



Croatian Energy Regulatory Agency

**Final Consultation Document in accordance with Article
26 of Commission Regulation (EU) 2017/460 of 16 March
2017 establishing a network code on harmonised
transmission tariff structures for gas**

This document was adopted by the Decision on the Final Consultation on a proposal of the Reference price methodology, pursuant to Article 26 of Commission Regulation (EU) 2017/460 of 16 March 2017, on establishing a network code on harmonised transmission tariff structures for gas, class: 310-03 / 18-02 / 2, Reg. No: 371-04-18-1, of 18 December 2018

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Disclaimer

According to the Act on the Regulation of Energy Activities (Official Gazette No. 120/12 and 68/18) and Articles 26 and 27 of the Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas (hereinafter: Regulation 2017/460), the Croatian Energy Regulatory Agency (hereinafter: HERA) is conducting consultations with interested parties regarding the process of adopting regulations and methodologies within the scope of its work, and in particular all the information referred to in Article 26 of the Regulation 2017/460.

The purpose of the consultation is to collect information on the interests, attitudes and suggestions of the interested parties in order to raise the level of understanding and acceptance of new regulations, as well as to detect weaknesses and disadvantages in the proposed regulation.

The purpose of this document is to conduct a final consultation on the proposed methodology for determining the reference price of gas transmission services in accordance with Articles 26 and 27 of the Regulation 2017/460. Final Consultation refers to the period **from 2021 to 2026**, where 2021 represents a new tariff period in relation to the current Decision on the amount of tariff items for gas transmission for the years of the second regulatory period 2019-2021, which was issued by HERA on 7th December 2018, and considering the planned beginning of operations of the liquefied natural gas terminal at Krk (hereinafter: LNG terminal) from 1 January 2021.

With the aim of providing transparency and information of the transmission system for users regarding the expected trend of gas transmission tariffs, the final consultation also covers the tariff period from 2022 to 2026, which is also the third regulatory period in the gas sector of the Republic of Croatia.

The final consultation will take place over a period of two months, in accordance with Article 26 of the Regulation 2017/460. Within one month of the end of the final consultation, HERA will publish the responses on suggestions received in the consultation process and its summary, given the foreseen procedure in Regulation 2017/460.

Furthermore, in accordance with Article 27 of the Regulation 2017/460, HERA will forward the Final Consultation document to the Agency for the Cooperation of European Energy Regulators (hereinafter: ACER) after the start of the final consultation process. Within five months of the end of the final consultation, in accordance with Article 41 (6) (a) of Directive 2009/73/EC, HERA shall adopt and publish a decision on all items referred to in Article 26, paragraph 1 of the Regulation 2017/460 (hereinafter: "the Decision") and submit it to ACER and the European Commission.

The procedure consisting of final consultation, the Decision, tariff calculations based on the Decision and publication of tariffs in accordance with Chapter VIII. Regulation 2017/460 must be completed no later than 31 May 2019, and shall be repeated at least every five years.

Indicative reference prices for non-binding transmission services are included in the document, based on estimates of operator's allowed revenues and forecasts of booked capacity and usage of the transmission system. Indicative transmission tariffs may be modified with the application of the methodology in the tariff period commencing on 1 January 2021, based on the Decision referred to in Article 27 of the Regulation 2017/460.

The general assumption of the model for determining the reference price according to the proposed methodology is the commencement of the operation of the LNG terminal as of 1 January 2021.

If after the end of the final consultation and publication of the Decision referred to in Article 27 of the Regulation 2017/460 it is certain that the LNG terminal will not be realized by 1 January 2021, HERA will conduct a new methodology consultation or make a decision based on Article 27 of the Regulation 2017/460 to bring new amounts of tariff items based on corrected allowed revenues and capacities before the following tariff period.

In accordance with the aforementioned, tariffs shall be considered binding as determined by HERA's decision on the amount of tariff items for gas transmission, at least thirty days before the annual auction of annual capacities for interconnection points, or at least thirty days prior to the commencement of the corresponding tariff period.

This final consultation procedure shall be repeated at least every five years starting from 31 May 2019.

Definitions

The terms used in this document shall have the meanings determined by the acts governing the energy sector, the regulation of energy activities and the gas market.

