CONSULTATION DOCUMENT

FOR THE

NATIONAL TRANSMISSION SYSTEM

IN FULFILMENT OF ARTICLE 26 OF COMMISSION REGULATION (EU) 2017/460
OF 16 MARCH 2017
ESTABLISHING A NETWORK CODE ON HARMONISED TRANSMISSION TARIFF STRUCTURES FOR GAS

WARSZAWA, AUGUST 2023

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INTRODUCTION

Commission Regulation (EU) 2017/460 establishing a network code on harmonised transmission tariff structures for gas (JoL EU L 72 of 17.03.2017) (hereinafter: TAR NC) contains provisions on the methodology for determining reference prices and calculation of reserve prices for standard capacity products.

The purpose of the TAR NC is to harmonise the transmission tariff structures of Member States' transmission system operators and to provide some tools for comparison of transmission tariffs applied within the EU, while maintaining flexibility in the choice of elements of the reference price determination method to adapt to the maturity of the specific market and the level of complexity of the transmission network.

Using this freedom in the construction and selection of parameters used in the reference price methodology and with a view to protect system users against significant changes in gas market conditions, Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A. (hereinafter: GAZ-SYSTEM or the Company) has selected the methodology, described in detail later in this document, in such a way as to meet the requirements of the TAR NC while minimizing the changes necessary in settlement of the gaseous fuel transmission services. Such actions of GAZ-SYSTEM are intended to ensure the predictability of conditions for the provision of gaseous fuel transmission services to transmission system users in Poland. The applied solutions also do not restrict cross-border trade and aim to provide long-term signals for the development of the transmission network.

The consultation on the reference price methodology is intended to enable network users a better understanding of the principles underlying the calculation of the tariffs set for transmission and non-transmission services and the changes made to those tariffs and the way in which they are set.

FINAL CONSULTATION – SCHEDULE

Pursuant to the provisions of the TAR NC and in accordance with the decision of the President of the Energy Regulatory Office (hereinafter: "President of the ERO") DRG.DRG-2.7129.5.2018.JDo1 dated 16 July 2018, GAZ-SYSTEM has been appointed as the entity responsible for carrying out periodic consultations pursuant to Article 26 of the TAR NC, under which this document detailing the proposed tariff calculation methodology is published. The process of consultation and approval of the selected reference price methodology and calculating the tariff for 2025 consists of the following stages:

▪ Final consultation – minimum duration – 2 months	31 August – 31 October 2023
▪ Publication of responses received in the consultation process – within 1 month after the end of the final consultation	by 30 November 2023
▪ Evaluation process and approval of the consultation document by ACER – within 2 months after the end of the final consultation	by 31 December 2023
▪ Approval and publication of the motivated decision of the President of the ERO – within 5 months after the end of the final consultation	by 31 March 2024
▪ Process of tariff recalculation and renegotiation with the President of the ERO based on the approved reference price methodology, completed with the decision of the President of the ERO approving the tariff for gaseous fuel transmission services	1 April – 31 May 2024
▪ Tariff publication (30 days prior to annual yearly capacity auction)	31 May 2024
▪ Yearly capacity auction	1 July 2024
▪ Entry into force of the tariff	1 January 2025

The time frames of the individual stages of the schedule have been set counting backwards from the date required by the provisions of the TAR NC for publication of reserve prices calculated in accordance with the methodology approved by the regulatory authority through a consultation process, no later than 30 days prior to the annual auction of yearly capacity falling on the first Monday in July (here: 1 July 2024) i.e., no later than 31 May 2024.

Article 27(5) of the TAR NC states that the consultation process, as described above, should be conducted at least once every 5 years. GAZ-SYSTEM proposes that the reference price methodology described in this document be valid for a period of 2 years, i.e., from 1 January 2025, 6:00 a.m. to 1 January 2027, 6:00 a.m.

The Company plans that tariffs approved under this methodology will be in force for a period of 12 months of a calendar year, assuming that the tariff period is equal to the regulatory period.

During the consultation process starting at the end of August 2023 with the publication of this document and lasting until 31 October 2023, it is possible for interested stakeholders to send their comments to the following e-mail address: nctar@gaz-system.pl. In order to ensure transparency and efficiency of the consultation process, the Company kindly requests that the comments be submitted in both Polish and English.

Pursuant to Article 26(2) of the TAR NC, the deadline for submitting comments on the methodology for calculating reserve prices for capacity products proposed herein by GAZ- SYSTEM expires at the end of the final consultation, i.e., on 31 October 2023.

Under the TAR NC regulations, these comments should be public so that the operator can publish them with a summary as part of the next consultation stage. In order to ensure the confidentiality of the submitted comments, an appropriate note should be included in their content.

In order to make the consultation more effective, the consultation document available at: https://www.gaz-system.pl/en/for-customers/services-in-the-nts/nts-tariff/tar-nc.html has been published in both Polish and English language versions.

In case of discrepancies between the Polish and English versions of the consultation document, the consultation document drawn up in Polish shall be binding.

Following the completion of the final consultation phase, GAZ-SYSTEM is obliged to publish the responses received in this process along with their summary within one month. In accordance with the TAR NC guidelines, the summary of the comments will also be provided in English to ensure transparency and efficiency of the process.

This document published as part of the final consultation is the document submitted to ACER for analysis and assessment of its compliance with the provisions of Article 27(1)-(2) of the TAR NC. This document will constitute the basis for the President of the ERO in taking a justified decision approving the methodology proposed by GAZ-SYSTEM to set the reference price in accordance with Article 27(4) of the TAR NC.

Bearing in mind that in Poland there are two separate entry/exit systems, each of which is managed, pursuant to the decisions of the President of the ERO[1], by an independent Transmission System Operator:

- National Transmission System (hereinafter: "NTS");

[1] Decision of the President of the ERO dated December 6th, 2018, ref.: DRG.DRG-1.4720.1.2018.KL on extending the term of appointment of Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A. with its seat in Warsaw as the gas transmission system operator in Poland for the period until December 6th, 2068.
Decision of the President of the ERO dated November 17, 2010, ref.: DPE-4720-4(8)/2010/6154/BT, on the appointment of Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A. with its seat in Warsaw as the independent operator of the Polish section of the Yamal gas pipeline for the period until December 31st, 2025.

- Transit Gas Pipeline System (hereinafter: "TGPS") being the Polish section of the Yamal-Western Europe gas pipeline owned by EuRoPol GAZ s.a.

Pursuant to Article 6(3) of the TAR NC, GAZ-SYSTEM publishes separate consultation documents containing separate methodologies for determining reference prices separately for the NTS and separately for the TGPS.

