this resolution, the NEURC does not address the issue with unpaid imbalances. Even though the resolution is temporary and its effect will cease on 31 March 2021, it may be argued that it ultimately encourages DSOs to off-take natural gas from the GTS within this period. This may potentially lead to further accumulation of debts of DSOs to the GTSO and result in worse payment discipline.

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<sup>121</sup> Subparagraph 4.1., paragraph 4, section IV of the Transmission Agreement.

<sup>122</sup> Resolution of the NEURC "On Measures Aimed at Uninterrupted Distribution of Natural Gas to Consumers" No. 235 dated 17 February 2021.

### 3.1.2. Contradictions in the PSO regime

Currently, the PSO regime contains some contradictions and gaps that adversely affect the functioning of the market. Deficient regulatory design of rights and obligations in the PSO regime in conjunction with the state policy for protection of certain categories of consumers ultimately leads to the GTSO suffering financial damages. In addition, according to the GTSO's comments, the PSO supplier (Naftogaz) does not receive adequate compensation for performance of PSO functions.

According to the Gas Market Law, to ensure public interest in the functioning of the natural gas market, certain special obligations may be imposed on its participants, in exclusive cases and for a definite period, under the terms determined by the CMU after consultations with the Secretariat of the Energy Community.<sup>123</sup> As of now, such public service obligations (i.e., PSO) are imposed on Naftogaz.

Specifically, Naftogaz is obliged to supply natural gas to heating companies until 1 May 2021.<sup>124</sup> Naftogaz may not refuse customers to conclude natural gas supply agreements with them,<sup>125</sup> provided that these customers comply with the relevant regulations.<sup>126</sup>

At the same time, heating companies are entitled to buy natural gas for all types of use from Naftogaz until 1 May 2021 subject to certain conditions:<sup>127</sup>

- ▶ Concluding a natural gas supply agreement with Naftogaz
- ▶ Opening a current bank account with special regime (in certain specific cases)
- ▶ Fulfilling one of the following conditions:
  - ▶ The level of settlements under natural gas supply agreements concluded between the heating company and Naftogaz should currently be not lower than 90% (or 60% for entities managed by the State Property Fund), or
  - ▶ The heating company should conclude a debt restructuring agreement for consumed gas with Naftogaz, or
  - ▶ The heating company should submit to Naftogaz a debt settlement schedule, approved by Naftogaz and the executive body of the relevant municipal council, and settle according to this schedule, as well as perform current settlements for the consumed natural gas.

Considering the above obligations, according to the PSO Regulation, the mere fact of conclusion of the supply contract between the heating company and Naftogaz does not impose an unconditional duty on Naftogaz to sell gas to the heating company. On the one hand, Naftogaz is obliged to provide natural gas to heating companies, but on the other hand, it may refuse to do so if the level of their indebtedness exceeds the statutory threshold.

According to the GTS Code, should the PSO supplier want to physically terminate supply of natural gas to the consumer due to consumer's debt, it should initiate the termination of supply to such consumer according to the Supply Rules.<sup>128</sup> However, according to the Supply Rules, the actual termination is to

<sup>123</sup> Part 1 of article 11 of the Gas Market Law.

<sup>124</sup> Subparagraph 1 of paragraph 3 of the PSO Regulation.

<sup>125</sup> Paragraph 5 section I of the Supply Rules.

<sup>126</sup> Paragraph 8 section II of the Supply Rules.

<sup>127</sup> Paragraph 11 of the PSO Regulation.

<sup>128</sup> Paragraph 3 chapter 5, section IV of the GTS Code.

be made by DSOs (or the GTSO for Direct customers) based on the supplier's notice.<sup>129</sup> At the same time, the CMU prohibited DSOs to disconnect DHCs and CHPPs from GDSs and/or limit gas supply to such companies during the heating season in 2019/2020 year below the technological minimum of gas consumption.<sup>130</sup> Therefore, supply of gas to DHCs and CHPPs, even where they have significant indebtedness before Naftogaz, cannot be physically terminated.

In addition, the above order of the CMU also required Naftogaz to ensure continuous gas supply to DHCs and CHPPs during the heating season in 2019/2020 year.<sup>131</sup>

Based on the above and the information provided to us by the GTSO, we understand that, despite the obligation to ensure continuous supply imposed on Naftogaz by the order of the CMU, to stop the supply Naftogaz excluded relevant debtors from its Register of consumers, refuses to sign statements of transfer and acceptance of natural gas and issues relevant notices on termination of supply to DSOs.

However, considering the above prohibition on cut-off (which is described in detail in section 3.3.2), DSOs are not able to disconnect DHCs. As a result, such default consumers continued to off-take gas, creating negative imbalance in the relevant GDS. Considering that such DHCs are not accounted in the GTSO information system as Naftogaz's customers, their off-takes are allocated to relevant DSOs.

To balance their GDSs, DSOs off-take natural gas from the GTS, which ultimately leads to financial damages to the GTSO. As a result, the above contradictory provisions of the PSO regime lead to unauthorized off-takes of natural gas from GDSs and, consequently, from the GTS.

We note that this issue exists because the PSO Regulation practically allows Naftogaz to refuse to supply natural gas to DHCs. If Naftogaz was not allowed to stop the supply, all relevant off-takes of DHCs would have been allocated to Naftogaz and, therefore, there would be no issues with imbalances in the GTS and GDSs (but at the same time a new issue of DHCs' indebtedness before Naftogaz would arise). The current PSO Regulation that contains conditions for supply practically undermines the purpose of the PSO (ensuring the general public interest) and creates a situation where actions of market participants under the PSO directly damage the GTSO.

On a separate note, the PSO Regulation does not define the procedure for payment of due compensation to Naftogaz for performance of its obligations. The Gas Market Law provides that PSO suppliers are entitled to compensation of economically reasonable expenses reduced by the amount of income received during performance of its PSO functions, and considering the acceptable level of profit according to the procedure adopted by the CMU.<sup>132</sup> However, the CMU has not yet adopted such procedure. As a result, during the whole period of Naftogaz's functioning as a PSO supplier, it did not receive the relevant compensation from the state. The absence of compensation created significant losses for Naftogaz, and provided it with grounds to request from the CMU the compensation in amount of UAH 146 billion (approx. USD 5.2 billion) as of the end of 2019. On 17 November 2020 the

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<sup>129</sup> Paragraph 14 of section II, paragraph 21 of section III of the Supply Rules.

<sup>130</sup> Paragraph 2 of Order of the Cabinet of Ministry of Ukraine "On Certain Matters of 2019/20 Heating Period" No. 921-p dated 29 September 2019. This resolution covers heating season 2019/2020. However, we cannot exclude that the same rule would be established for heating season 2020/2021.

<sup>131</sup> Paragraph 1 of Order of the Cabinet of Ministry of Ukraine "On Certain Matters of 2019/20 Heating Period" No. 921-p dated 29 September 2019.

<sup>132</sup> Part 7 of article 11 of the Gas Market Law.

Parliament adopted changes to the state budget for 2020 that provides for the possibility to pay Naftogaz a compensation of economically reasonable expenses.<sup>133</sup>

Therefore, contradictions in the PSO regime and the conditional nature of Naftogaz's PSO creates a situation where Naftogaz refuses to supply natural gas to DHCs with debts, DHCs continue to off-take gas, and the debt of DHCs for natural gas transforms into imbalances created in GDSs/GTS. Introduction of unconditional PSO and of compensation to Naftogaz for performance of its obligations may potentially address this issue. However, it depends on the CMU's decision and availability of financial resources.

### 3.1.3. Issues of implementation of neutrality charge

Balancing neutrality charges are designed to ensure that the GTSO does not make profit or losses during performance of its balancing activities. However, according to the GTSO, market participants are currently unsatisfied with the mechanism of payment, their shares, distribution and calculation of these charges. Below we elaborate on the legal aspect of this problem.

According to the GTS Code, the GTSO should not receive financial benefit or suffer from financial losses due to payment or receipt of payment for daily imbalance or due to expenditures for conducting balancing in connection with its balancing activities.<sup>134</sup>

The GTSO should calculate the neutrality charge on a monthly basis<sup>135</sup> and make a payment to the GTS customers or request a payment from them.<sup>136</sup>

Calculation of neutrality charge should be provided by the GTSO from 1 March 2020<sup>137</sup> separately for each customer.<sup>138</sup>

The neutrality charge is defined proportionately to the customers' volumes of transmission, except for the volumes of natural gas transported under the customs transit regime or the regime of customs storage.<sup>139</sup>

If the payment rate<sup>140</sup> of the neutrality charge is positive, the neutrality charge is payable to the GTSO by its customers. In case the payment rate is negative, the GTSO pays the neutrality charge to its customers.<sup>141</sup>

<sup>133</sup> Law of Ukraine "On Amending the Law of Ukraine "On State Budget for 2020" No. 1006-IX dated 11 November 2020.

<sup>134</sup> Paragraph 1, chapter 8, section XIV of the GTS Code.

<sup>135</sup> A balancing neutrality charge is a payment that equals the difference between (i) money received by the gas transmission system operator or to be paid to the gas transmission system operator and (ii) money paid by gas transmission system operator or to be paid by the gas transmission system operator, in connection with actions related to balancing of the gas transmission system that should be recovered by the gas transmission system operator from the transmission services customer or paid by the gas transmission system operator to the transmission services customer (paragraph 5, chapter 1, section I of the GTS Code).

<sup>136</sup> Paragraph 2, chapter 8, section XIV of the GTS Code.

<sup>137</sup> Paragraph 12, chapter 8, section XIV of the GTS Code.

<sup>138</sup> Paragraph 6, chapter 8, section XIV of the GTS Code.

<sup>139</sup> Paragraph 6, chapter 8, section XIV of the GTS Code.

<sup>140</sup> Calculated as the difference between balancing costs and balancing income divided by the volume of gas transmitted, each during the gas month.

<sup>141</sup> Paragraph 7, chapter 8, section XIV of the GTS Code.



At the same time, according to the GTS Code, the neutrality charge is not to be paid in gas year 2019/2020.<sup>142</sup> Customers are to pay the neutrality charge for gas year 2020/2021 by 1 January 2022.<sup>143</sup>

In addition, based on the information published by the NEURC, we understand that the Regulator is planning to postpone the implementation of the neutrality charge for one year.<sup>144</sup> In this case, customers would be required to pay the neutrality charge for gas year 2021/2022 by 1 January 2023.

One may conclude that such a delay in implementation of the neutrality charge generally discourages market participants from proper market behavior.

In addition, as we noted above, some market participants reportedly do not support the implementation of the neutrality charge arguing that the allocation mechanism based on volumes of gas transmission ordered by a given GTS customer is inadequate. Because of this mechanism, natural gas producers and other GTS customers that extensively use the GTS, but do not create significant imbalances may have an unfair and disproportionately large share in the total neutrality charge.

Thus, the neutrality charge regulation may need to be adjusted to address the above issues.

#### 3.1.4. Unequal levels of late payment penalties for commercial market participants and household consumers

According to the Commercial Code, the default penalty interest for breach of a monetary obligation is calculated as a percentage based on the key policy rate of the National Bank of Ukraine.<sup>145</sup> At the same time, late payment penalty rate may not exceed twice the key policy rate of the National Bank of Ukraine applicable in the relevant period for each day of delay.<sup>146</sup>

As we understand from publicly available sources,<sup>147</sup> supply agreements between DHCs and Naftogaz or other suppliers usually provide for the maximum allowed penalty rate, i.e., twice the key policy rate of the National Bank of Ukraine.

As of the date of this report, the key policy rate of the National Bank of Ukraine is **six percent** per annum.<sup>148</sup> Thus, DHCs should pay 0,0329 percent of penalty interest for each day of late payment to their suppliers.<sup>149</sup> In addition to that, Naftogaz's standard supply agreement also provides for an additional fine of seven percent of the amount of debt if the payment is delayed for more than 30 days.<sup>150</sup>

<sup>142</sup> Paragraph 9, chapter 8, section XIV of the GTS Code.

<sup>143</sup> Paragraph 10, chapter 8, section XIV of the GTS Code.

<sup>144</sup> Available at: <http://www.nerc.gov.ua/index.php?news=10469>.

<sup>145</sup> Part 6 of article 231 of the Commercial Code.

<sup>146</sup> Part 2 of Article 343 of the Commercial Code.

<sup>147</sup> The template of the Natural Gas Supply Agreement between Naftogaz and DHCs, available at: <https://www.naftogaz.com/files/SaleOfGas/Dogovir-TKE-19-GD.pdf>.

<sup>148</sup> Decision of the Board of the National Bank of Ukraine No. 397-pw dated 11 June 2020.

<sup>149</sup> Please note that the key policy rate of the National Bank of Ukraine may vary throughout the period of late payment. Until 12 June 2020 the rate was higher. The National Bank of Ukraine may raise the rate in the future.

<sup>150</sup> Paragraph 7.2., chapter 7 of the template of the Natural Gas Supply Agreement between Naftogaz and DHCs, available at: <https://www.naftogaz.com/files/SaleOfGas/Dogovir-TKE-19-GD.pdf>.



At the same time, the Law on Utilities law provides that in case of late payment by consumers DHCs may apply a penalty interest not exceeding 0,01 percent of the debt for each day of the delay. The overall amount of the accrued penalty interest is capped at 100% of the initial debt.<sup>151</sup>

Generally, DHCs' income is limited to payments made by their consumers according to the tariff. Consumers' failure to pay for DHCs' services in a timely manner may potentially lead to DHCs' failure to timely pay for natural gas under supply agreements concluded by DHCs with Naftogaz and other suppliers.

Consequently, while Naftogaz or other suppliers may accrue penalty interest at up to 0,0329 percent<sup>152</sup> per each day of delay and also an additional fine if the delay exceeds 30 days, DHCs may not charge penalty interest to their household consumers higher than 0,01 percent per day of delay due to the regulatory restriction. This may potentially lead to significant difference in the amount of penalties claimed by suppliers and the amount of penalties that may be claimed by DHCs from their clients that actually caused the late payment. In addition, during the quarantine measures imposed by the CMU in relation to COVID-19 spread, accrual and collection of penalties for delays in payment for utilities is prohibited during the quarantine and within 30 days after its ending.<sup>153</sup>

As a result, DHCs may have no financial capability to settle accounts with suppliers and pay relevant penalties, because the penalties applied by suppliers for late payment will always be higher than penalties that may be applied to and collected from customers by DHCs. This issue may potentially be addressed either by decreasing the amount of penalties that may be charged by suppliers, or by increasing the amount of penalties that may be charged by DHCs.

## 3.2. ECONOMIC AND FINANCIAL REASONS

In this section, we provide the detailed description of the potential reasons for deviant off-takes:

- ▶ Tariffs level adequacy
- ▶ Metering and consumption norms
- ▶ Insufficient level of payments from consumers
- ▶ Accumulated debts and sources for penalties coverage
- ▶ Absence of the required support from local authorities.

### 3.2.1. DSOs

Within the gas distribution sector, we determined three main factors that affect the financial position of DSO and hence are subject to further analysis, namely:

- ▶ Tariff adequacy that impacts the cost coverage and profitability of the DSOs
- ▶ The level of gas metering and normative rates of gas consumption by users without meters

<sup>151</sup> Part 1, article 26 of the Law on Utilities.

<sup>152</sup> This is the maximum rate provided by the law and established by the template supply agreement of Naftogaz. The less rate may be established by other suppliers in relevant agreements.

<sup>153</sup> Subparagraph 4 of paragraph 3 of section II of Law of Ukraine "On Amending Certain Law of Ukraine Aimed for Preventing the Occurrence and Spread of Coronavirus Disease (COVID-19)" No. 530-IX dated 17 March 2020.

- ▶ Percentage of payments from consumers that affects the DSOs' capability of making payments for natural gas in full, including the problem of accumulated debts.

We have analyzed the operation activity of three distribution system operators for the period 2018 - 2019. This analysis is backed by specific examples, including «Lvivgaz» which belongs to the RGC group, «Kirovogradgas», which is owned by Naftogaz and «Poltavagas», owned by a private individual.

### Tariff adequacy

The model of DSO operation assumes self-financing. The tariff for DSO is based on the "cost+" basis - it means that the tariff must cover the reasonable expenses of the DSO and provide a certain rate of return. Such a model is effective only if all the costs included in the tariff correspond to the actual costs of DSO, otherwise it is unsustainable. Therefore, the subject of the analysis is the correspondence of the funds provided in the tariff with the real needs of the DSO, namely:

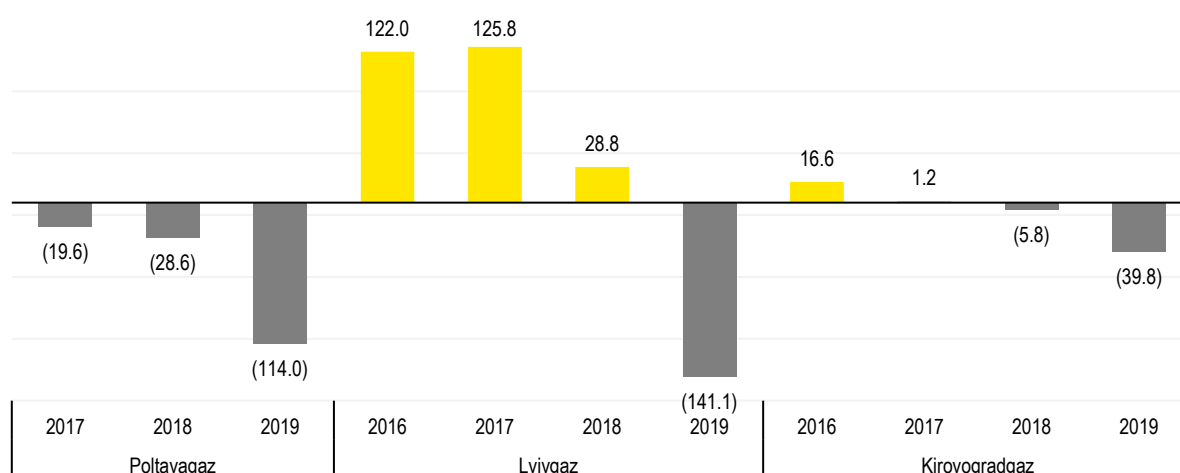
- ▶ Planned distribution volumes
- ▶ Technological consumption
- ▶ Labor costs
- ▶ Planned profit

#### Planned distribution volumes

During the period 2016-2019, the amount of the tariff for distribution of natural gas depended on the planned volumes of gas distribution by DSOs. Therefore, any deviation in the volume of distribution raised the following problems:

- ▶ Inability of DSO to cover costs in case of decreased distribution volumes
- ▶ Underutilization of gas distribution network capacity

Chart 10. Decrease/increase in tariff revenue due to change in distribution volumes, 2016 - 2019, UAH m<sup>154</sup>



<sup>154</sup> EY calculations and analysis based on Act of audit No. 232 dated 03 July 2019, Act of audit No. 373 dated 11 November 2017, Act of audit No. 231 dated 11 December 2017.

In fact, changes in the tariff calculation methodology have solved these problems. Starting 2020, the tariff was based on the booked capacity (applied based on the distributed volume of the previous year which is still misleading) and, hence, DSOs should receive the same amount of revenue every month. But as the costs of DSOs are different every month, due to volatile prices of gas for technological consumption inconsistencies may occur.

Additional changes were introduced by NEURC Regulation №580 dated of March 06, 2020<sup>155</sup> starting January 1, 2021. The Regulation set the minimum threshold below which the size of the booked capacity for the consumer cannot decrease, regardless of the actual consumption in the previous period. Such threshold amounts to 39, 126 and 314 cubic meters per consumer solely with the gas stove, gas stove and water heater and individual heating system respectively. Such amendments should smooth out the fluctuations in the volume of booked capacity from year to year and positively affects DSOs' financial position.

Since the information on the actual costs of DSOs is available only until 2017, the data for the analysis for 2018-2019 were calculated by EY based on public information. For the purposes of the analysis, the expenses were sorted in accordance with the tariff methodology: technological consumption, labor costs, social contributions.

In addition to the analysis, which was carried out on the basis of information from the NEURC acts of audit, calculations were carried out based on the financial statements of the DSOs. The latest publicly available financial statements of the DSOs were taken as a basis (income statement of Poltavagas for 2019 and income statement of Kirovohradgas for 2017) and driven by the same factors as in the analysis based on NEURC data. The calculated data is based on the following assumptions:

- ▶ Technological gas consumption depends on gas prices
- ▶ Actual labor costs change in line with the average gas, water and electricity distribution sector wage growth rate
- ▶ Single Social Contribution was calculated as 22% of the labor costs according to the Law «On the collection and accounting of a single contribution to the obligatory state social insurance» dated 08.07.2010 № 2464-VI

#### *Technological consumption*

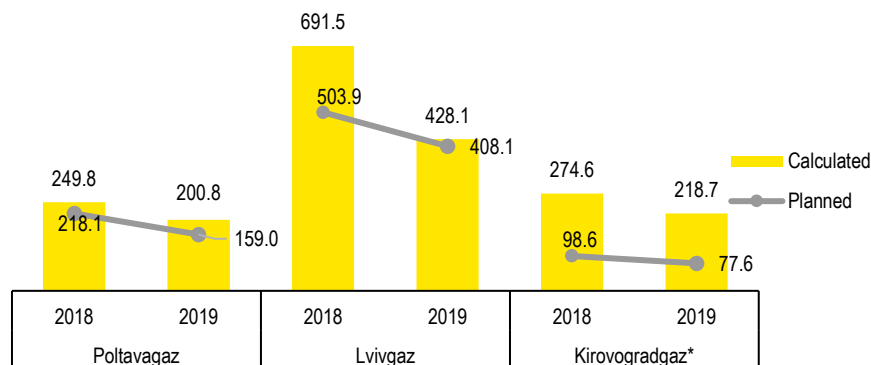
Technological consumption of natural gas is a key element of DSO's costs. As this cost group includes the use of gas for technical purposes and normative gas losses in the networks its impact on total costs and, respectively, profitability of DSOs is directly related to gas prices. DSOs shall procure gas for their technological consumption at competitive natural gas market. Under the current market model, DSOs have concluded contracts for the purchase of gas from different suppliers and submit nominations to the GTSO on their own behalf as separate group of gas market players. Since they buy gas on the unregulated market, market trends are also driving their weighted average gas price.

According to DSOs, the costs for gas for technological consumption provided in the tariff are underestimated and do not correspond to the actual needs. Annually, DSO submits to the NEURC draft tariffs, which propose to increase the cost of gas, wages and other expenses. On the other hand, it is not known how fair these costs are, since there is no universal mechanism to control the use of gas.

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<sup>155</sup> Available at: <https://www.nerc.gov.ua/?id=50041>.

Chart 11. Comparison of planned and calculated costs of technological consumption of selected DSOs, UAH m<sup>156</sup>



Note: For Poltavagas and Lvivgas, the calculated data are given on the basis of available NEURC data for 2017. For Kirovogradgaz the calculated data was replaced by amounts published by the Regulator<sup>157</sup>

The chart illustrates that the calculated costs of for technological consumption is higher than the amount set in the tariff for DSOs. For Poltavagas and Lvivgas the shortage is up to 27.1% during analyzed period. At the same time Kirovogradgaz spent 2.78 and 2.81 times more than it is stated in the tariff in 2018 and 2019, respectively. Such shortages create a corresponding decrease in the profitability of the DSOs.

#### Labor costs and SSC

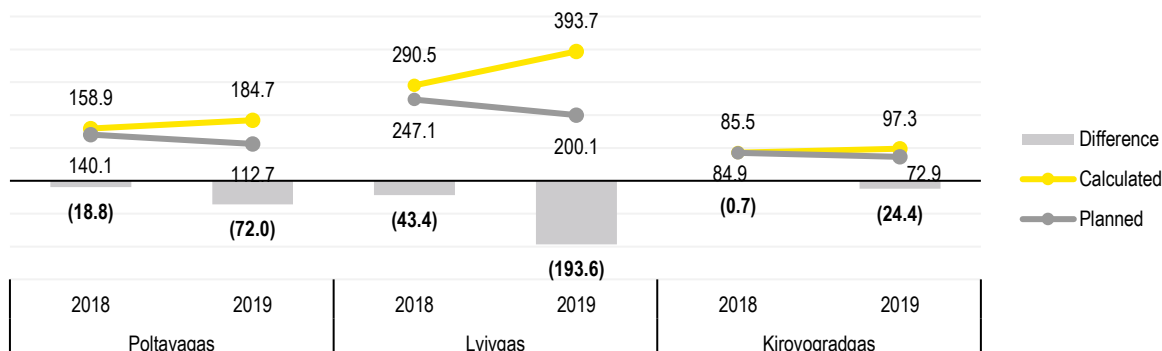
Another significant cost item for the distribution of natural gas and, therefore, a potential source of imbalance between planned and actual costs is the payroll. For some of the analyzed companies, the difference between the payroll provided in the established tariffs and the calculated labor costs for the analyzed period is 60-95%. Possible reasons for inadequate planned payroll include the following:

- ▶ Planned salaries do not correspond to market ones
- ▶ High staff attrition rate

<sup>156</sup> NEURC, Financial statements of DSOs, EY calculations and analysis.

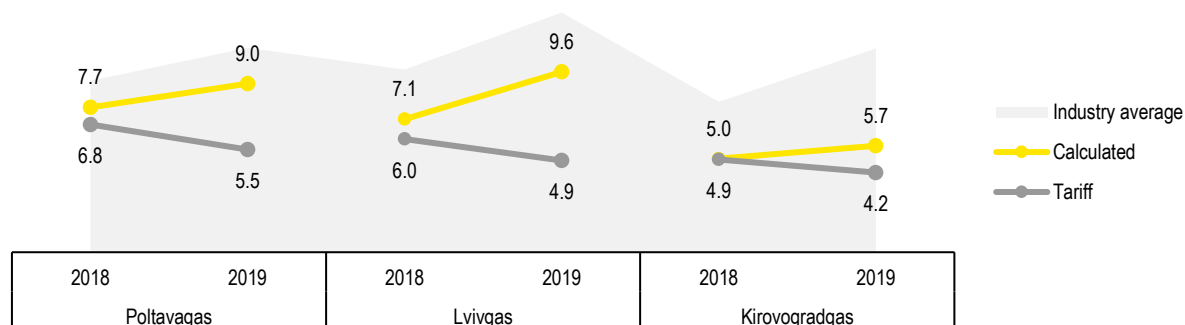
<sup>157</sup> Justification to the draft resolution of the NEURC, available at:  
[http://www.nerc.gov.ua/data/filearch/Materialy\\_zasidan/2020/serpen/05.08.2020/p20\\_05-08-20.pdf](http://www.nerc.gov.ua/data/filearch/Materialy_zasidan/2020/serpen/05.08.2020/p20_05-08-20.pdf).

Chart 12. Gap in the planned and calculated payroll and calculated losses due to increased labor costs, UAH m<sup>158</sup>



In fact, the average evaluated level of salaries in Poltavagas, Lvivgas and Kirovogradgas is 35% - 45% lower than the regional industry average. Therefore, experienced workers are looking for a better paying job. As an example, the number of employees who left Lvivgas in the period from the beginning of 2018 to August 2019 is 542 (17% of total headcount), according to official statements. Moreover, the actual number of workers is lower than planned e.g. as of mid-2019, Lvivgas's actual number of employees is 345 (11%) people lower than the required headcount number.

Chart 13. Correlation of planned and calculated monthly salary with the average one in the gas, electricity and water supply sector within the respective region, UAH ths per month<sup>159</sup>



The tariffs set in 2017 did not change until January 2020. This means that planned salary costs have been fixed for 3 years. In fact, the average growth of wages in the field of electricity, gas, steam supply and distribution and air conditioning during the period 2017-2020 grew at an average rate of 25% - 30% annually (Chart 13).

The methodology for calculating the tariff provides for a possible revision of the tariff when the prices for gas, materials, salaries, minimal wage rates change by more than 5%. The fact that the tariff was

<sup>159</sup> Act of audit No. 232 dated 03 July 2019, page 45, Act of audit No. 373 dated 11 November 2017, page 26, Act of audit No. 231 dated 11 December 2017, page 22, regional statistics offices, EY calculations and analysis.

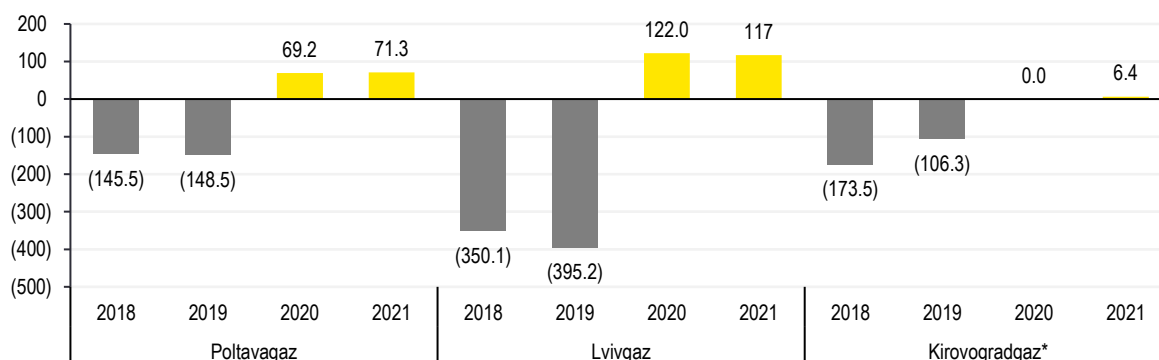
not revised with an actual increase in wages in the industry by 25-30% became one of the main reasons for the losses of the DSO for the period under review.

#### *Planned profit*

According to the methodology, if the actual tariff revenue exceeds the planned, the legislation encourages DSOs to direct these funds to increase wages or investment strategy spending. If the actual revenue is lower than planned, the tariff of the next period should provide compensation for these losses. However, as the tariff has not been revised for three years, DSOs have actually been accumulating losses.

Starting 2020, NEURC envisages compensation for losses of past periods for the majority of DSOs, which amounted to about UAH 1.1 b in 2020, and was increased by another 18% in average in 2021.

*Chart 14. Comparison of DSOs' annual losses (grey) with planned compensation (yellow)<sup>160</sup>*



#### **Metering and consumption norms**

To control the volume of gas transmitted and distributed through the networks, gas pipelines are equipped with meters. Measurement takes place at the level of the transmission network - between the The GTS Operator and a DSO and, as a rule, is 100% and at the distribution level - from the DSO to consumers. The level of metering in this case is lower. At the point of natural gas metering, two problems may arise:

- ▶ Imperfect metering level, due to which there is a category of consumers with unaccounted gas use
- ▶ Unreasonable consumption rates for users without gas metering that do not reflect actual consumption volumes

In Ukraine, the issue of accounting for gas consumption by end users is regulated by the law:

According to the Law of Ukraine of June 16, 2011 No. 3533-VI «On ensuring commercial accounting of natural gas»<sup>161</sup> the supply of natural gas is subject to its commercial accounting. This law defines groups of domestic gas consumers and sets deadlines for gas meters installation:

<sup>161</sup> Available at: <https://zakon.rada.gov.ua/laws/show/3533-17#Text>.

- ▶ Consumers who use gas in a complex way, including for space heating - before 01.01.2012;
- ▶ For water heating and cooking - before 01.01.2016;
- ▶ Only for cooking - before 01.01.2021;

However, the period of installation of gas meters for consumers using natural gas for cooking will be prolonged until January 1, 2023. The draft Law on Amendments to the Law of Ukraine " On ensuring the commercial accounting of natural gas " (regarding the revision of the terms of installation of consumers of natural gas meters) was adopted on March 5, 2021<sup>162</sup>.

According to the NEURC, the percentage of household consumers with commercial gas metering is 91%<sup>163</sup> as of January 1, 2020, comparing to 89% as of January 1, 2019<sup>164</sup>. Actual installation rate of gas meters by consumption groups does not correspond to legal requirements:

Table 4. Level of metering by consumer groups in Ukraine<sup>165</sup>

	For cooking	For cooking and water heating	Complex consumption
With individual metering	43%		
With the house-wide metering	26%	94%	99%
No gas metering	31%	6%	1%

In terms of regions, level of commercial gas metering in Zakarpattia region is 100%, while in Luhansk region the metering level is the lowest - 76%. In regional centers, the accounting problem is more pronounced - in Kyiv and Kharkiv the level of metering is 64% and 57% respectively<sup>166</sup>. In general, the lack of one-hundred-percent metering of gas consumption itself is a problem for DSOs. In fact, there are 9% of consumers whose actual consumption volumes are not tracked, which creates imbalances.

Moreover, metering of gas consumption in Ukraine requires the division of consumers into groups depending on the availability of gas appliances: a stove with centralized hot water supply, a stove without centralized hot water supply and a stove with a gas water heater. In fact, the consumer can move from category to category by changing gas devices without notifying the DSO.

In Ukraine, for consumers of natural gas without installed metering devices, consumption is set in accordance with Resolution of the Cabinet of Ministers of February 27, 2019 №143:

Table 5. Normative consumption rates for consumers without metering<sup>167</sup>

Consumption group	Normative value, cm per person
Gas stove with centralized hot water supply	3.28
Gas stove without centralized hot water supply	5.39
Gas stove and a gas water heater	10.49

<sup>162</sup> Available at: [http://w1.c1.rada.gov.ua/pls/zweb2/webproc4\\_1?pf3511=70349](http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=70349)

<sup>163</sup> NEURC Annual report 2019, page 133.

<sup>164</sup> NEURC Annual report 2018, page 98.

<sup>165</sup> NEURC official site.

<sup>166</sup> NEURC Annual report 2019, page 133.

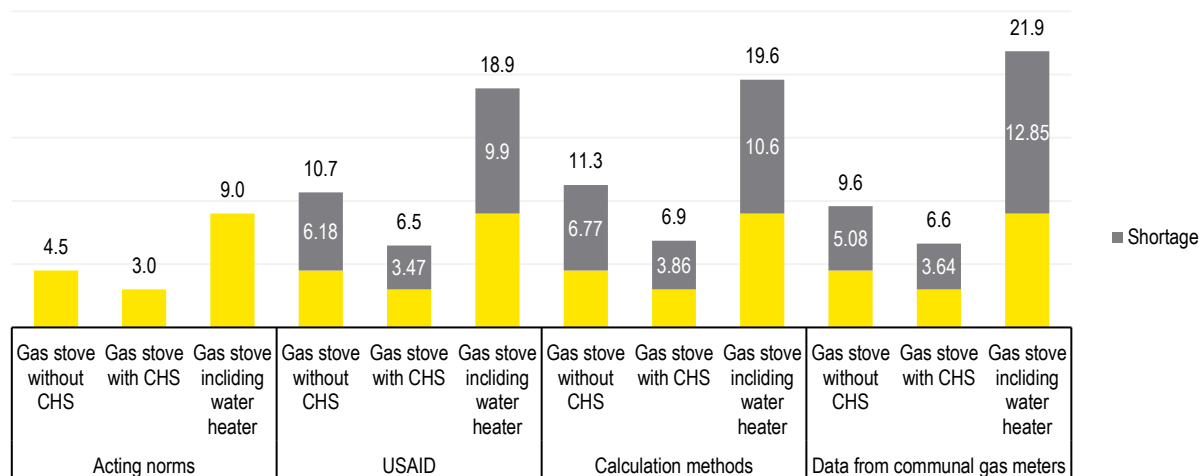
<sup>167</sup> Available at: <https://zakon.rada.gov.ua/laws/show/143-2019-%D0%BF#Text>

This normative level of consumption is considered low and similar norms have often been challenged by DSOs in court. As a result, over the past six years, the norms of natural gas consumption by consumers without meters have changed seven times.

All CMU Regulations aimed at the reduction of consumption norms, which the government has adopted since 2015, were prepared and adopted in violation of the procedure<sup>168</sup>. As a result, DSOs appealed to courts. They based their claims on the fact that consumption rates were unreasonably low. Thus, in 2015, the government reduced gas consumption rates for consumers who do not have a gas meter (Resolution №237). However, this decision was appealed in court and the Resolution became invalid in the same year. In 2016, the government reduced gas consumption rates (Resolution №203). This Resolution became invalid in 2018. CMU Resolution №63 of 30.01.2019 also became invalid.

The «Regional gas company» refers to a study by «UkrNDlinzhproekt», which claims that the established consumption norms are unfounded. Studies conducted by three different sources indicate that the current consumption rates are too low, and the existence of such norms creates an opportunity for unaccounted gas consumption. The study mentioned above is based on USAID data, data from communal gas meters and the information based on calculation.

Chart 15. Comparison of normative gas consumption for users without metering with actual consumption volumes<sup>169</sup>



The consumption volumes of users with a gas stove and a centralized supply of hot water are in the range from 6.47 to 6.86 cubic meters per person, with a legally established consumption rate of 3. The current consumption rate for users with a gas stove without a centralized hot water supply is 4.5 cubic meters per person with actual volumes from 9.56 to 11.27. Consumption standards for users with a gas stove and a water heater are at least 2 times lower than the calculated volumes which leads to unaccounted consumption by households.

<sup>168</sup> Available at: [https://jurliga.ligazakon.net/news/182904\\_normy-potrebleniya-gaza-bez-schetchikov-uvelicheny-cherez-sud](https://jurliga.ligazakon.net/news/182904_normy-potrebleniya-gaza-bez-schetchikov-uvelicheny-cherez-sud).