This document uses additional terms, which shall have the following meanings:

1. „auction premium“ means the difference between the clearing price and the reserve price in an auction;
2. „target revenue“ means the sum of expected transmission services revenue calculated in accordance with the principles set out in Article 13(1) of the Regulation (EC) No 715/2009 and expected non-transmission services revenue for the provision of services by the transmission system operator for a specific time period within a given regulatory period under a price cap regime;
3. „allowed revenue“ means the sum of transmission services revenue and non-transmission services revenue for the provision of services by the transmission system operator for a specific time period within a given regulatory period which such transmission system operator is entitled to obtain under a non-price cap regime and which is set in accordance with Article 41(6)(a) of Directive 2009/73/EC;
4. „cost driver“ means a key determinant of the transmission system operator's activity which is correlated to the costs of that transmission system operator, such as distance or technical capacity;
5. „fixed payable price“ means a price calculated in accordance with Article 24(b) of the Regulation 2017/460 where the reserve price is not subject to any adjustments;
6. „homogeneous group of points“ means a group of one of the following types of points: entry interconnection points, exit interconnection points, domestic entry points, domestic exit points, entry points from storage facilities, exit points to storage facilities, entry points from liquefied natural gas facilities (hereinafter: 'LNG facilities'), exit points to LNG facilities and entry points from production facilities;
7. „exit from the transmission system“ means a physical or virtual point of the transmission system, which is the subject matter of contracting transmission services for delivering gas to the transmission system of a neighbouring country, distribution system, gas storage system or final customer;
8. „cluster of entry or exit points“ means a homogeneous group of points or group of entry points or of exit points located within the vicinity of each other and which are considered as, respectively, one entry point or one exit point for the application of the reference price methodology
9. „reference price methodology“ means the methodology applied to the part of the transmission services revenue to be recovered from capacity-based transmission tariffs with the aim of deriving reference prices;
10. „multiplier“ means the factor applied to the respective proportion of the reference price in order to calculate the reserve price for a non-yearly standard capacity product;

11. „non-transmission tariffs“ means the charges payable by network users for non-transmission services provided to them;
12. „non-transmission services“ means the regulated services other than transmission services and other than services regulated by Regulation (EU) No 312/2014 that are provided by the transmission system operator;
13. „floating payable price“ means a price calculated in accordance with Article 24(a) of Regulation 2017/460 where the reserve price is subject to adjustments such as revenue reconciliation, adjustment of the allowed revenue or adjustment of the forecasted contracted capacity
14. „regulatory account“ means the account aggregating at least under- and over-recovery of the transmission services revenue under a non-price cap regime;
15. „price cap regime“ means a regulatory regime under which a maximum transmission tariff based on the target revenue is set in accordance with Article 41(6)(a) of Directive 2009/73/EC;
16. „flow scenario“ means a combination of an entry point and an exit point which reflects the use of the transmission system according to likely supply and demand patterns and for which there is at least one pipeline route allowing to flow gas into the transmission network at that entry point and out of the transmission network at that exit point, irrespective of whether the capacity is contracted at that entry point and that exit point;
17. „seasonal factor“ means the factor reflecting the variation of demand within the year which may be applied in combination with the relevant multiplier;
18. „tariff period“ means the time period during which a particular level of reference price is applicable, which minimum duration is one year and maximum duration is the duration of the regulatory period;
19. „transmission services“ means the regulated services that are provided by the transmission system operator within the entry-exit system for the purpose of transmission;
20. „entry into the transmission system“ means a physical or virtual point of the transmission system which is the subject matter of contracting transmission services for off-take of gas from the transmission system of a neighbouring country, production gas pipeline network, gas storage system or LNG terminal;

1. INTRODUCTION

This consultation document is based on the implementation of the Regulation 2017/460 establishing a network code on harmonised transmission tariff structures for gas which is fully binding and directly applicable in all European Union member states.

The Regulation 2017/460, together with Commission Regulation (EC) 715/2009, highlights the need to establish network rules on harmonized transmission tariffs for natural gas at a level for the entire European Union, with a view to developing and integrating markets, securing natural gas supply and the interconnection of gas networks as the key goals of the third energy package in the gas market.

The transparency of the transmission tariff structure as well as the setting of tariffs is itself to be increased at a level encompassing the entire European Union. Therefore, the Regulation sets out guidelines for determining the request for disclosure of information related to the determination of the transmission system operator revenues by carrying out different transmission and non-transmission tariffs. In this manner, users of the network would have an insight into the costs in which the transmission tariffs were based and could reasonably be anticipated.

Following the aforementioned, transmission tariffs should be based on a consistent and transparent **methodology for determining the reference price**.

The national regulatory authority or the transmission system operator should carry out public consultation on the proposed methodology for determining the reference price within the scope of the provisions laid out in Articles 26 and 27 of Regulation 2017/460.