At the same time, the Company notes that following the decision of the President of the ERO appointing GAZ- SYSTEM as the entity responsible for conducting consultations under Art. 26 of the TAR NC, the President of the ERO will not conduct separate consultations with respect to the reference price methodology. However, in parallel to the final consultations conducted by GAZ-SYSTEM, the President of the ERO is consulting with the national regulatory authorities of all directly connected Member States and relevant stakeholders on Article 28 of the TAR NC. Consultations conducted by the President of the ERO include:

- multiplier levels for the short-term capacity products offered;
- levels of seasonal factors for the short-term capacity products offered, if applicable, and the way they are calculated;
- levels of discounts set out in Article 9(2) and Article16 of the TAR NC.

GAZ-SYSTEM is continuing investment processes started in 2016 and associated with the expansion and modernisation of the transmission system to ensure energy security.

Among others, the TGPS Program is planned to be completed by 2027. During this period, it is planned to implement tasks related to the utilisation of the TGPS infrastructure in connection with the expiry of historical contracts: construction of Lwówek Compressor Station and new connection points to the TGPS. Completion of this program will close one of the stages of expansion and functional modernisation of the transmission system related to the achievement of such strategic objectives as diversification of gas supply directions and adaptation of the system to operate in the absence of supply from the east. Moreover, it is planned to complete by 2027, works related to the connection of the Floating Storage Regasification Unit (FSRU) to be located in the Gulf of Gdansk, including the transmission system expansion in the Pomeranian and Kuyavian-Pomeranian Voivodeships. The above-mentioned investment projects will affect the directions of the gaseous fuel flow in Poland and will necessitate careful monitoring of the actual utilisation of the transmission infrastructure, which is why the **Company plans for the reference price methodology described in this document to apply for a period of 2 years, i.e., from 1 January 2025, 6:00 a.m., to 1 January 2027, 6:00 a.m.**

1. DESCRIPTION OF THE DISCOUNTS APPLIED AT THE ENTRY/EXIT POINTS FROM/TO STORAGE FACILITIES AND AT THE ENTRY POINT FROM LNG FACILITIES

The reference price methodology proposed by GAZ-SYSTEM and described in this document for determining reference prices assumes only fixed charges based on contracted capacity, which is in line with the provisions of the Polish Regulation of the Minster of Energy of 15 March 2018 concerning detailed principles of tariff design, calculation, and settlements in gas trade (Journal of Laws of 2021, item 280) (hereinafter: Tariff Regulation) and the TAR NC.

The reference price methodology presented in this document assumes that fees depending on the contracted capacity will be charged at all entry points to the transmission system, excluding entry point from the LNG Terminal, and at all exit points from the transmission system.

The method of allocating the costs to individual points of the transmission system proposed by GAZ-SYSTEM is the so-called *postage stamp* method. It assumes that costs are allocated to individual entry points and, respectively, to individual exit points on the basis of a single cost driver – the forecasted contracted capacity.

In practice this means that the proposed rate will be the same for all entry points to the transmission system, with the exception of entry points from storage facilities and the entry point from the LNG Terminal and will be the same for all exit points from the transmission system, with the exception of exit points to storage facilities, using a flexible *ex-ante* cost allocation between entry and exit points in the range of 30/70 to 70/30. The proposed flexible solution, in view of the dynamic changes in the gas market in terms of the observed decrease in the level of reserved capacities as well as the ongoing process of developing the transmission network to ensure diversification of gas supplies to Poland, may protect the system users from a significant year-on-year increase in reference prices during the term of this methodology.

For the reference prices applied at the entry points to the transmission system from storage facilities and the exit points from the transmission system to storage facilities, a discount will apply pursuant to Article 9(1) of the TAR NC, as detailed in section 2 of this document.

For the reference price applied at the entry point to the transmission system from the LNG Terminal, a discount will be applied in accordance with Article 9(2) of the TAR NC, described in detail in section 2 of this document. The Company points that the final level of the discount will be decided through the regulator's public consultation process conducted under Article 28 of the TAR NC.

The choice of the *postage stamp* method is dictated by the following factors:

- The limitation of changes for GAZ-SYSTEM customers and predictability of the applied reference price methodology is ensured by the fact that the proposed model is largely based on the methodology applied by GAZ-SYSTEM since 2014;
- The majority of gas flows in the national transmission system are intra-system flows – there is no risk of excessive cross-subsidisation of intra-system network customers with respect to cross-system network users by applying the same fees at border and internal entry/exit points. This is supported by the CAA's analysis, consistent with Article 5 of the TAR NC. Importantly, the chosen *postage stamp* method does not disrupt cross-border trade in any way. The rates proposed in this method are the same irrespective of whether the transmission is to an exit point located inside the system or whether it is a cross-system transmission;
- High network complexity – the transmission network of GAZ-SYSTEM is highly meshed, with several interconnections. In the two gas transmission sub-systems (high-methane natural gas E subsystem and low-methane natural gas Lw subsystem), the Company operates 57 entry points and 875 exit points. Different gas flow scenarios – different supply directions resulting from investment project implementation related to connections located on Poland's southern and north-eastern borders, the expansion of the LNG Terminal and the construction of the Baltic Pipe interconnector, show that it is possible to supply exit points from all the available entry points. This interconnection grid allows the assumption that all the transmission system users benefit equally from the transmission system and should therefore bear proportionally the costs of its construction and operation;
- The use of distance as a cost driver, given the aforementioned characteristics of the transmission system, including the large number of connections between system points, could lead to significant changes in the levels of the calculated transmission fees for some of the key final customers;

Table 1A

Technical information about the transmission network - the lenght and the diameter of pipelines

as of end of June 2023

Diameter	Lenght [km]		
	Gas E	*Gas Lw*	*Total E + Lw*
up to DN 200	1 672.04	354.94	2 026.97
DN 250 - 400	2 979.86	283.38	3 263.23
DN 500 - 800	5 063.91	56.26	5 120.17
DN 900 - 1000	1 355.61	0.00	1 355.61
Total	11 071.41	694.58	11 765.99

Technical information about the transmission network - Compressor Stations (CS)

	Gas E	*Gas Lw*
Number of CS	*15*	-
CS power [MW]	246.7	-

Number of entry points	50	7
Number of exit points	797	78

A detailed map of the transmission system operated by GAZ-SYSTEM is available at: https://swi.gaz-system.pl/swi/public/#!/gis/map/preview?id=10059&lang=en

- The simplicity and transparency of the *postage stamp* method promotes transparency of the tariff and limits the possibility of manipulating the adopted parameters and assumptions. Furthermore, it allows network users to easily reconstruct reference price calculations as well as accurately forecast them.