## Level of settlements and the amount of debt to DSOs

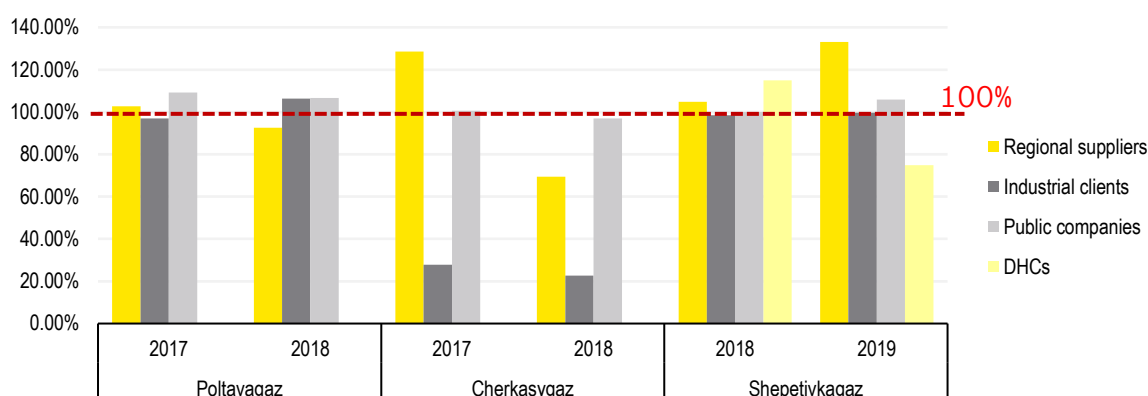
DSOs cooperate with different categories of consumers on different terms. Depending on this, the level of payments of consumers for gas distribution services may differ.

For the purposes of our analysis, companies have been selected based on the availability of data regarding settlements with counterparties – Poltavagaz, Cherkasygas, Shepetivkagas. On the one hand, a DSO buys gas on the market for technological consumption and balancing. On the other hand, a DSO sells gas distribution services to end consumers. At this point, the following problems may arise:

- ▶ Low level of settlements by end consumers for gas distribution and, as a result, the risk of accumulating debts and disruption of the financial condition of DSO in the long term
- ▶ Low level of settlements by a DSO to its gas suppliers. In this case, there is not only the risk of debt accumulation, but also penalties that will be imposed on the DSO

In order to timely pay for gas, it is necessary for DSOs to have a stable and timely inflow of funds from customers of distribution services. The key indicator of the paying ability of such customers is the percentage of payments for gas distribution services, which is presented in the chart below:

Chart 16. The level of settlements for gas distribution services by consumer groups<sup>170</sup>



The main groups of customers are regional suppliers who order gas distribution services for households and industrial consumers. These two categories account for about 90% of the distribution volume of the analyzed companies. The level of settlements of industrial customers with Cherkasygas is lower than with Poltavagaz and Shepetivkagas and leads to the accumulation of debt. For Poltavagaz and Shepetivkagas, the main consumers are regional suppliers who pay their bills fully and on time. At the same time, industrial consumers of Cherkasygas distribution services provide 74% of total demand. Considering the rate of settlements at level of 28% and 23% in 2017 and 2018 respectively<sup>171</sup>, this group of consumers accumulates the major debt to DSOs.

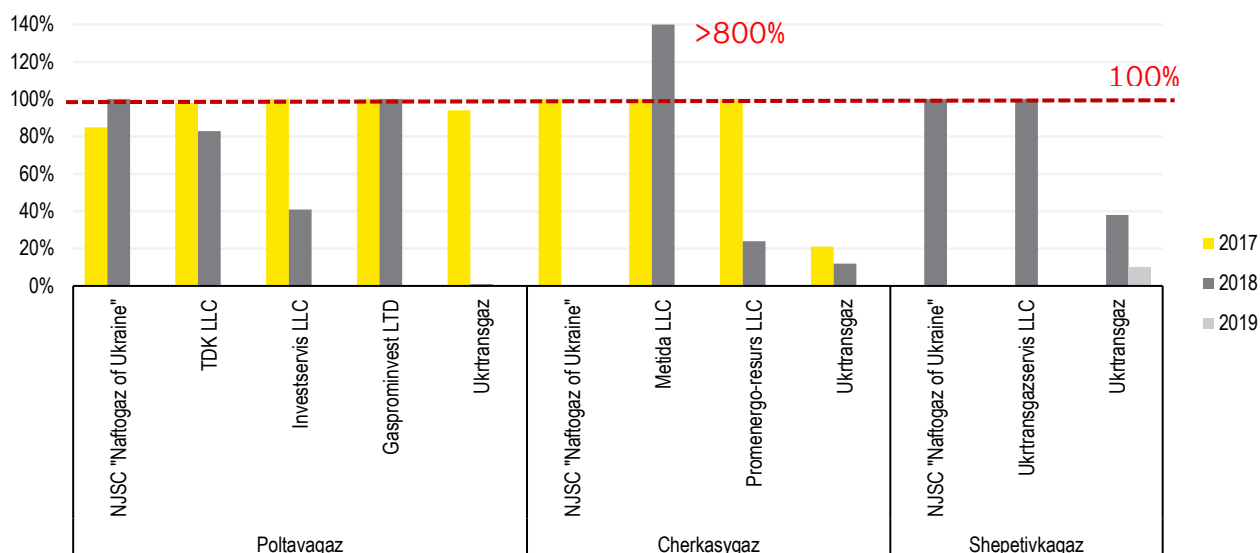
On the other hand, DSOs do not always settle all debts with their counterparties. In fact, the level of settlements in this segment is even lower. The lowest level of settlements of DSOs is with Ukrtransgaz.

<sup>170</sup> Act of audit No. 232 dated 03 July 2019, page 67, Act of audit No. 362 dated 22 October 2019, page 77, Act of audit No. 77 dated 03 July 2019, page 70, EY calculations and analysis.

<sup>171</sup> Act of audit No. 362 dated 22 October 2019, page 77, EY calculations and analysis.

In most periods, it does not exceed 40% for the analyzed companies. The level of settlements with Naftogaz and other suppliers is higher and ranges from 80% to 100%.

Chart 17. The level of DSOs' settlements with counterparties under concluded contracts<sup>172</sup>



The low level of settlements leads to the accumulation of debts of DSOs to suppliers. Chart 18 shows that the accumulated debt for gas for technological consumption is growing several times every year. Systematic non-settlement with counterparties not only creates a debt burden for DSOs but also threatens the long-term stability of other participants in the gas market.

Hence, based on the outcomes of the analysis of selected DSOs, we do not consider the level of settlements for gas distribution services by final consumers to be one of the key reasons for DSOs' unpaid imbalances.

### 3.2.2. DHCs

Within the district heating sector, we determined three core factors driving DHCs' cash flows and hence are subject to further analysis, i.e.:

- ▶ **Tariff adequacy** that impacts the cost coverage and profitability of DHCs
- ▶ **Percentage of payments from consumers** that affects DHCs' ability to effect payments for natural gas in full
- ▶ **Possible support from local budgets** that may potentially raise efficiency and solvency of DHCs

We investigated heat producers that used natural gas as a primary energy source. Our analysis is backed by specific examples, including municipally-owned companies, i.e., 'Teploenergo' (Dnipro) and 'Poltavateploenergo', as well as CHPPs, i.e., 'Dniprovskaya CHPP' and 'Kharkivskaya CHPP-5'.

<sup>172</sup> Act of audit No. 232 dated 03 July 2019, page 66, Act of audit No. 362 dated 22 October 2019, page 75, Act of audit No. 77 dated 03 July 2019, page 68, EY calculations and analysis.

## Tariff adequacy

Under the current market model, DHCs are expected to self-finance their operating activity and strategic improvements with the collected revenue based on the tariffs calculated according to the 'cost+' methodology and approved by the NEURC. The estimation of efficiency of such system requires the analysis of DHCs' profitability and actual cost coverage which depend on the tariff adequacy. The analysis focuses on the key inputs to tariff for heat production calculation, including:

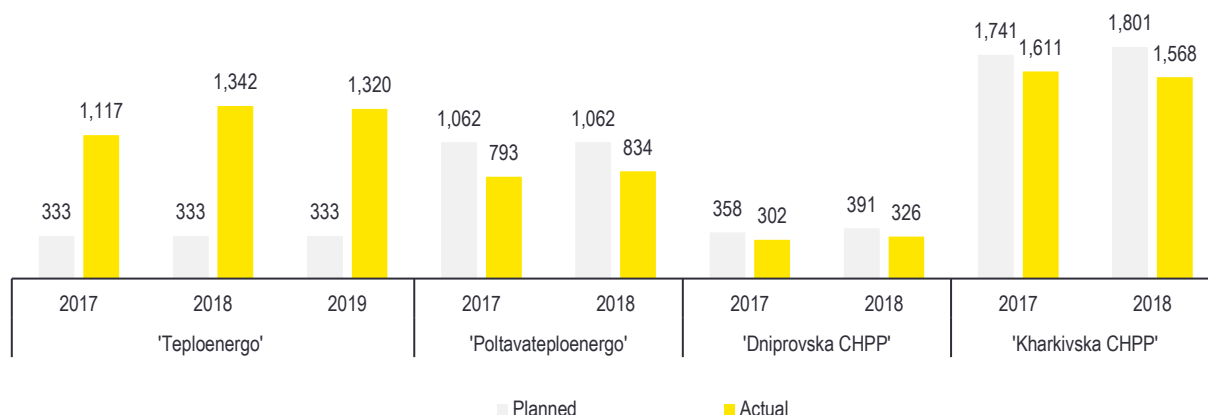
- ▶ Planned output
- ▶ Fuel cost
- ▶ Payroll
- ▶ Planned profit, including production investments under the investment program
- ▶ Additional corrections, according to the methodology, including compensation for losses.

According to the tariff assignment procedure, DHCs are required to file the justified estimates of heat output based on historical information, consumption norms, metering data, effect of efficiency measures taken, technological losses and additional assumptions. Commonly, the following issues may arise at this stage:

- ▶ DHC fails to file the projected output with NEURC in time (from 2017 to 2019, 'Teploenergo' received regular requests from the NEURC regarding the filing of tariff amendment claim with all relevant estimates, including the planned output, and was fined for non-fulfillment of the NEURC's requirements)
- ▶ DHC over/underestimates the future demand for heat (for instance, the relatively high temperature in winter 2019 resulted in the unexpected reduction in heat consumption volumes)
- ▶ DHC purposely applies conservative output assumptions to increase the fixed costs and payroll input in tariffs (though, historically the average share of fixed costs in tariffs amounted up to 5%)
- ▶ Actual heat output is reduced due to the non-submission of nomination by NJSC 'Naftogaz of Ukraine' (although there are examples of the companies which kept producing heat without nomination submitted by their supplier e.g. 'Kharkivska CHPP-5' in April 2017).

Among the considered companies, the actual output for the period under analysis is 7% to 25% less, compared to the planned volume, with 'Teploenergo' being an outlier. Thus, generally the companies tend to overestimate the output. The collation of planned and actual heat output for municipally-owned companies and CHPPs is presented in the following chart.

Chart 18. Planned and actual output of heat producers, ths Gcal<sup>173</sup>



The tariffs for 'Teploenergo' were calculated in 2013 and approved in 2014. Until 2019, the company did not file claims for tariff amendment and adjusted the existing ones for changes in gas prices, electricity prices and living minimum wage. Hence the majority of assumptions, including output volumes, specific fuel and electricity consumption, water supply tariffs and headcount, remained fixed that resulted in ever-growing discrepancies. Moreover, since tariff calculation, the company's capacity increased due to the other heat generating companies' fixed assets transferred to its balance sheet by Dnipro City administration.

Traditionally, natural gas is the key input in heat production. Its impact on total costs, assigned tariffs and net profit of DHCs stems from its share in heat cost and volatility of its price. In fact, the discrepancy between the gas cost included into the approved tariff and the actual cost of gas used for heat production may potentially lead to DHCs' losses and inability to cover actual costs by the assigned tariff. Historically, the majority of companies faced the excess of actual cost of natural gas per Gcal over the one envisaged in the tariff, as provided in the chart below.

The average excess of actual cost of natural gas over the planned one among the analyzed companies during the period under review was 6%. Due to the high volatility in gas price and dependence on import, the accurate fuel cost projection is complicated. Hence, the system is required to ensure enough flexibility to maintain positive margin for DHCs. According to the heat generating companies, one of the key reasons for losses in the last years was the long interim between the change in cost of gas and tariff amendment. So, we focus here on two aspects, i.e., cost of gas projection adequacy and the efficiency of tariff revision process reflected in the duration of the interim between the change in cost of natural gas and the respective amendment in tariffs for heat.

Since the cost of gas is the variable item, the key factors driving its value include:

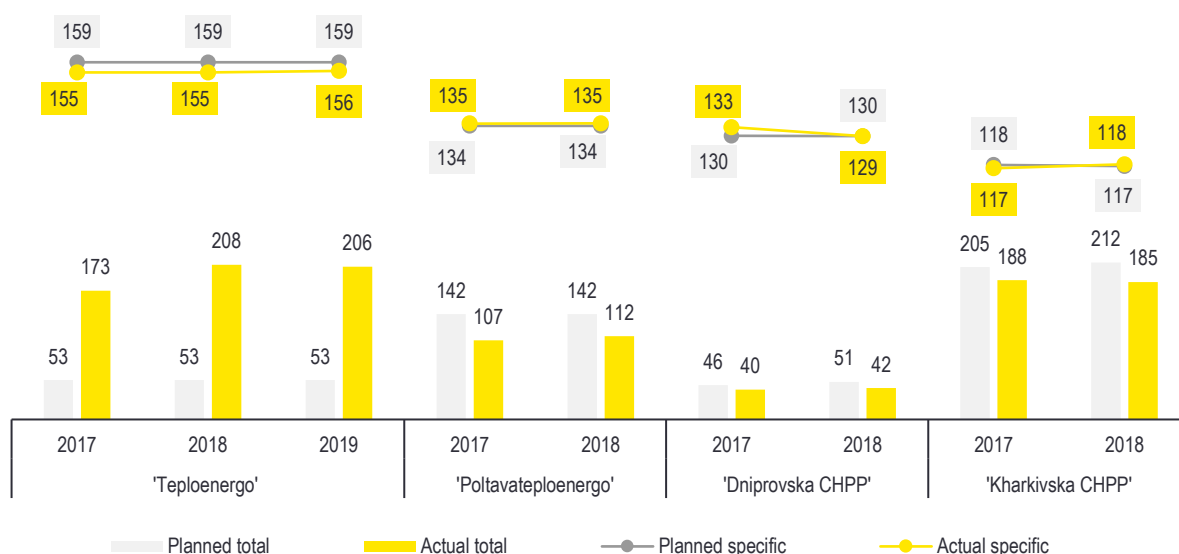
- ▶ Specific natural gas consumption for heat output
- ▶ Price for natural gas.

The specific consumption rate depends on the technological advancements reflected in energy efficiency of heat production process. Thus, the proper investments may result in its reduction, while

<sup>173</sup> Act of audit No. 398 dated 17 December 2018, page 22, Act of audit No. 67 dated 28 February 2020, page 10, 17, Act of audit No. 384 dated 19 February 2019, page 4, Act of audit No. 70 dated 6 March 2019, page 3, Act of audit No. 72 dated 3 March 2019, page 15, Act of audit No. 104 dated 5 May 2018, page 12-13, EY calculations and analysis.

the growing physical degradation and obsolescence level entails the increase in specific fuel consumption. Historically, the deviation of the actual specific consumption rate from the one envisaged in the tariff amounts up to 3%, since the consumption rate is subject to normative estimation. Potentially, the lack of gas metering devices can cause discrepancies here, but all analyzed companies reported 100% input metering. The collation of the planned and actual total natural gas consumption and specific consumption rate for the selected companies is provided in the following chart.

Chart 19. Planned and actual total gas consumption (mcm) and specific consumption rate (cm per Gcal)<sup>174</sup>



Since the planned gas consumption volume for 'Teploenergo' remains unchanged since 2013, the growth in heat production entails the fourfold excess of the actual consumption volumes over the planned ones. The proximity of actual specific consumption rates to the planned ones points the price for gas to be the core driver for fuel cost deviations.

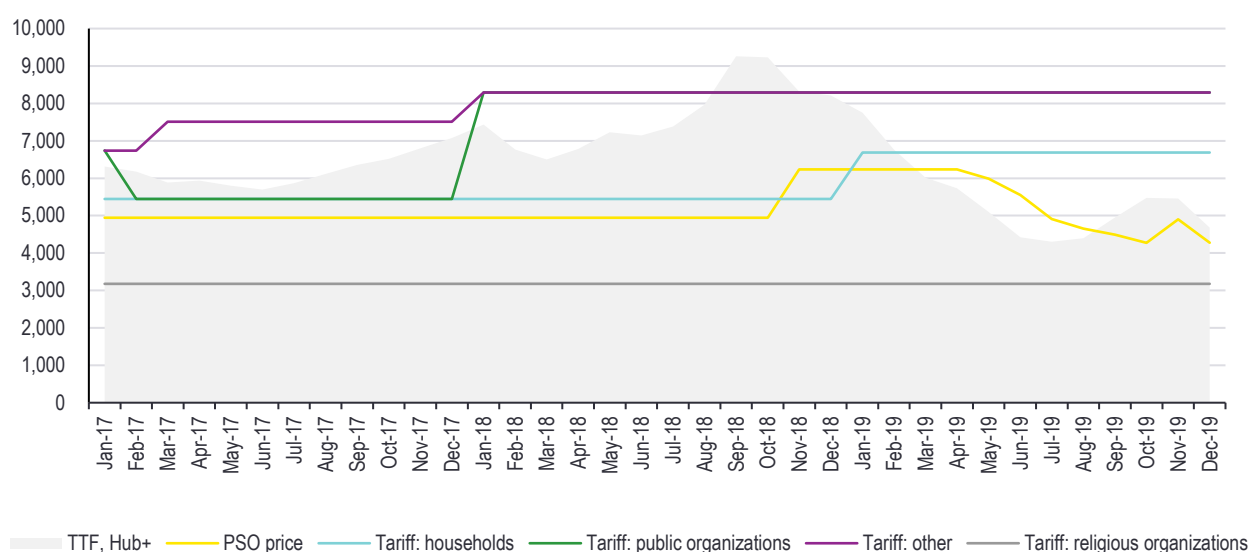
Under the current market model, DHCs receive natural gas primarily from Naftogaz that is obliged to supply gas to heat production companies for the needs of households at pre-defined price. Apart from cost of gas itself, the cost of fuel envisaged in the tariffs includes also fee for gas transmission and distribution. In fact, for the analyzed companies, the key participants in gas supply chain include Naftogaz, 'Ukrtransgaz' (former TSO) and regional DSOs, as reflected in the chart below. Since the average share of cost of gas supplied under the PSO amounted to 86.9%, PSO gas price consideration becomes crucial for tariff calculation adequacy assessment.

Until October 2018, the PSO system envisaged two possible options of natural gas price, i.e., 4,942 UAH per ths cm or the import parity price in case the latter exceeds the former by more than 10%. Since November 2018, the calculation methodology for natural gas price under PSO regime was amended and until April 2019 the price at which Naftogaz was obliged to supply gas to heat production companies and DSOs for the needs of households had been calculated by applying the discount factor to the average gas price in 3Q2018. The discount factor was determined by the CMU at

<sup>174</sup> Act of audit No. 398 dated 17 December 2018, page 25, Act of audit No. 67 dated 28 February 2020, page 12,19, Act of audit No. 384 dated 19 February 2019, page 16, 23, Act of audit No. 70 dated 6 March 2019, page 18, 32, Act of audit No. 72 dated 3 March 2019, page 22, Act of audit No. 104 dated 5 May 2018, page 20, EY calculations and analysis.

0.6943 and was expected to increase to 0.8 since May 2019. Nevertheless, the price calculation methodology was amended once again in April 2019 to increase the flexibility of the market and still protect consumers against the gas price fluctuations. According to the new methodology, the PSO price is the minimum among the import price, the UEEX price, the previous month price applied in transactions envisaging advanced payments and the price calculated under the former methodology. As shown in the chart below, such approach requires more frequent revision of tariffs for heat production.

Chart 20. The collation of TTF Hub+ price, the price under PSO regime and the cost of natural gas, incl. transmission and distribution, envisaged in tariffs for 'Poltavateploenergo', UAH per tcm<sup>175</sup>



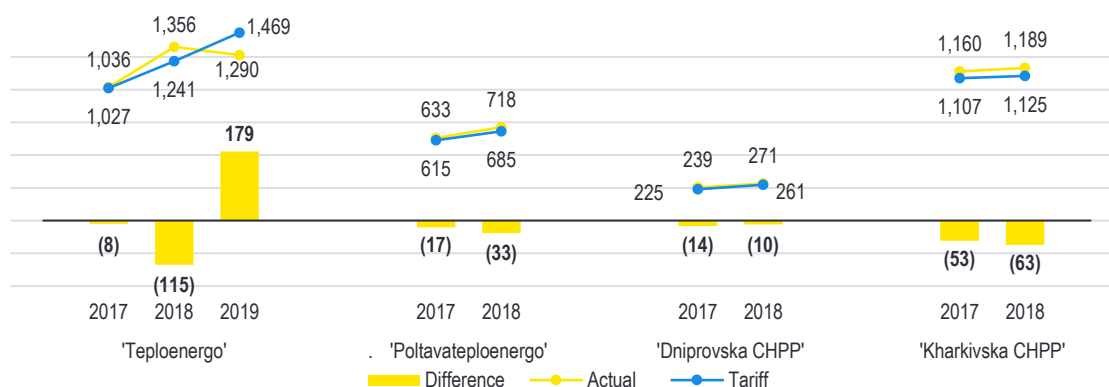
According to the DHCs, the gap between gas price change and tariff amendment was the key reason for gas cost imbalances in 2018. Historically, the duration of tariff revision process lasted two months, during which the companies were bearing losses. The tariff calculation system envisages the mechanism for indemnification of the losses caused by such imbalances. In fact, the indemnification of loss borne in November and December 2018 was included into tariffs for 2020 in the total amount of UAH 323.5 m. The system works in the reverse direction as well. For instance, the excess of cost of gas envisaged in the tariffs for 2019 over the actual PSO price, caused by the change in calculation methodology, entailed additional gains for heat production companies as illustrated in Chart 40. The part of these gains was used to cover the losses borne in the previous year, while the major share was considered in course of calculation of new tariffs for 2020 in the total amount of UAH -288.1 m.

In order to raise the flexibility of DHCs and to mitigate the issue of tariff revision gaps, the CMU adopted Resolution #1082 in December 2019, according to which heat suppliers were entitled to amend charges for heat in case of changes in prices for gas during the heating period 2019/20, excluding any changes in tariffs for gas transmission and distribution, as well as in trade premiums for suppliers. Upon its adoption, «Teploenergo» effected the recalculation of heat cost for households which resulted in the reduction in fuel cost envisaged in tariffs by UAH 69.2 m. Besides, the reduction

<sup>175</sup> Capital IQ, NEURC, EY calculation and analysis.

in actual gas price from May to November 2019 led to the further decrease in recalculated fuel cost in tariffs by UAH 61.5 m.

Chart 21. Gains and losses caused by the difference in planned and actual cost of natural gas, UAH m<sup>176</sup>



Thus, the current system is designed to mitigate the negative impact of changes in gas price on DHCs, though the protracted nature of indemnification and the presence of gaps impair the financial state of the heat production companies and their ability to effect timely payments.

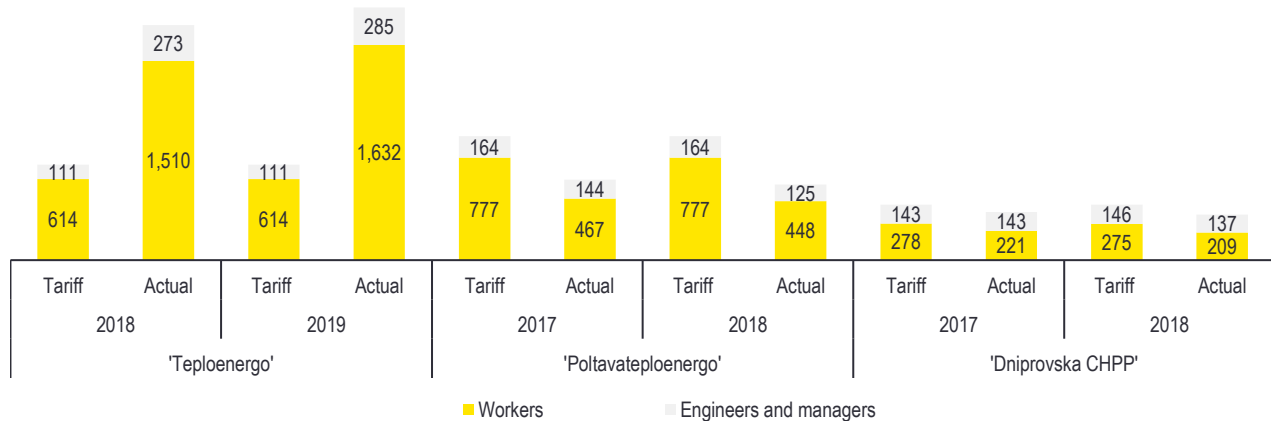
Another material item of heat production cost and hence the potential source of imbalance between the planned revenue and the actual costs is the direct payroll. For some analyzed companies, the difference between the payroll envisaged in the assigned tariffs and the actual direct labor costs during the period under review reached 70-90%. The range of possible reasons for inadequate planned payroll amount includes the following:

- ▶ Inadequate or obsolete headcount envisaged in tariff
- ▶ Over/underestimation of average salary
- ▶ Inaccurate output volume projections that results in distorted estimation of payroll per Gcal.

Historically, heat production companies tend to overestimate their headcount in tariff calculations as presented in the following chart for the selected companies.

<sup>176</sup> Act of audit No. 398 dated 17 December 2018, page 22-23, Act of audit No. 67 dated 28 February 2020, page 11-12, 17-18, Act of audit No. 384 dated 19 February 2019, page 14-15, 22, Act of audit No. 70 dated 6 March 2019, page 12-13, 26-27, Act of audit No. 72 dated 3 March 2019, page 13-14, Act of audit No. 104 dated 5 May 2018, page 11-12, EY calculations and analysis.

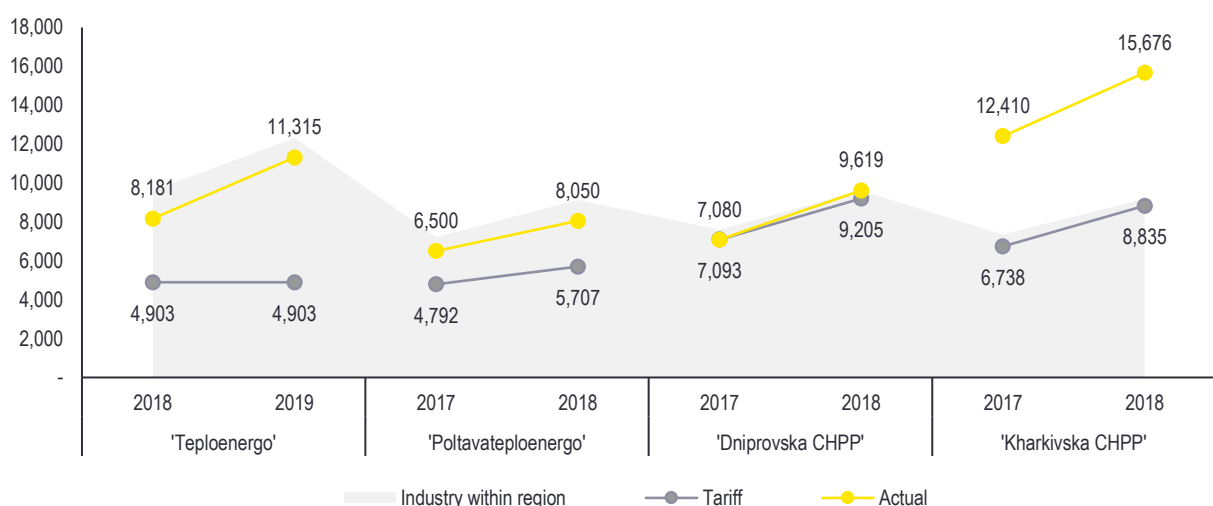
Chart 22. Planned headcount envisaged in tariffs and the actual one, people<sup>177</sup>



Since the planned headcount for 'Teploenergo' remains fixed since 2013, this company is considered an outlier here. For other companies, the average excess of planned headcount over the actual one during the period under review amounted to 38.9%.

The common reason for such overestimation is the approach of the NEURC to planned average salary approval. In fact, the NEURC tends to apply the conservative practice in planned salary consideration based on the average rate in Ukraine provided by the State Statistics Service. Still, the salary differs significantly across regions, industries and companies. As a result, the planned salary envisaged in the assigned tariffs may be underestimated, as compared to the average salary in the industry within the region or the actual historical salary reported by the company, as shown in the chart below. To cover such underestimation, the companies tend to overestimate the headcount.

Chart 23. Collation of planned and actual monthly salary against the average one in the heat and electricity supply industry within the relevant region, UAH per person<sup>178</sup>



<sup>177</sup> Act of audit No. 67 dated 28 February 2020, page 16, 22, Act of audit No. 384 dated 19 February 2019, page 19, 26, Act of audit No. 70 dated 6 March 2019, page 19, 33.

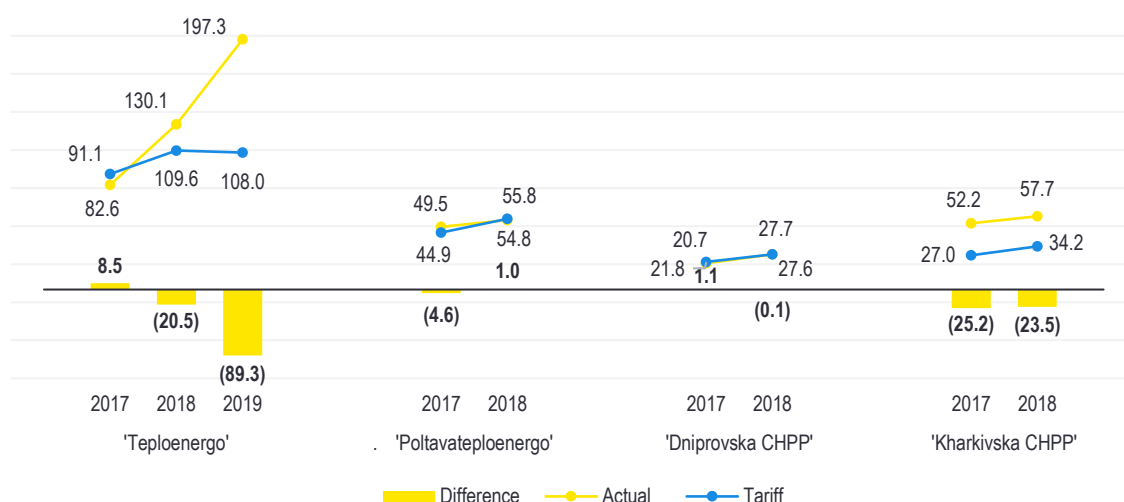
<sup>178</sup> SSSU, Act of audit No. 67 dated 28 February 2020, page 16, 22, Act of audit No. 384 dated 19 February 2019, page 19, 26, Act of audit No. 70 dated 6 March 2019, page 19, 33, Act of audit No. 72 dated 3 March 2019, page 23, Act of audit No. 104 dated 5 May 2018, page 27, EY calculations and analysis.



The average salary at 'Kharkivska CHPP' exceeded the planned one and the regional industry average by 80.8% and 69.6%, on average, respectively. According to the NEURC, the deviation was caused by changes in living minimum wage and the provisions of Industrial agreement and Collective Employment Agreement.

The initial underestimation of planned average salary by 'Teploenergo' and the significant excess of the actual salary over both the planned one and the average one in the industry within the region led to the increase in actual heat production costs and, thus, to the additional losses for these companies:

Chart 24. Gains and losses caused by the difference in planned and actual payroll, UAH m<sup>179</sup>



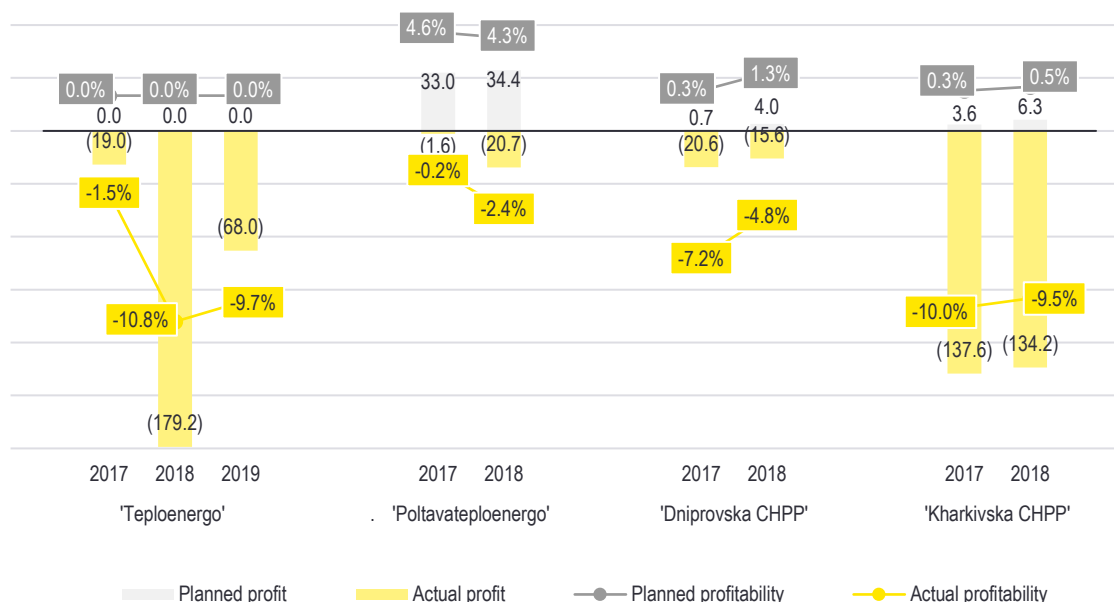
Apart from headcount and average salary, the balance between the planned payroll in tariff structure and the actual labor cost depends on the accuracy of output volume projection. For instance, 'Dniprovskia CHPP' faced the 5.1% excess of actual direct payroll over the one envisaged in tariff for 2017, despite the reduction in both headcount and average salary.

Considering the misestimation of output volume, gas cost and payroll, as well as the lack of approved investment programs and their insufficient funding, the tariffs assigned by the NEURC, covered 100% of fuel, 100% of payroll and 94% of other expenses, on average, among the analyzed heat production companies during the period under review. The collation of the assigned tariffs and the actual costs is presented in the chart below.

Since the revenue received by DHCs according to the assigned tariffs is not enough for actual cost coverage, there is a consistent deviation in profitability ratio against that envisaged by the NEURC. In fact, DHCs bear losses that discourages investors to expand and improve the business. The comparison of planned and actual profitability of the selected heat production companies is provided as follows.

<sup>179</sup> Act of audit No. 398 dated 17 December 2018, page 22-23, Act of audit No. 67 dated 28 February 2020, page 17-18, Act of audit No. 384 dated 19 February 2019, page 14-15, 22, Act of audit No. 70 dated 6 March 2019, page 12-13, 26-27, Act of audit No. 72 dated 3 March 2019, page 13-14, Act of audit No. 104 dated 5 May 2018, page 11-12, EY calculations and analysis.

Chart 25. Planned and actual profit and profitability ratios, UAH m<sup>180</sup>



### Support from the local authorities and other interest-free financial assistance

In order to maintain the viability of heat production companies and to secure affordable tariffs for consumers under the former market models, the local authorities provided DHCs with financial support. Since the current model envisages self-financing for DHCs, the support from local authorities is reduced and not common within the sector anymore, as shown in the following chart.

Among the considered heat production companies, the funding from the local budget is provided only to 'Teploenergo' by Dnipro City administration. The city launched the Program for Financial Support and Contribution to Shareholder's Equity of Municipally-Owned Companies in Dnipro City for 2016-2022. All financial aid was transferred to 'Teploenergo' within this Program. From 2017 to 2019, Dnipro City provided UAH 710.4 m for the defined purposes. Furthermore, in 2018 the company received UAH 11.2 m as reimbursement of difference in tariffs and used this money for natural gas purchase. The details of local financial aid to 'Teploenergo' are presented in the table below.

Table 6. Financial support from Dnipro City budget to 'Teploenergo', UAH m<sup>181</sup>

Year	Initially planned amount	Executed amount	Major purposes
2017	154.2	482.8	<ul style="list-style-type: none"> <li>▶ Repayment of debt to NAK Naftogaz</li> <li>▶ Overhaul of heat networks</li> <li>▶ Installation of metering equipment</li> </ul>
2018	171.0	93.6	<ul style="list-style-type: none"> <li>▶ Payments for natural gas and electricity</li> <li>▶ Repair and maintenance</li> <li>▶ Purchase of equipment</li> </ul>

<sup>180</sup> Act of audit No. 398 dated 17 December 2018, page 22-23, Act of audit No. 67 dated 28 February 2020, page 11-12, 17-18, Act of audit No. 384 dated 19 February 2019, page 14-15, 22, Act of audit No. 70 dated 6 March 2019, page 12-13, 26-27, Act of audit No. 72 dated 3 March 2019, page 13-14, Act of audit No. 104 dated 5 May 2018, page 11-12, EY calculations and analysis.

<sup>181</sup> Dnipro City administration, official web site.

			<ul style="list-style-type: none"> <li>▶ Payment of salaries</li> <li>▶ Preparation of educational establishments for heating season</li> </ul>
2019	320.0	134.0	<ul style="list-style-type: none"> <li>▶ Payments for natural gas and electricity</li> <li>▶ Payments for works and services</li> <li>▶ Payment of salaries</li> </ul>

Since the DHCs have negative working capital the key purpose for providing financial support and, hence, the key direction of its use is securing the current payments to suppliers of natural gas and electricity, as well as to effect the payment of salaries to the employees and carry out regular repair and maintenance, as displayed below. Thus, the funds are received to cover current operating costs, rather than to facilitate strategic growth, development and improvement.