In accordance with Articles 26 and 27 of Regulation 2017/460, on 3 November 2017 HERA adopted a decision defining HERA as the party conducting consultations on the methodology for determining the reference gas price for a capacity product for a one-year firm capacity. This capacity is applicable at the entry and exit points of the gas transmission system of the Republic of Croatia.

In addition, and in accordance with Article 28 of Regulation 2017/460, HERA shall also conduct consultations on discounts, multipliers and seasonal factors with the national regulatory bodies of all directly linked EU Member States and relevant stakeholders, and simultaneously with the final consultancy referred to in Article 26 of the Regulation 2017/460.

Furthermore, according to a decision by HERA of 3 November 2017, Plinacro Ltd as a national transmission system operator is designated as the party that will publish information before the annual auction of annual gas transmission capacities and prior to the tariff period in the Republic of Croatia, all in accordance with Articles 29 and 30 of the Regulation 2017/460. The national transmission system operator¹, will publish information on the company's website and links will be accessible through the platform of the European Network of Transmission System Operators for Gas (hereinafter: ENTSOG), in accordance with Article 31, paragraph 1 of the Regulation 2017/460.

¹ Information is published in Croatian and English on the link <http://www.plinacro.hr/default.aspx?id=893>

Following the launch of the final consultation in accordance with Article 26 of the Regulation 2017/460 and prior to the final decision on the chosen methodology in accordance with Article 27, paragraph 4 of the Regulation 2017/460, HERA shall forward consultation documents to ACER for analysis and conclusion.

ACER should provide an analysis and bring conclusions no later than two months after the end of the consultation process. At the same time HERA has the obligation to make a decision based on all the components referred to in Article 26, paragraph 1, of the Regulation 2017/460 within five months after the end of the final consultation. Following the publication of the decision, HERA will also submit it to the ACER and to the European Commission.

The consultation process should be completed no later than 31 May 2019, and new reference tariffs adopted and published according to the approved methodology will enter into force on January 1, 2021.

2. FRAMEWORK GUIDELINES ON THE HARMONIZED TRANSMISSION TARIFF STRUCTURES FOR GAS

Network codes are the technical rules that, according to the framework guidelines, are created by the ENTSOG, and which execute the regulatory policies and regulations of the Commission into operating rules.

The goal of the Regulation 2017/460 is the harmonisation of structures for transmission tariffs in the EU, implementing objectivity and cost-reflecting tariff methodologies.

The purpose of the Regulation 2017/460 is a methodology for the calculation of tariff items based on the Reference Price Methodology (RPM), which determines the tariffs for standard annual production, with the obligation of evaluating methodologies using an alternative methodology based on Capacity Weighted Distance (CWD)) and estimates of cost allocation related to transmission services.

Reference price methodology shall comply with the following requirements:

- be transparent and enable network users to reproduce the calculation of reference prices and their accurate forecast;
- take into account the actual costs incurred for the provision of transmission services considering the level of complexity of the transmission network;
- ensure non-discrimination and prevent undue cross-subsidisation including taking into account cost allocation assessments (CAA);
- ensure that significant volume risk related particularly to transmission system across an entry-exit system is not assigned to final customers within that entry-exit system;
- ensure that the resulting reference prices do not distort cross-border trade.

2.1. Transmission and non-transmission services

Within the scope of Regulation 2017/460, a given service shall be considered a transmission services where both of the following criteria are met:

- a) the costs of such service are caused by the cost drivers of both technical or forecasted contracted capacity and distance;
- b) the costs of such services are related to the investment in and operation of the infrastructure which is part of the regulated asset base (RAB) for the provision of transmission services.

The transmission services revenue shall be recovered by **capacity-based transmission tariffs**. As an exception, subject to the approval of the national regulatory authority, a part of the transmission services revenue may be recovered by way of commodity-based transmission tariffs.

The non-transmission services revenue shall be recovered by non-transmission tariffs applicable for a given non-transmission service. Such tariffs shall be as follows:

- a) cost-reflective, non-discriminatory, objective and transparent;
- b) charged to the beneficiaries of a given non-transmission service with the aim of minimising cross-subsidisation between network users within or outside a Member State.

2.2. Cost Allocation Assessment (CAA)

CAA is one of the most important components of the Regulation 2017/460, enabling the assessment of the level of cross-subsidisation between intra-system network users (transporting gas within an entry-exit system to customers connected to the same entry-exit system) and cross-system network users (transporting gas within an entry-exit system to customers connected to another entry-exit system) of the transmission system and ultimately points to cross-subsidizing between network users on the basis of the proposed reference price methodology.