In GAZ-SYSTEM's opinion, the proposed reference price methodology meets all the requirements set out in Article 7 of the TAR NC:

- The application of the simplest *postage stamp* methodology makes it possible to reproduce the calculation of reference prices and to forecast them on the basis of tariff calculation principles described in detail in the particular steps within this document;
- It takes into account the actual levels of costs of providing transmission services and the complexity of the NTS network;
- It ensures non-discriminatory treatment of system users and limits the level of cross-subsidisation referred to in Article 5 of the TAR NC. Due to the transparent and simple rules of cost allocation under the *postage stamp* method, GAZ-SYSTEM is of the opinion that the application of any other method would be less favourable to the development of the market for gaseous fuel transmission services;

- It reduces the volume risk referred to in Article 7(d) of the TAR NC by basing the proposed method on capacity only;
- It does not affect the level of cross-border trade. Based on historical data, GAZ-SYSTEM does not observe any correlation between the *postage stamp* method of determining reference prices, which has been applied so far and is still proposed, and the volumes of cross-border trade in gaseous fuel.

1.1. COST DRIVERS:

The only cost driver used in the reference price methodology proposed by GAZ-SYSTEM is the contracted capacity, whereby the Company plans to apply a flexible ex-ante cost allocation split between entry and exit points in the range of 30/70 to 70/30. The assumed flexibility is intended to reduce possible fluctuations in the level of successive transmission tariffs. Such fluctuations may occur in the event of a significant change in the distribution of the forecasted transmission capacity volumes resulting mainly from the contracted capacities at entry/exit points to/from the transmission system, caused by commissioning of new infrastructure components and a significant reconfiguration of the system's operation resulting from diversification of its main supply directions, as well as changes occurring directly in the gas market area as a consequence of the current geopolitical situation. The final division of Entry-Exit, other than proposed in this methodology, will be subject, on a case-by-case basis, to assessment by the President of the ERO in the annual tariff proceedings. However, a 45/55 Entry-Exit split is included in the calculation of the indicative capacity-based reference prices presented within this consultation document.

Charging, for the gaseous fuel transmission service provided, only on the basis of capacity-based tariffs is consistent with Article 4 of the TAR NC and Articles 12(1) and 13 of the Tariff Regulation. The volume of contracted capacities constituting the basis for calculation of reserve prices for tariff year *n* will be the sum of:

- firm and interruptible capacity contracted for the year for which the tariff is calculated under the Open Season procedure, capacity resulting from long-term contracts and capacity booked under conducted auctions;
- capacities contracted under standard firm and interruptible yearly capacity products as at the date of submission of the tariff application in year n-1;
- forecasted capacity contracted under yearly standard products (including multi-year contracts, Open Season, auctions) of firm and interruptible capacity for year n, resulting from investment projects planned for commissioning in year n-1 and year n, including those resulting from planned commissioning of new, modernised, modified and expanded connections, not including capacity with a low probability of being contracted in year n; and

- the level of capacity provided under the quarterly, monthly and daily standard firm and interruptible capacity products provided in calendar year n-2, preceding year n-1, in which the tariff application is submitted, without taking into account capacity with low probability of being contracted in year n.

separately for entry and exit points to/from the transmission system:

- within the high-methane E and low-methane gas Lw subsystems;
- entry/exit points to and from storage facilities within the high-methane gas E subsystem.

The lack of a hydraulic connection between the E gas subsystem and the Lw gas subsystem makes it impossible to perform gaseous fuel conversion services between these systems.

For the calculation of indicative reference prices for 2025, the Company adopted:

- capacity contracted under standard firm and interruptible yearly capacity products resulting from binding offers submitted under the Open Season procedures and from capacity auctions conducted on 3 July 2023 and 17 July 2023 as well as capacity/ability (PP/PZ) allocation as of 31 August 2023 and long-term transmission sales forecasts with high probability of completion;
- capacity contracted under the standard short-term firm and interruptible capacity products completed in 2022.

Table 1B

*Contracted capacity for entry and exit points - forecast [kWh/h]**

Year 2025	
ENTRY	
Capacity at entry points - Gas E (UGS, LNG excluded):	**17 849 216**
Point of Interconnection (PWP)	958 694
GCP GAZ-SYSTEM/ONTRAS	827 669
GCP GAZ-SYSTEM/UA TSO	532 080
Cieszyn	753 205
Vyrava	89 539
Santaka	1 279 835
FAXE	10 593 643
Entry points for domestic production	2 814 550
Capacity at entry points - UGS (Gas E)	**24 827 520**
Capacity at entry points - Gas Lw	**1 138 602**
Capacity at entry point - LNG	**10 977 683**
EXIT	
Capacity at exit points - Gas E (UGS excluded):	**62 125 804**
GCP GAZ-SYSTEM/ONTRAS	21 304
GCP GAZ-SYSTEM/UA TSO	895 182
Vyrava (exit)	0
Santaka	664 179
FAXE	51 827
Domestic exit points	60 493 312
Capacity at exit points - UGS (Gas E)	**14 947 270**
Capacity at exit points - Gas Lw	**2 005 959**

** - a discount of 80% for UGS and a discount of 100% for LNG is taken into account in the calculation of the charges, as detailed in section 2 of this document.*

2. DESCRIPTION OF THE DISCOUNTS APPLIED AT THE ENTRY/EXIT POINTS FROM/TO STORAGE FACILITIES AND AT THE ENTRY POINT FROM LNG FACILITIES

2.1. DISCOUNT FOR UGS

Pursuant to Article 9(1) of the TAR NC, a discount is allowed at the connection points to storage facilities. For the reference price applied at points of connection between the transmission system and storage facilities, a discount of 80% will apply as before, which takes account the benefits and costs that storage facilities provide to the transmission system as a whole and which is intended to contribute to the efficient use of storage facilities.

In establishing the level of the discount applied to the reference price at the points of connection of the transmission system with storage facilities, account was taken of the benefits that gas storage facilities bring to the transmission system in Poland:

- ensuring the stability and integrity of the operation of the transmission system;
- ensuring flexibility in situations of increased demand for gaseous fuel, both in the winter season and within daily peaks;
- location close to the main centres of demand makes it the most reactive source of supply that can be used to meet daily increases in gaseous fuel demand.

Taking the above arguments into account in the calculation of rates for the transmission service, a discount of 80% has been included in the consulted model at the points of connection of the transmission system with storage facilities.

All storage facilities are connected only to the transmission system. There is no situation where the storage facility would be additionally connected to the distribution system. At the same time, storage facilities connected to the transmission system are not part of GAZ-SYSTEM assets.

2.2. DISCOUNT FOR LNG

According to Article 28 of the TAR NC, the consultation on the level of the discount for entry points from LNG facilities is carried out by the national regulatory authority.