Those heat production companies that receive insufficient financial support from the local authorities or do not receive such support at all, search for other options to effect regular payments. For instance, during the period under review, 'Kharkivska CHPP-5' received interest-free repayable aid from private companies that enabled the CHPP to manage liquidity in the short-run. According to the company, the need for such financial aid in 2018 arose in connection with the tough financial situation due to the interruption in CHPP's operating activity caused by the execution of planned repairs and the deficit of working capital. The financial aid provided by three private companies enabled the company to pay salaries to its employees and taxes, as well as to finance the repair and maintenance carried out during the year and to cover other urgent needs. Still, the financial aid was provided for the limited period and had to be repaid within a year, on average.

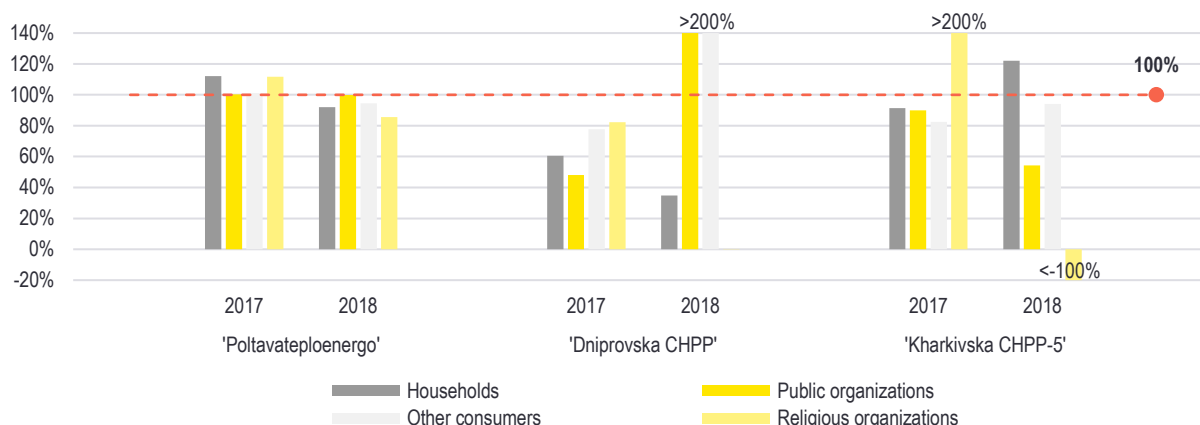
In 2019, NJSC 'Naftogaz of Ukraine' suggested that DHCs' debt for natural gas has to be transferred to the local authorities as the owners of such companies. Furthermore, the Association of Ukrainian Cities filed a request on inclusion of UAH 19 b for reimbursement of the differences in tariffs into the state budget, but, evidently, the initiatives did not gain enough traction.

## Payments

Since the ability of DHCs to make payments in a timely manner for gas and other resources in heat production depends on cash inflows, one of the key determinants of their solvency is the percentage of payments from the consumers. Under the current market model, the connection between the payments from consumers to DHCs and the payments from DHCs to gas supplier is even more evident. The reason is the use of the special regime current bank account. According to the effective mechanism, heat consumers transfer their money directly to this account with its further redistribution to suppliers.

The major consumption group for DHCs is traditionally households with the share of over 80% in the total actual heat output of the analyzed companies. According to the NEURC's data, the percentage of payments from this category is the lowest among all consumption groups. Still, the key determinant of the payment accuracy is the presence of the intermediary. During the period under review, the percentage of payments varied across the considered companies. The comparison of payment accuracy among various companies by consumption group is provided in the following chart (the values above 100% could be explained by the late payments for preceding periods).

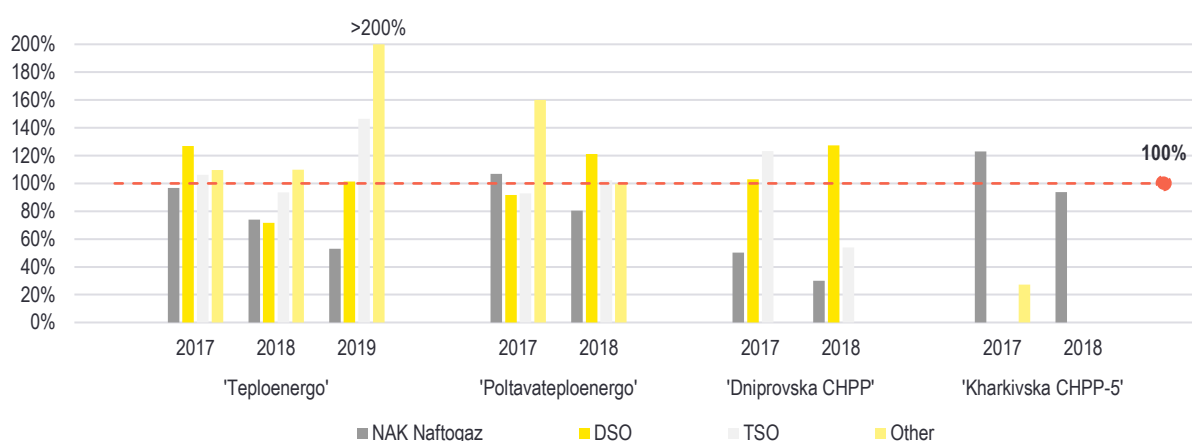
Chart 26. Percentage of payments compared to the respective year billing by consumption group<sup>182</sup>



The presence of intermediary results in the lower percentage of payments to CHPPs. Among the companies considered above, 'Poltavaenergo' sells heat directly to consumers, 'Kharkivska CHPP-5' sells the major share of output through municipally-owned company 'Kharkivski teplomerezhi', while 'Dniprovsk CHPP' is not engaged in direct sales at all and sells all the heat through the intermediary, i.e. 'Teplomerezhi'. As a result, the low payment accuracy leads to the growth in consumer debt (Chart 25).

The lack of payments from consumers reduces the funds available in the special regime current bank account and intended to be used for payments for natural gas. Hence, the inferior payment accuracy from consumers and intermediaries resulted in steady decrease in percentage of payments to NJSC 'Naftogaz of Ukraine' during the period under review as presented in the chart below (the values above 100% could be explained by the late payments for preceding periods).

Chart 27. Percentage of payments compared to cost of natural gas consumed in the respective period<sup>183</sup>



<sup>182</sup> Act of audit No. 384 dated 19 February 2019, page 17, 25, Act of audit No. 70 dated 6 March 2019, page 12-14, 27-28, Act of audit No. 72 dated 3 March 2019, page 16-24, Act of audit No. 104 dated 5 May 2018, page 11-12.

<sup>183</sup> Act of audit No. 398 dated 17 December 2018, page 25, Act of audit No. 67 dated 28 February 2020, page 14-15, 21-22, Act of audit No. 384 dated 19 February 2019, page 18, 25-26, Act of audit No. 70 dated 6 March 2019, page 18-19, 32, Act of audit No. 72 dated 3 March 2019, page 21, Act of audit No. 104 dated 5 May 2018, page 19.

The overpayment to NJSC 'Naftogaz of Ukraine' by 'Kharkivska CHPP-5' in 2017 was caused by the need to reduce the accumulated debt. 'Kharkivska CHPP-5' is considered the core debtor of gas supplier among all CHPPs as of September 2020. With the transition to the PSO model, heat producers had to meet several criteria to secure the submission of nomination by Naftogaz, i.e., to have active contracts with Naftogaz and to have the percentage of payments under all contracts concluded with Naftogaz of not less than 90%. Since 'Kharkivska CHPP-5' was unable to fulfill the second requirement, the respective nomination for April 2017 was not submitted by Naftogaz. To resolve the issue, CHPP received support from the state budget in the amount of UAH 140.0 m. Despite the absence of nomination, the company kept producing electricity and heat in April 2017 that led to gas supply system imbalance that was covered by the TSO. During that period, the company consumed 25.8 mcm of natural gas, including 14.6 mcm for electricity and heat production, which were paid for at the higher price due to the imbalance coverage premium, and 11.2 mcm for heat production which were not supported by source documents (included into 'Other' in the chart above).

The decreasing percentage of payments for gas entails the growth in debt as shown in the following chart, that impairs the DHCs' ability to be nominated for gas supply under the PSO model.

The accumulation of outstanding debt for natural gas leads to the imposition of penalties due to Naftogaz, apart from the cost of consumed gas. For instance, 'Teploenergo' paid UAH 51.2 m of fines to Naftogaz in 2019 that amounted to about 13.4%, on average, of the outstanding debt under the respective contracts. In order to avoid fines and prolongate the repayment period, some companies manage to conclude debt restructuring agreements. As at the end of 2019, 'Teploenergo' had concluded six restructuring agreements with Naftogaz in the total outstanding amount of UAH 411.6 m. During 2019, the company repaid 14.0% of the amount under the restructuring contracts.

### 3.3. LIABILITY AND ENFORCEMENT REASONS

In this section, we provide a detailed description of the following reasons for deviant off-takes:

- ▶ Absence of effective options to collect debts
- ▶ Statutory prohibition to cut off certain protected customers
- ▶ Insolvency ban.

#### 3.3.1. Absence of effective options to collect debts

The effective law provides the GTSO and other market participants with a limited number of tools to enforce their claims to costumers in default and to collect their debts.

Based on the information received from the GTSO, we understand that some market participants may not pay for off-takes of gas to the GTSO/DSOs/suppliers even though they should have sufficient financial resources. In such circumstances, court proceedings are the only available option to collect debts. However, this solution may be ineffective, burdensome and expensive. As a result, there is currently no efficient debt collection procedure in place.

Natural gas market regulations contain the following provisions regarding court proceedings:

- ▶ GTS Code states that disagreements regarding the amount of consumed, transferred and accepted natural gas should be resolved through negotiations or in court<sup>184</sup>
- ▶ GDS Code states that if parties cannot reach an agreement through negotiations, they should solve their disagreement in court<sup>185</sup>
- ▶ Transmission Agreement establishes that all disagreements between the GTSO and its customers should be resolved in court<sup>186</sup>
- ▶ Distribution Agreement states that disagreements between a DSO and a consumer should be solved through negotiations or in court.<sup>187</sup>

This method of protection of interests of market participants has several drawbacks such as:

- ▶ **Time spent.** Although according to the law the court should decide on a case within a 30-day period<sup>188</sup>, in practice court proceedings may be by far lengthier. Court sessions may be stretched, postponed and the court's decision (as well as all procedural rulings) may also be challenged in a court of appeals and in the Supreme Court. The enforcement proceedings may take a substantial of time, too. As a result, collection of debt may take up to several years.
- ▶ **Additional review.** In addition to the above, even after the final decision, one of the parties may submit to the Supreme Court the application for review of the case under new or exclusive circumstances.<sup>189</sup> As a result, the Supreme Court may cancel previous courts' decisions and transfer the case to a commercial court or a court of appeals for new consideration.<sup>190</sup>
- ▶ **Absences of guarantees of protection.** Claiming protection of interests in court does not necessarily guarantee the successful outcome of court proceedings in some cases regardless of duly argued and justified position in obvious cases of deviant off-takes. The court practice analyzed by us demonstrates that courts may refuse GTSO's claims even where the latter appears to have reasonable argumentation.
- ▶ **Collection.** Even in case of winning a court case, the claimant may still lack tools to collect the damages from the debtor under the court decision. This may happen because of underperformance of enforcements officers, lack of debtor's assets to collect from, etc.

The following additional issues may affect the claimant's ability to collect debts:

- ▶ In certain cases, DSOs do not own GDSs but only operate them based on relevant agreements.<sup>191</sup> Municipally owned DHCs also may not own their heat transmission systems and but only have operational rights. As a result, the claimant may not be able to collect from the DSOs' and DHCs' property to cover the debt.

<sup>184</sup> Chapters 5 and 7 of section III of the GTS Code.

<sup>185</sup> Paragraph 8, chapter 1, paragraph 7, chapter 2 of section VIII, paragraph 10, chapter 2, paragraph 7, chapter 3 of section IX of the GDS Code.

<sup>186</sup> Paragraphs 8.3, 8.4, 9.6, 10.8, 11.3 of the Transmission Agreement.

<sup>187</sup> Paragraphs 11.1 and 11.4 of the Distribution Agreement.

<sup>188</sup> Part 2, article 195 of Commercial Procedural Code of Ukraine No. 1798-XII dated 6 November 1991.

<sup>189</sup> Part 1, article 320 of Commercial Procedural Code of Ukraine No. 1798-XII dated 6 November 1991.

<sup>190</sup> Part 3, article 325 of Commercial Procedural Code of Ukraine No. 1798-XII dated 6 November 1991.

<sup>191</sup> Paragraph 2, chapter 1, section III of the GDS Code.

- ▶ Current regulation provides that DHCs' consumers' payments for services are credited to DHCs' special regime accounts from which the proceeds are automatically distributed to suppliers and DSOs thus excluding from the equation the factor of DHCs' willingness to pay their suppliers and DSOs.<sup>192</sup> However, the law does not implement such a mechanism for DSOs' consumers.
- ▶ DHCs' and DSOs' solvency is also affected by debts of their consumers. If a large portion of their consumers fail to pay for the relevant services in a timely manner, DHCs/DSOs would need to initiate court proceedings against such consumers. However, considering the large number of debtors, court proceedings may be too costly and time-consuming to timely address the situation.

In addition, household consumers may not have enough money and property to cover their debts to DSOs and DHCs for natural gas distribution and heating services. According to the law, DSOs or DHCs may collect debts under relevant court decisions by selling consumers' movable and immovable property. However, immovable property, especially the dwelling of the debtor, is subject to enforcement procedure only in case other debtor's property is not enough to cover creditor's demands.<sup>193</sup> At the same time, the law prohibits to collect debts by selling the only dwelling of the consumer unless the amount of debt exceeds 20 minimal salaries (UAH 100,000 or approx. USD 3,700).<sup>194</sup>

Since in most cases the amounts of debts of household consumers do not exceed the threshold established by the law, DSOs and DHCs cannot efficiently collect their consumers' debts. In addition, court proceedings against household consumers may be expensive and time consuming due to the large number of debtors and relevant claims that need to be filed by DSOs and DHCs.

In addition, Ukrainian law does not provide for any of the following tools that might potentially facilitate the collection of debts for off-takes or solve the issue with non-payments:

- ▶ Financial guarantees provided by DSOs or DHCs that would ensure settlement of their potential future debts
- ▶ Responsibility of DSOs' and DHCs' owners for debts of their companies
- ▶ Financial support for DHCs provided by municipal authorities, especially considering the reportedly inadequately low tariffs for heating supply services set by such municipal authorities.

The absence of such options does not allow market participants to collect debts effectively if their relevant debtors do not have enough financial resources.

However, we are aware of certain general provisions of the Commercial Code<sup>195</sup> and recent court practice<sup>196</sup> that state that a municipal authority has subsidiary liability for obligations of municipal enterprise established by it. This is relevant for DHCs established as municipal enterprises (a special legal form provided by the Commercial Code for companies established by the municipal authorities based on municipal property). However, this is not relevant for DHCs established in other legal forms (e.g., limited liability companies or joint stock companies). We understand that significant portions of DHCs are established as municipal enterprises, and therefore market participants should be potentially

<sup>192</sup> Paragraph 14 of the Procedure for Distribution of Proceeds on Current Accounts with a Special Regime of Use for Carrying Out Settlements with Supplier of Natural Gas on Whom Special Obligations are Assigned adopted by Resolution of CMU No. 217 dated 18 June 2014.

<sup>193</sup> Part 1, article 50 of Law of Ukraine "On Enforcement Proceedings" No. 1404-VIII dated 2 June 2016.

<sup>194</sup> Part 7, article 48 of Law of Ukraine "On Enforcement Proceedings" No. 1404-VIII dated 2 June 2016.

<sup>195</sup> Part 5 of article 24, part 7 of article 77, part 10 of article 78 of the Commercial Code.

<sup>196</sup> Resolution of the Supreme Court in case No. 5023/4388/12 dated 4 September 2018 available at: <http://www.reyestr.court.gov.ua/Review/76381567>.

able to claim DHCs' debts from their owners (municipalities). At the same time, realization of this liability and collecting relevant compensation from the municipal authority would anyway require the market participant to submit its claim to court.

To address this reason for deviant off-takes, relevant additional guarantees and collection mechanisms may be introduced for market participants (the GTSO, DSOs, DHCs, etc.).

### 3.3.2. Statutory prohibition to cut-off certain protected consumers

DHCs practically may not be cut off by DSOs during a heating season, even in cases where DHCs have large amounts of unsettled debts. Consequently, if DHCs continue off-taking gas without proper payments, it causes losses for DSOs, because according to the GTS Code such unauthorized and/or unpaid natural gas off-takes should be allocated to the relevant DSO.

Under the Gas Market Law and the Supply Security Rules, protected consumers are:<sup>197</sup>

- ▶ Household consumers connected to the GDS
- ▶ Entities, institutions, organizations that provide important social services and are connected to the GTS or the GDS
- ▶ Producers of heat energy for the needs of the above consumers, entities, institutions and/or organizations.

In previous years, it was prohibited for DSOs to cut off CHPPs' and DHCs' facilities from GDSs or limit gas supply to them during the heating season in year 2019/2020 below the technological minimum of gas consumption.<sup>198</sup> The same requirement was also present in regulations for heating season 2018/2019. We cannot exclude that the same rule would be established for any subsequent heating season in the future.

We also note that the same prohibition to stop supply of natural gas to CHPPs and DHCs was also effective from 4 April 2020 until 22 May 2020 within the measures imposed by the CMU in relation to COVID-19 spread.<sup>199</sup>

The existence of this statutory prohibition prevents DSOs from cutting off CHPPs and DHCs even if the latter accumulate substantial debts, unauthorized off-takes or in any other cases. When such consumers continue to take off gas with no payment or while having unsettled debts, it causes losses to DSOs and/or the GTSO, considering that all unauthorized off-takes of natural gas by consumers are allocated to the relevant DSO or, for direct consumers, to the GTSO.<sup>200</sup>

Consequently, if DSOs bought natural gas for balancing their GDSs, they would accumulate losses. To compensate for off-takes of CHPPs/DHCs, DSOs may off-take natural gas from the GTS instead of buying it in the open market. As a result of these actions, the losses are transferred to the GTSO contributing to the issue of unauthorized off-takes.

<sup>197</sup> Paragraph 10, part 1, art. 1 of the Gas Market Law; Paragraph 1, chapter 2, section I of the Supply Security Rules.

<sup>198</sup> Paragraph 2 of Order of the Cabinet of Ministry of Ukraine "On Certain Matters of 2019/20 Heating Period" No. 921-p dated 29 September 2019.

<sup>199</sup> Resolution of the CMU "On Prevention of Spread on the Territory of Ukraine of Acute Respiratory Disease COVID-19 Caused by Coronavirus SARS-CoV-2" No. 211 dated 11 March 2020 (effective as of 21 May 2020).

<sup>200</sup> Paragraph 7, chapter 6, section XII of the GTS Code.



In addition to the above, Ukrainian law also provides for the prohibition to cut-off household consumers from utilities services (including heat and natural gas supply) during the quarantine measures imposed by the CMU in relation to COVID-19 spread and within 30 days of its ending.<sup>201</sup> This prohibition may also potentially negatively affect DSOs/DHCs that are not able to disconnect consumers due to the failure to pay for relevant utilities services.

### 3.3.3. Insolvency ban

In case of large amounts of unsettled debts and technical insolvency of DSOs/DHCs, initiation of bankruptcy proceedings might be one of the key options for creditors (such as the GTSO or suppliers) to receive from DSOs or DHCs payments under transmission or sale and purchase agreements.

However, this option cannot be fully implemented due to certain exceptions, as the court should reject the request to initiate insolvency proceedings against fuel and energy companies, including DSOs and DHCs, if these companies meet the conditions provided by the law.

The Law of Ukraine "On Measures Aimed at Ensuring Sustainable Functioning of Fuel and Energy Enterprises" is specifically designed to ensure sustainable functioning of fuel and energy enterprises, including DSOs and DHCs, in case they have financial problems and cannot settle their debts.<sup>202</sup>

For the purposes of this law, the definition of debt, *inter alia*, includes:

- ▶ Debts for goods, works and services consumed during performance of transmission or supply of energy, including penalties
- ▶ Tax debts to be paid to budgets of any level (state, municipal, etc.)
- ▶ Debts to be paid from relevant budgets as a compensation (including for rebates and subsidies) not received by market participants.

If the relevant market participant wants to take part in the debt settlement procedure provided by the law, it should submit a package of relevant documents and then be registered in the relevant special register.<sup>203</sup>

Registration of the relevant market participant in the special register is a basis for the insolvency ban. The court must reject any request to initiate insolvency proceedings against registered companies.<sup>204</sup>

Generally, the law states that the debt settlement procedure is in force until 1 September 2015.<sup>205</sup> However, the law also specifically provides that state and municipal enterprises, as well as commercial companies with a state's share exceeding 50%, may restructure their debts for the term of up to 20

<sup>201</sup> Subparagraph 3 of paragraph 3 of section II of Law of Ukraine "On Amending Certain Law of Ukraine Aimed for Preventing the Occurrence and Spread of Coronavirus Disease (COVID-19)" No. 530-IX dated 17 March 2020.

<sup>202</sup> Part 1 of article 1 of Law of Ukraine "On Measures Aimed at Ensuring Sustainable Functioning of Fuel and Energy Enterprises" No. 2711-IV dated 23 June 2005.

<sup>203</sup> Part 1 of article 3 of Law of Ukraine "On Measures Aimed at Providing Sustainable Functioning of the Fuel and Energy Enterprises" No. 2711-IV dated 23 June 2005.

<sup>204</sup> Part 7 of article 3 of Law of Ukraine "On Measures Aimed at Providing Sustainable Functioning of the Fuel and Energy Enterprises" No. 2711-IV dated 23 June 2005.

<sup>205</sup> Paragraph 3.4 of article 3 of Law of Ukraine "On Measures Aimed at Providing Sustainable Functioning of the Fuel and Energy Enterprises" No. 2711-IV dated 23 June 2005.

years (with up to two years of delay of payment) based on the relevant debt settlement agreement.<sup>206</sup> The law does not define the maximum restructuring term for other entities.

Based on the above, one may reasonably conclude that it was the intention of the lawmaker to limit the starting date for the debt settlement procedure (1 September 2015), while the ending date may be after this date (up to 20 years or even more). Accordingly, the companies that initiated the procedure before 1 September 2015 may still be present in the register.

The law does not provide public access to the register and specifically limits the list of its users.<sup>207</sup> Therefore, we cannot elaborate on the specific list of entities present in this register. However, one might assume that some of the market participants directly or indirectly responsible for off-takes of natural gas may be present in it. Therefore, such insolvency ban may potentially complicate the collection of debts from consumers and GTSO's customers included to the register, as relevant creditors may not initiate insolvency proceedings with regard to such debtors.

Furthermore, on 5 June 2020, the Parliament of Ukraine passed the Law of Ukraine "On Amending the Code of Ukraine on Bankruptcy Proceedings", according to which until the Law of Ukraine "On Measures for Settlement of Debts of Heat Supply and Heat Generating Organizations and Enterprises of Centralized Water Supply and Sewerage for Consumed Energy" is in effect, commercial courts should refuse to open bankruptcy proceedings if the debtor is included in the register of enterprises that participate in the debt settlement procedure in accordance with this law.<sup>208</sup>

We note that the mentioned Law of Ukraine "On Measures for Settlement of Debts of Heat Supply and Heat-Generating Organizations and Enterprises of Centralized Water Supply and Sewerage for Consumed Energy" was intended, *inter alia*, to settle debts of DHCs for consumed natural gas as of 1 July 2016 that were not settled by 31 December 2016.<sup>209</sup>

The law provides for a 60-month period for the settlement.<sup>210</sup> Accordingly, settlement procedures that started on 1 January 2017 would end on 1 January 2022, while procedures initiated later would have a later ending date.

As a result of adoption of changes to the Code of Ukraine on Bankruptcy Proceedings, initiation of bankruptcy proceedings against any DHC would be blocked for the duration of presence of the relevant debtor in the register (i.e., duration of the relevant debt settlement agreements) and until the mentioned law is in effect (whichever ends first). However, the law does not establish any time limits for its effectiveness, and therefore it is likely that the insolvency ban would last until the exclusion of the debtor from the register.

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<sup>206</sup> Paragraph 10.1 of article 10 of Law of Ukraine "On Measures Aimed at Providing Sustainable Functioning of the Fuel and Energy Enterprises" No. 2711-IV dated 23 June 2005.

<sup>207</sup> Paragraph 3.6 of article 3 of Law of Ukraine "On Measures Aimed at Providing Sustainable Functioning of the Fuel and Energy Enterprises" No. 2711-IV dated 23 June 2005.

<sup>208</sup> Subparagraph 4 of paragraph 1 of Law of Ukraine "On Amending the Code of Ukraine on Bankruptcy Proceedings" No. 686-IX dated 5 June 2020.

<sup>209</sup> Part 1 of article 5 of Law of Ukraine "On Measures for Settlement of Debts of Heat Supply and Heat-Generating Organizations and Enterprises of Centralized Water Supply and Sewerage for Consumed Energy" No. 1730-VIII dated 3 November 2016.

<sup>210</sup> Part 2 of article 5 of Law of Ukraine "On Measures for Settlement of Debts of Heat Supply and Heat-Generating Organizations and Enterprises of Centralized Water Supply and Sewerage for Consumed Energy" No. 1730-VIII dated 3 November 2016.

## 4. DETAILED REVIEW OF PROPOSED SOLUTIONS

Based on our analysis of the key regulatory and economic reasons resulting in unauthorized off-takes and unpaid imbalances, we developed the draft list of possible solutions.

Then we assessed the feasibility and viability of such solutions by testing them against our hypothesis on how their implementation would affect the market participants and the financial sustainability of the GTSO. Finally, we interviewed selected market participants to clarify controversial aspects and to independently verify our key findings.

Based on the above information and our analysis, we prepared a preliminary list of solutions, which is provided below.

*Table 7: Summary of proposed preliminary solutions*

No.	Issue	Solution
1.	DSOs' failure to fulfill responsibilities of balancing their portfolios	1.1. Licensed Suppliers for DSOs
		1.2. Additional solution: Guaranteed Supplier for DSOs
2.	Contradictions in the PSO regime	2.1. Unconditional PSO
		2.2. State compensation for fulfilment of the PSO
3.	Issues of implementation of neutrality charge	3.1. Improvement of methodology and application of neutrality charges
		3.2. Enabling the GTSO to buy/sell gas on the gas exchange
		3.3. Linepack Flexibility Services
		3.4. Increase of short-term market liquidity
4.	Unequal levels of late payment penalties for commercial market participants and household consumers	4.1. Equalization of penalties
5.	Tariffs level adequacy (DSO)	5.1. Adjustment of the DSOs' tariff calculation methodology
		5.2. Improving technological consumption assessment for DSOs' tariff calculation
		5.3. Changing the approach to and procedure for tariff revision
6.	Tariffs level adequacy (DHC)	6.1. Adjustment of the DHCs' tariff calculation methodology
		6.2. Providing reasonable and justified compensation by the local authorities
		6.3. Changing the approach to and procedure for tariff revision
7.	Metering and consumption norms	7.1. Setting the consumption norms for DSOs at a reasonable and justified level
		7.2. Ensuring 100% fiscal metering at all points
		7.3. Increase DSOs' capability to perform volume and energy accounting in their system
8.	Accumulated debts and sources for penalties coverage	8.1. Provision of reasonable level of profitability to cover penalties within the current tariff calculation methodology
		8.2. Restructuring the accumulated debts and penalties for DSOs
		8.3. Restructuring the accumulated debts and penalties for DHC
9.	Absence of effective options to collect debts	9.1. Accounts with a special regime for DSOs
		9.2. Financial guarantees or prepayments for natural gas from DSOs/DHCs

No.	Issue	Solution
		9.3. Financial guarantees or responsibility of shareholders for debts of DSOs/DHCs (including municipal authorities)
		9.4. Prepayment for district heating services
		9.5. Simplified procedure for collection of debts from Consumers for DSOs and DHCs
10.	Statutory prohibition to cut off certain protected customers	10.1. Abandon the practice of prohibiting cut-offs
		10.2. Alternative solution: Temporary moratorium on cut-off of protected consumers in the law
		10.3. Alternative solution: Guaranteed Supplier for Consumers
11.	Insolvency ban	11.1. Temporary administration for materially non-compliant DSOs/DHCs
		11.2. Lifting the insolvency bans
12.	Unauthorized off-takes	12.1. Identification and termination of unauthorized off-takes by DSOs
		12.2. Resolution of the situation with Luhansk TPP

Based on discussion of preliminary solutions with the World Bank and the GTSO, it was decided to abandon the less relevant solutions based on the evaluation and comments of the GTSO, as well as alternative solutions that are already covered by main solutions:

*Table 8: Rejected solutions*

Ref	Solution	Reason for rejection
1.2	Guaranteed Supplier for DSOs	Covered by the Licensed Suppliers for DSOs solution
5.1	Equalization of penalties	Not enough impact on the financial stability of the GTSO
4.1	Enabling the GTSO to buy/sell gas on the gas exchange	Has been resolved by the Parliament
4.2	Linepack Flexibility Services	Not enough impact on the financial stability of the GTSO
8.2	Ensuring 100% fiscal metering at all points	Not enough impact on the financial stability of the GTSO
8.3	Increase DSOs' capability to perform volume and energy accounting	Not enough impact on the financial stability of the GTSO
10.2	Financial guarantees or prepayments for natural gas from DSOs/DHCs	Not enough impact on the financial stability of the GTSO
10.3	Financial guarantees or responsibility of shareholders for debts	Not enough impact on the financial stability of the GTSO
10.4	Prepayment for district heating services	Not enough impact on the financial stability of the GTSO
10.5	Simplified procedure for collection of debts from Consumers	Not enough impact on the financial stability of the GTSO
11.2	Temporary moratorium on cut-off of protected consumers in the law	Covered by the Unconditional PSO solution
11.3	Guaranteed Supplier for Consumers	Covered by the SoLR and the PSO regimes, may affect development of the market
12.2	Lifting the insolvency bans	Merged with the Temporary administration solution
13.1	Identification and termination of unauthorized off-takes by DSOs	Requires in field implementation by relevant DSOs
13.2	Resolution of the situation with Luhansk TPP	Requires negotiations and a special mechanism based on political arrangements of stakeholders

We discussed this list with relevant stakeholders and developed an updated and agreed list of solutions. It was also proposed to arrange the solutions into several groups based on the main goal of the implementation of relevant solution(s). Below we provide the list of these blocks and a detailed description of each agreed solution:

- ▶ Ensure the proper use of DSOs' tariff revenues by introducing accounts with a special regime
- ▶ Change the model for providing all DSOs with natural gas for own needs by introducing mandatorily licensed suppliers to supply natural gas for technological consumption of DSOs
- ▶ Abandon the practice of prohibiting cut-offs of Consumers in default and not directly subject to the PSO (the Supplier under the PSO should be completely prohibited from cutting off and terminating supply of natural gas)
- ▶ Amend the Regulation on Imposing Special Obligations (PSO) on Natural Gas Market Participants to resolve problems with the absence of an unconditional PSO
- ▶ Bring the mechanism of calculation of the neutrality charge in compliance with the peculiarities of the gas market in Ukraine and start performing settlements between the transmission services customers and the GTSO on a monthly basis starting from gas year 2021/22
- ▶ Amend the methodology for determining and calculating the tariff for natural gas distribution services and the procedure for establishment of the tariffs for heat energy, its production, transmission and supply to ensure the objectivity of initiating the tariffs' review
- ▶ Develop and implement a mechanism of temporary administration for materially non-compliant DSOs/DHCs
- ▶ Oblige market participants to sell a certain amount of extracted natural gas through the commodity exchange
- ▶ Ensure the review and establishment of reasonable gas consumption norms for household consumers to stimulate the achievement of 100% commercial metering
- ▶ Implement an incentive-based and transparent methodology for tariffs calculation for DSOs and DHCs
- ▶ Resolve the issue of accumulated debts of DSOs and DHCs through mechanisms that will not create incentives for the formation of new debts
- ▶ Ensure the ability to sell and purchase natural gas on commodity exchanges with the participation of the GTSO, SSO and DSOs to promote the development of the liquid market.

#### **4.1. ENSURE THE PROPER USE OF DSOs' TARIFF REVENUES BY INTRODUCING ACCOUNTS WITH A SPECIAL REGIME**

##### **Description**

This solution provides for the implementation of special regime accounts for DSOs that fail to maintain due level of settlements with the GTSO for their imbalances.

We would suggest that the distribution of proceeds from these accounts be used as a sanction for those DSOs that accumulate large debts before gas market participants, which leads to significant distortion in the market. In particular, all DSOs would be obliged to open special regime accounts and DSOs' income for the distribution services would be paid by the Consumers to and kept in the accounts with a special regime in a designated bank. Payment for the services by Consumers to other accounts

would be prohibited. Then the NEURC would be able to apply automatic distribution of proceeds from these accounts for those DSOs that, for example, accumulated debts to the GTSO above certain thresholds established by the NEURC. Accordingly, proceeds from special regime accounts would be automatically transferred and distributed to accounts of the GTSO according to the methodology adopted by the NEURC. If the DSO has no debt above the threshold, the automatic distribution would not apply, and the DSO would be able to transfer all proceeds to its other accounts. It would also be prohibited to seize special regime accounts or freeze transactions using such accounts.

In addition, the mechanism may also provide for distribution of proceeds from DSOs' special regime accounts between other gas market participants (e.g., natural gas Suppliers, other large DSOs contractors that may accumulate large receivables from DSOs).

The list of current accounts with the special regime would be submitted to the NEURC for approval. DSOs should inform their Consumers of opening special regime accounts within the term established by the relevant law. Banks that would operate special regime accounts would be determined by the CMU. The CMU would also define the procedure for opening and closing such accounts.

## EU practices

For this solution, we identified no relevant EU best practices and regulations. We would presume that this solution has not been used in the EU, as DSOs there usually maintain proper levels of settlements with their counterparties.

At the same time, we are aware of the ECS's position on this matter displayed in its Comments on Draft Law No. 3800.<sup>211</sup> The ECS stated that this solution might contribute to decrease of debts towards the GTSO caused by unpaid imbalances and unauthorized off-takes of natural gas.

However, the ECS noted that the proposed changes to Article 40 have to ensure that the Regulator must have control over determination of debts and their ratios to foreseen income and to contracted volumes to cover technological consumption and losses in the distribution system, as well as the ratio between received and transferred funds. The changes to the Gas Market Law have to ensure that only the debts identified as debts for technological consumption and losses would be locked and repaid from the special accounts, and not the debts caused by unpaid off-takes by DHCs (which accounted for the big portion of unauthorized off takes in the past).

We generally concur with this position of the ECS. However, we note that the distinction of unpaid off-takes of DHCs within the total amount of debts for technological consumption may be difficult to implement. This may require development of additional mechanisms for exchange of information between the GTSO, the NEURC and banks that hold DSOs' accounts with special regime, which should be included into the methodology for calculation and distribution of proceeds adopted by the NEURC.

## Implementation

As of now, we understand that the accounts with the special regime are about to be implemented by Draft Law No. 3800 "On Amending Gas Market Law regarding Ensuring Financial Stability in Gas Market" dated 6 July 2020, which is currently pending consideration in the Parliament.

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<sup>211</sup> Comments to the draft Law of Ukraine on Amendments to the Law of Ukraine "On the Natural Gas Market" with respect to ensuring financial stability in the natural gas market dated 24 November 2020.

At the same time, we would suggest expanding the list of potential recipients of funds from the special accounts currently provided in Draft Law No. 3800. Expanding this list with other potential counterparties of DSOs engaged in supply of natural gas for DSOs' technological consumption (e.g., natural gas Suppliers, other large DSOs contractors that may accumulate large receivables from DSOs) may allow to gather a more widespread support among the market participants and should additionally ensure the market stability after implementation of mandatory agreements with licensed Suppliers for DSOs (please see solution 4.2).

In addition, to ensure the fairness of application of this solution, we would suggest that the automatic distribution from the special regime accounts be used as a sanction only for those DSOs that accumulate large debts before gas market participants. Proceeds of compliant DSOs should remain in their full disposal. This would require amending Draft Law No. 3800 prior to its adoption.

In addition, it would be necessary to implement appropriate changes to the regulatory framework. The NEURC should set out the procedure and proportion for the distribution of proceeds between the GTSO and DSOs and take into account the relevant suggestions of the ECS. In addition, the NEURC should amend chapter 6, section VI of GDS Code and include there the relevant provisions on the settlement procedure under the Distribution Agreement.

#### **4.2. CHANGE THE MODEL FOR PROVIDING ALL DSOs WITH NATURAL GAS FOR OWN NEEDS BY INTRODUCING MANDATORILY LICENSED SUPPLIERS TO SUPPLY NATURAL GAS FOR TECHNOLOGICAL CONSUMPTION OF DSOs**

##### **Description**

In GDSs and GTSS, the sum of measured intakes is typically not equal to the sum of measured<sup>212</sup> offtakes of final consumers, for each analyzed time period. The difference constitutes a system delta (also referred to as "Δin-out"), which has various operational, regulatory and financial consequences for the affected DSOs.

This system delta may include production needs, technical losses and commercial losses of a DSO altogether, or only some of its components. Each EU country has a different approach to dealing with these components, and there is no universal solution. Please see the EU practices in the relevant section below.

In this solution, we propose to include all technological consumption of DSOs (production needs, technical losses and commercial losses) into the scope of the solution.