Article 5 of the Regulation 2017/460 states that factors influencing the cost allocation estimate may include the technical capacity of the system, the anticipated contracted capacity, the weighted average input-output distance and the amount of gas flow and the distance or flow scenarios.

In accordance with the aforementioned factors, HERA shall assess the allocation of costs according to the prescribed calculations referred to in Article 5 (3), (4) and (5) of the Regulation 2017/460.

Where the results of the capacity, or commodity cost allocation comparison indexes exceed 10 percent, HERA shall provide the justification for such results in the decision. The deadline for the adoption of the aforementioned decision is set out in Article 27 of the Regulation 2017/460, and ends 5 months after the end of the consultation, ie no later than 31 May 2019.

2.3. Adjustment of reference prices and allowed discounts

Article 9 of the Regulation 2017/460 envisages the implementation of capacity-based tariff adjustment at the entry and exit points of the gas storage facility, at the entry points of the LNG terminals and at the entry and exit points of other infrastructure built to interrupt the isolation of the transmission systems of the Member States.

The level of discounts is set at a minimum of 50% at the entry and exit points of the gas storage facility, while the minimum discount for the entry points from the LNG terminal is not determined by the Regulation 2017/460.

Furthermore, Article 6 of the Regulation 2017/460 also allows adjustments to the application of the reference price methodology at all entry and exit points in order to achieve:

- a) competitiveness of tariffs (benchmarking) – determines the benchmarks on the basis of which the reference prices at a particular entry or exit point are adjusted to obtain the values at a competitive level of reference prices.
- b) Tariff equalisation - carries out an equalisation on the basis by which the same reference price level applies to some or all points in a homogeneous group of points;
- c) Tariff Rescaling - adjusts the reference price amounts by adjusting the reference prices at all entry points and / or exit points by multiplying the constant, adding a constant or subtracting the constant.

One or more of these adjustments may be applied.

2.4. Reserve prices for non-yearly firm capacity products

Since the Regulation 2017/460 provides a reference price for the standard firm yearly capacity, it is necessary to set reserve prices for non-yearly standard capacity products according to specific multipliers and seasonal factors, which must be within the prescribed ranges and calculated in accordance with Articles 14, 15 and 16. , Part III of the Regulation 2017/460, as shown in Table 1.

Table 1 Maximum allowable multipliers for non-yearly standard capacity

Non-Yearly standard capacity	Maximum allowed multipliers M
QUARTERLY	$1 < M > 1,5$
MONTHLY	$1 < M > 1,5$
DAILY*	$1 < M > 3$
INTRADAY*	$1 < M > 3$

* in properly justified cases the level of multipliers can be less than 1, but greater than 0 or greater than 3.

The Regulation 2017/460 provides the possibility of limiting the highest level of multiplier for daily and intraday standard capacity products by no more than 1.5 until 1 April 2023 on the basis of ACER recommendations in accordance with Regulation No. 713/2009.

ACER recommendations in this case should be issued by the end of 1 April 2021, based on the analysis of the reservation trends of the network users, the tariff difference applied for two consecutive tariff periods, the potential subsidization of users of yearly and non-yearly products and the final effect on revenues from transmission services before and after 31 May 2019.

2.5. Allowed revenues of the transmission system operator

The regulation of the energy activity of gas transmission involves setting up a planned allowed revenues framework that should be sufficient to cover the justified operating costs incurred in carrying out the energy activities of gas transmission and providing the operator a return on the regulated assets.

The regulation is carried out using (a) non-price cap regime (such as the revenue cap, rate of return and cost plus regime) or (b) price cap regime.

The Regulation 2017/460 stipulates that under the non-price cap regime, insufficient or excessive collection of revenues from transmission services must be reduced to a minimum by avoiding significant tariff-level deviations for two consecutive tariff periods, with provisions also made for the introduction of a regulatory account.

Under a price cap regime or when applying a fixed payable price approach, no revenue reconciliation shall occur and all risks related to under- or over-recovery shall be covered exclusively by the risk premium.

2.6. Regulatory account

In order to achieve a uniform level of collection of allowed revenue under a non-price cap regime, which has been implemented in Croatia based on the revenue cap method, according to Articles 18 and 19 of the Regulation 2017/460 a regulatory account model is anticipated and in case of insufficient or over-revenue collected within the given tariff period, ie the difference between the actual revenue earned pertaining to the provision of transmission services and allowed revenues from transmission services on the basis of the National Regulatory Authority's decision. Other information may be included in the regulatory account, such as the difference between the anticipated and the actual cost components.