For the calculation of the reference fee rates presented in this document, a discount of 100% has been applied to the reference price applied at the entry point to the transmission system from the LNG Terminal. This is consistent with Article 9(2) of the TAR NC, which allows for a discount at entry points from LNG facilities to enhance the security of supply of the gaseous fuel.

The LNG Terminal support mechanism introduced by the decision of the President of the Energy Regulatory Office of 9 June 2016, consisting in granting a discount of 100% of the fixed fee at

the entry point to the transmission system, has significantly lowered the barrier to LNG entry into Poland. The discount for the LNG Terminal in Świnoujście was also maintained in 2020-2024 in the annual announcements of the President of the ERO concerning the level of multipliers, seasonal factors and discounts referred to in Art. 28(1)(a)-(c) of the TAR NC, taken into account in the calculation of tariffs for gaseous fuel transmission services.

3. INDICATIVE REFERENCE PRICES FOR YEAR 2025

The table below shows the indicative rates for year 2025 proposed by GAZ- SYSTEM, calculated in accordance with the assumptions detailed within this consultation document.

Table 3A

Indicative reference prices

Physical Entry Points/ Physical Exit Points	*Indicative reference price [gr/kMWh/h) per h]*
High-methane Gas E subsystem	
Entry Points	0.6921
Exit Points	0.2964
Entry point - UGS	0.1384
Exit point - UGS	0.0593
Entry point - LNG	-
Low-methane Gas Lw subsystem	
Entry Points	0.2942
Exit Points	0.2041

4. COST ALLOCATION ASSESSMENT (CAA)

GAZ-SYSTEM conducted the cost allocation assessment taking into account the assumed cost drivers, allowed revenue and calculated indicative rates for 2025. Due to the specific nature of the low-methane Lw gas transmission subsystem, the Company has made the cost allocation assessment exclusively for the high-methane E gas system. The justification for this approach is the lack of interconnectors in the low-methane Lw gas subsystem. For this reason, the low-methane gas is consumed only for the needs of users operating within this transmission system.

The interconnection revenue assumed for the CAA was calculated on the basis of transmission charges collected at interconnection exit points.

The CAA index related to capacities is 9.81%. This means that the permissible threshold for cross-subsidisation set at 10% in Article 5(6) of the TAR NC has not been exceeded and therefore the tariff model proposed in the consultation document does not generate excessive cross-subsidisation between intra-system and cross-system network use. The result obtained requires no further justification by the national regulatory authority.

The Company made the following capacity assumptions for intra-system and cross-system use of the network to assess cost allocation:

- capacity for interconnection use of the network at exit points was assumed to be at the level of the forecasted capacity contracted at interconnection exit points used to calculate the indicative prices for 2025;
- capacity for interconnection use of the network at entry was taken collectively at the level of interconnection use of the network at exit points – proportional at all entry points in the ratio of the shares of the forecasted capacity at a given entry point and the sum of the capacities at all entry points;
- capacity for intra-system use of the network, according to the CAA methodology, shall be deducted from the capacity adopted for cross-system use of the network.

Based on the above assumptions and indicative reference prices, the intra-system and cross-system revenues planned to be recovered were calculated.

Table 4A

Cost allocation assessment		
Year 2025		
Revenues recovered from:		
Intra-system network use	[k PLN]	2 989 230
Intra-system exit points (UGS excluded)	[k PLN]	1 570 538
Intra-system exit points UGS	[k PLN]	77 613
Intra-system entry points (UGS, LNG excluded)	[k PLN]	1 049 201
Intra-system entry points UGS	[k PLN]	291 879
Intra-system entry point LNG	[k PLN]	-
Cross-system network use	[k PLN]	84 467
Cross-system exit points IP	[k PLN]	42 383
Cross-system entry points (UGS, LNG excluded)	[k PLN]	32 925
Cross-system entry points UGS	[k PLN]	9 159
Cross-system entry point LNG	[k PLN]	-
Cost drivers corresponding to capacities contracted within:		
Intra-system network use	[kWh/h]	127 462 509
Intra-system exit points (UGS excluded)	[kWh/h]	60 493 312
Intra-system exit points UGS	[kWh/h]	14 947 270
Intra-system entry points (UGS, LNG excluded)	[kWh/h]	17 306 135
Intra-system entry points UGS	[kWh/h]	24 072 117
Intra-system entry point LNG	[kWh/h]	10 643 675
Cross-system network use	[kWh/h]	3 264 985
Cross-system exit points IP	[kWh/h]	1 632 492
Cross-system entry points (UGS, LNG excluded)	[kWh/h]	543 081
Cross-system entry points UGS	[kWh/h]	755 403
Cross-system entry point LNG	[kWh/h]	334 008
Capacity ratios		
Intra-system network use	[PLN/kWh/h]	23.45
Cross-system network use	[PLN/kWh/h]	25.87
CAA comparison index		
COMP	**[-]**	**9,81%**

5. DESCRIPTION OF THE TARIFF MODEL

Calculation of reference prices for gaseous fuel transmission services will be carried out on the basis of the Entry-Exit model, *postage stamp* cost allocation methodology.

All reasonable costs and asset value are for transmission operations only and are net of non-transmission service costs provided by the Operator.

The Company plans to recover justified costs estimated for the tariff period in fees depending on contracted capacity (ratio of capacity-based to commodity-based tariffs 100/0). The revenue determined for individual gas subsystems is then divided, in the first step, by flexible Entry-Exit ratio of 30/70 to 70/30 into the revenue to be recovered at the entry points and exit points separately for each gas subsystem. The flexibility assumed has been described in detail in section 1.1 of this document. The final division of Entry-Exit, other than proposed in this methodology, will be subject, on a case-by-case basis, to assessment by the President of the ERO in the annual tariff proceedings. However, a 45/55 Entry-Exit split is included in the calculation of the indicative capacity-based reference prices presented within this consultation document.

Having established the revenue to be recovered at the entry points to and exit points from, respectively for the high-methane gas E and low-methane gas Lw subsystems, the reference prices for the standard capacity products for the two gas subsystems are calculated separately since they are not hydraulically connected and it is currently not possible to convert Lw gas into E gas. This calculation is made by dividing the revenue allocated to a given type of points by the cost driver – the forecasted contracted capacity.

According to the proposed reference price methodology, GAZ-SYSTEM applies an 80% discount both at the entry points to the transmission system from storage facilities and at the exit points from the transmission system to storage facilities, and a 100% discount for the entry point from the LNG Terminal. The range of adjustments is detailed in section 2 of this document. The application of a discount for entry points from and exit points to storage facilities at the level of 80% in relation to the price at entry points to and exit points from the transmission system, respectively, looks in practice as described below. For the purpose of allocating revenue to be recovered at entry points from storage facilities, the proportion of capacity contracted at entry points to the high-methane gas E subsystem is calculated based on 100% of the capacity contracted at regular entry points and 20% of the total capacity contracted at entry points from storage facilities. Then, in order to calculate the reference price for the entry points from storage facilities, the share of the revenue to be recovered (calculated on the basis of the above proportion) at these points has to be divided by the total capacity reserved at the entry points from storage facilities. The rate calculated in such a manner, assuming an 80% discount, is 1/5 of the normal rate charged at regular entry points.