According to this solution, all DSOs would be obliged to enter into natural gas supply agreements with Suppliers in order to acquire natural gas for technological consumption (system delta) and would practically act as regular Consumers for these purposes.

DSOs would no longer be allowed to acquire natural gas from traders under sale and purchase agreements, as they do now. Each DSO would have its own Supplier of natural gas for technological consumption that would submit relevant nominations to the GTSO and would be financially liable for all potential imbalances created by relevant DSOs.

<sup>212</sup> The term "measurement" may refer to both physical measurements, as well as (in cases where no measurement is available) consumption data produced through the application of load profiles (and/or historical data).



Similarly, to the current regulation of Consumers' off-takes, DSOs' Suppliers would also be entitled to claim relevant damages related to DSOs' imbalances, if any occur.

In addition, DSOs would no longer execute Transmission Agreements with the GTSO and the contractual relations between DSOs and the GTSO would be limited to technical agreements. Only Suppliers would execute Transmission Agreements with the GTSO. Thus, any off-take performed by a DSO without a Supplier would be treated as an unauthorized off-take.

## EU practices

The detailed treatment of the system delta varies across the EU, where each country applies its own approach that was developed historically and is intertwined with other parts of the respective market model (tariff methodologies, final consumer metering, supplier switching, balancing model, measurement principles, etc.). Often the legal/regulatory basis for the treatment of the system delta is not available in consolidated form and/or only in the local languages, furthermore there is very little data published on this matter by DSOs (or other market participants) – if any.

The most valuable information source on this matter is thus a recent study that was carried out by the Council of European Energy Regulators (CEER) and was published in July 2020.<sup>213</sup> In this study, CEER carried out a survey among European national regulators (including EU member states plus Norway) about how the system delta problem is reflected in national gas market design and regulation.

The findings of this study are summarized below, focusing, in particular, on:

- ▶ Settlement and balancing procedures for the system delta, the market roles involved and the impact for final consumers in different European countries, as well as
- ▶ Different calculation methodologies (e.g., to quantify offtakes) in different European countries.

### *Main findings of the 2020 "Delta In-Out" CEER study*

CEER found that in all the 19 countries who had responded to the survey (except for Norway), there exist regulatory mechanisms for handling the system delta. However:

- ▶ There is currently no approach that is universally applied and could thereby be singled out as a clear best-practice.
- ▶ The debate about which approach should be chosen is still ongoing in many countries and the study highlights that several countries are considering revisions and improvements to the systems in place.

Nevertheless, in recent years there has been a tendency to pivot towards an approach where the costs of the system delta are shifted from suppliers towards DSOs and their final customers (such a system is in place in Denmark, Hungary and Spain, and has recently been adopted by the Netherlands and Italy, with results that were seen as favorable by the national regulators).

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<sup>213</sup> Available at: <https://www.ceer.eu/documents/104400/-/-/5b5c6eca-76fc-77a4-7320-68ad3150faf3>.



There are two main options for calculating offtakes in the imbalance formula of the network users:

No.	Option	Description
1.	Option 1 "bottom-up"	Offtakes are calculated through a bottom-up approach, by adding real measurements or – as applicable – load profile values of final consumers.
2.	Option 2 "top-down"	Offtakes are calculated by allocating the total intake into the DSO network (within the concerned timeframe) to network users who supply final consumers (where the split between different network users is performed via a predefined criterion, e.g. share in metered consumption).

There are four main approaches adopted by the national regulators for handling the costs associated with the system delta, as shown in the subsequent table:

No.	Approach	Country
1.	System delta is <u>allocated by the TSO</u> (or the balancing entity) to network users according to certain criteria. Therefore, network users must (apart from certain exceptions) procure their share of the system delta on their own and bear the associated costs.	Austria (change to final customer cost allocation planned <sup>214</sup> ), Belgium
2.	System delta is <u>procured by the TSO</u> (or balancing entity). The costs are split among network users, considered as part of balancing costs. <sup>215</sup> Network users bear costs, but their allocations of final consumptions are not modified (as in approach 1 above).	Estonia, Germany, Italy, Latvia, Slovenia, Spain (change to final customer cost allocation planned <sup>216</sup> ), Portugal
3.	System delta is <u>procured by the respective DSO</u> . The costs are split among final customers through a tariff component.	Denmark, Ireland, Hungary, Poland, Sweden
4.	System delta is <u>procured by the TSO</u> . The costs are split directly among final customers through a tariff component.	Czech Republic

#### Example - Austria

Austria recently initiated a change towards a system that will shift the costs of the system delta to end-users via network tariffs (which should come into effect by April 2022).

Until then, these costs are allocated to network users at the discretion of a DSO either following a residual balancing approach ("Restlastverfahren") or following an incumbent approach ("Differenzbilanzierung").

The **residual balancing approach** aims at allocating the system delta to all network users of the specific DSO-system by:

- ▶ DSO's total allocation at intake points: measured entry quantities minus line-pack changes
- ▶ DSO's total daily consumption bottom-up ("meter 1 out" + "meter 2 out" + "meter 3 out", etc.): sum of measurements for non-daily metered (load profiles) and daily metered final consumers

<sup>214</sup> Austria has recently decided to change its current system, which will come into effect by April 2022. For details, see the next section.

<sup>215</sup> E.g., in Germany.

<sup>216</sup> Cost allocation has shifted from suppliers to DSOs.

- ▶ DSO's residual balancing error ("RBE"): result of step 1 minus result of step 2
- ▶ Share of daily consumption per network user (daily quota): Daily measurements for final consumers of network user X divided by total daily consumption in the respective distribution system

Note: This approach differs from some EU countries' application of fixed loss factors that apply to all network users uniformly.

- ▶ RBE allocation per network user: A constant value per hour corresponding to the network user's daily quota multiplied with the RBE.

The **incumbent approach** aims at allocating the system delta to the incumbent supplier/network user by:

- ▶ Allocation of total daily consumption to the other network users based on the bottom-up approach ("meter 1 out" + "meter 3 out" + "meter 5 out" etc.)
- ▶ Allocation of the difference between "meter IN" (measured entry quantities minus line-pack changes) and bottom-up allocation to suppliers to the incumbent supplier/network user.

In both approaches some fuel gas/loss components (e.g., at metering points with the DSO as final consumer) could be directly allocated to suppliers or the DSO's balancing account, but the residual system delta was fully allocated to network users.

#### *Other examples*

- ▶ In the United Kingdom, technical losses are covered by so-called Shrinkage Provider. The functions of the Shrinkage Provider may be imposed on the TSO or the DSO (for balancing the GTS and the GDS respectively). The Shrinkage Provider is entitled to purchase the natural gas for technological consumption on the market.<sup>217</sup>
- ▶ In Czech Republic, DSOs are treated as Consumers for the purposes of gas supply for technological consumption.<sup>218</sup> The market operator bills DSOs the clearing charge for all the gas consumed in the GDS on the basis of actual market prices.<sup>219</sup>

Based on the above, we understand that each country decides on the best approach based on the specifics of its market and behavior of market participants.

#### **Implementation**

Implementation of this solution requires amendments to the GDS Code. The existing provision entitling DSOs to purchase natural gas from owners of natural gas on a regular basis should be replaced with a provision that would oblige DSOs to execute natural gas supply agreements with Suppliers. Certain clarification may also be introduced to the GTS Code to provide that DSO are treated as Direct consumers in cases where they acquire natural gas for technological consumption from Suppliers. The Gas Market Law also may require some changes if the Regulator decides that its provisions require clarification (for example, regarding correlation of definitions of terms "supplier", "supply",

<sup>217</sup> Subparagraph 2, paragraph 2, chapter 4, section N of Transportation Principal Document of Uniform Network Code, available at: <https://www.gasgovernance.co.uk/UNC>.

<sup>218</sup> Paragraph 6, section 3 of the Gas Market Rules, available at:

[https://www.eru.cz/documents/10540/467627/370\\_PodlePDFnaWebu+AJ.pdf/df7a09e9-2d9f-4bce-9cfa-7ff820878644](https://www.eru.cz/documents/10540/467627/370_PodlePDFnaWebu+AJ.pdf/df7a09e9-2d9f-4bce-9cfa-7ff820878644).

<sup>219</sup> Paragraph 3, section 35 of the Gas Market Rules.

"customer", "wholesale buyer/seller", etc. and regarding whether these definitions and corresponding rules of the Gas Market Law would function properly and not interfere with the rights and obligations of DSOs and the concept of Licensed Suppliers for DSOs as a whole) prior to introduction of this concept to the GDS Code and the GTS Code.

In addition to the above, the framework of contractual relationship between DSOs and the GTSO should be thoroughly examined and rebuilt, considering that DSOs and the GTSO would no longer have a Transmission Agreement signed between them. In particular, the following matter should be considered: access to the informational platform of the GTSO, protocols for sharing information, responsibilities of DSOs and the GTSO, dealing with unauthorized off-takes (if any occur, e.g., if the DSO loses its Supplier).

In addition, to ensure the continuous and uninterrupted supply of natural gas for technological consumption to DSOs, certain amendments could be made to the GTS Code and the Supply Rules, to specifically provide that all DSOs that lose their Suppliers are automatically transferred to the SoLR. This solution, however, should be implemented with caution and considering the market stability. Unconditional transfer of all DSOs to the SoLR would likely lead to accumulation of significant unpaid debts of DSOs towards the SoLR and subsequent potential solvency issues of the latter.

#### **4.3. ABANDON THE PRACTICE OF PROHIBITING CUT-OFFS OF CONSUMERS IN DEFAULT AND NOT DIRECTLY SUBJECT TO THE PSO (THE SUPPLIER UNDER THE PSO SHOULD BE COMPLETELY PROHIBITED FROM CUTTING OFF AND TERMINATING SUPPLY OF NATURAL GAS)**

##### **Description**

This solution provides for abandoning the prohibition to cut-off the Consumers that do not maintain the due level of settlements and are not directly covered by the PSO (the PSO supplier should be completely prohibited to cut-off and terminate natural gas supply).

The CMU is known for introduction of various prohibitions on cut-off of gas Consumers in the past. Some of these prohibitions contained regulatory gaps, which led to conflicts between Suppliers, DSOs and the GTSO. To avoid this issue for the future, the CMU should abandon the practice of introducing these prohibitions altogether, or limit it to the cases where the relevant supplier is appointed for the PSO (which should be unconditional, as we describe in solution 4.4.1). Meanwhile, any other prohibitions should not be applied, since it leads to the absence of enforcement mechanisms, further Consumers' misconduct and overall disruption of the gas market. We understand that this matter admittedly may be associated with some social/political aspects, however, they should be addressed not by ways of disrupting the gas market, but rather through introduction of comprehensive solutions aimed at solving the initial problem with Consumers' payment discipline. If the PSO mechanism is applied, the relevant compensation from the state should be provided to it, as provided in the Gas Market Law (please see solution 4.4.2 below).

##### **EU practices**

In EU countries, cut-off is one of the enforcement tools that may be applied to a Consumer in default on a regular basis. However, within our analysis we identified one case where certain exemptions are possible:

- ▶ In Hungary, DSOs may disconnect the Consumer in case they fail to fulfil any of their contractual obligations, in case the Consumer does not have a valid capacity agreement and/or natural gas supply agreement.<sup>220</sup>
- ▶ However, the Hungarian legal framework grants an exemption to socially important entities and vulnerable consumers. Under this rule, socially important enterprises may request suppliers and DSOs to grant them exemption from the disconnection procedure on the grounds of late payment. The moratorium may cover the period requested by the Consumer, which must not be longer than the period between 15 October of a year and 15 April of the next year.<sup>221</sup> During the moratorium, suppliers and DSOs are not allowed to disconnect the Consumer.<sup>222</sup> However, they retain the right to enforce their claims in court. Both DSO and supplier cannot pass on such Consumer's debts to other Consumers.

However, we cannot establish this case as a best practice, since we did not identify any similar examples in other EU jurisdictions within our review.

## Implementation

This solution requires the CMU to abstain from implementing any other prohibitions to cut-off Consumers in default, except for Consumers that are directly covered by the PSO regime for adequately justified reasons.

### 4.4. AMEND THE REGULATION ON IMPOSING SPECIAL OBLIGATIONS (PSO) ON NATURAL GAS MARKET PARTICIPANTS TO RESOLVE PROBLEMS WITH THE ABSENCE OF AN UNCONDITIONAL PSO

#### 4.4.1. Unconditional PSO

##### Description

The effective PSO regime is currently conditional, which creates what could be viewed as a certain contradiction in the legal framework and leads to ambiguous interpretation.

Currently, the PSO supplier (Naftogaz) bears the obligation to supply natural gas to DHCs until 1 May 2021 (subject to the proper level of settlements of the relevant DHCs).<sup>223</sup> However, it still has a right to exclude them from its register of consumers and practically terminate supply of natural gas, if the DHCs do not maintain the appropriate levels of settlements.

At the same time, the CMU has a history of introducing cut-off prohibitions in relation to DHCs, which practically led to the situation where Naftogaz suspended supply and excluded relevant entities from its register of consumers, while the GTSO and DSOs were directly forbidden to cut-off relevant DHCs. As a consequence, DSOs are effectively supplying natural gas these consumers, which is in clear contradiction to the unbundling requirements and the tasks of network operators, which require a clear separation of supply and distribution/transmission functions and has led to an accumulation of significant imbalances for the GTSO. Even though there is no prohibition currently in place, there is no

<sup>220</sup> Paragraph f), part 1, article 16 of the Act XL of 2008 on Natural Gas Supply, available at: <https://erranet.org/wp-content/uploads/2017/10/Gas-ActGovernmental-Decree-Hungarian.pdf>.

<sup>221</sup> Part 1, article 64/A of Act XL of 2008 on Natural Gas Supply.

<sup>222</sup> Part 4, article 64/A of Act XL of 2008 on Natural Gas Supply.

<sup>223</sup> Paragraphs 3 and 11 of the PSO Regulation.

guarantee that it would not be introduced in the future again, as it has been repeatedly done in the past.

As we noted above, the current PSO regime will be effective until 1 May 2021. After that, the PSO regime should expire and the CMU should not extend it further, as the PSO regime significantly disrupts the market functioning. There is no common practice of the PSO application in the EU on this scale. However, until the expiration of the existing PSO, it should be regulated properly.

The GTSO sees the PSO which is not unconditional (i.e., where the PSO supplier can terminate the supply under certain conditions) as a one of main reasons for accumulation of very large amounts of DSOs' unpaid imbalances created as a result of DHCs' off-takes and would suggest that the PSO supplier be obliged to supply natural gas to DHCs and other institutions that are socially important regardless of the level of settlements made by such Consumers. This solution would eliminate the ambiguity in the PSO Regulation and possible misinterpretations that currently result in creation of negative system imbalances and financial losses for the GTSO.

In addition, considering that the PSO supplier would likely accumulate a certain amount of debts of DHCs following the implementation of this solution, the relevant compensation from the state should be provided to it, as provided in the Gas Market Law (please see solution 4.4.2 below). Without proper compensation from the state, the PSO regime is unfair and one-sided, as it functions at the expense of the PSO supplier. The absence of compensation created significant losses for Naftogaz, and now it asks the CMU for the compensation in the amount of UAH 146 billion (approx. USD 5.2 billion) as of the end of 2019. Therefore, the unconditional PSO should be introduced only along with the establishment of a proper state compensation mechanism for performing the PSO.

## Implementation

Implementation of this solution requires amending paragraph 11 of the PSO Regulation. The CMU should amend this paragraph in the following way:

- ▶ Repeal the requirement for the minimum level of settlements or conclusion of an agreement on restructuring of debt (debt settlement procedure should be subject to separate regulation)
- ▶ Add the requirement for Naftogaz to conclude the agreement with the relevant DHC that requested it
- ▶ Prohibit Naftogaz from suspending or terminating supply of natural gas to DHCs under any conditions until the expiration of the PSO (including the prohibition to exclude DHCs from Naftogaz's register of consumers).

### 4.4.2. State compensation for fulfilment of the PSO

#### Description

According to the Gas Market Law, the entity that fulfils the PSO is entitled to receive a relevant compensation of economically justified expenses after deduction of income received by this entity from fulfilment of the PSO.<sup>224</sup>

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<sup>224</sup> Part 7 of Article 11 of the Gas Market Law.

Therefore, the state should ensure fair and adequate compensation for Naftogaz for natural gas supply under the PSO. The compensation should cover the losses borne by Naftogaz that are accumulated due to the lower price of natural gas supply under the PSO, as well as debts of DHCs. There are two possible sources of compensation:

- ▶ Direct payment from the state budget
- ▶ Indirect payment of proceeds received by the GTSO from GTS customers as a payment for transmission services (the relevant compensation part may be included to the tariff for transmission services).

Adequate and sufficient compensation should be a mandatory element of the unconditional PSO regime (please see solution 4.4.1 above), as it would ensure financial integrity of Naftogaz as a PSO supplier and maintain the well-balanced approach to natural gas supplies under the PSO regime.

### Implementation

In order to implement the state compensation, the CMU should adopt the regulation that would stipulate the procedure for calculation and payment of the state compensation to Naftogaz (or include relevant provisions to the PSO Regulation), as it is currently required by the Gas Market Law. Should the compensation be paid from the GTSO's tariff revenue, the NEURC may include relevant changes to the structure of the tariff for transmission services.

#### **4.5. BRING THE MECHANISM OF CALCULATION OF THE NEUTRALITY CHARGE IN COMPLIANCE WITH THE PECULIARITIES OF THE GAS MARKET IN UKRAINE AND START PERFORMING SETTLEMENTS BETWEEN THE TRANSMISSION SERVICES CUSTOMERS AND THE GTSO ON A MONTHLY BASIS STARTING FROM GAS YEAR 2021/22**

We understand that the neutrality charge mechanism and its application in Ukraine may be additionally analyzed in terms of its compliance with the EU regulations and the best possible option for its functioning.

### Description

One of the key principles in the GTS balancing is that the TSO should not financially gain/lose through balancing activities,<sup>225</sup> thus remaining "neutral" from these activities from a financial point of view.

This comprises efficient costs and revenues arising from:

- ▶ Daily imbalance charges, i.e., due to:
  - ▶ Buying/selling of gas from/to network users based on their daily imbalances at marginal buy/sell price
  - ▶ Charges from the application of within day obligations (application of such a system is optional)
- ▶ Balancing actions undertaken, i.e.:
  - ▶ Buying/selling of gas through STSPs (typically: on a gas exchange)

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<sup>225</sup> Articles 29 and 30 of the BAL NC.

- ▶ Making use of balancing services (which the TSO contracted previously through a market-based procedure)
- ▶ Other causes related to balancing activities (e.g., financing costs for buying balancing gas, network user defaults on balancing-related charges).

The efficiency requirement means that the TSO should try to aim for low costs when performing balancing and the Regulator may reject certain costs (subject to the applicable national rules), if it is demonstrated that the TSO could have reasonably mitigated the costs incurred.

As balancing-related costs/revenues will never level out, the TSO should pass related profits/losses to the network users via a separate **neutrality charge**. These neutrality charges are not to be included in charges for transmission services, imbalance charges or other invoicing components, but should be identified separately in the TSO's invoices. Notably, according to Regulation 715/2009 and the BAL NC, the neutrality mechanism must apply immediately, without an interim period.

The calculation methodology for neutrality charges should be either set or approved by the Regulator and has the following key components:

- ▶ Positions to include: While the general rule that the TSO should not gain or lose from imbalance charges, within day charges, balancing actions charges and other charges related to its balancing activities is quite clear from the BAL NC, this does not lead to a clear best-practice in the positions to be included when calculating neutrality charges. The consideration of costs and revenues depends on the specifics of the national balancing/market model, relating costs the TSO is effectively incurring and their coverage in transmission or non-transmission tariffs. These are different from country to country (and not fully transparent) and depend on, e.g.:
  - ▶ Allocation of the system delta (considered, *inter alia*, in Ireland, Germany)
  - ▶ TSOs' responsibility for the transport of balancing volumes (considered, *inter alia*, in Greece)
  - ▶ Non-consideration of related administrative costs in tariff calculation (considered in neutrality charges, *inter alia*, in Slovakia)
  - ▶ Existence of (systematic) delays (and thus financing costs/revenues) in the settlement process (considered, *inter alia*, in Slovakia and Germany).

**Best practice:** costs/revenues positions may vary depending on the specifics of the respective market model, maintaining the principle that all costs and revenues related to balancing (including network user defaults<sup>226</sup>) should be considered. Therefore, unpaid imbalances may be included into calculation of the neutrality charge.

- ▶ Neutrality period: The period over which neutrality should be accomplished. The longer the period, the more cross-subsidization may occur between different network users and the higher requirements are to consider financing costs and forecasts in the calculation of neutrality charges.

Best practice: monthly.

- ▶ Calculation perspective: Based on the fact that Article 29(1) of the BAL NC makes a clear reference to "payment and receipt" of balancing related charges and following the definition of neutrality charges in Article 3(3), two different perspectives on neutrality seem applicable:

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<sup>226</sup> Article 31 of the BAL NC.



- ▶ **Accounting** based calculation of neutrality charges, i.e., consideration of costs and revenues as payables and receivables (irrespective of actual payment), whilst separately considering potential financing costs and defaults
- ▶ **Cash-flow** based calculation of neutrality charges, i.e., consideration of actual payments and receipts, implicitly considering financing costs and defaults.

In practice, our analysis has shown that all countries follow an accounting-based calculation approach and no country within our analysis could be found following a cash-flow based calculation of neutrality charges.

We note that TSOs in EU countries usually do not experience the scale of unpaid imbalances currently present in Ukraine. Therefore, EU TSOs may have no preferences between the accounting and cash-flow methods, and usually do not consider effects of large quantities of unpaid imbalances on each of these methods. Thus, their best practices may not be relevant for Ukraine.

In this regard, the cash-flow method may be a more efficient way to calculate the neutrality charge in Ukraine in the current situation. It should allow the GTSO to perform the calculations based on actual proceeds from market participants, and to distribute losses from unpaid imbalances. We see from the EU regulations that the cash-flow method may be applied and does not contradict the BAL NC.

At the same time, we note that the difference between these two methods may become irrelevant in the future. Considering that the actual application of the neutrality charge in Ukraine is delayed until 2022, if until this time the relevant solutions for mitigating the unpaid imbalances issue (accounts with a special regime for DSOs, unconditional PSO, etc.) are implemented and prove to be efficient, there should be no material difference between application of accounting or cash-flow method.

**Best practice:** accounting based.

**Recommendation:** if the issue with deviant off-takes is not solved by the end of September 2021 (end of gas year 2020/2021), the NEURC may consider temporary implementation of the cash-flow method for calculation of the neutrality charge to address the existing issues. At the same time, if all solutions are implemented efficiently and the issue with deviant off-takes is solved, there would be no need to implement the cash-flow method, as there would be no difference between calculations based on the cash-flow and accounting methods.

- ▶ Quantities for the calculation of neutrality charges:
  - ▶ Article 30(3) of the BAL NC states that the neutrality charge must be "proportionate to the extent the network user makes use of the relevant entry or exit points concerned or the transmission network". This means that all entry and exit allocations of a network user are to be considered in the calculation.
  - ▶ However, Article 30(6) also provides the possibility for a distinction of the neutrality charge according to "balancing components and the subsequent apportionment of the corresponding sums amongst the network users in order to reduce cross subsidies".

**Best-practice:** all transported quantities of network users (based on all entry and exit allocations excluding virtual trading points).



## EU practices

Table 9: Neutrality charge implementation in some EU countries

No.	Country	Short description	Remarks
1.	Poland <a href="http://en.gaz-system.pl">en.gaz-system.pl</a>	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> monthly</li> <li>▶ <b>Positions:</b> costs/revenues related to imbalance charges and balancing actions and multiple other positions, e.g., costs of maintaining the Balancing Market Platform</li> <li>▶ <b>Quantities:</b> in proportion to the amount of natural gas transported</li> </ul>	—
2.	Lithuania <a href="http://www.e-tar.lt">www.e-tar.lt</a>	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> annual</li> <li>▶ <b>Positions:</b> costs/revenues related to imbalance charges and balancing actions, correction of differences forecast vs. actual</li> <li>▶ <b>Quantities:</b> in proportion to the amount of natural gas transported</li> </ul>	—
3.	Romania <a href="http://www.transgaz.ro">www.transgaz.ro</a>	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> monthly</li> <li>▶ <b>Positions:</b> costs/revenues related to imbalance charges and balancing actions</li> <li>▶ <b>Quantities:</b> in proportion to the amount of natural gas transported</li> </ul>	—
4.	Slovakia <a href="http://www.eustream.sk">www.eustream.sk</a>	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> unknown (since 2017)</li> <li>▶ <b>Positions:</b> costs/revenues related to imbalance charges and balancing actions, administrative &amp; other costs (eligible plan costs)</li> <li>▶ <b>Quantities:</b> in proportion to the capacity booked (in case of interruption: actual allocations) multiplied with the period</li> </ul>	<ul style="list-style-type: none"> <li>▶ The fixed neutrality charge of 0,02 EUR/MWh from RONI's price decision of 2017 applies as long as there is no new decision in force</li> <li>▶ There is no information on how the neutrality charge was actually determined</li> </ul>
5.	Slovenia <a href="http://www.plinovodi.si">www.plinovodi.si</a>	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> monthly</li> <li>▶ <b>Positions:</b> costs/revenues related to imbalance charges and balancing actions, WACC before taxes applied to the average value of the quantity of natural gas for balancing</li> <li>▶ <b>Quantities:</b> in proportion to the sum of absolute amounts of calculated imbalances of individual balancing group leaders in the respective month</li> </ul>	—
6.	Hungary	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> monthly</li> <li>▶ <b>Positions:</b> costs/revenues related to imbalance charges and balancing actions</li> <li>▶ <b>Quantities:</b> proportionate to the sum of long and short imbalances</li> </ul>	Based on 15.2.2.5.2. of <a href="#">4501/2016 MEKH</a>
7.	Greece <a href="http://www.desfa.gr">www.desfa.gr</a>	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> monthly</li> <li>▶ <b>Positions:</b> costs/revenues related to imbalance charges and balancing actions (including costs for using the transmission system, LNG terminals and storages in the course of balancing)</li> <li>▶ <b>Quantities:</b> in proportion to the amount of natural gas transported</li> </ul>	Additionally, DESFA performs separate accounting of costs/revenues for operational gas.

No.	Country	Short description	Remarks
8.	France <a href="http://www.cre.fr">www.cre.fr</a>	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> monthly</li> <li>▶ <b>Positions:</b> costs/revenues related to imbalance charges and balancing actions, monthly clearance of residual imbalances carried out within the framework of the linepack flexibility service (ALIZES)</li> <li>▶ <b>Quantities:</b> proportionate to the quantities delivered (i.e., allocations at DSO exits and directly connected final consumers)</li> </ul>	—
9.	Ireland <a href="http://www.gasnetworks.ie">www.gasnetworks.ie</a>	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> monthly with annual reconciliation</li> <li>▶ <b>Positions:</b> costs/revenues related to imbalance charges and balancing actions, shrinkage costs, administration charges (e.g., bank fees and charges), costs associated with the participation on the trading platform and/or the administration (including audit) of the disbursements account, etc.</li> <li>▶ <b>Quantities:</b> Shipper's final allocations at entry/exit points (excluding sub-sea) and exits to final consumers</li> </ul>	<ul style="list-style-type: none"> <li>▶ Neutrality principles apply not only to balancing, but also to, e.g.: <ul style="list-style-type: none"> <li>▶ scheduling charges (applying to the difference between nomination and renomination)</li> <li>▶ the provision of shrinkage gas (covers, e.g., compressor fuel gas, pre-heating and unaccounted for gas)</li> </ul> </li> <li>▶ Various intricacies of the model, e.g., regarding monthly/annual review, shipper payment issues and mixing of the "disbursement credits/debits" and "balancing action contributions".</li> </ul>
10.	Austria <a href="http://www.e-control.at">www.e-control.at</a>	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> quarterly</li> <li>▶ <b>Positions:</b> costs/revenues related to imbalance charges and balancing actions, balancing of network accounts and creation of a potential liquidity reserve</li> <li>▶ <b>Quantities:</b> proportionate to the exit allocations at interconnection points and final consumers</li> </ul>	<ul style="list-style-type: none"> <li>▶ Note: Since 2013 there were only 3 months with a nonzero neutrality rate.</li> <li>▶ Reconciliation is not performed in terms of neutrality rate calculation, but regarding network user allocations and thus the neutrality charge.</li> </ul>
11.	Germany <a href="http://www.gaspool.de">www.gaspool.de</a>	<ul style="list-style-type: none"> <li>▶ <b>Neutrality period:</b> annual</li> <li>▶ <b>Positions:</b> <ul style="list-style-type: none"> <li>▶ NDM<sup>227</sup>-part: NDM share of costs/revenues related balancing actions, NDM neutrality charges, NDM reconciliation, other NDM costs/revenues*</li> <li>▶ IDM<sup>228</sup>-part: costs/revenues related to balancing actions, imbalance charges and WDOs, IDM share of costs/revenues related to balancing actions, IDM neutrality charges, other IDM costs/revenues*</li> </ul> </li> <li>* this includes customer defaults and account financing (liquidity buffer)</li> <li>▶ <b>Quantities:</b> proportionate to the exit allocations at IDM and NDM exit points, respectively</li> </ul>	Germany applies a split of neutrality into NDM and IDM components (daily calculation of splitting key), as the NDM allocation model is based on day-ahead allocation of a forecasted value.

## Current implementation in Ukraine

The neutrality mechanism for the Ukrainian GTS is mainly defined in chapter 8 of section XIV of the GTS Code:

<sup>227</sup> Nondaily metering.

<sup>228</sup> Intraday metering.

- ▶ Neutrality is a compound of
  - ▶ Commercial effects of **daily imbalances**
  - ▶ Commercial effects of **balancing activities**
  - ▶ **Bank interest** due to NU's financial security and expenses for maintaining the account.

For this purpose, the TSO creates a separate account record of balancing neutrality. The neutrality rate (and charges for network users) are calculated monthly.

#### Neutrality rate calculation:

- ▶ 
$$NBR = \frac{ET - RT}{TTV}$$
  - ▶ NBR means neutrality balancing rate for gas month M [UAH/1000m<sup>3</sup>]
  - ▶ ET means expenses of the TSO for the gas month M [UAH]
  - ▶ RT means revenues of the TSO for the gas month M [UAH]
  - ▶ TTV means the NU's natural gas total transmission volumes for the gas month M [tcm].

#### Neutrality charge calculation per network user:

- ▶ 
$$NC_{NU} = NBR * CVT_{NU}$$
  - ▶ NC<sub>NU</sub> means network user's neutrality charge
  - ▶ CVT<sub>NU</sub> means network user's volume of natural gas transmission for the gas month M in [1000m<sup>3</sup>]

The neutrality charge is not applied to the transit regime and the storage customs warehouse.

#### Peculiarities of the balancing approach in Ukraine:

- ▶ **Costs and revenues from daily imbalance charges:**
  - ▶ The daily imbalance charge for a balancing portfolio is calculated by multiplying the daily imbalance quantity by the following prices:
    - ▶ If the imbalance is negative (i.e., exit exceeding entry): marginal gas purchase price
    - ▶ If the imbalance is positive (i.e., entry exceeding exit): marginal gas sales price
    - ▶ For balancing portfolios with special obligations (PSO), the applied gas price is defined per decree of the CMU
  - ▶ The marginal gas purchase price (network user purchases gas from TSO to balance short position) is calculated as follows:
    - ▶ the highest price at which the TSO bought any STSPs for gas day D
    - ▶ weighted average price of STSPs for gas day D + small adjustment
  - ▶ The marginal gas sales price (network user sells gas to TSO to balance long position) is calculated as follows:
    - ▶ The lowest price at which the TSO sold any STSPs for gas day D
    - ▶ Weighted average price of STSPs for gas day D - small adjustment

- ▶ The value of the small adjustment to apply for determination of the imbalance settlement price depends on the percentage of the imbalance quantity in the total entry (for short imbalances) or exit (for long imbalances) allocation of the respective balancing portfolio (except VTP allocations):
  - ▶ Small adjustment of 0% for imbalances below the tolerance margin of 3% (for DSOs: 7,5%)
  - ▶ Small adjustment of 10% for imbalances in the tolerance interval of 3-5% (for DSOs: 7,5%-15%)
  - ▶ Small adjustment of 20% for imbalances above the tolerance margin of 5% (for DSOs: >15%)
- ▶ **Costs and revenues for procurement of gas for balancing of the gas transmission system:**
  - ▶ Procurement of natural gas for GTSO's technological consumption and for balancing actions is not separated and performed under the same procedures and agreements (the accrual of costs is separated).
- ▶ **Payment timing topics:**
  - ▶ Regarding imbalance charges: The TSO provides a daily balancing settlement statement to the network users until the 14th calendar day of the month following the reporting month. The respective payments have to be made until the 20th calendar day of the month following the reporting month. Thus, there is a delay of about 30-50 days for the TSO until it receives the payment for the imbalance on a particular day, notwithstanding actual late payments.
  - ▶ Regarding balancing actions: Currently, the TSO is bound by the contract terms involved in the balancing energy procurement, which is currently occurring on the ProZorro platform and which might differ for each procurement procedure. However, the mandatory public procurement requirement was recently repealed by Law of Ukraine "On Amending Article 3 of Law of Ukraine "On Public Procurement" regarding Procurement of Natural Gas" № 1021-IX dated 2 December 2020 (former Draft Law No. 3176) that became effective on 23 January 2021, which allows the GTSO to buy/sell gas on the gas exchange.
  - ▶ Regarding neutrality charges:
    - ▶ For the gas years 2019/2020 and 2020/2021, the balancing neutrality fee is not charged and is not paid.
    - ▶ For gas year 2021/2022, neutrality charge information is published monthly, but is charged or paid by the TSO once a year before 1 January 2023
    - ▶ From gas year 2022/2023, neutrality is charged and paid monthly
    - ▶ So there currently exists a gap of 2 years where the TSO has to wait to receive cash under the neutrality mechanism, still assuming timely and complete payment after this transition period, so further delays and/or impairments may occur.
- ▶ **Current GTSO neutrality account transparency:**

Table 10: Calculations of the neutrality charge by the GTSO<sup>229</sup>

Gas month	Balancing actions: costs	Balancing actions: revenues	Imbalance settlement: costs	Imbalance settlement: revenues	Total balance (negative=costs)	Transported volumes [domestic]	Neutrality fee
	UAH mln	UAH mln	UAH mln	UAH mln	UAH mln	m <sup>3</sup> mln	UAH/m <sup>3</sup>
Mar 20	-1.033	541	-482	815	-159	16.774	0,0095

<sup>229</sup> Available at: <https://tsoua.com/kliientam/zamovlennya-poslug/nejtralnist-balansuvannya/>.

Gas month	Balancing actions: costs	Balancing actions: revenues	Imbalance settlement: costs	Imbalance settlement: revenues	Total balance (negative=costs)	Transported volumes [domestic]	Neutrality fee
Apr 20	-443	80	-74	263	-174	12.596	0,0138
May 20	-767	8	-8	377	-388	12.231	0,0318
Jun 20	-1.490	0	0	887	-603	12.066	0,0500
Jul 20	-2.156	0	0	1.522	-634	12.791	0,0496
Aug 20	-878	7	-4	897	23	11.196	-0,0020
Sep 20	-83	21	-10	139	67	3.674	-0,0182
Oct 20	-314	50	-33	477	180	4.261	-0,0421

Currently, the application of neutrality charge in Ukraine is postponed until gas year 2021-2022 and the payment is due 1 January 2023.<sup>230</sup>

Generally, we understand that Ukrainian regulation on neutrality charge is in line with the BAL NC.

Recently, the NEURC has adopted a new regulation that provides further harmonization of the GTS Code with the BAL NC. In particular, it implements the provision allowing the NEURC to adopt the decision on inefficiency of the incurred costs and revenues gained by the GTSO. In such case, the GTSO would be obliged to revise the neutrality charge rate.<sup>231</sup>

However, there are still some issues that may need improvement.

**First**, the calculation methodology of the neutrality charge in Ukraine needs to be improved.

Although the primary formula for calculation of the neutrality charge is similar to the calculation methods applied in Poland and the United Kingdom, there are still some differences in calculation of financial loss of the GTSO, which is one of the components of neutrality charge formula. Thus, determination of the balancing tools available for the GTSO is a key issue for proper calculation of the neutrality charge. The balancing tools have a direct effect on the generation of the GTSO's financial loss, since some of them may be cheaper or more expensive than others. In addition, the NEURC notes that calculation methodology needs further modification, since the daily imbalance charges paid to the GTSO do not entirely cover GTSO's financial losses.

**Second**, Ukrainian regulation on the neutrality balancing charge lacks several tools and mechanisms that are envisaged by the BAL NC:

- ▶ The GTSO currently cannot trade STSPs for performance of its balancing activity (the BAL NC considers STSPs as a top priority balancing tool)<sup>232</sup>
- ▶ Current regulation on credit risk management does not provide for efficient financial security that would cover the GTSO's losses in case of default of the network user.

<sup>230</sup> Paragraph 10 of chapter 8 of section XIV of the GTS Code.

<sup>231</sup> Paragraph 1 of Resolution of the NEURC No. 1779 dated 30 September 2020.

<sup>232</sup> Some of the required changes are already present in Law of Ukraine "On Amending Article 3 of Law of Ukraine "On Public Procurement" regarding Procurement of Natural Gas" № 1021-IX dated 2 December 2020 (former Draft Law No. 3176) that became effective on 23 January 2021, which allows the GTSO to buy/sell gas on the gas exchange and buy/sell gas in amount of imbalances directly from market participants.