A regulatory account shall be established by a decision of the National Regulatory Authority in accordance with Article 41 (6) (a) of Directive 2009/73 /EC, and where incentive mechanisms for capacity sales are implemented, only a part of the transmission system operator's under- or over-recovery shall be attributed to the regulatory account. In such cases, the residual part thereof shall be kept or paid, as relevant, by the transmission system operator.

Each transmission system operator shall use one regulatory account that shall be reconciled with the aim of reimbursing to the transmission system operator the under-recovery or returning to the network users the over-recovery.

2.7. Determining the price of bundled capacity and the price of capacity at a virtual interconnection point

Article 21 of the Regulation 2017/460 defines the reserve price of the product of the connected capacity as the sum of the reserve price of the capacity of which the product was made up. Revenues and auction premiums from the sale of the product of the connected capacity are attributed to the agreement between the respective transmission system operators which is subject to approval by the national regulatory authority.

If virtual interconnection points are established, the price which has to be applied is calculated on the basis of the applied methodology. If the applied methodology allows for taking into account the established virtual point then the reference price is applied, i.e. when the same point is not taken into account then the price is calculated based on the weighted average of the reserve prices, then an average is calculated on the basis of the reference prices for each interconnection point contributing to each virtual interconnection point.

2.8. Clearing and payable price at interconnection points

The clearing price achieved on interconnection points may differ from the reserve price for the amount of the auction premium, if the same exists.

The payable price for a given standard capacity product at an interconnection point shall be calculated depending on the application of a floating or fixed payable price approach.

When applying a floating payable price approach, the default price consists of a reserve price for the standard capacity product applicable at the time the product can be used, plus the auction premium.

When applying the fixed default price approach, a reserve price for a yearly standard capacity product which is published at the time when this product is auctioned is multiplied by the ratio of the value of the selected index (CPI, PPI, or other) at the time of use of the product and its value at the time the product is being offered at auction. The amount received is increased for the risk premium and the auction premium, if any.

Depending on the transmission system operator functions, the conditions for offering payable price approaches (floating or fixed) depends on the type of capacity offered, i.e. whether only existing and/or incremental capacity is offered at the same auction.

Article 25 of the Regulation 2017/460 requires that:

- under a non-price cap regime, when only existing capacity is offered, the floating payable price approach shall be offered,
- in the case of an incremental capacity, a fixed default price approach may be offered only if an alternative capacity allocation mechanism is provided for in Article 30 of Regulation (EU) 2017/459 or if the project is included in the European Union list of projects of common interest.

2.9. Consultation requirements

The level of transmission tariffs as well as the methodology for their determination has a direct impact on the use of the transmission system and the activities of energy entities in the system.

Pursuant to the above, the Regulation 2017/460 has implemented a modified way of approving methodologies, which requires public consultation with the interested parties, but also simultaneous delivery of all materials to the ACER with a final consultation document. Conclusions of public consultation are taken into account when adopting the founding decision by the national regulatory authority for establishing the Reference price methodology

3. DESCRIPTION OF THE TRANSMISSION SYSTEM AND PROPOSED REFERENCE PRICE METHODOLOGY

3.1. The existing legal framework of the gas market in the Republic of Croatia

The Croatian gas market is primarily regulated by the Gas Market Act („Official Gazette“, No 18/18), which implements the Third Energy Package of European Union legislation, i.e. Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC.

The Gas Market Act also ensures the implementation of related EU directives:

- Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005
- Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010.

Pursuant to the provisions of the Gas Market Act, following public consultations in April and May 2018, a significant number of by-laws and implementing regulations have been adopted by HERA:

- General terms and conditions of gas supply („Official Gazette“, No 50/18),
- Network rules for the gas distribution system („Official Gazette“, No 50/18),
- Methodology for determining the amount of tariff items for the public service of gas supply and guaranteed supply („Official Gazette“, No 48/18),
- Methodology for determining the amount of tariff items for gas transmission („Official Gazette“, No 48/18),
- Methodology for determining the amount of tariff items for gas distribution („Official Gazette“, No 48/18),
- Methodology for determining the amount of tariff items for gas storage („Official Gazette“, No 48/18),
- Methodology for determining the amount of tariff items for the reception and dispatch of liquefied natural gas („Official Gazette“, No 48/18),
- Methodology for determining the fee for connection to the gas distribution or transmission system and for increasing the connection capacity („Official Gazette“, No 48/18), and
- Methodology for determining the price of non-standard services for gas transmission, gas distribution, gas storage, reception and dispatch of liquefied natural gas and public gas supply service („Official Gazette“, No 48/18).