The fee rate at exit points to storage facilities shall be calculated in a similar manner, taking into account the capacity booked at exit points.

Tabela 5A

Indicative reference price calculation		Gas E	Gas Lw
Indicative allowed revenue	**[m PLN]**	**3 073.7**	**65.2**
Revenue recovered from Entry points	[m PLN]	1 383.2	29.3
Revenue recovered from Exit points	[m PLN]	1 690.5	35.9
Contracted capacities			
Entry Points	[MWh/h]	17 849	1 139
Entry Points UGS	[MWh/h]	24 828	
Entry Point LNG	[MWh/h]	10 978	
Exit Points	[MWh/h]	62 126	2 006
Exit Points UGS	[MWh/h]	14 947	
Revenue allocation			
Entry Points	[m PLN]	1 082.1	29.3
Entry Points UGS*	[m PLN]	301.0	
Entry Point LNG*	[m PLN]	-	
Exit Points	[m PLN]	1 612.9	35.9
Exit Points UGS	[m PLN]	77.6	
Reference prices			
Entry Points	[gr/kWh/h per h]	0.6921	0.2942
Entry Points UGS*	[gr/kWh/h per h]	0.1384	
Entry Point LNG*	[gr/kWh/h per h]	-	
Exit Points	[gr/kWh/h per h]	0.2964	0.2041
Exit Points UGS	[gr/kWh/h per h]	0.0593	

** a discount of 80% for UGS and a discount of 100% for LNG is taken into account in the calculation of the charges, as detailed in section 2 of this document.*

The simplified tariff models presented at https://www.gaz-system.pl/en/for-customers/services-in-the-nts/nts-tariff/tar-nc.html allow calculation of indicative reference prices for standard capacity products proposed for the tariff year 2025 and make it possible to estimate them for the following year, with any choice of parameters concerning proportions of Entry-Exit fee split, level of forecasted revenue and forecasted contracted capacities or relevant adjustments (UGS, LNG discounts) according to the algorithm described above.

6. COMPARISON OF THE CHOSEN METHOD FOR DETERMINING THE REFERENCE PRICES WITH THE CWD METHOD AS DESCRIBED IN ARTICLE 8 OF THE TAR NC

The reference prices calculated on the basis of the CWD methodology and the *postage stamp* methodology adopted by GAZ-SYSTEM are based on an indicative level of regulated revenue from transmission services for year 2025 amounting to PLN 3 139 million.

The parameters adopted to calculate the reference prices, both in the CWD methodology and the postage stamp methodology adopted by GAZ-SYSTEM, are presented in the table below.

Tabela 6A

Bacis assumptions for tariff calculation			
Indicative allowed revenue for 2025		**[m PLN]**	**3 139**
Cost allocation			
Indicative allowed revenue - Gas E subsystem		[m PLN]	3 074
Indicative allowed revenue - Gas Lw subsystem		[m PLN]	65
Revenue recovered from capacity-based tariffs	100%	[m PLN]	3 139
Revenue recovered from commodity-based tariffs	0%	[m PLN]	-
Revenue to be recovered at Entry points (Gas E and Gas Lw) *	45%	[m PLN]	1 413
Revenue to be recovered at Exit points (Gas E and Gas Lw) *	55%	[m PLN]	1 726
Number of hours in the tariff year		[h]	8 760

* Entry/Exit split for Postage Stamp reference price calculation has been adopted at 45/55. According to Article 8(1)(e) of the NC TAR (EU) 2017/460, the Entry/Exit split in the CWD model shall be 50/50.

The differences in reference price levels between the CWD and the *postage stamp* methods are due to the use of different cost drivers in each of these methods.

The method proposed by GAZ-SYSTEM to set the reference price is the *postage stamp* method. It assumes that costs are allocated to individual entry points and, respectively, to individual exit points on the basis of a single cost driver – the forecasted contracted capacity. This results in equal reference prices at the entry points and exit points respectively.

The reference prices calculated under the CWD method, which is designated in the TAR NC as the comparative methodology, are calculated using two cost drivers: forecasted contracted capacity and the distance between each entry and exit point on the transmission system if they can be combined into pairs under a selected flow scenario.

Furthermore, when analysing the differences in the levels of reference prices, it should be remembered that the calculation following the *postage stamp* method was based on a 45/55 split of regulated revenue between entry and exit points, while the reference prices calculated

using the CWD model were determined in accordance with the provisions of Article 8 of the TAR NC with a 50/50 split.

In the method of determining reference prices being consulted by GAZ-SYSTEM, both according to the comparative CWD method and the postage stamp method proposed by the Company, the following was taken into account when setting the level of reference prices:

- at the entry points to the transmission system from storage facilities and the exit points from the transmission system to storage facilities, a discount of 80% has been applied, as detailed in section 2 of this document;
- at the entry point to the transmission system from the LNG terminal, a discount of 100% has been applied to the reference price, as detailed in section 2 of this document.

A comparison of indicative reference prices calculated on the basis of the reference price methodology proposed by GAZ-SYSTEM and the CWD comparative method can be found in Appendix No. 1 to this document which is available at: https://www.gaz-system.pl/en/for-customers/services-in-the-nts/nts-tariff/tar-nc.html

The attached tables present only the entry and exit points for which the Company, based on historical data, forecasts transmission capacity for year 2025. For comparison, Appendix No. 1 presents also indicative reference prices calculated on the basis of the postage stamp method, with an assumed 50/50 split of regulated revenue between entry and exit points.

7. INFORMATION REGARDING THE INDICATIVE REGULATED REVENUE USED TO CALCULATE THE INDICATIVE REFERENCE PRICES IN EFFECT IN 2025

The allowed revenue approved by the President of the Energy Regulatory Office is determined using the *cost-plus* method and represents the sum of the forecasted operating costs associated with the transmission services of the Company in a given tariff year and the return on capital employed set as a percentage of the regulatory asset base allocated to GAZ-SYSTEM's transmission services.

The allowed regulated revenue is calculated for a 12-month period and is recovered through transmission service charges calculated based on contracted capacity.