## Suggestions for improvement

As of now, Ukrainian neutrality charge regulations, in our view, require the following amendments and additions:

- ▶ Introduction of STSPs market that would allow the GTSO to perform effective daily balancing actions. It would also minimize the GTSO's financial losses for the purpose of neutrality charge calculation (some of the required changes are already present in Law of Ukraine "On Amending Article 3 of Law of Ukraine "On Public Procurement" regarding Procurement of Natural Gas" № 1021-IX dated 2 December 2020 (former Draft Law No. 3176) that became effective on 23 January 2021, which allows the GTSO to buy/sell gas on the gas exchange and buy/sell gas in amount of imbalances directly from market participants, however, successful implementation of the STSPs would depend on the Regulator's decisions)
- ▶ Ensuring an adequate credit risk management mechanism that would protect the GTSO and market participants from damages caused by default of network users, including non-payment of the neutrality charge
- ▶ Amendment of the methodology on calculation of the neutrality charge. In particular, the methodology needs to entirely cover GTSO's financial losses for performing balancing actions. Also, the methodology should introduce provisions on recovery of accrued debts on neutrality charge payment from network users in default and consideration of interest and reserve for bad debts (if accounting approach is kept). Temporary, until the relevant solutions are implemented and the issue with deviant off-takes is solved, the cash-flow method for calculation of the neutrality charge may be introduced.

The deferred implementation of the neutrality charge should consider resulting gains and losses from TSO balancing activities since the introduction of the daily balancing system, unless these gains/losses are considered in the TSOs tariff calculation.

## Implementation

Implementation of any changes to the neutrality charge mechanism should be performed by amending chapter 8 of section XIV of the GTS Code.

However, the neutrality charge implementation should be made only after taking certain necessary steps that should precede the application of the neutrality charge in order to make it smoother and have fewer negative externalities for market participants.

#### 4.6. AMEND THE METHODOLOGY FOR DETERMINING AND CALCULATING THE TARIFF FOR NATURAL GAS DISTRIBUTION SERVICES AND THE PROCEDURE FOR ESTABLISHMENT OF THE TARIFFS FOR HEAT ENERGY, ITS PRODUCTION, TRANSMISSION AND SUPPLY TO ENSURE THE OBJECTIVITY OF INITIATING THE TARIFFS' REVIEW

##### Description

According to the Tariff Approval Procedure and Distribution Tariff Methodology, the revision of the tariff could be initiated both by DSOs and the Regulator if special conditions are met<sup>233</sup>. DSOs<sup>234</sup> have a right to initiate the revision of the tariff in the following cases:

- ▶ If the deviation of the actual volumes from those envisaged in the tariff is more than 5%
- ▶ If the deviation of the actual costs (as a result of price increase for fuel, raw and other materials, services as well as increase in payrolls according to change of minimum wage level) from those envisaged in the tariff is more than 5%.

The NEURC<sup>235</sup> may initiate the tariff revision in the following cases:

- ▶ Tariff revenue misuse, including, non-use of funds provided by the tariff structure; inappropriate use of funds envisaged in tariffs; cross-subsidization between different types of activities; non-use of funds provided for investment program; inappropriate use of funds envisaged by the investment program
- ▶ End of the period for which the tariff was set
- ▶ Providing the NEURC with wrong or unreliable information about business activities
- ▶ Conducting activities not related to the sector of natural monopolies
- ▶ Deviation of the actual distribution volumes from those envisaged in the tariff by more than 5%
- ▶ Deviation of the actual costs from those envisaged in the tariff, but only if a) such deviation was caused by reasons out of DSOs control; b) such deviation leads to a change in the tariff by more than 5%.

The problem here is that the NEURC may initiate the tariff revision, but is not required by law to do so. For example, as was previously mentioned, tariffs for DSOs were stable during 2017-2019, despite changes in distribution volumes, cost of natural gas and payrolls:

- ▶ During 2017 and 2018, the volume of gas distribution to end Consumers remained at an average level of 27.5 bcm. In 2019, these volumes decreased to 25 bcm, primarily due to an increase in the average annual temperature and unusually warm winter.
- ▶ The average annual price of gas set by Naftogaz in 2017 was UAH 8,884 per tcm. After growing by 28.4% in 2018, the price reached UAH 11,408. In 2019, it dropped below the level of 2017 to UAH 8,156. In monthly terms, the highest price was set in October-November 2018 and equaled UAH 14,586 per tcm of gas. The lowest price was set in August-September 2019 - UAH 6,244.

<sup>233</sup> Paragraph 4.1 of the Tariff Approval Procedure; Section VIII Paragraph 14 of the Distribution Tariff Methodology.

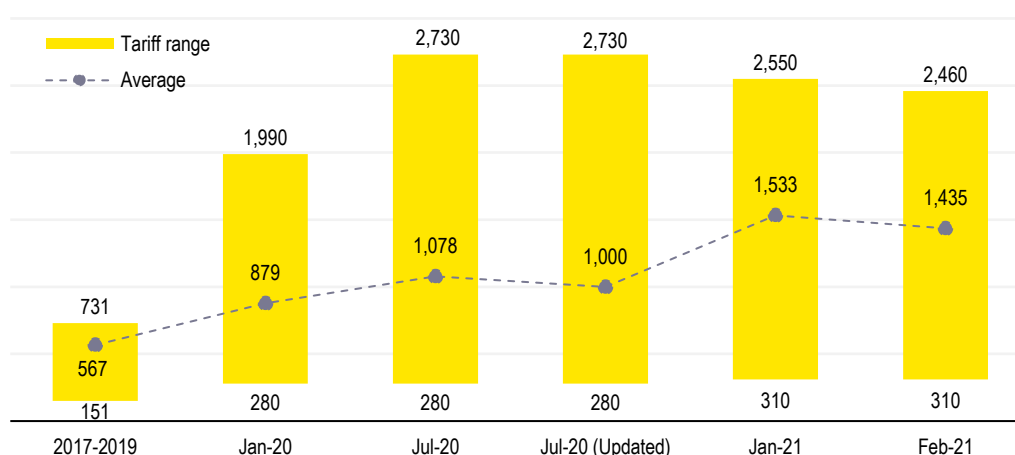
<sup>234</sup> Paragraph 4.2 of the Tariff Approval Procedure; Section VIII Paragraph 15 of the Distribution Tariff Methodology.

<sup>235</sup> Paragraph 4.3 of the Tariff Approval Procedure; Section VIII Paragraph 16 of the Distribution Tariff Methodology.

- The average salary in the industry of electricity, gas, steam supply, and air conditioning grew at a CAGR of 28.3% during 2017-2019.

Tariffs were reassessed only at the end of 2019 when the NEURC adopted new distribution tariffs for 2020 (Resolutions No. 3014-3057 dated 24 December 2019). There was the first increase from 1 January onwards (on average +55.0%), and the second one after 1 July (additionally +22.7%). Nevertheless, tariffs after 1 July were reconsidered (Resolutions No. 1152-1193 dated 24 June 2020), namely: on average +13.8% compared to the 1H 2020 level; -7.2% compared to those previously adopted, and +76.4% compared to the 2017-2019 level. On December 16, 2020 (Resolutions №2450-2468) and December 30, 2020 (Resolutions №2765-2787), the NEURC adopted new tariffs for all DSOs for 2021, which are on average 64.8% more than those effective during 2H2020. However, after such increase, tariffs of several DSOs were significantly higher than the country average. That is why, on January 30, 2021 (by implementing Resolutions №123-135) the NEURC reconsidered tariff for 13 DSOs valid from February 1, 2021 (-14.4% on average).

Chart 28. DSOs' tariffs, 2017-2021, UAH per tcm<sup>236</sup>



It was observed during 2020-2021 that the Regulator has changed the approach to tariff revision and made it more transparent and regular. For 2021 the NEURC included additional compensation for DSOs in the amount of UAH 1,279.8 m<sup>237</sup>, which should cover: 1) unearned tariff revenue during 2015-2020; 2) the difference between envisaged and actual prices for natural gas procured for technological consumption during 2015-2020. The largest compensations were granted to Lvivgas (UAH 117.0 m), Odesagas (UAH 87.9 m) and Kyivoblgas (UAH 85.2 m). Taking into consideration the corrections, the net effect of compensation equals UAH 1,139.5 m for all DSOs. Even considering the Regulator's decision to allocate such compensation within the next few years to smooth the distribution tariff increase, it appears an essential step to DSOs' financial recovery.

Nevertheless, the economically unjustified revision in early 2021 calls into question the transparency and credibility of the revision procedure<sup>238</sup>. Although these DSOs occupy only 24.6% of the total tariff revenue of all DSOs for 2021, it creates a precedent for manipulations in the future. We understand that this revision was carried out only for DSOs with a small subscriber base and the government's

<sup>236</sup> The NEURC.

<sup>237</sup> Available at: <https://www.nerc.gov.ua/index.php?id=48333&cpage=0>.

<sup>238</sup> Available at: [https://www.nerc.gov.ua/data/filearch/Materialy\\_zasidan/2021/sichen/30.01.2021/p\\_30-01-21.pdf](https://www.nerc.gov.ua/data/filearch/Materialy_zasidan/2021/sichen/30.01.2021/p_30-01-21.pdf).



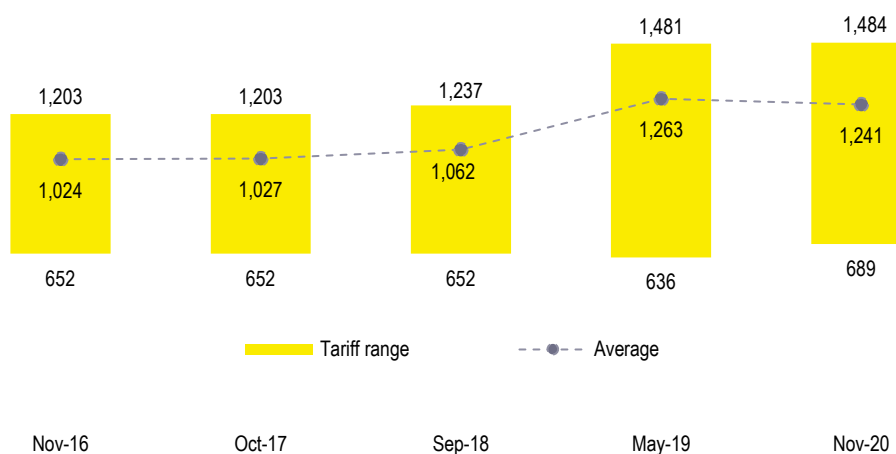
plans to enlarge DSOs can be the right solution for these DSOs which will also allow to resolve social tensions in economically reasonable way.

Tariff setting methodology of DHCs also requires additional amendment. According to Resolution of the NEURC No. 528 dated 31 March 2016,<sup>239</sup> the revision of the tariff may be initiated both by DHCs and the Regulator if special conditions are met. Compared to DSO's tariff revision procedure, the procedure for DHCs does not distinguish cases where the revision may be initiated by DHCs and where it may be initiated by the Regulator, and includes the following:

- ▶ If the deviation of the actual volumes from those envisaged in the tariff is more than 5%
- ▶ If the amendments to the investment program lead to a tariff change by more than 2%
- ▶ If the deviation of the actual costs (as a result of taxes, payrolls, fuel prices or tariffs increase, changes of financial expenses or planned profit) from those envisaged in the tariff leads to a change in tariff by more than 2%
- ▶ Non-fulfilment or absence of an approved investment program
- ▶ Changes in natural gas prices, if such changes lead to a change in tariff by more than 2%
- ▶ Inappropriate use of funds envisaged in tariffs
- ▶ Cross-subsidization between different types of activities
- ▶ Providing the NEURC with wrong or unreliable information about business activities.

Moreover, there are some other differences between approaches for DSOs and DHCs, for example, for cost deviation: 1) for DSO it is applied if the actual costs deviate from those envisaged in the tariff by more than 5%; 2) for DHCs it is applied if the deviation of the actual costs from those envisaged in the tariff leads to a change in the tariff by more than 2%. Still, the NEURC is more flexible in terms of DHCs' tariff compared to DSOs' - during 2017-2020, the Regulator conducted 16 revisions for DHCs (in general, not each time for each DHC).

Chart 29: DHCs' tariffs for households, 2017-2021, UAH per tcm<sup>240</sup>



<sup>239</sup> Paragraph 4.2 of Resolution of the NEURC No. 528 dated 31 March 2016, available at: <https://zakon.rada.gov.ua/laws/show/z0993-16#Text>.

<sup>240</sup> Available at: [http://www.nerc.gov.ua/data/filearch/teplo/dynamika\\_taryfy/naselennia/Dynam\\_taryfy\\_teplo\\_naselennia.pdf](http://www.nerc.gov.ua/data/filearch/teplo/dynamika_taryfy/naselennia/Dynam_taryfy_teplo_naselennia.pdf).

The NEURC assigns tariffs to each DHC for each consumption group, i.e., households, public organizations, religious organizations, and other Consumers, upon their substantiated request. From 2016 to 2018, heat tariffs for households slightly grew with a additional increase in 2019. Starting the beginning of 2019, heat tariffs for households have been increasing due to the 23.5% increase in the gas price since November 2018. In early December 2018, new heat tariffs were approved increasing the tariff by 18.9% on average (it ranged from 10 % to 24% depending on DHC). Even though the tariffs established from November 1, 2020 remained at the level of May 2019, a subsequent increase in tariffs associated with a rise in the gas price, which accounts for more than 80% of DHC costs, is possible.

At the same time, in early January 2021, the Government of Ukraine launched «8 steps to resolve the tariff problem and establish fair rules in the gas market». In terms of this program, the Government has signed a memorandum with the local authorities on tariffs for heat and hot water, which will not provide an increase in tariff until the end of the heating season. In particular, the memorandum stipulates that heat supply companies are guaranteed to receive gas for heat production and supply during the entire heating period 2020-2021. For these enterprises there is a delay in payment for natural gas and compensation for the difference between the market price of natural gas and the price included in heat tariffs<sup>241</sup>. Such actions by the government on the one hand temporarily reduce the tariff pressure, but on the other hand contradict the rules of the fair market operation.

### Implementation

To improve the situation for DSOs, the Regulator should adhere to best practices and conduct mandatory revision of tariffs if special conditions envisaged by the effective secondary legislation are met. It could be underpinned by amendments to paragraph 16 of section VIII of the Distribution Tariff Methodology, which should be initiated and adopted by the Regulator. These amendments will distinguish cases where the Regulator *may* initiate tariff revisions (Section VIII, paragraphs 16.2-16.4 and 16.8) and where the Regulator *must* initiate tariff revisions (Section VIII, paragraphs 16.1 and 16.5-16.7), as currently the tariff revision is optional in all cases.

Even though the general situation with tariff revision for DHCs is quite positive, it is also reasonable to amend paragraph 4.4 of section 4 of Resolution of NEURC No. 528 dated 31 March 2016 and clearly distinguish the NEURC's rights and obligations regarding tariff revisions (as currently the tariff revision is optional in all cases):

- ▶ Provisions 1, 2, 3, 5 of paragraph 4.4 should trigger mandatory tariff revision by the Regulator
- ▶ Other provisions of paragraph 4.4 may remain optional.

## 4.7. DEVELOP AND IMPLEMENT A MECHANISM OF TEMPORARY ADMINISTRATION FOR MATERIALLY NON-COMPLIANT DSOs/DHCs

### Description

As we noted above, DSOs are natural monopolies in the gas sector in their relevant regions and as such have a significant influence on the socio-economic wellbeing of the nation. Thus, from a legislative

<sup>241</sup> GoU official web site. Available at: <https://www.kmu.gov.ua/news/uryad-ta-misceva-vlada-zakripili-v-memorandum-i-domovlenosti-pro-nepidvishchennya-tarifiv-na-opalennya-ta-garyachu-vodu-premyer-ministr>

standpoint, one should make sure that this responsibility is reflected in the legal and regulatory framework adequately by:

- ▶ Defining a tight framework of tasks, responsibilities, rules and standards
- ▶ Defining authorities, competences and responsibilities to monitor them
- ▶ Creating proper enforcement instruments via sanctions and penalties
- ▶ Providing for administrative actions for exceptional and time-critical issues (i.e., where the impact of not solving the issue is high and increases with time).

The existing DSOs' liability for misconduct with significant violation of regulations and the respective enforcement mechanisms seem to be not entirely sufficient to prevent or mitigate violations on a large scale.

Moreover, due to DSOs' specific status (natural monopolies) and their importance for functioning of the gas market and the socio-economic wellbeing, currently it seems there is hardly any efficient way to exert influence on or further regulate their behavior to positively change it, as both existing most severe methods (bankruptcy and revocation of license) would lead to significant disruption in functioning of the market. Therefore, new relevant legal consequences may need to be considered and possibly introduced.

Temporary administration of DSOs may become a reasonable replacement to regular bankruptcy or revocation of license in this case. This should also allow lifting currently existing insolvency bans and avoid introduction of new ones in the future, as there would be no need in insolvency bans.

The temporary administration means seizure of full control over a DSO, suspending the control of old shareholders, introduction of a new management replacing the current management of a DSO, based on the decision of a relevant authority, under certain specified circumstances and for a limited period of time, to achieve a certain goal (e.g., to rehabilitate the DSO financially / rectify the misconduct and ensure DSO's proper functioning).

The temporary administration mechanism for DSOs may be based on same principles and may be somewhat procedurally similar to the existing temporary administration mechanism for banks<sup>242</sup> or for assets arrested in criminal proceedings or seized by the government as unsubstantiated.<sup>243</sup> At the same time, these mechanisms are generally used to achieve a slightly different goal than the goal of the temporary administrations for DSOs (stability of DSOs functioning and rehabilitation). Therefore, our focus here is different both in terms of legal options and, even more importantly, their practical implementation.

The following questions should be carefully considered to properly understand and develop a balanced temporary administration mechanism:

- ▶ Who makes a decision to introduces temporary administration?
- ▶ What are the criteria for its introduction?
- ▶ How an administrator is selected?

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<sup>242</sup> The Law on DGF.

<sup>243</sup> Law of Ukraine "On National Agency of Ukraine for Detection, Investigation and Management of Assets Obtained from Corruption and Other Crimes" No. 772-VIII dated 10 November 2015.

- ▶ What are requirements regarding the administrator?
- ▶ What powers and authorities should the administrator have?
- ▶ What is the responsibility of the administrator?
- ▶ What is the expected result of the temporary administration?
- ▶ What is the duration of the temporary administration?
- ▶ Should the losses incurred as a result of the temporary administration be compensated and how?

Below we provide our comments regarding each of the above matters.

#### ▶ **Decision-making authority**

Generally, we understand that for banks the decision on bank's insolvency is made by the banking regulator, namely, the National Bank of Ukraine,<sup>244</sup> while the decision on introduction of the temporary administration is made by the temporary administering body, namely, the DGF.<sup>245</sup>

Following the similar approach, the decision on temporary administration of a DSO may be made by, for example:

- ▶ Regulator
- ▶ Regulator along with a special temporary administration authority
- ▶ Regulator and the CMU / Ministry of Energy.

#### ▶ **Criteria for introduction of the temporary administration**

Considering that, as noted above, the temporary administration mechanism for DSOs is aimed at replacing the graver procedures of insolvency and revocation of a license, and following a similar approach applicable to banks, we suppose that the criteria for introduction of the temporary administration of the DSO may include:

- ▶ Declaration of insolvency by the DSO
- ▶ Initiation of DSO's insolvency by its creditors
- ▶ Identification of DSO's insolvency by the Regulator
- ▶ Establishing by the Regulator of a fact of repeated misconduct and substantial violation of licensing terms by the DSO (e.g., failure to balance their portfolios and/or pay for balancing actions to the GTSO).

#### ▶ **Selection of the administrator**

Currently, insolvent banks and assets arrested/seized in criminal proceedings are administrated by a special body/agency empowered to perform these functions according to the law (the DGF for banks and the National Agency of Ukraine for Detection, Investigation and Management of Assets Obtained from Corruption and Other Crimes for relevant assets). At the same time, the Agency is empowered to choose an independent professional administrator for certain kinds of managed assets.<sup>246</sup> An approach similar to these may be used for administration of DSOs.

<sup>244</sup> Article 76 of the Law on Banks.

<sup>245</sup> Article 34 of the Law on DGF.

<sup>246</sup> Article 21 of Law of Ukraine "On National Agency of Ukraine for Detection, Investigation and Management of Assets Obtained from Corruption and Other Crimes" No. 772-VIII dated 10 November 2015.

Thus, the temporary administrator may be selected in one of the following ways:

- ▶ DSOs may be administered by the NEURC (its relevant officials)
- ▶ DSOs may be administered by a separate specialized body created/empowered according to the law for performing temporary administration of DSOs (and, maybe, other energy market participants, if relevant). We note that establishment of a new body may seem too costly for this case, as there may be not enough resources to fund its activities.
- ▶ The NEURC may hold a public selection to appoint a professional manager (company or individual)
- ▶ The NEURC (or the CMU) may impose the obligation to perform the temporary administration of relevant DSOs on a specific state-owned or private company having relevant experience in the gas market, and considering the unbundling requirements<sup>247</sup> (another DSO, the GTSO, etc.).

The specific mechanism should be chosen based, among other things, on the expected number of administrations per year, estimated capacity of the administrator and the necessary expertise.

#### ▶ **Criteria for the administrator**

There should be some minimum criteria to be met by a potential administrator to become eligible for the position. These criteria should apply if the administrator is selected from among professional managers or existing market participants (either based on a public selection or a decision of the relevant authority), as well as if the responsible person is chosen from among officials of the Regulator or a specialized body.

These criteria may, *inter alia*, include the following:

- ▶ Necessary resources and technical means
- ▶ Qualified personnel (qualifications of the administrator)
- ▶ Sound financial condition (applicable only to legal entities)
- ▶ Flawless business reputation
- ▶ Absence of a private interest and connections to owners/affiliates of the administrated DSO.

#### ▶ **Powers and authorities of the administrator**

Generally, the appointed temporary administrator seizes all management functions and powers (powers of a general meeting of shareholders, a supervisory board and an executive body), the DSO's office, all relevant documents, etc. This is required to deprive the shareholder of control over the DSO. However, the exact mechanism and distribution of powers could vary.

For example, the DGF has a full and exclusive right to manage a relevant bank and make all relevant decisions. The Fund may do it by itself, or it may delegate relevant powers to its authorized official.<sup>248</sup>

Considering that the procedure for choosing the administrator is not defined yet, below we provide the list of options that we consider most relevant for the future distribution of powers of the administrator:

<sup>247</sup> Article 39 of the Gas Market Law.

<sup>248</sup> Part 5 of article 34 and part 2 of article 37 of the Law on DGF.

- ▶ If the temporary administration is performed by the Regulator or a specialized body, all relevant management functions may be performed by it and/or delegated to its officials. Alternatively, these functions may be split into two groups:
  - ▶ Executive functions that may be performed by relevant officials of the Regulator (or the specialized body)
  - ▶ General meeting's exclusive powers that may be performed by the Regulator (or the specialized body).
- ▶ If the temporary administrator is chosen from among market participants or professional administrators, the Regulator may decide to delegate to them only executive functions, while keeping the powers to decide on matters exclusive for the general meeting, or to delegate them all management powers.

▶ **Responsibility of the administrator**

The temporary administrator should be responsible for damages caused to the DSO by its actions (e.g., in the same way as the DGF).<sup>249</sup> However, the exact amount of liability and principles for its calculation should be defined by the Regulator.

If the temporary administrator is chosen from among market participants or professional administrators, the relevant amounts and limitations of liability may be provided in the relevant management agreement.

Financial liability of the administrator may be insured, similarly to the liability of the DGF.<sup>250</sup>

▶ **Intended results of the administration**

Considering that DSOs are natural monopolies in the gas sector in their relevant regions and this position has a significant social importance, their activity may not be terminated. Therefore, a simple liquidation of the administered DSO is not an option. The sound functioning of the DSO should be restored.

At the same time, considering the possible criteria for introduction of the temporary administration, one may reasonably argue that the temporary administration should be a one-way mechanism with no possibility for the return of the relevant DSO to its former owner (as at this stage it is already known that it has already failed in restoring the normal functioning of the DSO, which led to introduction of the temporary administration). The same approach is applied for cases of temporary administration of insolvent banks.<sup>251</sup> However, the actual decision on whether to apply this option or to leave the ability for the former owner to return on certain conditions (e.g., if they do contribute to financial rehabilitation) should be made by the relevant stakeholders.

Therefore, the administration may generally have the following results, similarly to those applied to insolvent banks:<sup>252</sup>

- ▶ If the relevant DSO can be financially rehabilitated, it may be temporarily administered to achieve a target financial condition, and then be sold to a new owner in an open tender.
- ▶ If the relevant DSO cannot be financially rehabilitated, the GDS and other relevant assets may be transferred to a newly created company which would perform the functions of the DSO.

<sup>249</sup> Paragraph 6 of part 3 of article 16 of the Law on DGF.

<sup>250</sup> Part 3 of Article 16 of the Law on DGF.

<sup>251</sup> Part 3 of article 79 of the Law on Banks.

<sup>252</sup> Part 2 of article 39 of the Law on DGF.

This company may be created and managed, for instance, by the temporary administrator and then may be sold to a new owner in an open tender. The original DSO may then be liquidated.

► **Duration of the administration**

Duration of the temporary administration generally depends on the estimation of time required to achieve a goal of this administration. In case of insolvent banks, the temporary administration may last from several days up to two months.<sup>253</sup> This term may seem insufficient for DSOs. However, it should be noted that in case of insolvent banks the temporary administration is usually followed by a lengthy period of liquidation of the bank, which may last up to five years. Therefore, the proper period should be discussed among the stakeholders, while the upper limit should be included to the law to allow the responsible authority to define it on case-by-case basis.

► **Compensation to the owner**

As we noted above, the temporary administration may be a one-way mechanism with no possibility for return of control over the relevant DSO to its owner after the introduction of the temporary administration. At the same time, in this case the temporary administration would become similar by nature to the expropriation of an asset by the state. Moreover, one could not reasonably guarantee that the decision on introduction of the temporary administration would not be repealed by a court based on the owner's claim.

Therefore, the following options for the compensation to the former DSO's owner may be provided:

- Compensation of DSO's value. The former owner may receive the compensation for expropriation equal to the sale price of the DSO *after* deduction of relevant expenses and losses accumulated by the DSO under the management of this former owner.
- Compensation of damages in case the decision on introduction of the temporary administration is stricken down by the court.<sup>254</sup> The former owner may be eligible for compensation of relevant damages that were a result of this decision in the same way as former owners of insolvent banks<sup>255</sup> (e.g., the value of the DSO and relevant damages as decided by the court).

All the matters above, together with all other relevant issues, should be properly considered and discussed among stakeholders prior to preparation of the first concept of the temporary administration mechanism and its presentation to the general public.

We note that the temporary administration, if implemented, should remain the last resort measure of influence on DSOs, due to the serious and irreversible consequences of this measure and the importance of assurance of the stable market functioning. It should be used only if no other measure proves to have effect on the behavior of the relevant DSO.

This solution is also applicable to DHCs, considering the specifics of their functioning.

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<sup>253</sup> Part 4 of article 34 of the Law on DGF.

<sup>254</sup> Please note that the local court practice sometimes shows negative examples of courts striking down decisions on banks' temporary administration / liquidation. The Parliament of Ukraine even adopted specific legislation to mitigate this issue. Therefore, it should be noted during the development of the temporary administration mechanism for DSOs.

<sup>255</sup> Article 79 of the Law on Banks.

Within this solution, we also suggest abandoning the currently available practice of insolvency bans for DHCs (since it leads to DHCs' misconduct and failure to fulfil their contractual obligations) and replacing it with the temporary administration mechanism.

Considering the high social importance of DHCs in their relevant regions, the Regulator may apply to them the temporary administration procedure that may allow to rehabilitate the relevant DHC in case of its insolvency, or take over control of this DHC in case of its significant misconduct.

## EU practices

We are aware of at least one case of measures similar by nature to the temporary administration to be applied in one of EU countries.

In Austria, operating as a DSO requires approval by the regulator<sup>256</sup> and is subject to certain requirements (e.g., if it can be expected that the applicant would be able to fulfill its duties under the Austrian Gas Act). Once approval has been granted, the DSO is also obliged to operate the distribution network.

This approval may be withdrawn under various circumstances, e.g., revocation of the license (primarily if the approval conditions are not met anymore<sup>257</sup>), but most notably there is also the case of a prohibition to operate the GDS:<sup>258</sup>

- ▶ This prohibition to operate a GDS is tied to relatively high preconditions, so it is only allowed if it is necessary to either eliminate risks to life and health of people or to avert serious economic damage.
- ▶ In such a case, the Regulator is entitled to appoint another DSO to fulfill all or parts of the tasks of the disorderly behaving DSO. There is no provision for the appointed DSO to reject or avoid such an appointment.
- ▶ By virtue of such appointment, the appointed DSO fully enters into the rights and obligations of all agreements of the disorderly behaving DSO.
- ▶ Such an appointment can be made either temporary or permanent, e.g., if the disorderly behaving DSO does not comply with the regulator's request to remove the reasons or it is expected that in general it would not be able to fulfill its duties established by law.
- ▶ Upon legal effectiveness of the prohibition and appointment and based on a request by the appointed DSO, the disorderly behaving DSO is expropriated by the regulator, subject to adequate compensation and applying relevant expropriation rules.

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<sup>256</sup> Section 43 of Bundesgesetz, mit dem Neuregelungen auf dem Gebiet der Erdgaswirtschaft erlassen werden (Federal Act Providing New Rules for the Natural Gas Sector) (Gaswirtschaftsgesetz [Gas Act] 2011), available at: [https://www.e-control.at/documents/1785851/1811363/GWG2011\\_Fassung31082020\\_en.pdf/aea0de39-c0ea-4e16-c4da-3f0232ba85ca?t=1599473627281](https://www.e-control.at/documents/1785851/1811363/GWG2011_Fassung31082020_en.pdf/aea0de39-c0ea-4e16-c4da-3f0232ba85ca?t=1599473627281).

<sup>257</sup> Section 53 of Bundesgesetz, mit dem Neuregelungen auf dem Gebiet der Erdgaswirtschaft erlassen werden (Federal Act Providing New Rules for the Natural Gas Sector) (Gaswirtschaftsgesetz [Gas Act] 2011).

<sup>258</sup> Section 57 of Bundesgesetz, mit dem Neuregelungen auf dem Gebiet der Erdgaswirtschaft erlassen werden (Federal Act Providing New Rules for the Natural Gas Sector) (Gaswirtschaftsgesetz [Gas Act] 2011).



## Implementation

Based on the description above and the EU experience, the relevant stakeholders (including the CMU, the Regulator and market participants) should discuss the future framework for the temporary administration mechanism, its details and how it should be implemented.

The implementation of this solution would require comprehensive development of the procedure for the temporary administration and introduction of significant relevant amendments to the following laws:

DSO	DHC
<ul style="list-style-type: none"> <li>▶ Amending Gas Market Law</li> <li>▶ Amending Code of Ukraine on Bankruptcy Procedures No. 2597-VIII dated 18 October 2018 to repeal the insolvency ban.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Introducing the relevant section on the temporary administration to the Law on Heat Supply</li> <li>▶ Repealing Law of Ukraine "On Measures Aimed at Providing Sustainable Functioning of the Fuel and Energy Enterprises" No. 2711-IV dated 23 June 2005</li> <li>▶ Amending Code of Ukraine on Bankruptcy Procedures No. 2597-VIII dated 18 October 2018 to repeal the insolvency ban.</li> </ul>

In addition, the CMU would also need to approve the procedure for selecting the temporary administrator. The procedure should also stipulate the criteria applied to participants of the selection and requirements to the relevant documents to be submitted to the NEURC.

## 4.8. OBLIGE MARKET PARTICIPANTS TO SELL A CERTAIN AMOUNT OF EXTRACTED NATURAL GAS THROUGH THE COMMODITY EXCHANGE

### Description

In the discussion of the deviant off-takes problem with market participants, they argued that the neutrality charge should be implemented only after the introduction of short-term natural gas market. Their position was that balancing measures and neutrality charge should be used only as a last resort measure when all possible market options for portfolio balancing are not working and the network user fails to balance its portfolio. The target model for balancing regimes proposed by EFET could be reasonably considered as an example for Ukraine:<sup>259</sup>

- ▶ Primary system balancing – network users are encouraged to balance their portfolios either commercially or physically by using all possible market options, including short-term market or commodity exchange
- ▶ Residual system balancing – if network users fail to balance their portfolios, TSO should take actions to rectify the imbalance. Such target model could increase the market efficiency and total society wellbeing.

The Ministry of Energy of Ukraine and the GTSO take steps in that direction. During 2020, two<sup>260</sup> Memoranda of Understanding were signed:

<sup>259</sup> EFET, Framework Guidelines on Gas Balancing, page 2. Available at: <https://efet.org/Files/Documents/Gas%20Market/Gas%20balancing%20market/EFET%20FG%20on%20Gas%20Balancing.pdf>.

<sup>260</sup> Position Paper on Gas Market Design in Ukraine by Energy Community, page 13. Available at: Energy Community Homepage (energy-community.org).

- ▶ Between UEEX, ECS, EBRD and the Ministry of Energy of Ukraine on support of the development of gas exchange trading in Ukraine
- ▶ Between ECS, the GTSO, the NEURC and UEEX on developing short-term gas market where the main role was assigned to the GTSO.

As a result, UEEX has already launched the intraday market. During 2020, at UEEX<sup>261</sup> market players sold 2.5 bcm of natural gas (6x times higher compared to 2019). In 2020 Naftogaz remained the key market player and sold a total of 1.16 bcm. Positive sign is that UEEX reports 83 new market players joining the gas trading market during the year. Nevertheless, market liquidity is still under question.

Additionally, on December 29, 2020, UEEX launched a "day-ahead" market for natural gas. Using this tool, market participants will be able to additionally plan the sale of gas in the short-term, which should positively contribute to the improvement of the market liquidity<sup>262</sup>.

Another option that could be considered is gas release program. According to the Position<sup>263</sup> Paper on Gas Market Design in Ukraine issued by the ECS dated 26 November 2020, it is common for European countries to use gas release programs for the following purposes:

- ▶ As a tool to open wholesale gas markets for competition (UK, Spain, Italy)
- ▶ As measures during antitrust proceedings (France, Germany, Austria).

Usually, such programs offer relatively low quantities compared to national consumption and are implemented for a limited period of time (4-5 years). For example:

- ▶ Romania – 30% obligation quota for producers in 2018 to trade natural gas on the centralized exchange platform
- ▶ Poland – 55% of the natural gas must be traded on the centralized exchange
- ▶ Greece – 17% of the main importer's annual total quantity must be auctioned through the system of electronic auctions.

At the same time, it should be noticed, that gas release programs have much more effect on forward markets than on the short-term market liquidity.

## Implementation

Two possible solutions could be observed to increase short-term market liquidity and to allow network users to balance their portfolios more efficiently and at lower costs.

The first one is Law of Ukraine "On Amending Article 3 of Law of Ukraine "On Public Procurement" regarding Procurement of Natural Gas" No. 1021-IX dated 2 December 2020 (former Draft Law No. 3176). As it was mentioned above, after all the relevant procedures are adopted, it will allow the GTSO, DSOs and the SSO (as well as other market participants bound by the public procurement

<sup>261</sup> UEEX. Available at:

<https://www.ueex.com.ua/presscenter/news/rezultati-torgivli-prirodnim-gazom-na-ueb-2020-zrostannya-ta-vid/>

<sup>262</sup> Available at: <https://www.ueex.com.ua/presscenter/news/ueb-zapustila-torgivlu-prirodnim-gazom-na-rinku-na-dobu-napered/>

<sup>263</sup> Position Paper on Gas Market Design in Ukraine by Energy Community, page 9. Available at: Energy Community Homepage (energy-community.org).

requirements) to purchase natural gas on commodity exchanges. Nevertheless, such allowance will support only demand side.

To ensure such demand, the second solution could be implemented – an obligation of E&P companies to sell the predefined amount of gas at commodity exchange. This solution was actively discussed by the Ministry of Energy of Ukraine, but with some limitations. According to the MoE's position, only PJSC "Ukrigasvydobuvannya" (the subsidiary of Naftogaz) will be forced to sell all<sup>264</sup> produced gas at commodity exchange. This proposal is also supported by the Energy Community Secretariat.<sup>265</sup> At the same time, if it is decided to introduce mandatory gas sale, it could be argued that it would be more efficient, transparent and non-discriminatory if all E&P companies in Ukraine are obligated to sell a predefined amount of daily production at a commodity exchange. Such practice is common for the electricity market in Ukraine.

According to the Law of Ukraine "On Electricity Market", in order to ensure a sufficient level of day-ahead market liquidity, the Regulator has the right to set the floor limit of the mandatory monthly sales on the day-ahead market of electricity generated by power plants and imported by market participants, but not more than 30% of their monthly sales (at first, the floor limit was 15%, but it was changed in December 2019).<sup>266</sup> The respective mechanism could be introduced for the natural gas market as well, through amendments to the Gas Market Law and the GTS Code.

#### 4.9. ENSURE THE REVIEW AND ESTABLISHMENT OF REASONABLE GAS CONSUMPTION NORMS FOR HOUSEHOLD CONSUMERS TO STIMULATE THE ACHIEVEMENT OF 100% COMMERCIAL METERING

According to the NEURC, only 91% of households were equipped with commercial gas meters as of the end of 2019<sup>267</sup>. As a result, DSOs must apply the normative of consumption approved by the government to determine actual consumption. Two problems could be identified here. The first one is that the deviation between normative and actual volumes leads to unaccounted consumption. The second one is that if the normative level is low, it creates a stimulus for households to avoid or delay the installation of gas meters and distorts price signals, which is essential for efficiency improvement.