In addition, in accordance with the provisions of the new Gas Market Act, after the public consultations conducted, HERA gave its consent to the following by-law regulations related to gas transmission:

- Network rules for the transmission system („Official Gazette“, No 50/18),
- Rules on the gas market organisation (HROTE Ltd „Official Gazette“50/18),
- Rules for Use of the Gas Storage System (PSP Okoli dLtd 50/18) and

- Rules of operation of liquefied natural gas terminal (LNG HRVATSKA Ltd 60/18).

These acts provide a transparent and clearly defined legal framework for the gas market and the harmonisation of Croatian energy regulations with EU regulations.

3.2. Characteristics of the gas transmission system of the Republic of Croatia

Natural gas transmission is a regulated energy-related activity performed as a public service. PLINACRO Ltd. Zagreb, a state owned company, is the transmission system operator in Croatia.

The transmission system of the Republic of Croatia consists of international, mainstream, separating and connecting gas pipelines as well as gas pipeline facilities and measuring-reduction stations of different capacities.

PLINACRO Ltd. manages the transmission system consisting of regional gas pipelines through which domestically produced natural gas (the northern part of continental Croatia and the Northern Adriatic) and natural gas from imports via interconnections with Slovenia (Zabok–Rogatec) and Hungary (Donji Miholjac–Dravaszerdahely) is transmitted to exit measuring-reducing stations (hereinafter: MRS), where the gas is delivered to gas distribution systems and to the end (industrial) consumers directly connected to the transmission system.

The operation of transmission system, to which the gas production fields Pannonia and the Northern Adriatic, the Underground Gas Storage Okoli, (hereinafter: Okoli UGS)³⁵ distribution systems and 19 active end consumers are directly connected, is constantly monitored and managed by the National Dispatching Centre in Zagreb, equipped with a modern Supervisory Control and Data Acquisition System (SCADA).

The total length of the gas transmission system in the Republic of Croatia at the end of 2017 was 2,693 km, of which:

- 952 km of the pipeline operating pressure of 75 bar, with a diameter from DN 200 to DN 800 mm and
- 1,741 kilometers of gas pipelines of a maximum operating pressure of 50 bar, with a diameter ranging from DN 80 to 500 mm.

Gas can be received into the transmission system via 9 connectors at entry measuring stations, of which six active connections serve to receive gas nodes production fields in Croatia, while the two connections are international and serve to receive gas from import routes, while one is for withdrawing gas from the Okoli UGS.

Further below is given an overview of the transmission network with specified input points in the system and gas pipelines depending on diameter and nominal pressure, gas hubs and measuring-reduction stations. Infrastructure, which is under construction, is expected to be operational by 2021 and refers to the LNG terminal on the island of Krk with a 100 gas pipeline connection and a compressor station in Velika Ludina near the PSP Okoli.

Gas from the transmission system is delivered to 195 connection points: 157 of them are exit measuring-reducing stations on which 36 distribution systems are connected and 19 end consumers connected to the transmission system, and one connection point serves to inject gas into the Okoli UGS.

Figure 1 below shows the structural representation of the Croatian transmission system including all entries and exits.