Because the Company plans to provide non-transmission services related to pressure reduction service and gas compression service upon customer's request, the allowed indicative revenue planned for 2025 was divided into:

- allowed revenue related to transmission services, on the basis of which indicative reference prices were calculated, amounting to 3 139 million PLN;
- allowed revenue related to non-transmission services, amounting to 102 million PLN.

A detailed breakdown of the allowed revenue as required for the consultation document is shown in the table below.

Table 7A

Indicative allowed revenue for year 2025		
Allowed revenue	**[m PLN]**	**3 241**
Transmission services revenue	**[m PLN]**	3 139
Revenue from capacity-based tariffs	[m PLN]	3 139
Revenue from commodity-based tariffs	[m PLN]	-
Non-transmission services revenue	**[m PLN]**	**102**
Gas compression services	[m PLN]	33
Pressure reduction services	[m PLN]	69
High-methane Gas E subsystem	**[m PLN]**	**3 074**
Entry points	[m PLN]	1 383
Exit points	[m PLN]	1 691
Low-methane Gas Lw subsystem	**[m PLN]**	**65**
Entry points	[m PLN]	29
Exit points	[m PLN]	36
High-methane Gas E subsystem	**[m PLN]**	**3 074**
Intra-system network use	[m PLN]	2 989
Cross-system network use	[m PLN]	84
Low-methane Gas Lw subsystem	**[m PLN]**	**65**
Intra-system network use	[m PLN]	65
Cross-system network use	[m PLN]	-

7.1. BREAKDOWN BETWEEN REVENUE GENERATED FROM CAPACITY AND COMMODITY-BASED TARIFFS

The breakdown of the revenue planned to be recovered from capacity-based tariffs and commodity-based tariffs proposed by GAZ-SYSTEM is 100/0. This solution adopted by the national legislation (Tariff Regulation) is in line with the provisions of Article 4 of the TAR NC. The effect of the proposed solution is to charge tariffs based on a single cost driver – contracted capacity.

7.2. ENTRY-EXIT SPLIT

A predetermined (ex-ante) Entry-Exit split determines the proportion of regulated revenue derived from capacity-based tariffs at entry points to revenue derived from capacity-based tariffs at exit points. The Company plans to use a flexible Entry-Exit regulated revenue split ranging from 30/70 to 70/30. The adopted flexibility has been described in detail in section 1.1 of this document. The final division of Entry-Exit, other than proposed in this methodology, will be subject, on a case-by-case basis, to assessment by the President of the ERO in the annual tariff proceedings.

However, a 45/55 Entry-Exit split is included in the calculation of the indicative capacity-based reference prices presented within this consultation document.

The 45/55 split of regulated revenue between entry and exit points to/from the transmission network, adopted by the Company for the determination of reference prices for 2025, is driven by the need to minimise fluctuations in transmission fee levels between successive Operator's tariffs due to the observed decrease in reserved capacity at the transmission system entry points and the slight increase in capacity booked by customers at the transmission system exit points.

In situations where there is a significant disparity in the change in the reference price level at entry points or at exit points, an Entry-Exit cost allocation in the range of 30 to 70 or in the range of 70 to 30 is allowed. The scope of cost allocation between fees charged at entry and exit points, as proposed by the Company, is intended to decrease possible fluctuations in transmission rate levels in the subsequent tariffs. Such fluctuations may occur in the event of a significant change in the distribution of the forecasted transmission capacity volumes resulting mainly from the contracted capacities at entry/exit points to/from the transmission system, caused by commissioning of new infrastructure components and a significant reconfiguration of the system's operation resulting from diversification of its main supply directions, as well as changes occurring directly in the gas market area as a consequence of the current geopolitical situation.

The development of gas infrastructure in Poland is determined mainly by the following factors:

- need to ensure diversification of gas supply sources to Poland;
- level of the forecasted demand for gas and the demand for transmission service, including the possibility to export gas;
- development of import and export connections ensuring integration of the European Community markets.

In recent years, GAZ-SYSTEM has implemented a number of investment projects aimed at diversification of natural gas supply directions and sources, seeking independence from the historically dominant shipper (Russia) while enhancing integration with other EU Member States.

Further development of energy independence will be ensured through, inter alia: increase of regasification capacity at the existing LNG Terminal in Świnoujście, construction of the FSRU Terminal in Gdańsk, expansion and modernisation of the transmission infrastructure around Warsaw and modernisation of the transmission system to ensure energy security.

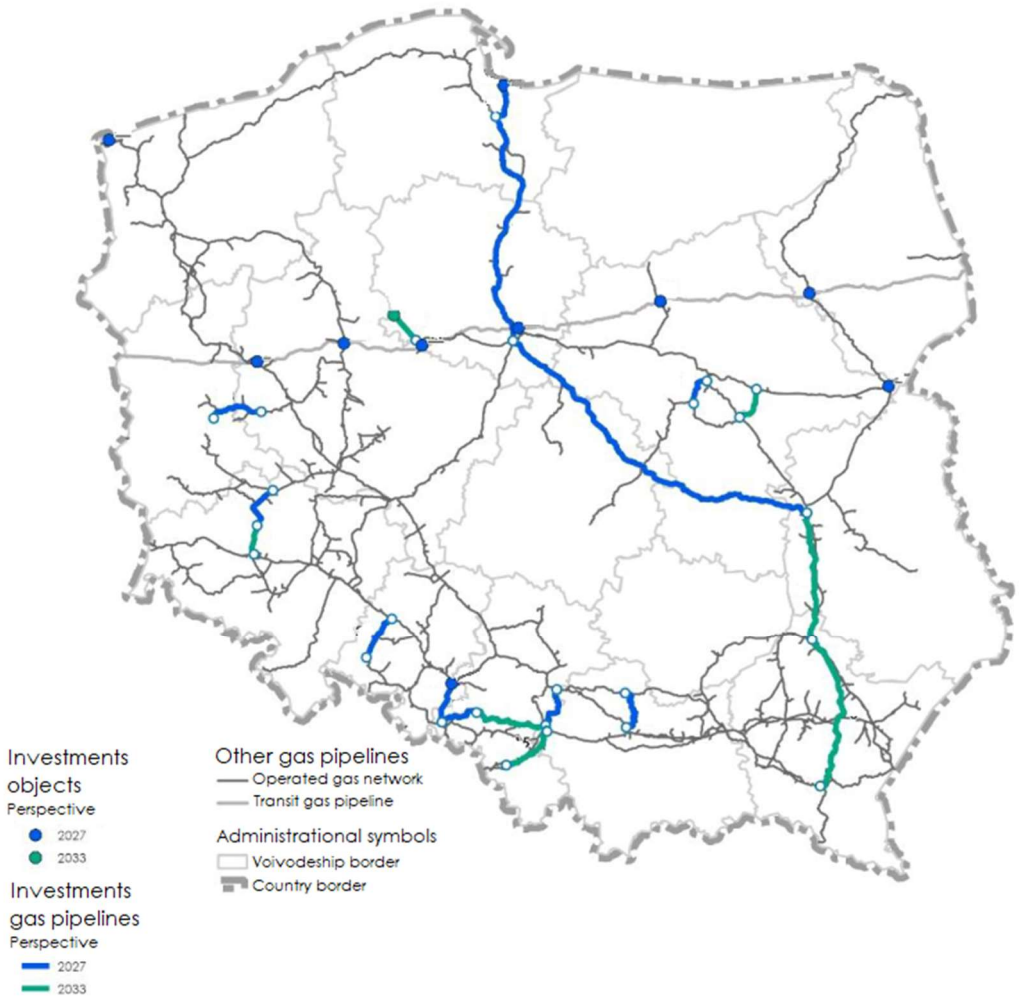
The so called TGPS Program is also planned to be completed by 2027. During this period, it is planned to implement tasks related to the utilisation of the TGPS infrastructure in connection with the expiry of historical contracts – construction of Lwówek Compressor Station and new connection points to the TGPS. Completion of this program will close one of the stages of expansion and functional modernisation of the transmission system related to the achievement of such strategic objectives as diversification of gas supply directions and adaptation of the system to operate in the absence of supply from the east.