During 2014-2019, normative consumption rates were reconsidered by the government seven times as DSOs argued in court that such rates are illegal (or were set with violations). For the above period, the consumption rates range for gas stove with centralized hot water supply was 3.28 – 9.80 m<sup>3</sup> per person (the first group); for gas stove without centralized hot water supply was 4.50 – 18.30 m<sup>3</sup> per person (the second group); for gas stove and a gas water heater was 9.00 – 23.60 m<sup>3</sup> per person (the third group).

As of now, it is not particularly clear which consumption norms are effective and should apply. According to Resolution of the CMU No. 143 dated 27 February 2019, consumption norms were set at a level of 3.28, 5.39 and 10.49 m<sup>3</sup> per person for the first, second and third groups respectively. Nevertheless, the decision of the Kyiv District Administrative Court (case No. 640/13591/19) dated 13 February 2020 declared some of the provisions illegal and invalid (in particular, the part regarding the actual consumption norms). Decision of the Sixth Administrative Court of Appeal left it unchanged.

<sup>264</sup> Official site of Ministry of Energy and Environmental Protection of Ukraine. Available at:

[http://mpe.kmu.gov.ua/minugol/control/uk/publish/article?art\\_id=245493319&cat\\_id=35109](http://mpe.kmu.gov.ua/minugol/control/uk/publish/article?art_id=245493319&cat_id=35109).

<sup>265</sup> Position Paper on Gas Market Design in Ukraine of the ECS dated 26 November 2020, available at: <https://www.energy-community.org/news/Energy-Community-News/2020/11/26.html>.

<sup>266</sup> Part 3 of article 67 of Law of Ukraine "On Electricity Market" No. 2019-VIII dated 13 April 2017.

<sup>267</sup> NEURC annual report, page 133. Available at:

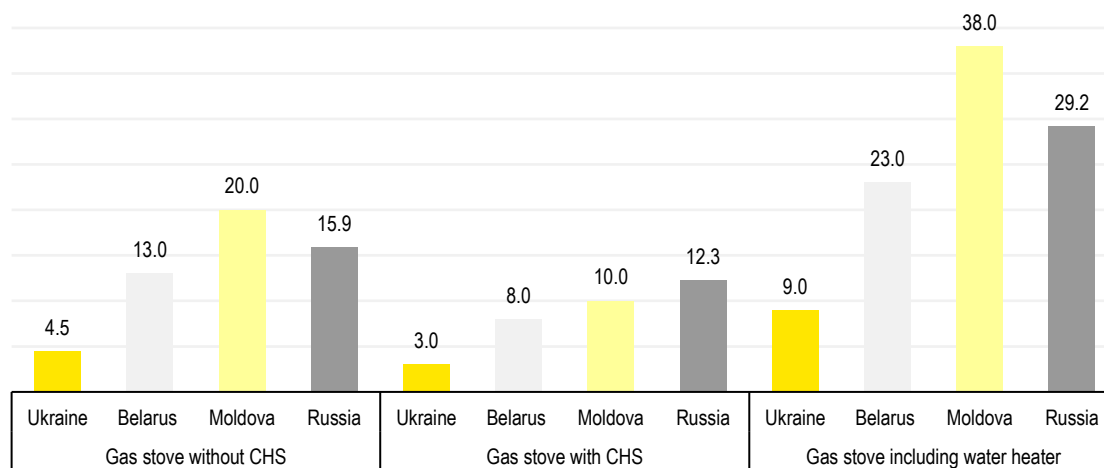
[https://www.nerc.gov.ua/data/filearch/Catalog3/Richnyi\\_zvit\\_NKREKP\\_2019.pdf](https://www.nerc.gov.ua/data/filearch/Catalog3/Richnyi_zvit_NKREKP_2019.pdf)

Later, the Supreme Court decided to open cassation proceedings based on the cassation claim of the CMU. In the meantime, the decision of the court of appeals remains in force, which means that as of now the Resolution should not apply (and the previously effective rates should apply). As the final decision is still pending, the legal status of consumption norms is unclear.

## Implementation

For the current situation, the reasonable approach would be to update consumption norms and to set them at the level that would motivate Consumers to install gas meters. According to interviews conducted with some DSOs, they are going to proactively finalize the installation during 2021 and to catch up with the process that was suspended due to COVID-19. The CMU could consider the norms of neighboring countries that have a similar climate and temperature (see the chart below).

Chart 30: Comparison of gas consumption norms for users without metering in Ukraine and neighboring countries, m<sup>3</sup>



### 4.10. IMPLEMENT AN INCENTIVE-BASED AND TRANSPARENT METHODOLOGY FOR TARIFFS CALCULATION FOR DSOs AND DHCS

#### DSO - Description

The tariff for DSOs is determined according to the "cost+" methodology approved by the NEURC's Resolution No 236 dated 25 February 2016. It envisages reimbursement of reasonable expenses, payment of all taxes, mandatory payments and budget deductions in accordance with the current Ukrainian legislation and receiving the planned profit in the amount established by the NEURC. Nevertheless, such approach is outdated, and its methodological loopholes do not sufficiently incentivize investments. DSOs are not motivated to implement any efficiency measures aimed at reduction of operational costs (for example, additional capital expenditures to decrease technological consumption). Moreover, they have an incentive to intentionally overestimate their planned costs, as in such case DSOs receive more profit in absolute terms (for example, if the profit margin is determined as total costs multiplied by a certain percentage). To avoid such situation, incentive regulation based on the common regulatory asset base (RAB) approach should be implemented. In Ukraine it has been already introduced for natural gas transmission services and electricity distribution services. In Europe it is common practice for natural gas distribution services (see the table below).

Table 11: Comparison of tariff methodologies in European countries<sup>268</sup>

Country	System	Main elements for determine the revenue cap	Type of WACC	Determination of the rate of return on equity	Return on equity before taxes	Components of RAB	Regulatory asset base
<b>Austria</b>	Incentive regulation / Price cap	Efficiency scores and general productivity offset, network price index, expansion factors, efficiency dependent WACC	Nominal WACC pre-taxes (equity - 40%, debt - 60%,	$rE = (\text{nominal risk-free rate} + \text{levered Beta} \times \text{MRP}) / (1 - \text{tax rate})$	8.16% (nominal pretax, set in 2017, granted for the average efficient DSO)	Intangible and fixed assets, book values	Historic cost approach
<b>Belgium</b>	Incentive Regulation / Revenue cap	-	No use of WACC	Sum of a nominal risk-free rate and a risk premium	$5.76\% = (0.90 + 3.5 \times 0.65) \times (1 + 0.20) \times 1.513$	Fixed assets, working capital, assets under construction	2.3 B€ (2016)
<b>Czech Republic</b>	Incentive Regulation / Revenue cap	Allowed costs, Allowed depreciation, RAB, WACC	Nominal, pre-tax WACC	Sum of nominal risk-free rate and a risk premium (market risk premium multiplied by beta factor)	$9.66\% = (3.82 + 5.00 \times 0.801) / (1 - 0.19)$	Fixed assets, investments in progress, leased assets, no working capital	The RAB is based on re-evaluated values of assets that are recorded in the annual financial statements.
<b>Estonia</b>	Rate-of-Return	1) Variable costs 2) Operating costs 3) Depreciation of RAB 4) Justified return of RAB	Pre-tax WACC nominal	1) Germany 10y bonds yield 2) Estonian risk premium 3) McKinsey MRP 4) Beta	$5.73\% (1.47 + 0.78 + (0.696 \times 5))$	Fixed assets, working capital, leased assets	Historical costs
<b>France</b>	Incentive Regulation / Revenue cap	Non-controllable and controllable costs, depreciation costs, taxes and fair margin	Pre-tax, real	Sum of a real risk-free rate and (market risk premium multiplied by a beta risk factor), multiplied with a corporate tax factor	$7.5\% = (1.6\% + 5.0\% \times 0.66) / (1 - 34.43\%)$	Fixed assets	Historical revaluated costs (taking into account inflation and depreciation)
<b>Germany</b>	Incentive Regulation / Revenue cap	Non- and controllable costs, TOTEX efficiency benchmark, efficiency bonus, general inflation and sectoral productivity factor, volatile costs	No use of WACC	Sum of a nominal risk-free rate and a risk premium (market risk premium multiplied with a beta risk factor) multiplied with a corporate tax factor	$6.91\% = (2.49 + 3.8 \times 0.83) \times 1.225$	Fixed assets, working capital, assets under construction	Net substance preservation for business assets capitalized prior to 1st 2006, real capital preservation for business assets as from 1st 2006

<sup>268</sup> CEER report on Report on Regulatory Frameworks for European Energy Networks 2019.

Country	System	Main elements for determine the revenue cap	Type of WACC	Determination of the rate of return on equity	Return on equity before taxes	Components of RAB	Regulatory asset base
<b>Great Britain</b>	Revenue Cap based on Rate-of-Return with Incentive-based Regulation	Bottom up CAPEX and OPEX benchmarking/analysis complemented by top down TOTEX benchmarking, efficiency considerations, RAB, WACC, RPI, Real Price Effects	Vanilla Real WACC	Sum of risk-free rate and a market risk premium multiplied by equity beta	6%, Gas transmission 6.8%, Gas distribution 6.7% (all in real terms)	Historical investment base and capitalized element of total expenditure in current control period.	£16.8bn
<b>Hungary</b>	Incentive Regulation	a hybrid model	Real, pre-tax	Sum of the real risk-free rate and risk premium (equity beta multiplied by MRP)	6.14% = $(0.188+1.689+4.30*0.72)/(1-0.19)$	Tangible assets	Network assets: depreciated replacement value; Non-network assets: historical costs.
<b>Latvia</b>	Cost-plus	OPEX + CAPEX (Depreciation + return on capital)	pre-tax, nominal	Return on equity: Sum of a nominal risk-free rate and MRP multiplied with a beta risk factor.	5.95%	Fixed assets, intangible investment, without inventories and CIP.	Book value as per financial reports
<b>Netherlands</b>	Incentive regulation / Price cap	TOTEX, CPI, yardstick, productivity change, WACC, RAB	Real, pre-tax	Sum of risk-free rate and equity risk premium multiplied by beta.	6.7% (calculated; based on 5.02% after taxes and 25% tax rate)	Fixed assets and certain intangible, no working capital	Indexed historical costs
<b>Poland</b>	Cost of service with elements of revenue cap	Depreciation, local taxes, operating costs, cost of gas losses, passthrough costs and return on capital employed	Pre-tax nominal	$C(\text{equity pre-tax}) = (\text{Risk-free rate} + \beta_{\text{equity}} * \text{equity risk premium}) / (1 - \text{corporate tax rate})$	$7.077\%^{24} = (3.308\% + 0.5388 * 4.50\%) / (1 - 19\%)$	Tangible and intangible assets deducted by assets financed by subsidy. Remunerated assets	Set for every tariff
<b>Romania</b>	Incentive Regulation / Revenue cap / Cost+	Non-controllable (pass-through) and controllable costs, efficiency factor, general inflation rentability of RAB (RABxROR) depreciation, technological consumption	Nominal WACC post-tax determined using CAPM method; WACC is used in determination of rate of return.	WACC = $CCP * K_p / (1 - T) + CCI * K_i$ (%) CCP - equity cost of capital, CCI - loan capital cost, pre-tax Kp - weight of equity, Ki - weight of loan, T - rate of income tax for regulated period	7.72% approved by ANRE until March 2019 and 6.9% approved by the government starting with April 2019 till the end of 2024	Fixed assets, working capital	The RAB value consists in historical assets value and value of the new investments.
<b>Slovenia</b>	Incentive regulation / Revenue cap	Controllable OPEX (efficiency score, general productivity), uncontrollable OPEX, CAPEX (depreciation, regulated return on assets), incentives	Pre-tax WACC nominal (equity share 60%, debt share 40%). WACC 2019-2021 = 5.26%.	Risk premium model (Cost of equity = cost of debt + 2%). Cost of debt is 5-years average (2012-2016) for interest rate to non-financial companies in Slovenia.	Cost of equity = cost of debt + premium (3.68% + 2% = 5.68%).	1) Book values of tangible and intangible assets after RAB adjustment 2) Ex-ante investments 3) No working capital, no CIP	1) Book value for existing assets 2) Investment value according to development plan for new assets

Another important thing for consideration within the tariff calculation methodology is improving of technological consumption assessment. On 6 November 2020, the NEURC adopted a new methodology for DSOs' technological consumption assessment. As a result, the total volume of technological consumption for 43 DSOs was increased by 41.9% from 992.0 to 1,407.9 mcm. Such an increase could potentially help eliminate or mitigate the problem of allegedly underestimated technological consumption of DSOs. Below we provide a general description of the new methodology and comparison of old and new levels of DSOs' technological consumption.

Until 1 January 2020, the level of technological consumption for DSOs was determined by the Ministry of Energy of Ukraine pursuant to the relevant methodologies for consumption and losses calculation, including those in the process of gas metering by domestic meters in case of failure to bring gas volume to standard conditions, approved by Orders of the Ministry of Energy of Ukraine No. 264 dated 30 May 2003 and No. 595 dated 21 October 2003.

Still, according to the statistics on actual production and technological consumption, as well as the research of PrJSC "Institute of Energy Audit and Energy Carrier Accounting", conducted at Naftogaz's request, certain data in the methodologies were obsolete and did not include the modern condition of equipment. For instance, the methodologies did not include the use of polyethylene pipelines, which became widely used recently, and did not cover all possible combinations of gas appliances use, while the determined standard volumes of gas leakage from combined home pressure regulators were not differentiated with respect to gas pressure in the distribution pipelines. The envisaged options for gas appliances availability in households included only four combinations, whilst in practice, the number of such combinations may be much higher. Hence, these methodologies needed improvement and follow-up revision. As a result, the new methodology was approved and total recalculated DSOs' technological consumption and losses increased, which is expected to partially resolve the issue of unauthorized offtakes and unpaid imbalances.

*Table 12: DSOs' technological consumption and losses according to the previous (2016) and new (2021) methodologies, m<sup>3</sup>*

DSO	2016	2021	Change	Change, %
JSC "Vinnytsiagaz"	47,878	61,993	14,115	29.5%
JSC "Volynagaz"	26,899	33,184	6,285	23.4%
PrJSC "Hadiachgaz"	1,587	2,731	1,144	72.1%
JSC "Dniprogaz"	18,894	30,578	11,684	61.8%
JSC "Dnipropetrovskgaz"	71,297	69,822	(1,475)	-2.1%
PJSC "Donetskoblغاز"	22,301	28,770	6,469	29.0%
JSC "Zhytomyrgaz"	27,896	44,612	16,716	59.9%
JSC "Zakarpagaz"	42,298	48,860	6,562	15.5%
JSC "Zaporizhgaz"	27,894	40,508	12,614	45.2%
JSC "Ivano-Frankivskgaz"	30,365	56,540	26,175	86.2%
JSC "Kyivgaz"	15,589	16,030	441	2.8%
JSC "Kyivoblغاز"	87,397	144,700	57,303	65.6%
OJSC "Kirovohradgaz"	15,000	26,026	11,026	73.5%
PrJSC "Korostyshivgaz"	110	1,581	1,471	1337.3%
PrJSC "Kremenchukgaz"	4,800	6,998	2,198	45.8%

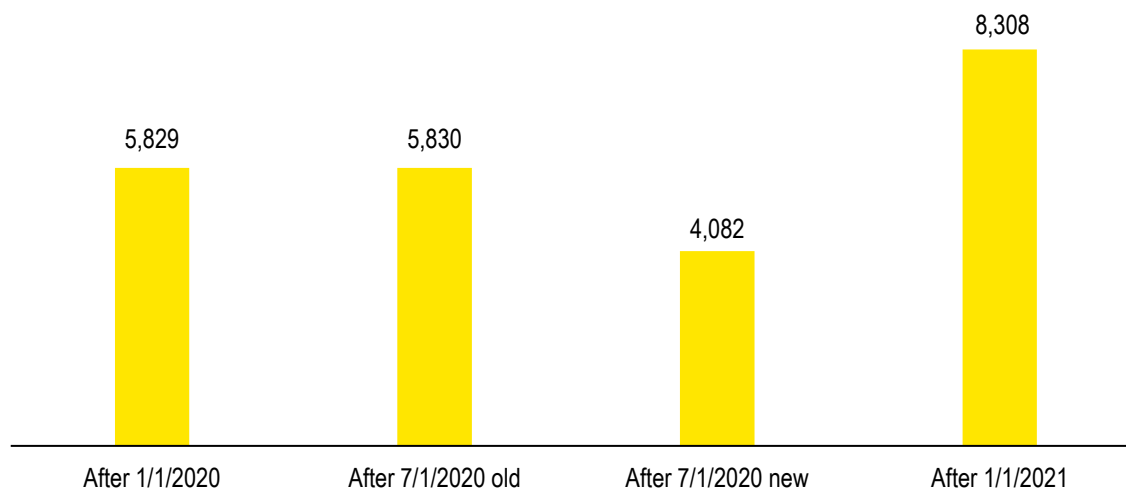
DSO	2016	2021	Change	Change, %
JSC "Kryvorizhgaz"	18,891	17,479	(1,412)	-7.5%
JSC "Lubnygaz"	7,686	10,663	2,977	38.7%
JSC "Luhanskaz"	26,995	35,831	8,836	32.7%
JSC "Lvivgaz"	78,389	119,488	41,099	52.4%
PJSC "Mariupolgaz"	10,312	11,189	877	8.5%
PrJSC "Melitopolgaz"	4,510	7,854	3,344	74.1%
JSC "Mykolaivgaz"	29,389	38,944	9,555	32.5%
JSC "Odesagaz"	44,779	59,617	14,838	33.1%
JSC "Poltavagaz"	35,166	49,020	13,854	39.4%
JSC "Rivnegaz"	26,897	33,377	6,480	24.1%
JSC "Sumygaz"	27,388	35,993	8,605	31.4%
PrJSC "Ternopilgaz"	19,500	35,878	16,378	84.0%
PrJSC "Ternopilniskgaz"	4,450	13,831	9,381	210.8%
JSC "Tysmenytsiagaz"	2,886	4,391	1,505	52.1%
PrJSC "Umangaz"	3,997	9,223	5,226	130.7%
JSC "Kharkivgaz"	53,285	62,315	9,030	16.9%
JSC "Kharkivniskgaz"	20,685	24,069	3,384	16.4%
JSC "Khersongaz"	19,895	32,754	12,859	64.6%
JSC "Khmelnytskygaz"	27,379	51,721	24,342	88.9%
JSC "Cherkasygaz"	34,500	45,905	11,405	33.1%
JSC "Chernivtsigaz"	25,387	45,290	19,903	78.4%
JSC "Chernihivgaz"	27,392	46,304	18,912	69.0%
PrJSC "Shepetivkagaz"	1,040	1,695	655	63.0%
"Gazovyyk" LLC	300	732	432	144.0%
SE "Kremenets DGSS"	740	1,498	758	102.4%
<b>Total</b>	<b>992,043</b>	<b>1,407,994</b>	<b>415,951</b>	<b>41.9%</b>

The application<sup>269</sup> of new standard production and technological losses and costs determined by the NEURC resulted in their planned increase in tariff structure for 2021 compared to 2020, as displayed in the chart below.

<sup>269</sup> Available at: [https://gazpravda.com.ua/novyny/zahalni-vtv-oblhaziv-v-2021-rotsi-zrostut-na-ponad-40protsent?fbclid=IwAR2frY-MoSqIR0tQwQ\\_22cPAsmWmOnaBZcW9\\_ia1\\_bUbrOpsINDJbDNgyUA](https://gazpravda.com.ua/novyny/zahalni-vtv-oblhaziv-v-2021-rotsi-zrostut-na-ponad-40protsent?fbclid=IwAR2frY-MoSqIR0tQwQ_22cPAsmWmOnaBZcW9_ia1_bUbrOpsINDJbDNgyUA).



Chart 31: Total technological consumption envisaged in tariffs for all DSOs, UAH m



From among 43 DSOs considered, the highest growth in cost of gas for technological consumption is planned for Kyivoblغاز (UAH 493.9 m or 2.38 times growth, compared to 2H2020), Lvivgaz (UAH 383.2 m or 2.19 times growth), Ivano-Frankivskgaz (UAH 208.3 m or 2.67 times growth), Khmelnytskgaz (UAH 193.1 m or 2.70 times growth) and Odesagaz (UAH 167.4 m or 1.91 times growth). The planned technological consumptions for all DSOs grew 2.04 times in 2021, compared to 2H2020, which affects the tariffs for natural gas distribution accordingly.

The adoption of the new methodology is a positive step, but the result cannot yet be reliably assessed now. It is advisable to monitor the implementation of the new methodology.

### DSO - Implementation

It is advisable to initiate inclusive discussion between interested stakeholders regarding introduction of incentive regulation for DSOs based on the examples of RAB tariffs for DSOs in electricity and RAB tariff for the GTSO.

The first one is regulated by the NEURC's Resolution No. 1029 dated 26 July 2013 "On application of incentive regulation in carrying out of electricity distribution economic activity",<sup>270</sup> by the NEURC's Resolution No. 1009 dated 23 July 2013 "On establishment of long-term parameters for the purposes of incentive regulation",<sup>271</sup> and by the NEURC's Resolution No. 1175 dated 05 October 2018 "On approval of the Procedure for tariff establishing for electricity distribution services". This set of regulation defines: 1) the general conditions of long-term incentive regulation; 2) requirements regarding the applications; 3) the procedure for tariff establishing; 4) approach to allowed revenue calculation (including adjustments); 5) efficiency measures and targets; 6) approach to RAB determination (also is regulated by the methodology adopted by the State Property Fund of Ukraine<sup>272</sup>).

<sup>270</sup> Available at: <https://zakon.rada.gov.ua/laws/show/z1294-13#Text>.

<sup>271</sup> Available at: <https://zakon.rada.gov.ua/laws/show/z1266-13#Text>.

<sup>272</sup> Available at: <https://zakon.rada.gov.ua/laws/show/z0522-13#n14>.

The second one (RAB tariff for the GTSO) is regulated by the NEURC's Resolution No. 2517 dated 30 September 2015 "On approval of the methodology for determination and calculation of tariff for natural gas transportation services for entry and exit points based on long-term incentive regulation"<sup>273</sup>. The Resolution defines: 1) the general conditions of long-term incentive regulation; 2) approach to allowed revenue calculation; 3) adjustments to the allowed revenue; 4) determination of the regulatory asset base created before incentive regulation introduction; 5) determination of the regulatory asset base created after incentive regulation introduction; 6) calculation of tariffs; 7) the procedure for tariff establishing.

The main points to be defined by the new incentive regulation are:

- ▶ Approach to regulatory asset base calculation
- ▶ Differentiation between the rate of return for the RAB created before and after incentive regulation introduction
- ▶ Level of rate of return for the RAB created before and after incentive regulation introduction
- ▶ Need to include working capital as a RAB component
- ▶ The length of regulatory period
- ▶ Efficiency measures (for example, decrease of the technological consumption or operational expenses by the specified percent)
- ▶ Percentage of profit to be reinvested.

As a result, the NEURC should adopt a completely new methodology for DSOs tariff calculation and the currently effective methodology adopted by NEURC's Resolution No. 236 dated 25 February 2016 should be repealed.

#### **DHC - Description**

According to the NEURC's Resolution No. 1174 dated 25 June 2019, the Regulator applies the so-called "cost+" methodology when it determines tariffs for DHCs. Notably, such methodology does not envisage significant stimulus or profitability for DHCs, which could be used for equipment upgrade or modernization. Moreover, in cases where the tariff is set by the local authorities, they have a motivation to artificially decrease the justified tariff to get some political benefits by managing social tension. It is obvious that the methodology should be transparent covering all reasonable costs and providing incentives for additional investments. The European experience in the field of DHCs tariff calculation methodology is much wider. There are four regulation models could be found in Europe:

- ▶ Based on competitive prices when authorities control prices based on competitive law
- ▶ Based on alternative sources of thermal energy - in this case the maximum price is determined based on costs of decentralized heating system
- ▶ Based on expected costs when tariff is approved by an independent regulator
- ▶ Based on expected costs when tariff is approved by local and state authorities.

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<sup>273</sup> Available at: <https://zakon.rada.gov.ua/laws/show/z1388-15#Text>.

At the same time, tariff setting models could be united into 5 groups:

- ▶ Social-political approach when tariff is defined considering social and political tensions. In such case different methodologies could be used ("cost+" or incentive one) but the reasonability of tariff could be questions. Example: Ukraine.
- ▶ "Cost+" approach when tariff is just a sum of operational expenses, capital expenditures and some predefined profit margin.
- ▶ Incentive regulation when tariff is calculated as allowed revenue for 3-7 years. Some incentive measures could be combined with "cost+" approach. Example: Poland, Hungary, Estonia.
- ▶ Alternative heat sources approach when the tariff is set by the regulator as a price cap based on prices for decentralized heating. Example: Norway, Netherlands.
- ▶ Competitive market - when no special regulation is envisaged by the legislation and DHCs freely demine prices. Example: Germany, France, United Kingdom, Austria, Belgium, Sweden, Denmark, Finland.

All models should provide the reasonable level of profitability. In Ukraine, according to the NEURC's Resolution No. 1174 dated 25 June 2019, the planned profit of DHCs include: the planned profit included in assigned heat production tariffs for own CHPPs, TPPs, cogeneration units and the units using renewables; production investments for purchase, construction, renovation and modernization of own fixed assets used in heat production, transportation and supply; resources for principal repayments for those loans approved by the NEURC; contributions to reserve capital, working capital not exceeding 2% of total planned cost of heat (excluding compensation for losses and cost adjustment); and income tax.

At the same time, according to performed calculations, DHCs' planned profitability during 2017-2018 was set almost at zero level (for some companies exactly 0%), which not only discourages investors from expanding and improving the business, but also does not allow companies to cover penalties, which is crucial for their long-term sustainability. Among the tariffs assigned by NEURC for 2019, the average share of planned profit amounted to 0.3% for households, 1.7% for public organizations, 1.8% for other consumers and 1.1% for religious organizations.

As planned profitability of most DHCs does not exceed 2%, reasonable and justified compensation by the local authorities must be granted. According to the Law of Ukraine "On Local Governance in Ukraine", municipal authorities (such as community and city councils) set tariffs for certain utilities, including heat production, transportation and supply.<sup>274</sup> Furthermore, the Law on Heat Supply<sup>275</sup> and the Law on Utilities<sup>276</sup> envisages the following responsibilities of the local authorities:

- ▶ Approval of local development programs in heat supply industry, participation in development and implementation of state and regional programs in this field
- ▶ Approval of allocation of new or reconstruction of existing heat supply objects and fostering of the development of heat supply systems within the community/city

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<sup>274</sup> Subparagraph 2 of paragraph a) of part 1 of article 28 of Law of Ukraine "On Local Governance in Ukraine" No. 280/97-BP dated 21 May 1997.

<sup>275</sup> Article 13 of the Law on Heat Supply.

<sup>276</sup> Part 3 of article 4 of the Law on Utilities.

- ▶ Assignment of tariffs for heat provided to respective community by municipal enterprises, except for heat generated by CHPPs
- ▶ Approval of investment programs regarding heat supply objects in municipal ownership, except those generating heat at CHPPs, TPPs, NPPs, cogeneration units and the RES-based units.

Considering rather broad discretionary powers of the local authorities, one may argue that they do not have a corresponding level of responsibility for their decisions. In particular, municipalities may set unjustifiably low tariffs that do not allow DHCs to collect enough tariff proceeds to maintain financial stability. This may happen due to the lack of specific knowledge and expertise, or because of corruption, which reportedly may exist within some local authorities. Moreover, some municipalities (or groups of representatives within a local council) may have a certain motivation (or be directly interested) in setting the tariff as low as possible for political reasons (to get some political benefits by managing social tension), even where they are aware of the tariff level not being sufficient to maintain the financial stability of the relevant DHC. In addition, each specific DHC is owned by the same local authority that approves the tariff for this DHC. Moreover, some representatives within the local council may have a full control over the relevant DHC. This creates an additional conflict of interest that may result in (i) low level of collection of proceeds from consumers or (ii) low level of payments for natural gas to Suppliers (even if the tariff for heat production/supply is economically justified).

Therefore, considering the existing conflict of interest, the ties of local authorities to their local DHCs and decisions made by the local authorities, it may be argued that the local authorities should bear more responsibility for their decisions and actions. Within this solution, the local authorities may potentially be obliged to provide relevant financial support and compensations or be made financially liable for setting tariffs at unjustifiably low levels.

The compensation of the local authorities may be provided under one or several of following circumstances:

- ▶ Unconditional support in all cases. Considering that relevant DHCs are usually owned by the local authorities that set their tariff and control their activities, the local authorities may be obliged to provide financial guarantees to Suppliers or be made secondarily liable for DHCs' obligations.
- ▶ If the local authorities set a tariff lower than economically justifiable. In this case the local authorities may be obliged to compensate the DHCs the difference between the low tariff and the economically justified tariff.
- ▶ If they do not ensure the adequate level of collection or that DHCs pay for consumed natural gas. In this case, the local authorities may be obliged to compensate the DHCs' natural gas Suppliers the relevant amounts of debt.

From a legal standpoint, the grounds for introduction of the compensation by the local authorities is already present in the law. In particular, according to the Law of Ukraine "On Local Governance in Ukraine", damages caused to legal entities and individuals as a result of illegal decisions, actions or inactions of local authorities must be compensated at the expense of a local budget, and as a result of illegal decisions, actions or inactions of local government officials - at their own expense.<sup>277</sup> In this regard, the proposed solution should not contradict general principles of local governance and would be an embodiment of the principle of responsibility already present by the law.

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<sup>277</sup> Article 77 of Law of Ukraine "On Local Governance in Ukraine" No. 280/97-BP dated 21 May 1997.

We are also aware of at least one case of provision of financial support to DHCs by the local authorities. For instance, such support was provided to ME "Teploenergo" within the Program for Financial Support and Contribution to Shareholder's Equity of Municipally Owned Companies in Dnipro City for 2016-2022. The funds were primarily used for debt repayment and current payments to Suppliers that enabled the company to maintain regular operating activity.

Please also note that prior to implementation of these solutions the following questions should be considered among the shareholders:

- ▶ Who and how would determine if the tariff is economically justified? (e.g., the NEURC, independent experts or the court)?
- ▶ Who and how would verify the adequate level of collection of DHCs (e.g., the NEURC, independent auditors or local authorities)?
- ▶ Who and how would confirm that DHCs pay for consumed natural gas to their Suppliers in full? (e.g., Suppliers, the NEURC, independent experts or the court)?

#### **DHC - Implementation**

The revision of DHCs' tariff setting model is a long-term process and should be initiated by the NEURC. It is advisable to investigate the possibility of the implementation of RAB regulation for heat transportation services and to assess different approaches for heat generation (incentive regulation, alternative heat sources, competitive market). It could be reasonable to amend the current "cost+" methodology and to introduce some incentives within currently effective methodology for the transition period. The following topics should be considered:

- ▶ Establishing of a single unified methodological framework for DHC regulation
- ▶ Improvement of the currently effective "cost+" methodology
- ▶ Implementation of RAB-based tariff for heat transportation services
- ▶ Development of incentive-based tariff framework for thermal energy generation
- ▶ Revision of the framework for long-term investment planning for DHCs.

Moreover, to ensure the going concern model for DHCs it is crucial to envisage the level of profitability to cover at least penalties. The NEURC should calculate the reasonable range of profitability for DHCs and then introduce the amendments to the tariff calculation methodology (NEURC's Resolution of No. 1174 dated 25 June 2019, section 7), as now it is discretionary and allows to set the profitability at 0%.

Additionally, it is advisable to promote and encourage accountability of the local authorities on the matter and obligations of the local authorities to provide reasonable compensation to DHCs may be introduced to the law. This would require amending the Law on Heat Supply (a relevant new article with the description of the procedure may be added after article 20) and the Law of Ukraine "On Local Governance in Ukraine" (clarification regarding establishment of the tariff). Nevertheless, this solution would require inclusive discussion with the Parliament of Ukraine, the CMU, the local authorities and other stakeholders before any further steps are considered.

#### 4.11. RESOLVE THE ISSUE OF ACCUMULATED DEBTS OF DSOs AND DHCs THROUGH MECHANISMS THAT WILL NOT CREATE INCENTIVES FOR THE FORMATION OF NEW DEBTS

##### Description

During 2015-2019, the former TSO JSC "Ukrtransgaz" was experiencing a serious problem of unauthorized off-takes and unpaid imbalances. During this period, network users accumulated UAH 43.8 b of debt, including UAH 27.6 b accumulated by DSOs during January 2016 - February 2019 (before introduction of daily balancing) and UAH 7.2 b accumulated by DSOs during March 2019 - December 2019 (after introduction of daily balancing). JSC "Ukrtransgaz" has initiated 104 lawsuits to recover debts for unpaid imbalances totaling UAH 31 b (97 lawsuits against DSOs totaling UAH 28.8 b), including UAH 6.1 b of accrued penalties (UAH 5.5 b for DSOs)<sup>278</sup>.

In terms of DHCs, according to Naftogaz, the total debt of DHCs for natural gas consumed and used in the process of heat production is UAH 52.7 b as of 17 February 2021 (including UAH 10.2 b accumulated additionally during 2021). The main share was generated by Dnipro (UAH 9.8 b or 18.6%), Donetsk (UAH 9.2 b or 17.4%), Kharkiv (UAH 6.8 b or 12.0%), Kyiv (UAH 5.3 b or 10.1%), Luhansk (UAH 2.3 b or 4.4%), regions (see details in the table below).

Table 13: Debt of DHCs by region, UAH m<sup>279</sup>

Region	Accumulated	Accumulated during 2021
Dnipro	9,775	1,163
Donetsk	9,199	530
Kharkiv	6,819	1,459
Kyiv	5,327	2,257
Luhansk	2,326	161
Other	19,233	4,620
Total	52,679	10,190

Additionally, the total debt of CHPPs as of 17 February 2021 is UAH 10.4 b (including UAH 1.7 b accumulated additionally during 2021). The main share was generated by Kyivteploenergo (UAH 2.4 b or 22.8%), Kharkivska CHPP-5 (UAH 1.8 b or 16.3%), Severodonetsk CHPP (UAH 0.9 b or 8.9%), DTEK Skhidenergo (UAH 0.7 b or 6.8%) and Bilotserkivska CHPP (UAH 0.6 b or 6.2%).

Table 14: Debt of CHPPs, UAH m<sup>280</sup>

Region	Accumulated	Accumulated during 2021
Kyivteploenergo	2,354.7	963.4
Kharkivska CHPP-5	1,735.6	238.5

<sup>278</sup> Official site of Ukrtransgaz. Available at: <http://utg.ua/utg/media/news/2020/06/ukrtransgaz-iniciyuvav-ponad-sto-sudovih-pozoviv-na-zagalnu-sumu-31-mlrd-grn-po-styagnennyu-borgiv-za-poslugi-balansuvannya-gazu.html>

<sup>279</sup> Official site of Naftogaz. Available at: <https://www.naftogaz.com/files/Information/TKE-tabl-17-02-2021.pdf>

<sup>280</sup> Official site of Naftogaz. Available at: <https://www.naftogaz.com/www/3/nakweb.nsf/0/20F90382F018AF24C225867F00491959?OpenDocument&year=2021&month=02&nt=%D0%9D%D0%BE%D0%B2%D0%B8%D0%BD%D0%B8&>

Region	Accumulated	Accumulated during 2021
Severodonetsk CHPP	919.5	88.3
DTEK Skhidenergo	706.8	-
Bilotserkivska CHPP	639.9	-
Other	4,008.4	431.8
<b>Total</b>	<b>10,364.9</b>	<b>1,722.0</b>

## Implementation

Generally, the restructuring of debts should have a positive effect on financial conditions of market participants and the GTSO. However, successful implementation of this solution depends on the availability of financial resources to cover debts after restructuring. If the debtors have no such resources, the restructuring would not have the desired effect. In addition, reportedly, some market participants accumulate debts not because of their inability to pay, but because of misconduct. Such participants should not be eligible for restructuring.

Market participants with significant debt are also subject to additional penalties and sanctions. They may need to cover previously accumulated debts and they turn out in a position that either they pay current liabilities or repay past debts. It is advisable to implement a series of measures to break the tendency.

However, only those market participants that accumulated debts because of their objective inability to pay should be eligible for restructuring. These participants should be able to restructure their debts within relevant solutions. These measures potentially could include:

- ▶ **Partial compensation through the budgets:** for example, if the NEURC may be viewed to have underestimated tariffs (if any), the state should be involved in the restructuring process and cover the respective debt from the budget. However, it should be additionally discussed between the stakeholders – who and how will determine the exact cases of underestimation, and the relevant mechanism should be provided in the CMU's resolution or in the law.
  - ▶ Another example is state owned enterprises or public organizations: if they owe to DHCs for the supplied heat, while DHCs owe to Naftogaz for the supplied natural gas and Naftogaz owes taxes and/or dividends to the state budget, these amounts could be netted as a result of the restructuring process.
- ▶ **Partial repayment at the expense of the Consumers,** where two options could be considered:
  - ▶ The CMU may determine the total uncovered amount of debt for all DSOs, and this amount may be included by the NEURC in the tariff of the TSO, so the total amount of debt will be distributed between all final Consumers and the share of each Consumer in the total compensation will be low
  - ▶ The CMU may determine a reasonable amount of debt of each DSO for the periods when the Regulator may be viewed to have underestimated tariffs (if any) and such amount may be added to tariffs of the relevant DSO.

Please note that during further discussion of this solution the stakeholders should consider the social and political acceptability of these options. They should also determine which option is fairer and what Consumers should repay the debt (considering that all Consumers previously have



paid for DSOs' services according to the established tariff and that Consumers of DSOs without debts are not in any way liable for debts of other DSOs).