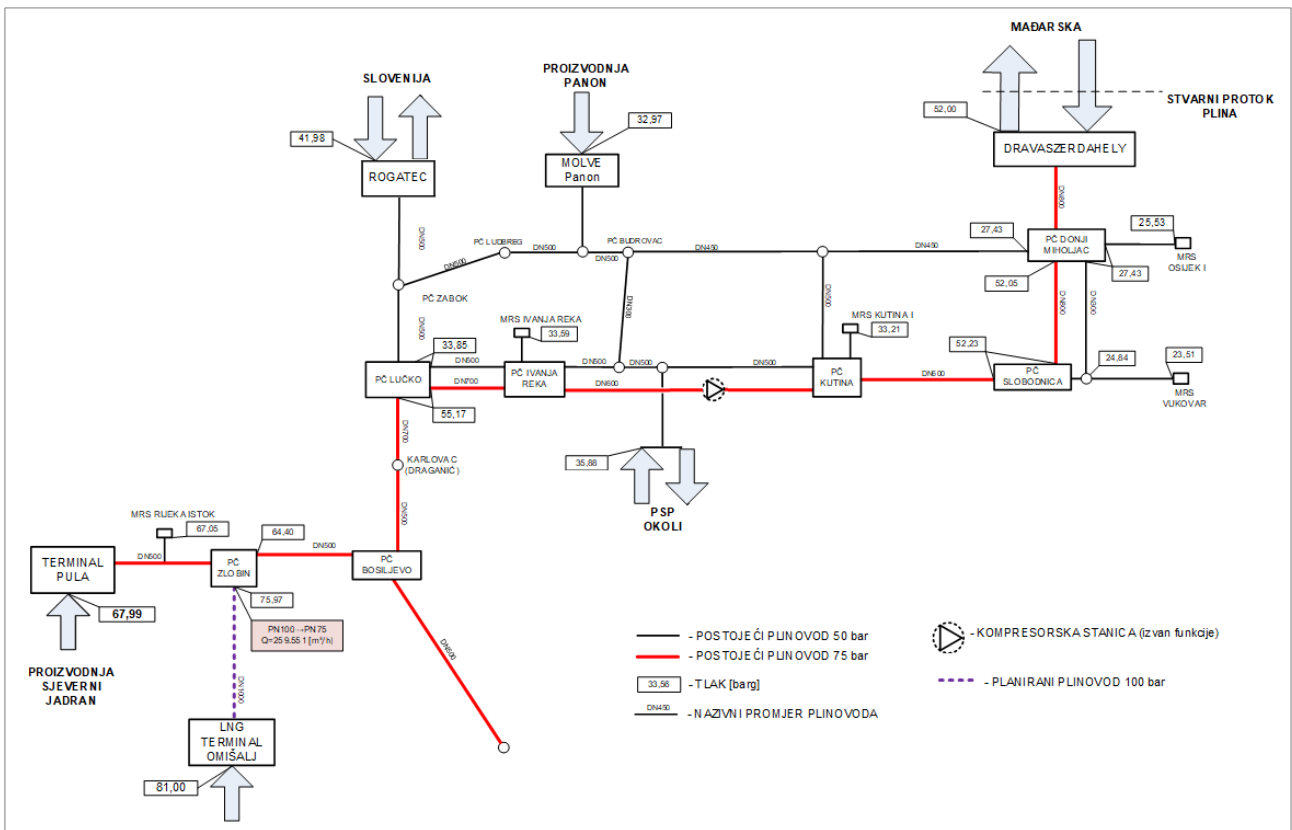


Figure 1 Structural representation of the Croatian transmission system

Source: Plinacro Ltd.

Figure 2 represents Croatian transmission and distribution system in 2017 including existing entries and exits.