These projects represent a huge potential for ensuring stable gas supply to the country.

Interconnection expansion activities allowed for:

- integration of markets in the region;
- development of the gas market in Poland;
- ensuring security by guaranteeing uninterrupted gas supplies in the event of the supply disruptions;
- development of the transit functionality of the National Transmission System.

Figure: Planned development of the National Transmission System.



The implementation of the projects will enable further diversification of gas flow directions but will not significantly affect the increase in capacity adopted for the calculation of the tariff, however, it will have an impact on the increase in operating costs and the value of return on the committed capital – components of the regulated revenue.

In the period covered by the methodology described in this document, GAZ-SYSTEM will complete the investment projects and take over fixed assets worth PLN 7.8 billion.

Table 7B

Assets planned for commissioning in 2025-2026

		2025	2026	Total
Assets planned for commissioning:	**[m PLN]**	**2 199**	**5 607**	**7 807**
FSRU Program	[m PLN]	0	2 091	2 091
TGPS Program	[m PLN]	73	689	762
Coal to Gas Program	[m PLN]	463	435	898
Domestic investment projects	[m PLN]	1 664	2 392	4 055

The aforementioned investments are aimed at continuing activities related to the implementation of the Company's strategic objectives described above but are also related to the projected development of the gas market in Poland. This category includes the expansion of the transmission system in south-western Poland – the Coal to Gas program. Investments constituting a part of functional programs (implemented as part of intra-system investment programs) are also planned; they include concepts for supplying urbanised areas and the construction of a corridor enabling gas distribution in central and eastern Poland – the Centre-East Corridor.

GAZ-SYSTEM expects that as a result of the aforementioned investment program, the level of regulated revenue will increase by approximately PLN 0.4 billion in 2026.

Therefore, fixing in a rigid and unchangeable Entry/Exit split will make it impossible for the Company and the President of the ERO to level out or reduce the differences in the levels of transmission rates at the entry points to and exit points from the transmission system.

Taking into account market conditions, including the level of maturity of the transmission services market in Poland and the number of system users, the Company believes that the Entry-Exit split proposed by GAZ-SYSTEM is non-discriminatory and does not represent a barrier to both intra- and cross-system transmission.

7.3. SPLIT BETWEEN INTRA-SYSTEM AND CROSS-SYSTEM REVENUES

GAZ-SYSTEM does not apply *ex-ante* split between revenue planned to be recovered from intra-system and cross-system transmission services. The resulting (*ex-post*) revenue split between intra-system and cross-system revenues is 97/3. The practically homogeneous nature of transmission is yet another argument for the use of the *postage stamp* method – the very limited risk of cross-subsidisation between intra-system and cross-system transmission is confirmed by the cost allocation analysis (CAA) detailed in section 4 of this document.

8. COMMODITY-BASED TARIFFS

GAZ-SYSTEM does not plan to charge commodity-based tariffs. This solution is in line with the provisions of national Tariff Regulation and is allowed by the provisions of the TAR NC.

9. COMPLEMENTARY REVENUE RECOVERY CHARGE

The Company does not apply a complementary revenue recovery charge.

10. NON-TRANSMISSION SERVICES

GAZ-SYSTEM plans to provide non-transmission services related to pressure reduction and gas compression services upon request of the customer.

Given the requirements of Article 17(3) of the TAR NC, the Company proposes the following approach to the settlement of non-transmission services under the regulatory account.

$$S_{KR} = P_{UP(n-2)} + P_{US(n-2)} + P_{UR(n-2)} - P_{D(n-2)} + P_{PA(n-2)} + S_{KRLP}$$

where:

S_{KR}	- balance of the regulatory account calculated in the year *(n-1)*, in which the tariff for the year (n) is set;
$P_{UP(n-2)}$	- transmission service revenue realized in calendar year (n-2);
$P_{US(n-2)}$	- compression service revenue realized in calendar year (n-2);
$P_{UR(n-2)}$	- pressure reduction service revenue realized in calendar year (n-2);
$P_{D(n-2)}$	- allowed revenue authorised by the President of the ERO for year (n-2);
$P_{PA(n-2)}$	- auction premium revenue realized in calendar year (n-2);
S_{KRLP}	- balance of the regulatory account not realized in previous years.

In accordance with the decision of 26 August 2021, Ref. no.: DRG.DRG 2.745.3.2021.JDo1 of the President of the ERO, any revenues from the auction premium are used to reduce tariffs for the subsequent tariff periods.

Taking into account the above, the allowed revenue in year *n*, for which the tariff is being set, will be the sum of revenue from transmission services (P_{UP}), revenue from compression services (P_{US})and revenue from pressure reduction services (P_{UR}).

10.1. GAS PRESSURE REDUCTION SERVICE

Gas pressure reduction service – a service provided by GAZ-SYSTEM on the process equipment installed at the exit points from the transmission system, aimed at adequate reduction of the gas pressure in the place of connection between the gas facility and the facility of the customer connected to the transmission system, at the request of the Network User, a fixed fee

is charged dependent on the contracted capacity allocated to a given System User at a physical exit point.

The gas pressure reduction service is provided by GAZ-SYSTEM at approx. 655 pressure reduction and metering stations (SRP).

The pressure reduction systems at the gas facilities significantly increase the operational and maintenance costs of the facility due to the need for additional gas heating systems, pressure reduction systems (three-stage pressure safety level, boiler houses and the associated consumption of fuel gas). The pressure reduction systems used at the facilities also increase the expenditures necessary for the modernization of such facilities.