- ▶ **Partial write-off (additional option for cooperating debtors):** for example, potential write-off of accrued penalties and sanctions if the debtor timely follows the principal repayments schedule agreed during the restructuring process.

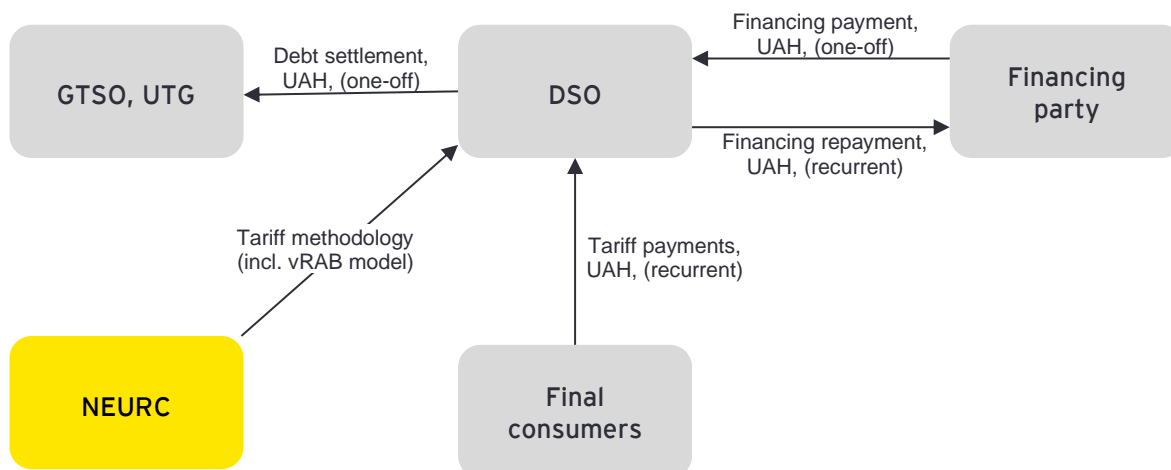
Please note that the application of this option should be limited only to specific cases and only to amounts of accrued penalties and similar debts, but not the main debts for actual services. Write-offs of debt generally have negative effect on market participants' behavior, as it does not incentivize market participants to pay their debts in a timely manner and instead encourages misconduct.

We are also aware of Draft Law No. 3800-1 that provides for a large-scale write-off of debts in the gas market for certain participants. However, we note that adoption of this draft law would likely adversely affect the market development due to the negative influence on behavior of market participants described above. It also would likely cause negative financial consequences for most of market participants, as well as substantive imbalances in their balance sheets and tax obligations. Therefore, we cannot recommend the adoption of Draft Law No. 3800-1.

- ▶ **Partial inclusion in RAB:** financing of regulated infrastructure commonly relies on a RAB approach as it provides a stable cashflow to recover investment. In general, the RAB approach is designed to safeguard the capital-intensive infrastructure business against instability and thus provides investors with the necessary confidence to invest in the infrastructure business. The regulatory consideration of CAPEX, i.e., asset depreciation plus financing costs, based on a predefined (and long-term stable) RAB-methodology provides network operators with a reliable revenue stream to finance long term infrastructure investments with investors and lenders. The same approach could be applied to restructure the debt of a DSO by introducing a 'virtual asset' (vRAB) for the purpose of DSO cost determination in the course of tariff setting:
  - ▶ Old outstanding amounts, which are considered beyond recovery, are regarded analogous to the existing infrastructure. While the existing infrastructure constitutes the basis for the initial RAB, these outstanding debts create the vRAB starting book value
  - ▶ Same as the RAB the vRAB is depreciated over a reasonable period (from a tariff perspective) and financing costs are calculated for the resulting vRAB value. (In case of unexpected payments by debtor, the vRAB is reduced accordingly and in addition to normal depreciation.)
  - ▶ vRAB CAPEX are calculated each year as the sum of depreciation and financing costs and are approved for the DSO cost base and tariff calculation
  - ▶ This concept and resulting revenue streams shall in turn enable DSOs to finance repayments of their significant debt with the GTSO and UTG.



Chart 32: potential payment flows:



The key parameters that are to be considered for calculating vRAB CAPEX are: 1) initial asset value → outstanding amounts beyond realistic recovery; 2) 'depreciation' period → e.g., 15 years (longer periods reduce impact on tariffs); 3) regulatory accepted interest rate → same WACC as for 'regular' RAB. Advantages of the vRAB-approach are the following:

- ▶ Greatly improved risk profile for financing partner, opening up the DSO to a larger financing market
- ▶ Long-term depreciation minimizes impact on final consumer tariffs
- ▶ Straight forward implementation as additional CAPEX component in the tariff methodology for DSOs
- ▶ Enables relatively swift debt settlement with TSO and UTG.

For the described restructuring process, the government should develop a special law to be adopted by the Parliament.

This solutions for DHCs are the same as for DSOs, but the specifics of DHCs should be considered.

#### 4.12. ENSURE THE ABILITY TO SELL AND PURCHASE NATURAL GAS ON COMMODITY EXCHANGES WITH THE PARTICIPATION OF THE GTSO, SSO AND DSOs TO PROMOTE THE DEVELOPMENT OF THE LIQUID MARKET

Law of Ukraine "On Amending Article 3 of Law of Ukraine "On Public Procurement" regarding Procurement of Natural Gas" No. 1021-IX was adopted on 2 December 2020. This law entitles the GTSO, SSOs and DSOs to procure natural gas on commodity exchanges for maintaining own business activity (including the own production and technical needs, coverage of expenses and technological consumption, balancing actions) according to Gas Market Law and GTS, Gas Storage and GDS Codes.

It is necessary to take measures for setting the relevant procedures and solving other technical aspects at the DSOs, the NEURC and commodity exchanges levels to provide the operators with the practical opportunity to procure natural gas on gas exchanges that are regulated by the commodity exchange law and that comply with the requirements of the GTS Code.

## 5. ROADMAP FOR IMPLEMENTATION<sup>281</sup>

No	Block	Necessity of implementation	Solutions to be implemented	Market players to be affected	Necessary steps	Responsible party	Deadline
1	Ensure the proper use of DSOs' tariff revenues by introducing accounts with special regime	Currently DSOs fail to perform their balancing obligations, whereas some of them have significant debts to the GTSO for balancing services. Such problem arose because some DSOs do not procure natural gas for their own technical needs in the open market, despite having appropriate income from the consumers according to the tariff structure.  To ensure the proper level of settlements and the payment diligence of DSOs the accounts with special regime should be implemented. Under this regulatory framework all DSOs should be obliged to open the accounts with special regime to receive proceeds from consumers for the services provided to them by such DSOs. In case any arrears occur, the NEURC (following the request of the GTSO) would have the ability to apply the algorithm of automatic distribution of proceeds from these accounts with special regime (for the settlement of debts and ensuring payments).	Accounts with special regime	DSOs, GTSO	1.1. To revise Draft Law "On Amending Gas Market Law regarding Ensuring Financial Stability in Gas Market" No. 3800 <sup>282</sup>  1.2. To consider Draft Law No. 3800 at the VRU Committee meeting  1.3. To adopt Draft Law No. 3800  1.4. To implement the adopted provisions (amending secondary legislation, testing procedures for cooperation to ensure the opening of relevant accounts) <sup>283</sup>	MOE, VRU Committee  VRU  VRU  MOE, CMU, NEURC, GTSO	Jun-Jul 21  Jun-Jul 21  Jul-Aug-21  Aug-Oct -21
2	Change the model for providing all DSOs with natural gas for own needs by introducing mandatory licensed suppliers to supply natural gas for technological consumption of DSOs	Currently DSOs fail to perform their balancing obligations, whereas some of them have significant debts to the GTSO for balancing services. Such problem arose because some DSOs decide to cover their own technical needs in natural gas through the balancing services of the GTSO and abuse their natural monopoly status in the market by insufficient settlements or absence of payment for the service that the GTSO has to provide, instead of procuring natural gas in the open market.  According to this solution, all DSOs should be obliged to execute natural gas supply agreements with the licensed suppliers to acquire natural gas for technological consumption, in the same way as all other consumers of natural gas. If each DSO has its	Licensed suppliers for DSOs	DSOs, GTSO	2.1. To develop a Draft Law on Amendments to the Gas Market Law <sup>284</sup> and to discuss it with all stakeholders  2.2. To consider the Draft Law at the VRU Committee meeting  2.3. To adopt the Draft Law  2.4. To develop a Draft Resolution for approval of relevant amendments to the GDS Code and the GTS Code	MOE  VRU Committee  VRU  NEURC	Jun-Jul 21  Jun-Jul 21  Jul-21  Aug-21

<sup>281</sup> Here we provide the final version of the Roadmap that has been provided to the World Bank and the relevant stakeholders via email on 11 February 2021.

<sup>282</sup> In case of replacement of this Draft Law with alternative draft Laws on the resolution of issues in the natural gas market, it is necessary to add appropriate provisions on introduction of accounts with special regime to such an alternative Draft Law.

<sup>283</sup> The implementation of these measures is possible only with the consistent implementation of the necessary steps. In case of delay at any stage, further deadlines should be adjusted.

<sup>284</sup> In the case of legislative initiatives on comprehensive measures to address the problems of the gas market, it is possible to include relevant provisions to such draft law as a significant adjustment of the shortcomings of the existing market model.

No	Block	Necessity of implementation	Solutions to be implemented	Market players to be affected	Necessary steps	Responsible party	Deadline
		<p>own licensed supplier, it would create more efficient mechanism for ensuring the due settlements and performance of balancing obligations by market participants.</p> <p>Accordingly, the Parliament should amend the Gas Market Law to change DSO's legal status. Currently effective provision of the GTS Code, which entitles DSOs to buy natural gas from its owners on a regular basis, should be replaced by the provision that obliges DSOs to execute natural gas supply agreements with licensed suppliers. In addition, certain clarifications to the GTS Code should be introduced (considering the necessary changes to the contractual relations between the GTSO and DSOs that should be implemented since DSOs would acquire the consumer's status).</p> <p>We note that introduction of mandatory licensed suppliers to supply natural gas for technological consumption of DSOs will limit DSOs' ability to purchase natural gas on gas exchanges. Therefore, as an alternative option, DSOs may be allowed to purchase gas on gas exchanges, if they have an effective agreement with the supplier (as a backup option in case of failure to fulfil balancing obligations).</p>			<p>2.5. To publish the Draft Resolution and receive comments and suggestions from relevant stakeholders on certain additional amendments</p> <p>2.6. To revise the Draft Resolution (if required)</p> <p>2.7. To adopt the Resolution</p> <p>2.8. To monitor DSOs for ensuring themselves with suppliers</p>	NEURC	Aug-21
3	Abandon the practice of prohibiting cut-offs of Consumers in default and not directly subject to the PSO (the Supplier under the PSO should be completely prohibited from cutting off and terminating the supply of natural gas)	<p>Natural gas suppliers and DSOs should have the right to cut off their consumers because of debts. The exception may be the consumers that are directly covered by the PSO regime, with the sufficient reasoning and provision of due compensation from the state. The ability to cut-off the consumers would become one of the pressure points to avoid the consumers' violations and overall disruption of the natural gas market.</p> <p>Also, the CMU should be deprived of the right to prohibit the cut-offs in future. For this purpose, the Parliament should develop the draft law on introduction of the relevant limitation of powers of the CMU and other authorities.</p>	Abandon the practice of prohibiting cut-offs of DHCs and other Consumers	DSOs, DHCs, GTSO	<p>3.1. Not to adopt prohibition on cut-off of gas consumers</p> <p>3.2. To develop a Draft Law that would limit powers of the CMU and other state authorities</p> <p>3.3. To adopt the relevant Draft Law</p>	CMU VRU Committee VRU	- Jun-21 Jul-21
4	Amend the Regulation on Imposing Special Obligations (PSO) on Natural Gas Market Participants to resolve	This solution would remove the ambiguity in the Regulation on Imposing Special Obligations on Natural Gas Market Participants to Ensure Public Interests During Functioning of Natural Gas Market adopted by Resolution of the CMU No. 867 dated 19 October 2018 (PSO Regulation) and possible incorrect	Unconditional PSO State compensations for fulfilment of the PSO	DSOs, DHCs, GTSO	<p>4.1. To develop relevant changes to the PSO Regulation</p> <p>4.2. To amend the PSO Regulation</p>	MOE CMU	Jun-Jul 21 Jun-Jul 21

No	Block	Necessity of implementation	Solutions to be implemented	Market players to be affected	Necessary steps	Responsible party	Deadline
	problems with absence of an unconditional PSO	<p>interpretations that currently lead to creation of negative systemic imbalances and financial damage to the GTSO.</p> <p>The PSO supplier should be obliged to supply the natural gas to DHCs and other socially important entities regardless of the level of settlements maintained by such consumers. At the same time, it is necessary to ensure the proper compensation to the PSO supplier from the state.</p> <p>Accordingly, it is necessary to repeal the requirements for the minimal level of settlements or execution of the restructuring agreement, add the requirement to the PSO supplier to execute the agreement on the consumer's demand, prohibit the PSO supplier to suspend or cut-off the natural gas supply to such consumer until the end of the PSO regime, elaborate on the obligation for the provision of the state compensation to the PSO supplier.</p>			<p>4.3. To adopt the relevant Procedure for providing compensation to the PSO supplier</p> <p>4.4. To take measures to implement the adopted provisions (ensure the functioning of the unconditional PSO and payment of compensation to the PSO supplier)</p> <p>4.5. Take measures to implement the adopted norms (ensure the functioning of unconditional PSO and payment of compensation to the supplier of PSO)</p>	CMU	<p>Jun-Jul 21</p> <p>Jun-Jul 21</p> <p>Aug-21</p>
5	Bring the mechanism of calculation of the neutrality charge in compliance with the peculiarities of the gas market in Ukraine and start performing settlements between the transmission services customers and the GTSO on a monthly basis starting from gas year 2021/22	<p>Implementation of the neutrality charge is aimed at ensuring the absence of financial income as well as loss of the GTSO according to EU standards. In order to implement such standards in the current Ukrainian conditions, where significant disruptions between the nominal and factual incomes of the GTSO occur, the neutrality charge should take into account the losses related to the late or incomplete payments.</p> <p>Cash-flow method (i.e., accounting of the factual payments and proceeds, with indirect accounting of the financial expenses and possible arrears) may be methodologically more correct approach to the neutrality charge calculation in Ukraine under the current circumstances, especially if the issue of unpaid imbalances is not solved promptly (in particular, by implementation of the other measures envisaged by this Report).</p> <p>If the market participants improve the payment diligence, the cash-flow method should not have significant deviations from the accounting method, and then the relevant decision on returning to the accounting method of calculation of the neutrality charge may be made.</p>	Improvement of methodology and application of neutrality charges	GTSO	<p>5.1. To prepare a Draft Resolution on amending the GTS Code</p> <p>5.2. To publish the Draft Resolution and receive feedback from relevant stakeholders</p> <p>5.3. To revise the Draft Resolution (if required)</p> <p>5.4. To adopt the Resolution</p>	NEURC	<p>Sep-21</p> <p>Sep-21</p> <p>Oct-Nov 21</p> <p>Oct-Nov 21</p>

No	Block	Necessity of implementation	Solutions to be implemented	Market players to be affected	Necessary steps	Responsible party	Deadline
6	Amend the methodology for determining and calculating the tariff for natural gas distribution services and the procedure for establishment of the tariffs for heat energy, its production, transmission and supply to ensure the objectivity of initiating the tariffs' review	<p>The drawback of the procedure for the establishment and review of the tariffs for DSOs is that Regulator has the right to initiate the review of the tariff, but it is not obliged to do so even in case all necessary preconditions are present. For instance, the DSO's tariffs had not been changed during 2017-2019 years, even though a) the natural gas distribution amounts were decreasing (25 bcm in 2019 in comparison to the average level of 27,5 bcm in 2017-2018); b) prices for natural gas were changing (the average prices established by Naftogaz were 8,884, 11,408 and 8,156 in 2017, 2018, 2019 respectively); c) average salary in the industry has risen (in average for 28,3% yearly during 2017-2019 years). Apart from this, in January 2021 the NEURC adopted the decision to decrease the tariffs on distribution of natural gas for 13 DSOs not because of economically justified factors, but to bring them in line with the average tariffs for other DSOs (it is expected that there will be a limit of UAH 1.79 per cm<sup>3</sup> net of VAT). Such approach to the establishment and review of the tariffs leads to the damages for DSOs' activity and should not be repeated in the future.</p> <p>The same drawback is intrinsic to the procedure of establishment and review of the tariffs for DHCs. Although Regulator was more flexible regarding review of the DHCs' tariffs in comparison to DSOs' tariffs, and during 2017-2020 NEURC held 16 reviews for DHCs (in general, not each time for each DHC), there still can be situations when the review is not performed even in case all necessary preconditions are present. For instance, in January 2021 the NEURC participated in elaboration of the draft memorandum that envisages that tariffs for heating in the current heating season remain unchanged. Such practice should be abandoned.</p>	<p>Changing the approach to and procedure for tariff revision for DSO</p> <p>Changing the approach to and procedure for tariff revision for DHC</p>	DSOs, DHCs, GTSO	6.1. To consider and approve the wording of amendments to Resolution of NEURC No. 236 dated 25 February 2016 "On Approval of Methodology for Determining and Calculating the Tariff for Natural Gas Distribution Services" regarding the distinction of cases where the Regulator may initiate the tariff review (Section VIII, paragraphs 16.2-16.4 and 16.8) and where the Regulator must initiate the tariff review (Section VIII, paragraphs 16.1 and 16.5-16.7), as the tariff review is currently optional for all cases	NEURC	Jun-Jul 21
					6.2. To consider and approve the wording of amendments to Resolution of NEURC No. 528 dated 31 March 2016 "On Approval of the Procedure for Establishment of Tariffs for Heat Energy, its Production, Transmission and Supply" regarding the delimitation of cases where the Regulator must initiate the tariff review (clauses 1, 2, 3, 5 of paragraph 4.4) and where the Regulator may initiate the tariff review (other provisions of paragraph 4.4), as the tariff review is currently optional for all cases	NEURC	Jun-Jul 21
					6.3. To publish draft amendments to the Resolutions to receive comments and suggestions	NEURC	Jun-Jul 21
					6.4. To consider comments and suggestions to the draft changes to the Resolutions	NEURC	Jul-Aug 21

No	Block	Necessity of implementation	Solutions to be implemented	Market players to be affected	Necessary steps	Responsible party	Deadline
					6.5. To adopt amendments to the Resolutions	NEURC	Jul-Aug 21
7	Develop and implement a mechanism of temporary administrations for materially non-compliant DSOs/DHCs	<p>The temporary administration should become the effective leverage that would apply if it is not possible to influence the behavior of the market participant in any other way. Practically, the temporary administration mechanism should not allow DSOs and DHCs to significantly violate the legal framework and licensing terms during performing their business activities.</p> <p>The temporary administration implies obtaining the full control over a DSO/DHC, suspending the control of the former owners, introduction of the new management based on the decision of the relevant authority for achievement of the certain purpose (for example, financial stabilization, correction of violations etc.).</p> <p>The mechanism of temporary administration for DSO/DHC may be based on the same principles as the mechanism for banks or assets arrested in the criminal proceedings.</p> <p>In order to finish the development of the mechanism, it is necessary to determine the authority that would be responsible for introduction of a temporary administration, criteria for its introduction, procedure for election of an administrator, its authorities and liabilities and other matters.</p> <p>Introduction of this solution would require the complex development of the temporary administration procedure and implementation of the relevant substantial amendments to the Gas Market Law, the Law on Heat Supply and the Code of Ukraine on Bankruptcy Proceedings.</p>	Temporary administration for materially non-compliant DSOs/DHCs	DSOs, DHCs, GTSO	7.1. To prepare and discuss the concept of temporary administrations with stakeholders and market participants	MOE	Oct-Nov 21
					7.2. To revise the concept of temporary administrations and agree on relevant key issues with all stakeholders	MOE	Oct-Nov 21
					7.3. To develop a Draft Law implementing the concept of temporary administrations in the legislative field	MOE	Nov-21
					7.4. To consider the Draft Law at the VRU Committee	VRU Committee	Nov-21
					7.5. To adopt the Draft Law	VRU	Dec-21
8	Oblige market participants to sell a certain amount of extracted natural gas	For 11 months of 2020 Ukrainian market players sold 2,5 bcm of the natural gas on Ukrainian Energy Exchange (6 times more than in the previous year). A total of 83 new participants were attracted, and a total of 372 companies were accredited to trade. Nevertheless, the liquidity of the short-term market is still in	Increase of short-term market's liquidity	All	8.1 To determine the reasonable level (limit) of mandatory sales of extracted gas by all companies engaged in natural gas exploration and production	MOE	Jun-Jul 21

No	Block	Necessity of implementation	Solutions to be implemented	Market players to be affected	Necessary steps	Responsible party	Deadline
	through the commodity exchange	doubt. Government considers an option to oblige JSC "Ukrgezvydobuvannya" to sell all of the gas extracted by this company through the exchange. Naftogaz offers the alternative, namely, to sell 15% of own production through the exchange. Meanwhile, if the government decides to implement the mandatory sale of natural gas, one may argue that it would be more effective, transparent and non-discriminatory if all companies that perform natural gas research and production activities in Ukraine are obliged to sell a predetermined amount of daily production on the commodity exchange. Such practice is ordinary for the electricity market of Ukraine (establishment of the minimal monthly margin for the mandatory sale of the electricity produced by the power plants and imported by market participants on the day-ahead market, but no more than 30% of their monthly sales).			8.2 To amend the Law of Ukraine №329-VIII "On the Natural Gas Market" which provide for the right of the Regulator to establish the level of mandatory sale of extracted gas at the commodity exchange, as well as the right to determine the commodity exchange (exchanges) through which it should be sold	VRU	Jul-21
					8.3 To establish the level of mandatory sale of extracted gas and determine the commodity exchange (exchanges) through which it should be sold	NEURC	Jul-21
9	Ensure the review and establishment of reasonable gas consumption norms for household consumers to stimulate the achievement of 100% commercial metering	According to the NEURC's data, the percent of the household consumers with commercial gas metering as of 1 January 2020 is 91% compared to 89% as of 1 January 2019. It was expected that by the beginning of 2021 this coverage of meters will be 100%, but due to the pandemic, their installation was not completed. For consumers without commercial metering the CMU should establish the consumption norms. Last time they were established by the CMU Resolution No. 143 dated 27 February 2019, but as of now its legal status is not clearly defined. The differences between actual and normative consumption directly influence the financial condition of DSOs and, respectively, their ability to fulfil the obligations to other market participants, including the GTSO. Besides, inadequately low norms encourage the consumers to avoid installation of the gas meters, so they should be set at the level that would facilitate 100% metering by metering units.	Setting the consumption norms for DSOs at a reasonable and justified level	DSOs, GTSO	9.1. To determine a reasonable level of gas consumption for each category (gas stove with centralized hot water supply, gas stove without centralized hot water supply, gas stove and a gas water heater), which will stimulate consumers to promote the installation of gas meters	MOE	Jun-Jul 21
					9.2. To adopt a Resolution which will establish a pre-determined reasonable level of gas consumption and update the norms established by the Resolution of the CMU No. 143	CMU	Jun-Jul 21
10	Implement an incentive-based and transparent methodology for tariffs calculation for DSOs and DHCs	Tariffs for DSOs are set according to the methodology "expenses +" that is adopted by Resolution of the NEURC No. 236 dated 25 February 2016. The methodology envisages the coverage of all economically justified expenses, payment of taxes and mandatory payments, and also certain profit margin defined	Adjustment of the DSOs' and DHCs' tariff calculation methodology	DSOs, DHCs, GTSO	10.1. To develop a new methodology for DSOs and DHCs tariffs calculation, which will be based on long-term incentives and provide a reasonable level of profitability	NEURC	Jun-23

No	Block	Necessity of implementation	Solutions to be implemented	Market players to be affected	Necessary steps	Responsible party	Deadline
		by the NEURC. Such approach does not encourage DSOs to increase the efficacy (for instance, additional capital investments aimed at reducing technological consumption), since, should it be the case, the absolute amount of income would decrease. Similar issue arises for DHCs that also have their tariffs established according to "expenses +" methodology in line with Resolution of the NEURC No. 1174 dated 25 June 2019. Moreover, in cases where the tariff is set by the local authority, the latter may be encouraged to artificially decrease the economically justified tariff to receive certain political benefits. Obviously, the methodology for both DSOs and DHCs should be based on transparent long-term incentives and ensure the sufficient level of income and capital investments.			10.2. To assess the potential economic impact of the introduction of new methodologies and develop mechanisms to mitigate their impact on bills of vulnerable consumers	NEURC	Sep-23
					10.3. To conduct public discussions with interested market participants and take into account reasonable comments on draft new methodologies	NEURC	Sep-23
					10.4. To adopt new methodologies and repeal Resolution No. 236 and Resolution No. 1174	NEURC	Dec-23
11	Resolve the issue of accumulated debts of DSOs and DHCs through mechanisms that will not create incentives for the formation of new debts	<p>During 2015-2019, the previous GTS Operator JSC "Ukrtransgaz" faced the issue of the unauthorized off-takes and unpaid imbalances. During this period the network users accumulated UAH 43.8 b of debts, including UAH 27.6 b accumulated by DSOs during January 2016 - February 2019 (before introduction of the daily balancing) and UAH 7.2 b accumulated by DSOs during March 2019 - December 2019 (after introduction of the daily balancing).</p> <p>According to Naftogaz, the overall debts of DHCs for natural gas consumed and used in the heat production is UAH 45.9 b (including additionally accumulated UAH 17.3 b during 2020) as of 20 January 2021. Meanwhile, the overall debt of Naftogaz's counterparties for consumed natural gas (DHCs, CHPPs, regional supply entities, direct consumers) constitutes UAH 82.6 b.</p> <p>Generally, debt restructuring should have a positive impact on the financial condition of market participants and the GTSO. However, the successful implementation of this solution depends on the availability of financial resources for covering debts after</p>	Development of repayment mechanisms for accumulated debts and penalties for DSOs and DHCs	DSOs, SHCs, Naftogaz, GTSO, suppliers	<p>11.1. To carry out verification of debts that can be included in the process of repayment of the accumulated debts of DSOs and DHCs</p> <p>11.2. To develop economically reasonable mechanisms for repayment of the accumulated debts and penalties of DSOs and DHCs that will not create incentives for the formation of new debts</p> <p>11.3. To reject the Draft Law 3800-1 as one that does not contribute to an effective and fair settlement of the debt problem</p> <p>11.4. To develop a relevant Draft Law on measures aimed at repaying debts incurred in the natural gas market</p>	<p>MOE</p> <p>MOE</p> <p>VRU</p> <p>CMU</p>	<p>Jun-Jul 21</p> <p>Jun-Jul 21</p> <p>Jun-Jul 21</p> <p>Jun-Jul 21</p>



No	Block	Necessity of implementation	Solutions to be implemented	Market players to be affected	Necessary steps	Responsible party	Deadline
		the restructuring. Besides, reportedly, some market participants accumulate debts not because of their own insolvency, but because of their misconduct. Such participants should not have the right for restructuring. Noteworthy, Draft Law No. 3800-1 that envisages the large-scale debt forgiveness in the gas market for certain participants would negatively influence the behavior of market participants, since it does not incentivize them to pay the debts in time and instead encourages the misconduct.			11.5. To consider and adopt the Draft Law on restructuring accumulated debts of DSOs and DHCs incurred at the natural gas market	VRU	Jun-Jul 21
12	Ensure the ability to sell and purchase natural gas on commodity exchanges with the participation of the GTSO, SSO and DSOs to promote the development of the liquid market	<p>Law of Ukraine "On Amending Article 3 of Law of Ukraine "On Public Procurement" regarding Procurement of Natural Gas" № 1021-IX was adopted on 2 December 2020. This law entitles the GTSO, gas storage operators and DSOs to procure natural gas on the commodity exchanges for maintaining own business activity (including the own production and technical needs, coverage of expenses and technological consumption, balancing actions) according to Gas Market Law and GTS, Gas Storage and GDS Codes.</p> <p>It is necessary to take measures for setting the relevant procedures and solving other technical aspects at the DSOs, the NEURC and commodity exchanges levels to provide the operators with the practical opportunity to procure natural gas on gas exchanges that are regulated by the commodity exchange law and that comply with the requirements of the GTS Code.</p>	Resolving technical aspects of establishment of exchanges' compliance with the requirements of the legislation and the GTS Code	DSOs, GTSO, suppliers	<p>12.1. To obtain clarifications from the responsible authority on the procedure for confirming compliance of the commodity exchange with the requirements of the GTS Code</p> <p>12.2. To carry out the procedure for confirming the compliance of commodity exchanges with the requirements of the Code at the request of the exchange or market participants</p> <p>* If it is impossible to determine the procedure without changes in the regulatory framework, the following steps should be carried out additionally:</p> <p>12.1.1. To determine and develop necessary amendments to the secondary legislation or, if required, to laws</p> <p>12.1.2. To adopt relevant changes to the regulatory framework</p>	<p>NEURC</p> <p>Participants determined by the procedure</p> <p>VRU Committee</p> <p>VRU</p> <p>NEURC</p>	<p>Jun-21</p> <p>Jun-Jul 21</p> <p>Jun-Jul 21 (in case of changes to laws: Jun-Sep 21)</p>

## ANNEX 1: DRAFT CHANGES TO THE PSO REGULATION ON UNCONDITIONAL PSO

Чинна редакція	Редакція зі змінами
[...]	[...]
11. Виробник теплової енергії має право з 1 листопада 2018 р. по 1 травня 2021 р. придбавати природний газ для всіх категорій використання природного газу у НАК "Нафтогаз України" у разі виконання таких умов:	11. Виробник теплової енергії має право з 1 листопада 2018 р. по 1 травня 2021 р. придбавати природний газ для всіх категорій використання природного газу у НАК "Нафтогаз України" у разі виконання таких умов:
1) укладення виробником теплової енергії договору постачання природного газу з НАК "Нафтогаз України" відповідно до законодавства;	1) укладення виробником теплової енергії договору постачання природного газу з НАК "Нафтогаз України" відповідно до законодавства;
2) виконання виробником, на якого станом на 30 вересня 2015 р. поширювалася дія статті 19-1 Закону України "Про теплопостачання" або якому надано в користування (оренду, концесію, управління тощо) цілісний майновий комплекс або індивідуально визначене майно з вироблення теплової енергії, що використовувалися виробником теплової енергії, на якого станом на 30 вересня 2015 р. поширювалася дія статті 19-1 Закону України "Про теплопостачання", обов'язку щодо відкриття рахунків із спеціальним режимом використання.	2) виконання виробником, на якого станом на 30 вересня 2015 р. поширювалася дія статті 19-1 Закону України "Про теплопостачання" або якому надано в користування (оренду, концесію, управління тощо) цілісний майновий комплекс або індивідуально визначене майно з вироблення теплової енергії, що використовувалися виробником теплової енергії, на якого станом на 30 вересня 2015 р. поширювалася дія статті 19-1 Закону України "Про теплопостачання", обов'язку щодо відкриття рахунків із спеціальним режимом використання.
Крім того, виробнику теплової енергії необхідно виконати одну з таких умов:	Крім того, виробнику теплової енергії необхідно виконати одну з таких умов:
досягнення станом на 23 число місяця, що передє місяцю постачання природного газу, рівня розрахунків виробника теплової енергії (без урахування штрафних санкцій), за усіма укладеними з НАК "Нафтогаз України" договорами про постачання природного газу (купівлі-продажу, про закупівлю, відступлення права вимоги тощо) не нижче 90 відсотків (у період з 1 грудня 2018 р. до 1 квітня 2019 р. - не нижче 78 відсотків, а для виробника теплової енергії, управління майном якого здійснює Фонд державного майна і який використовує природний газ для виробництва теплової та електричної енергії, у період з 16 листопада 2018 р. до 1 квітня 2019 р. та у період з 1 жовтня 2019 р. до 1 травня 2021 р. - не нижче 60 відсотків); або	досягнення станом на 23 число місяця, що передє місяцю постачання природного газу, рівня розрахунків виробника теплової енергії (без урахування штрафних санкцій), за усіма укладеними з НАК "Нафтогаз України" договорами про постачання природного газу (купівлі-продажу, про закупівлю, відступлення права вимоги тощо) не нижче 90 відсотків (у період з 1 грудня 2018 р. до 1 квітня 2019 р. - не нижче 78 відсотків, а для виробника теплової енергії, управління майном якого здійснює Фонд державного майна і який використовує природний газ для виробництва теплової та електричної енергії, у період з 16 листопада 2018 р. до 1 квітня 2019 р. та у період з 1 жовтня 2019 р. до 1 травня 2021 р. - не нижче 60 відсотків); або
укладення з НАК "Нафтогаз України" договору про реструктуризацію заборгованості за спожитий природний газ згідно з типовим договором у рамках реалізації Закону України "Про заходи, спрямовані на врегулювання заборгованості теплопостачальних та теплогенеруючих організацій та підприємств централізованого водопостачання і водовідведення за спожиті енергоносії" (за наявності відповідної заборгованості) та виконання зазначеного договору; або	укладення з НАК "Нафтогаз України" договору про реструктуризацію заборгованості за спожитий природний газ згідно з типовим договором у рамках реалізації Закону України "Про заходи, спрямовані на врегулювання заборгованості теплопостачальних та теплогенеруючих організацій та підприємств централізованого водопостачання і водовідведення за спожиті енергоносії" (за наявності відповідної заборгованості) та виконання зазначеного договору; або
подання виробником теплової енергії до НАК "Нафтогаз України" погодженого НАК "Нафтогаз України" та виконавчим органом відповідної місцевої ради графіка погашення заборгованості (рівними частинами до 1 січня 2021 р. щодо всіх договорів з НАК "Нафтогаз України"), складеного на підставі довідки щодо заборгованості, виданої НАК "Нафтогаз України", та виконання такого графіка, а також здійснення поточних розрахунків за використаний природний газ. Наявність графіка погашення заборгованості не змінює порядку розрахунків, установленого між постачальником та виробником теплової енергії у договорах постачання природного газу (купівлі-продажу, про закупівлю, відступлення права вимоги тощо).	подання виробником теплової енергії до НАК "Нафтогаз України" погодженого НАК "Нафтогаз України" та виконавчим органом відповідної місцевої ради графіка погашення заборгованості (рівними частинами до 1 січня 2021 р. щодо всіх договорів з НАК "Нафтогаз України"), складеного на підставі довідки щодо заборгованості, виданої НАК "Нафтогаз України", та виконання такого графіка, а також здійснення поточних розрахунків за використаний природний газ. Наявність графіка погашення заборгованості не змінює порядку розрахунків, установленого між постачальником та виробником теплової енергії у договорах постачання природного газу (купівлі-продажу, про закупівлю, відступлення права вимоги тощо).

Чинна редакція	Редакція зі змінами
<p>При цьому графіки погашення заборгованості, подані виробниками теплової енергії та прийняті НАК "Нафтогаз України" відповідно до постанови Кабінету Міністрів України від 1 жовтня 2015 р. № 758 "Про затвердження Положення про покладення спеціальних обов'язків на суб'єктів ринку природного газу для забезпечення загальносупільних інтересів у процесі функціонування ринку природного газу (відносини у перехідний період)" (Офіційний вісник України, 2015 р., № 79, ст. 2651), використовуються для цілей цього Положення та не підлягають зміні або коригуванню, крім випадків участі теплопостачальних та теплогенеруючих організацій у процедурі врегулювання заборгованості за спожитий природний газ, визначеній Законом України "Про заходи, спрямовані на врегулювання заборгованості теплопостачальних та теплогенеруючих організацій та підприємств централізованого водопостачання і водовідведення за спожиті енергоносії", в частині реструктуризації заборгованості за спожитий природний газ.</p>	<p>При цьому графіки погашення заборгованості, подані виробниками теплової енергії та прийняті НАК "Нафтогаз України" відповідно до постанови Кабінету Міністрів України від 1 жовтня 2015 р. № 758 "Про затвердження Положення про покладення спеціальних обов'язків на суб'єктів ринку природного газу для забезпечення загальносупільних інтересів у процесі функціонування ринку природного газу (відносини у перехідний період)" (Офіційний вісник України, 2015 р., № 79, ст. 2651), використовуються для цілей цього Положення та не підлягають зміні або коригуванню, крім випадків участі теплопостачальних та теплогенеруючих організацій у процедурі врегулювання заборгованості за спожитий природний газ, визначеній Законом України "Про заходи, спрямовані на врегулювання заборгованості теплопостачальних та теплогенеруючих організацій та підприємств централізованого водопостачання і водовідведення за спожиті енергоносії", в частині реструктуризації заборгованості за спожитий природний газ.</p>
<p>Виробники теплової та електричної енергії, управління майном яких здійснюють суб'єкти господарювання, які залучені Національним агентством з питань виявлення, розшуку та управління активами, одержаними від корупційних та інших злочинів, відповідно до статті 21 Закону України "Про Національне агентство з питань виявлення, розшуку та управління активами, одержаними від корупційних та інших злочинів", мають право з 1 листопада 2018 р. по 1 травня 2021 р. придбавати природний газ для всіх категорій використання природного газу, у тому числі для виробництва електричної енергії, у НАК "Нафтогаз України" у разі виконання таких умов:</p>	<p>Виробники теплової та електричної енергії, управління майном яких здійснюють суб'єкти господарювання, які залучені Національним агентством з питань виявлення, розшуку та управління активами, одержаними від корупційних та інших злочинів, відповідно до статті 21 Закону України "Про Національне агентство з питань виявлення, розшуку та управління активами, одержаними від корупційних та інших злочинів", мають право з 1 листопада 2018 р. по 1 травня 2021 р. придбавати природний газ для всіх категорій використання природного газу, у тому числі для виробництва електричної енергії, у НАК "Нафтогаз України". у разі виконання таких умов:</p>
<p>умов, визначених у підпунктах 1-3 цього пункту;</p>	<p>умов, визначених у підпунктах 1-3 цього пункту;</p>
<p>досягнення станом на 23 число місяця, що передує місяцю постачання природного газу, рівня розрахунків, за договорами про постачання природного газу, укладеними з НАК "Нафтогаз України", не нижче 90 відсотків (у період з 1 грудня 2018 р. до 1 квітня 2019 р. - не нижче 78 відсотків).</p>	<p>досягнення станом на 23 число місяця, що передує місяцю постачання природного газу, рівня розрахунків, за договорами про постачання природного газу, укладеними з НАК "Нафтогаз України", не нижче 90 відсотків (у період з 1 грудня 2018 р. до 1 квітня 2019 р. - не нижче 78 відсотків).</p>
<p>[...]</p>	<p>[...]</p>

## ANNEX 2: DRAFT CHANGES TO GAS MARKET LAW ON THE PSO COMPENSATION

Чинна редакція	Редакція зі змінами
Стаття 11. Спеціальні обов'язки для забезпечення загальносупільних інтересів у процесі функціонування ринку природного газу	Стаття 11. Спеціальні обов'язки для забезпечення загальносупільних інтересів у процесі функціонування ринку природного газу
[...]	[...]
7. Суб'єкт ринку природного газу, на якого покладаються спеціальні обов'язки відповідно до частини першої цієї статті, <del>має право на отримання</del> компенсації економічно обґрунтованих витрат, здійснених таким суб'єктом, зменшених на доходи, отримані у процесі виконання покладених на нього спеціальних обов'язків, та з урахуванням допустимого рівня прибутку відповідно до порядку, затвердженого Кабінетом Міністрів України.	7. Кабінет Міністрів України зобов'язаний призначити та забезпечити виплату на користь суб'єкта ринку природного газу, на якого покладаються спеціальні обов'язки відповідно до частини першої цієї статті, <b>відповідної</b> компенсації економічно обґрунтованих витрат, здійснених таким суб'єктом <b>під час та для цілей виконання покладених на нього спеціальних обов'язків</b> , зменшених на доходи, отримані у процесі виконання покладених на нього спеціальних обов'язків, та з урахуванням допустимого рівня прибутку відповідно до порядку, затвердженого Кабінетом Міністрів України.
	Кабінет Міністрів України не може приймати рішення про покладання спеціальних обов'язків на суб'єктів ринку природного газу без визначення джерел фінансування та порядку виплати компенсації, що надається суб'єктам ринку природного газу, на яких покладаються спеціальні обов'язки.
[...]	[...]