The gas pressure reduction service constitutes a non-transmission service.

The calculation of reference prices for gas pressure reduction services will be based on the regulated revenue for this service determined by the 'cost plus' method.

This means that operating costs associated with the operation of pressure reduction and metering stations for the provision of pressure reduction services will be separated from the cost base of GAZ-SYSTEM in the process of tariff approval and then increased by the return on capital employed on the assets separated as assets for the provision of pressure reduction services.

The fee for the provision of gas pressure reduction services at a physical exit point from the transmission system shall be calculated according to the following formula:

$$O_R = S_{SR} * M_P * T/100$$

where:

O_R	- fee for the pressure reduction service at the physical exit point [PLN];
S_{SR}	- fixed fee rate for the pressure reduction service provided at a physical exit point per each hour of the billing period [gr/(kWh/h) per h];
M_P	- contracted capacity at a physical exit point [kWh/h];
T	- number of hours in the billing period [h].

The indicative regulated revenue related to the gas pressure reduction service, adopted to calculate the indicative reference prices in force in 2025, amounts to PLN 69 million.

All data and assumptions adopted by GAZ-SYSTEM for the calculation of reference prices for gaseous fuel pressure reduction services will be, at the stage of the tariff process, subject to final assessment and acceptance by the President of the ERO by means of a decision on the approval of tariffs for 2025-2026 calculated in accordance with this methodology.

10.2. GAS COMPRESSION SERVICE AT CUSTOMER'S REQUEST

Gas compression service upon customer's request – the service of permanent or temporary ensuring of pressure at the entry or exit point to or from the national transmission system above or below the values published on GAZ-SYSTEM website, requiring involvement of additional technical and organizational resources of GAZ-SYSTEM. The service is provided by GAZ-SYSTEM upon request of the Network User and after confirmation by GAZ-SYSTEM of the possibility of its provision at a given point.

The compression service will be carried out using system compressors, which will compress the gaseous fuel at the request of the customer.

In order to calculate indicative rates for gas compression services at customer's request, GAZ-SYSTEM, on the basis of historical data, assumed that in 2025 it will provide the service at 6 points of the National Transmission System.

The calculation of reference prices for gas compression services was carried out with the 'cost-plus' method.

This means that operating costs associated with the provision of compression services at customers' request will be separated from the cost base of GAZ-SYSTEM in the process of tariff approval, and then they will be increased by the return on capital employed on the assets separated as assets used for the provision of compression services. The regulated revenue so determined for compression service will be recovered at the transmission system entry/exit points through monthly charges calculated as described below.

The compression service fee will consist of two components:

- fixed subscription fee determined once a year on the basis of the fixed costs of the compression service;
- variable fee depending on:
  - the amount of energy added to the gaseous fuel during the compression process;
  - Gas Reference Price (GRP) for the high-methane gas balancing area defined as the price representing the weighted average price of gaseous fuel purchased by GAZ-SYSTEM in the gas month preceding the month when the GRP is published.

The fee for the provision of gas compression services at the request of the customer will be billed according to the following formula:

$$O_S = S_{SS} + (Q_z * CRG)$$

where:

O_S – gas compression fee [PLN];

S_{SS} – fixed subscription fee for the compression service [PLN/month];

Q_z – quantity of gaseous fuel consumed to drive compressors at the compressor station used to provide the service at the relevant physical entry point, relating to the gaseous fuel compression service provided [kWh];

GRP – Gas Reference Price [PLN/kWh]. The published GRP for the billing period is adopted for the settlements.

The indicative revenue related to the provision of gas compression services for the calculation of the indicative reference prices for 2025 will amount to PLN 33 million.

The subscription fees have been calculated in such a manner so as to ensure that the revenues from these fees cover the fixed costs associated with the operation of the assets, together with the return on the capital employed on the fixed assets used to provide gas compression services to the customer.

The variable part of the revenue will cover the cost of purchasing the fuel gas necessary to provide the gas compression service to the customer.

The indicative monthly subscription fee rate for the entry point from the domestic fuel gas field will be PLN 379 353. The indicative variable fee rate will be 0.2636 PLN/kWh.

Calculations using the presented formula will ensure the unification of settlements, transparency of the proposed method and easy calculation of charges for compression services by the System Users.

All data and assumptions adopted by GAZ-SYSTEM for the calculation of reference prices for gaseous fuel compression services will be, at the stage of the tariff process, subject to final assessment and acceptance by the President of the ERO by means of a decision on the approval of tariffs for 2025-2026 calculated in accordance with this methodology.

11. COMPARISON OF REFERENCE PRICES FOR 2024 AND INDICATIVE REFERENCE PRICES FOR 2025

The reference prices for 2024 presented below and the indicative reference prices for 2025 have been calculated according to the assumptions presented in this document. Based on these assumptions, simplified tariff models were prepared and they are available at: https://www.gaz-system.pl/en/for-customers/services-in-the-nts/nts-tariff/tar-nc.html

The simplified tariff model shall be used to simulate reference prices (tariff rates for firm yearly products at the NTS entry and exit points). The starting point are the settings corresponding to the input data values underlying the calculation of the indicative reference prices presented in this consultation document. The calculation of the change in indicative reference prices can be made by making changes to:

- level of regulated revenue;
- forecasted contracted capacities at specific system points (the minimum allowed capacity is 1 kWh/h).

Changes to the calculation parameters can be made by entering values (using relevant units) in the orange-coloured cells. To return to the initial (indicative) values, click on the "return to indicative data" button.

Table 11A

Comparison of indicative reference prices for 2025 and approved reference prices for 2024

Tariff Group	Indicative reference prices - year 2025 [gr/(kWh/h) per h]	Approved reference prices - year 2024	Difference [%]
High-methane Gas E subsystem			
Entry Points	0.6921	0.6194	12%
Exit Points	0.2964	0.3008	-1%
Entry point - LNG	-	-	
Entry point - UGS	0.1384	0.1239	12%
Exit point - UGS	0.0593	0.0602	-2%
Low-methane Gas Lw subsystem			
Entry Points	0.2942	0.2934	0%
Exit Points	0.2041	0.2036	0%

The main factor affecting the difference between the rates in the 2024 tariff and the indicative rates in the 2025 tariff is the decrease in capacity (transmission capacity) for the yearly products auctioned on 3 July 2023 and 17 July 2023. For the calculation of the indicative rates for 2025, the indicative revenue level for 2025 was assumed to be the level of the approved regulated revenue for 2024.

12. FIXED PAYABLE PRICE APPROACH

GAZ-SYSTEM applies a tariff model based on a variable payable price approved by the Energy Regulatory Office.