### ANNEX 3: DRAFT CHANGES TO THE DISTRIBUTION TARIFF METHODOLOGY

Чинна редакція	Редакція зі змінами
VIII. Процедура встановлення та перегляду тарифів на послуги розподілу природного газу	VIII. Процедура встановлення та перегляду тарифів на послуги розподілу природного газу
[...]	[...]
16. НКРЕКП може ініціювати перегляд тарифу на послуги розподілу природного газу у разі:	16. НКРЕКП може ініціювати перегляд тарифу на послуги розподілу природного газу у разі:
1) закінчення періоду, на який розраховувався тариф на послуги розподілу природного газу (або закінчення строку врахування окремих елементів витрат у структурі тарифу);	1) <del>закінчення періоду, на який розраховувався тариф на послуги розподілу природного газу (або закінчення строку врахування окремих елементів витрат у структурі тарифу);</del>
2) установлення факту нецільового використання коштів, передбачених структурою тарифу на послуги розподілу природного газу;	1) установлення факту нецільового використання коштів, передбачених структурою тарифу на послуги розподілу природного газу;
3) надання до НКРЕКП недостовірної інформації щодо здійснення господарської діяльності;	2) надання до НКРЕКП недостовірної інформації щодо здійснення господарської діяльності;
4) провадження господарської діяльності, яка не належить до сфери природних монополій, у разі якщо ця діяльність має вплив на ринок, що перебуває у стані природної монополії, за відсутності установлених НКРЕКП вимог;	3) провадження господарської діяльності, яка не належить до сфери природних монополій, у разі якщо ця діяльність має вплив на ринок, що перебуває у стані природної монополії, за відсутності установлених НКРЕКП вимог;
5) зміни річної замовленої потужності, урахованої при розрахунку тарифу на послуги розподілу природного газу, більше ніж на 5 %;	5) <del>зміни річної замовленої потужності, урахованої при розрахунку тарифу на послуги розподілу природного газу, більше ніж на 5 %;</del>
6) зміни витрат, що передбачені структурою встановленого тарифу на послуги розподілу природного газу, що сталася з причин, незалежних від суб'єкта господарювання, якщо це призводить до зміни рівня тарифу на послуги розподілу природного газу більше ніж на 5 % від встановленого рівня;	6) <del>зміни витрат, що передбачені структурою встановленого тарифу на послуги розподілу природного газу, що сталася з причин, незалежних від суб'єкта господарювання, якщо це призводить до зміни рівня тарифу на послуги розподілу природного газу більше ніж на 5 % від встановленого рівня;</del>
7) змін у чинному законодавстві України, зокрема в частині розміру ставок податків, зборів, обов'язкових платежів;	7) <del>змін у чинному законодавстві України, зокрема в частині розміру ставок податків, зборів, обов'язкових платежів;</del>
8) за результатами здійснення заходів нагляду (контролю) щодо дотримання суб'єктами господарювання вимог законодавства у сфері енергетики та Ліцензійних умов провадження господарської діяльності з розподілу природного газу.	4) за результатами здійснення заходів нагляду (контролю) щодо дотримання суб'єктами господарювання вимог законодавства у сфері енергетики та Ліцензійних умов провадження господарської діяльності з розподілу природного газу.
	<b>16<sup>1</sup>. НКРЕКП зобов'язана ініціювати перегляд тарифу на послуги розподілу природного газу у разі:</b>
	1) закінчення періоду, на який розраховувався тариф на послуги розподілу природного газу (або закінчення строку врахування окремих елементів витрат у структурі тарифу);
	2) зміни річної замовленої потужності, урахованої при розрахунку тарифу на послуги розподілу природного газу, більше ніж на 5 % <b>протягом періоду, який кратний кварталу (три, шість або дев'ять місяців);</b>
	3) зміни <b>протягом періоду, який кратний кварталу (три, шість або дев'ять місяців)</b> витрат, що передбачені структурою встановленого тарифу на послуги розподілу природного газу, що сталася з причин, незалежних від суб'єкта господарювання, якщо це призводить до зміни рівня тарифу на послуги розподілу природного газу більше ніж на 5 % від встановленого рівня;
	4) змін у чинному законодавстві України, зокрема в частині розміру ставок податків, зборів, обов'язкових платежів.

## ANNEX 4: DRAFT CHANGES TO REGULATION OF THE NEURC NO. 528

Чинна редакція	Редакція зі змінами
4. Встановлення тарифів	4. Встановлення тарифів
[...]	[...]
4.4. Перегляд тарифів може проводитись за обставин, що впливають або можуть вплинути на результати діяльності ліцензіата в період дії тарифів, а саме в таких випадках:	4.4. Перегляд тарифів може проводитись за обставин, що впливають або можуть вплинути на результати діяльності ліцензіата в період дії тарифів, а саме в таких випадках:
1) зміна приєднаного теплового навантаження в розрізі категорій споживачів перевищує 5 % від урахованого при встановленні діючих тарифів або зміна рівня втрат теплової енергії відповідно до встановлених уповноваженим органом методик (порядків);	1) зміна приєднаного теплового навантаження в розрізі категорій споживачів перевищує 5 % від урахованого при встановленні діючих тарифів або зміна рівня втрат теплової енергії відповідно до встановлених уповноваженим органом методик (порядків);
2) зміна в установленому порядку інвестиційної програми ліцензіата, якщо це призводить до зміни тарифів більше ніж на 2 % від установленого рівня;	2) зміна в установленому порядку інвестиційної програми ліцензіата, якщо це призводить до зміни тарифів більше ніж на 2 % від установленого рівня;
3) зміна протягом строку дії тарифів величини окремих витрат, пов'язаних із провадженням ліцензованої діяльності з виробництва, транспортування, постачання теплової енергії, з причин, які не залежать від ліцензіата, зокрема збільшення або зменшення податків і зборів, мінімальної заробітної плати, прожиткового мінімуму, встановленого для працездатних осіб, зміни мінімальних обов'язкових гарантій в оплаті праці у сфері житлово-комунального господарства в частині формування ставок (окладів) для робітників та посадових окладів керівників, професіоналів, фахівців та технічних службовців, орендної плати та амортизаційних відрахувань, витрат на покриття втрат ліцензіата, підвищення або зниження цін і тарифів на паливно-енергетичні та інші матеріальні ресурси, зміни обсягу фінансових витрат, складової планованого прибутку, за умови, що сумарно це призвело до зміни тарифних витрат більше ніж на 2 % від установленого рівня;	3) зміна протягом строку дії тарифів величини окремих витрат, пов'язаних із провадженням ліцензованої діяльності з виробництва, транспортування, постачання теплової енергії, з причин, які не залежать від ліцензіата, зокрема збільшення або зменшення податків і зборів, мінімальної заробітної плати, прожиткового мінімуму, встановленого для працездатних осіб, зміни мінімальних обов'язкових гарантій в оплаті праці у сфері житлово-комунального господарства в частині формування ставок (окладів) для робітників та посадових окладів керівників, професіоналів, фахівців та технічних службовців, орендної плати та амортизаційних відрахувань, витрат на покриття втрат ліцензіата, підвищення або зниження цін і тарифів на паливно-енергетичні та інші матеріальні ресурси, зміни обсягу фінансових витрат, складової планованого прибутку, за умови, що сумарно це призвело до зміни тарифних витрат більше ніж на 2 % від установленого рівня;
4) невиконання або виконання не в повному обсязі ліцензіатом інвестиційної програми у попередніх періодах та/або відсутність схваленої у встановленому порядку інвестиційної програми на планований період, що є підставою для встановлення (перегляду) тарифу шляхом його зміни у бік зменшення;	1) невиконання або виконання не в повному обсязі ліцензіатом інвестиційної програми у попередніх періодах та/або відсутність схваленої у встановленому порядку інвестиційної програми на планований період, що є підставою для встановлення (перегляду) тарифу шляхом його зміни у бік зменшення;

Чинна редакція	Редакція зі змінами
<p>5) зміна протягом періоду, який кратний кварталу (три, шість або дев'ять місяців), ціни на паливно-енергетичні ресурси (зокрема природний газ), якщо це призводить до зміни загальних тарифних витрат більше ніж на 2 % від встановленого рівня. НКРЕКП за власною ініціативою з дотриманням вимог Порядку проведення відкритого обговорення та Регламенту Національної комісії, що здійснює державне регулювання у сферах енергетики та комунальних послуг, затвердженого постановою НКРЕКП від 06 грудня 2016 року № 2133, може прийняти рішення щодо включення до структури тарифів на виробництво та/або транспортування теплової енергії складової з коригування витрат (яка може мати як додатне, так і від'ємне значення), розрахованої з урахуванням фактичних та врахованих (при розрахунку витрат на паливо) в тарифах цін/тарифів на паливно-енергетичні ресурси і фактичних обсягів спожитих у такому періоді паливно-енергетичних ресурсів (зокрема природного газу). У випадку коли ліцензіат виконав зміну нарахувань споживачам відповідно до вимог постанов Кабінету Міністрів України, що підтверджується відповідними розрахунковими матеріалами та підтвердними документами, у тих періодах відповідне коригування витрат по статтях витрат, за рахунок яких було проведено зміну нарахувань, не відбувається;</p>	<p>5) зміна протягом періоду, який кратний кварталу (три, шість або дев'ять місяців), ціни на паливно-енергетичні ресурси (зокрема природний газ), якщо це призводить до зміни загальних тарифних витрат більше ніж на 2 % від встановленого рівня. НКРЕКП за власною ініціативою з дотриманням вимог Порядку проведення відкритого обговорення та Регламенту Національної комісії, що здійснює державне регулювання у сферах енергетики та комунальних послуг, затвердженого постановою НКРЕКП від 06 грудня 2016 року № 2133, може прийняти рішення щодо включення до структури тарифів на виробництво та/або транспортування теплової енергії складової з коригування витрат (яка може мати як додатне, так і від'ємне значення), розрахованої з урахуванням фактичних та врахованих (при розрахунку витрат на паливо) в тарифах цін/тарифів на паливно-енергетичні ресурси і фактичних обсягів спожитих у такому періоді паливно-енергетичних ресурсів (зокрема природного газу). У випадку коли ліцензіат виконав зміну нарахувань споживачам відповідно до вимог постанов Кабінету Міністрів України, що підтверджується відповідними розрахунковими матеріалами та підтвердними документами, у тих періодах відповідне коригування витрат по статтях витрат, за рахунок яких було проведено зміну нарахувань, не відбувається;</p>
<p>6) якщо протягом строку дії тарифів на теплову енергію, її виробництво, транспортування та постачання обсяг витрат, пов'язаних із провадженням відповідної ліцензованої діяльності, не змінився, ліцензіат може звернутися до НКРЕКП із заявою щодо встановлення на новий строк тарифів на теплову енергію, її виробництво, транспортування, постачання на рівні діючих тарифів (за необхідності здійснюється актуалізація структури тарифів) за умови підтвердження економічної обґрунтованості діючих тарифів на теплову енергію, її виробництво, транспортування та постачання, погодження органу місцевого самоврядування;</p>	<p>2) якщо протягом строку дії тарифів на теплову енергію, її виробництво, транспортування та постачання обсяг витрат, пов'язаних із провадженням відповідної ліцензованої діяльності, не змінився, ліцензіат може звернутися до НКРЕКП із заявою щодо встановлення на новий строк тарифів на теплову енергію, її виробництво, транспортування, постачання на рівні діючих тарифів (за необхідності здійснюється актуалізація структури тарифів) за умови підтвердження економічної обґрунтованості діючих тарифів на теплову енергію, її виробництво, транспортування та постачання, погодження органу місцевого самоврядування;</p>
<p>7) якщо протягом строку дії встановлених тарифів на теплову енергію, її виробництво, транспортування та постачання у структурі тарифів відбулися зміни за окремими статтями витрат, які не призводять до зміни загальної величини тарифу, ліцензіат може здійснити актуалізацію структури тарифів шляхом перерозподілу витрат між окремими статтями витрат, за якими відбулися зміни, та звернутися до НКРЕКП із заявою та відповідними розрахунками на планований період з усіма підтвердними і обґрунтовуючими матеріалами щодо перегляду структури тарифів за категоріями споживачів без зміни величини самих тарифів;</p>	<p>3) якщо протягом строку дії встановлених тарифів на теплову енергію, її виробництво, транспортування та постачання у структурі тарифів відбулися зміни за окремими статтями витрат, які не призводять до зміни загальної величини тарифу, ліцензіат може здійснити актуалізацію структури тарифів шляхом перерозподілу витрат між окремими статтями витрат, за якими відбулися зміни, та звернутися до НКРЕКП із заявою та відповідними розрахунками на планований період з усіма підтвердними і обґрунтовуючими матеріалами щодо перегляду структури тарифів за категоріями споживачів без зміни величини самих тарифів;</p>
<p>8) використання коштів не за цільовим призначенням та/або економія коштів за статтями витрат;</p>	<p>4) використання коштів не за цільовим призначенням та/або економія коштів за статтями витрат;</p>
<p>9) наявність перехресного субсидіювання між видами господарської діяльності ліцензіата;</p>	<p>5) наявність перехресного субсидіювання між видами господарської діяльності ліцензіата;</p>
<p>10) надання ліцензіатом до НКРЕКП недостовірної інформації при обґрунтуванні і розрахунках тарифів.</p>	<p>6) надання ліцензіатом до НКРЕКП недостовірної інформації при обґрунтуванні і розрахунках тарифів.</p>
	<p><b>4.4<sup>1</sup>. Перегляд тарифів обов'язково повинен проводитись у таких випадках:</b></p>

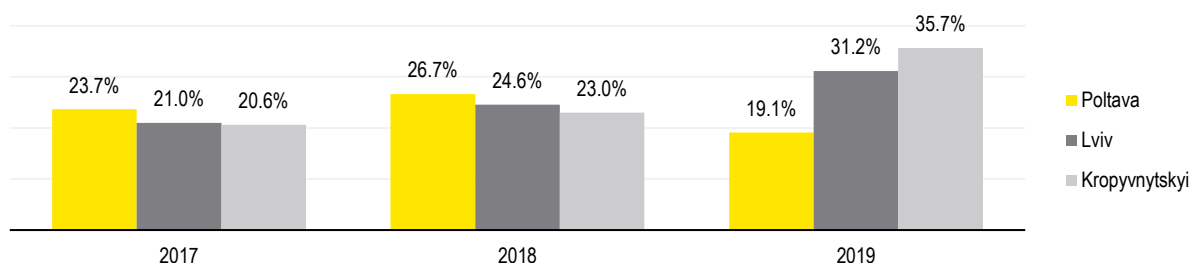


Чинна редакція	Редакція зі змінами
	<p>1) зміни протягом періоду, який кратний кварталу (три, шість або дев'ять місяців) приєднаного теплового навантаження в розрізі категорій споживачів перевищує 5 % від урахованого при встановленні діючих тарифів або зміна рівня втрат теплової енергії відповідно до встановлених уповноваженим органом методик (порядків);</p>
	<p>2) зміни в установленому порядку інвестиційної програми ліцензіата, якщо це призводить до зміни тарифів більше ніж на 2 % від установленного рівня;</p>
	<p>3) зміни протягом строку дії тарифів величини окремих витрат, пов'язаних із провадженням ліцензованої діяльності з виробництва, транспортування, постачання теплової енергії, з причин, які не залежать від ліцензіата, зокрема збільшення або зменшення податків і зборів, мінімальної заробітної плати, прожиткового мінімуму, встановленого для працездатних осіб, зміни мінімальних обов'язкових гарантій в оплаті праці у сфері житлово-комунального господарства в частині формування ставок (окладів) для робітників та посадових окладів керівників, професіоналів, фахівців та технічних службовців, орендної плати та амортизаційних відрахувань, витрат на покриття втрат ліцензіата, підвищення або зниження цін і тарифів на паливно-енергетичні та інші матеріальні ресурси, зміни обсягу фінансових витрат, складової планованого прибутку, за умови, що сумарно це призвело до зміни тарифних витрат більше ніж на 2 % від установленного рівня;</p>
	<p>4) зміни протягом періоду, який кратний кварталу (три, шість або дев'ять місяців), ціни на паливно-енергетичні ресурси (зокрема природний газ), якщо це призводить до зміни загальних тарифних витрат більше ніж на 2 % від установленного рівня. НКРЕКП за власною ініціативою з дотриманням вимог Порядку проведення відкритого обговорення та Регламенту Національної комісії, що здійснює державне регулювання у сферах енергетики та комунальних послуг, затвердженого постановою НКРЕКП від 06 грудня 2016 року № 2133, може прийняти рішення щодо включення до структури тарифів на виробництво та/або транспортування теплової енергії складової з коригування витрат (яка може мати як додатне, так і від'ємне значення), розрахованої з урахуванням фактичних та врахованих (при розрахунку витрат на паливо) в тарифах цін/тарифів на паливно-енергетичні ресурси і фактичних обсягів спожитих у такому періоді паливно-енергетичних ресурсів (зокрема природного газу). У випадку коли ліцензіат виконав зміну нарахувань споживачам відповідно до вимог постанов Кабінету Міністрів України, що підтверджується відповідними розрахунковими матеріалами та підтвердними документами, у тих періодах відповідне коригування витрат по статтях витрат, за рахунок яких було проведено зміну нарахувань, не відбувається.</p>
[...]	[...]



## ANNEX 5: ADDITIONAL INFORMATION TO SECTION 3.2.

### Annex 5.1. Salary growth by region on the field of electricity, gas, supply and distribution and air conditioning<sup>285</sup>

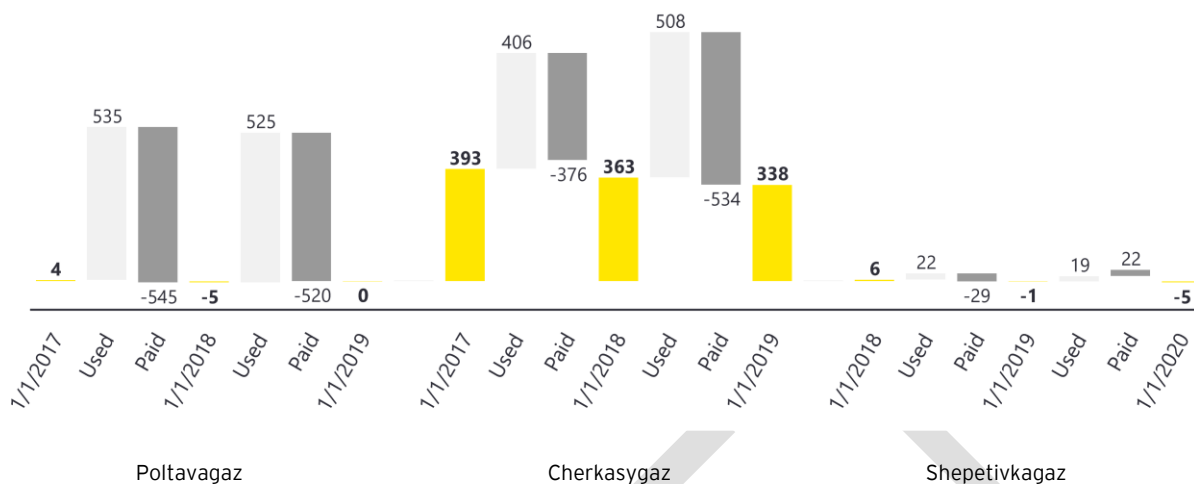


### Annex 5.2. Historical normative consumption rates for consumers without gas metering devices, cm per person

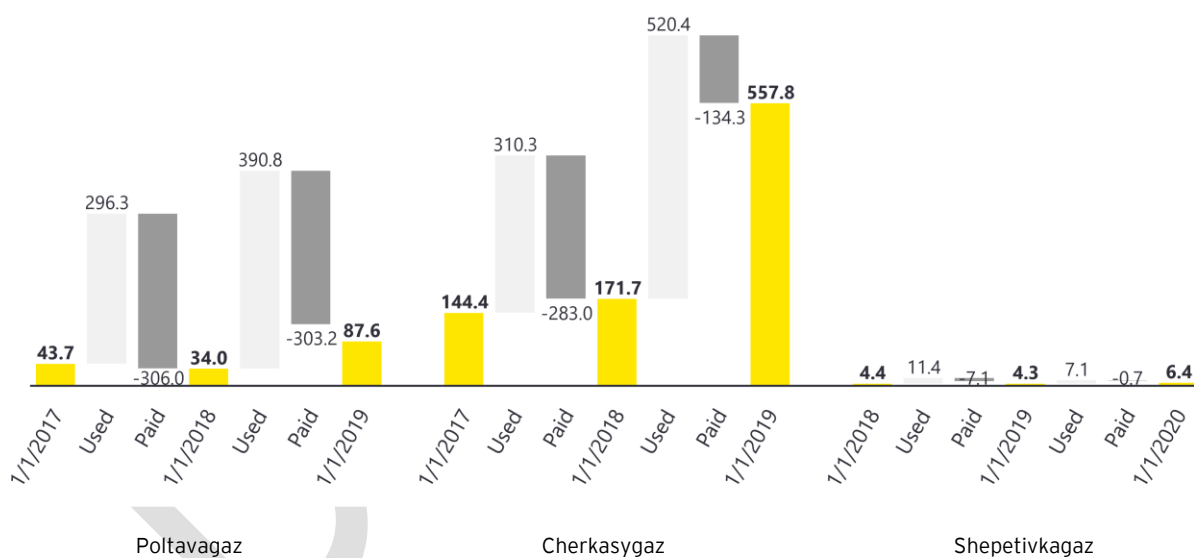
Period of acting	Legal background / Type of consumption	Gas stove with centralized hot water supply	Gas stove without centralized hot water supply	Gas stove and a gas water heater
10.01.2014 - 05.05.2015	Established by the Resolution of the CMU № 409 of 06.08.2014, which amended Resolution №619 of 08.06.1996 (see the wording of 01.10.2014)	6.00	9.00	18.00
06.05.2015 - 01.02.2016	Established by the Resolution of the CMU №237 of April 29, 2015, which amended Resolution №619 of June 8, 1996 (see the wording of May 6, 2015). Repealed by the Resolution of the CMU №204 of March 23, 2016 and the decision of the Supreme Administrative Court of Ukraine (SACU)	3.00	4.50	9.00
01.02.2016 - 18.08.2017	Established by the Resolution of the CMU №316 of 27.04.2016, which amended Resolution №203 of 23.03.2016 (see the wording of 30.04.2016)	4.40	7.10	14.00
19.08.2017 - 21.11.2018	Established by the Resolution of the CMU №609 of 18.08.2017, which amended Resolution №203 of 23.03.2016 (see the wording of 19.08.2017). Repealed by the Resolution of the Supreme Court on November 27, 2018 in case № 826/2507/18 of May 30, 2018.	3.30	5.40	10.50
27.11.2018 - 07.02.2019	Resolution of the CMU №619 of 08.06.2016 in the wording of 29.10.2002 based on the Resolution of the Supreme Court of 27.11.2018 in case 26 826/2507/18 of 30.05.2018 Repealed by the Resolution of the Cabinet of Ministers №63 of 30.01.2019	9.80	18.30	23.60
08.02.2019 - 03.07.2019	Resolution of the CMU №63 of January 30, 2019. Repealed by Resolution of the Cabinet of Ministers of Ukraine №143 of February 27, 2019.	3.29	5.39	10.49
After 03.07.2019	Resolution of the Cabinet of Ministers of February 27, 2019 №143	3.28	5.39	10.49

<sup>285</sup> Regional statistics offices, EY calculations and analysis.

Annex 5.3. Total accumulated debts to DSO for distribution services, UAH m<sup>286</sup>



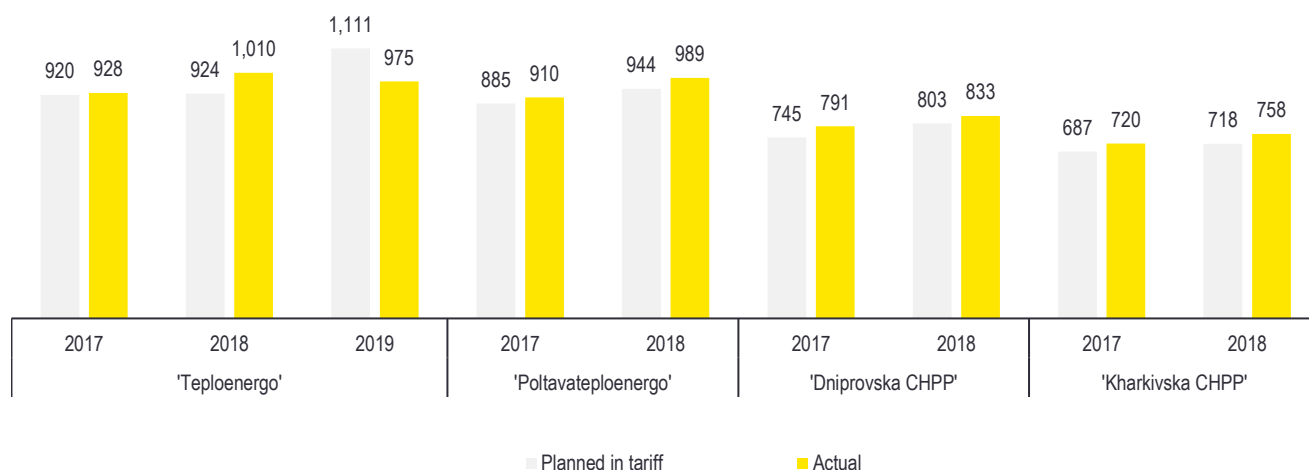
Annex 5.4. Total accumulated debts of selected DSOs to counterparties, UAH ths<sup>287</sup>



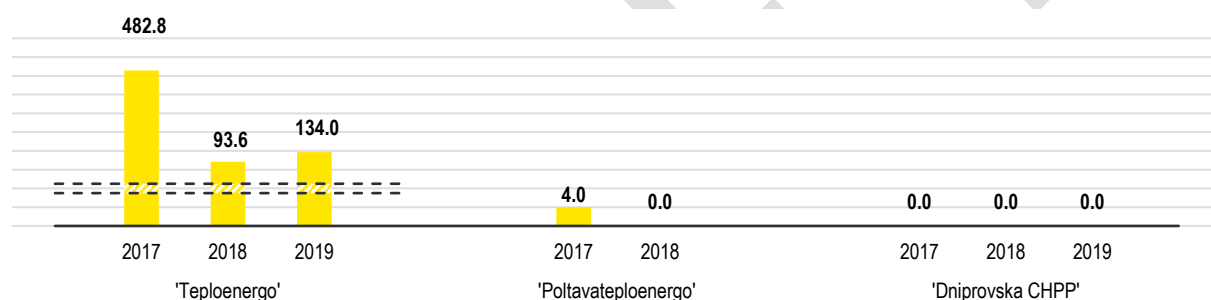
<sup>286</sup> Act of audit No. 232 dated 03 July 2019, page 67, Act of audit No. 362 dated 22 October 2019, page 77, Act of audit No. 77 dated 03 July 2019, page 70, EY calculations and analysis.

<sup>287</sup> Act of audit No. 232 dated 03 July 2019, page 66, Act of audit No. 362 dated 22 October 2019, page 75, Act of audit No. 77 dated 03 July 2019, page 68, EY calculations and analysis.

Annex 5.5. Planned and actual cost of gas in the structure of tariff for heat, UAH per Gcal<sup>288</sup>



Annex 5.6. Support from local budget per company, UAH m<sup>289</sup>



<sup>288</sup> Act of audit No. 398 dated 17 December 2018, page 22-23, Act of audit No. 67 dated 28 February 2020, page 11-12, Act of audit No. 384 dated 19 February 2019, page 14-15, Act of audit No. 70 dated 6 March 2019, page 12-13, 26-27, Act of audit No. 72 dated 3 March 2019, page 13-14, Act of audit No. 104 dated 5 May 2018, page 11-12, EY calculations and analysis.

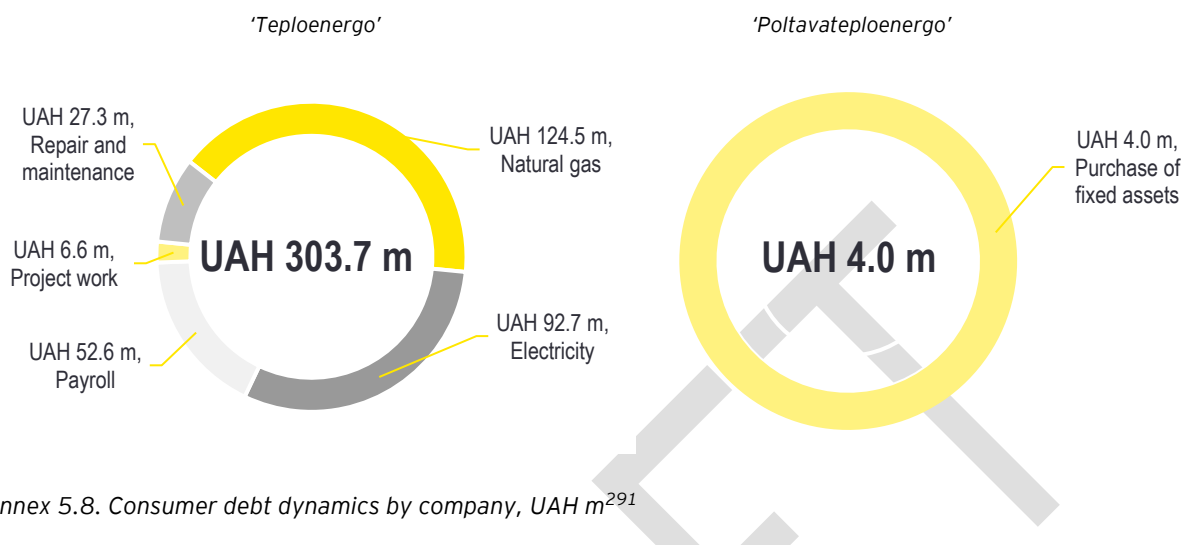
<sup>289</sup> Dnipro City administration, available at:

<https://dniprorada.gov.ua/uk/Widgets/GetWidgetContent?url=/WebSolution2/wsGetTextPublicDocument?pID=116814&name=3/30>,

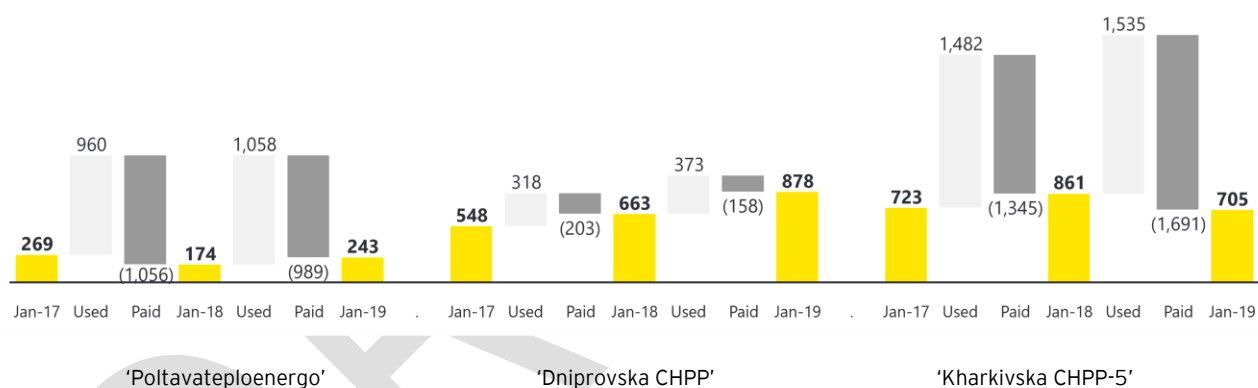
<https://dniprorada.gov.ua/uk/Widgets/GetWidgetContent?url=/WebSolution2/wsGetTextPublicDocument?pID=171501&name=2/42>,

<https://dniprorada.gov.ua/uk/Widgets/GetWidgetContent?url=/WebSolution2/wsGetTextPublicDocument?pID=242104&name=2/54>, NEURC.

Annex 5.7. Use of grants from local budgets in 2017<sup>290</sup>



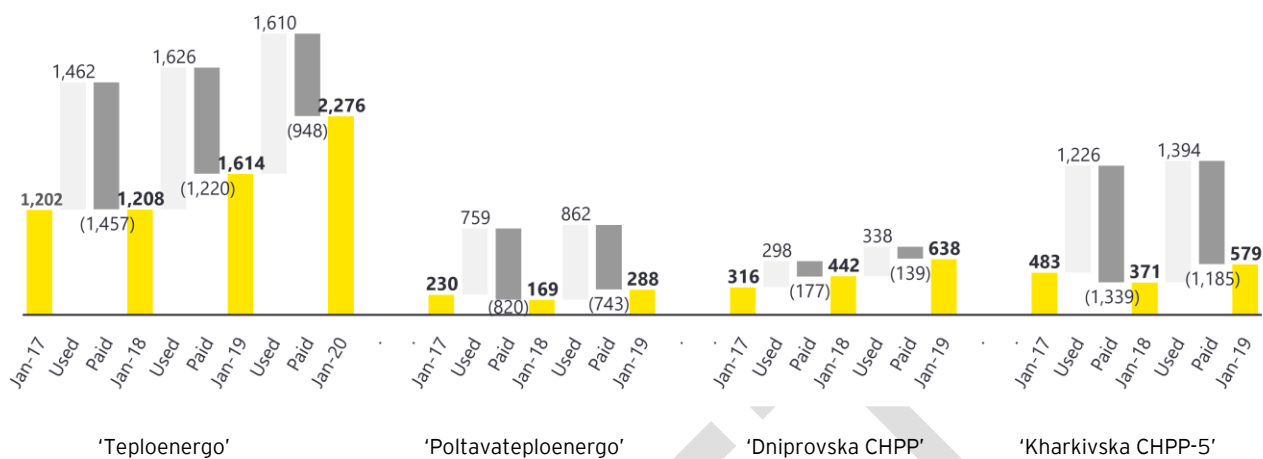
Annex 5.8. Consumer debt dynamics by company, UAH m<sup>291</sup>



<sup>290</sup> Act of audit No. 398 dated 17 December 2018, page 27-29, Act of audit No. 67 dated 19 February 2019, page 34.

<sup>291</sup> Act of audit No. 398 dated 17 December 2018, page 25, Act of audit No. 67 dated 28 February 2020, page 14-15, 21-22, Act of audit No. 384 dated 19 February 2019, page 18, 25-26, Act of audit No. 70 dated 6 Mh 2019, page 18-19, 32, Act of audit No. 72 dated 3 March 2019, page 21, Act of audit No. 104 dated 5 May 2018, page 19, EY calculations and analysis.

Annex 5.9. Debt for natural gas dynamics by company, UAH m<sup>292</sup>



<sup>292</sup> Act of audit No. 398 dated 17 December 2018, page 25, Act of audit No. 67 dated 28 February 2020, page 14-15, 21-22, Act of audit No. 384 dated 19 February 2019, page 18, 25-26, Act of audit No. 70 dated 6 March 2019, page 18-19, 32, Act of audit No. 72 dated 3 March 2019, page 21, Act of audit No. 104 dated 5 May 2018, page 19.

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