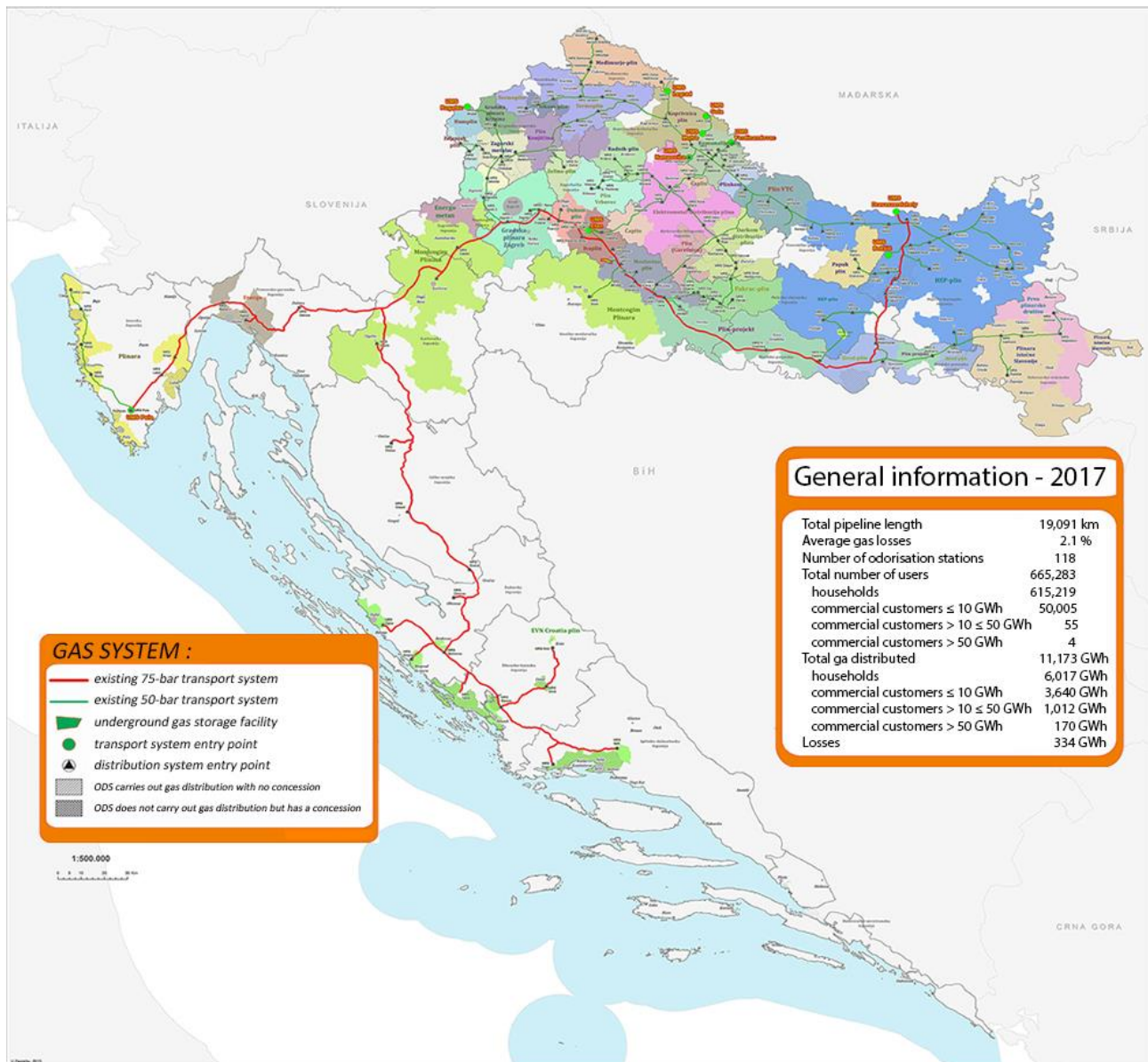


Figure 2 Croatian transmission and distribution system in 2017 including existing entries and exits

Source: Plinacro Ltd

In addition to the above gas pipelines and the MRS, the transmission system consists of the following:

- gas nodes,
- launching/receiving scraper stations,
- line-break stations,
- cathodic protection,
- system for remote reading of fiscal measuring: 156 communication devices with associated computer and programme equipment,
- system for remote supervision, control, and data acquisition (SCADA),
- communication system (optic, radio),
- system for computer simulation (SIMONE),

- system for managing the capacities of the transmission system (reservations of transmission capacities, nominations, distribution of measured quantities, reporting).

The gas transmission service in 2017 was used by 49 gas suppliers associated with 13 balance groups².

Table 2 Basic data on the transmission system of the Republic of Croatia

Number of transmission system operators	1
Total length of the gas transmission system pipeline	2,693 km
Interconnections / transmission system operator	Rogatec / Plinovodi Ltd (SLO) Drávaszerdahely / FGSZ Ltd. (HU)
Underground gas storage / gas storage system operator:	Okoli / Podzemno skladište plina Ltd.
Entry from domestic production / Gas producer	UMS CPS Molve / INA, Plc UMS Etan, Ivanić Grad / INA, Plc UMS PS Ferdinandovac / INA, Plc UMS PS Gola / INA, Plc UMS PS Hampovica / INA, Plc UMS Terminal Pula / INAGIP Ltd.
Number of connections to the end consumers connected to the transmission system:	36
Number of connections for distribution systems:	158
Number of distribution system operators:	35
Commodity transmitted (Historical Data) (IMRS +UGS)	(in GWh) 2017: 32.340 2016: 27.648 2015: 26.371 2014: 25.240 2013: 28.715 2012: 31.259 2011: 31.679 2010: 32.425 2009: 30.147

² Number of balance groups at December 31st 2017.

3.3. Transmission system of the Republic of Croatia

According to the data of the gas transmission system operator PLINACRO Ltd., gas transmission in 2017. amounted 32.3 TWh, thus the transmissioned quantities of gas have increased for the third year in a row, as a result of temperature conditions, i.e. the relatively fierce winter at the beginning of the calendar year.

The total technical capacity of all entry points to the transmission system as of December 31st, 2017 was 11.216.850 kWh/h, while the largest amount of transported gas per day for final consumption³ was 157.805.080 kWh/day.

According to data provided by PLINACRO Ltd., technical capacity for the largest entry points into the transmission system were:

- Dravaszerdahely – 2.880.000 kWh/h,
- Pula Terminal– 2.592.996 kWh/h,
- UGS Okoli – 2.273.923 kWh/h i
- Rogatec – 2.016.000 kWh/h.

The maximum utilized hourly capacity at all entry points in the transmission system in 2017 was 6.792.617 kWh/h, with the maximum utilized capacity in the year, at the level of individual inputs in the transmission system, realized at the entry into the UGS Okoli amounting to 2.085.529 kWh/h.

From the point of security of supply over the past years there was no difficulty in the operation of the gas transmission system and no contractual or physical congestion was noted. The transmission system's capacities enabled it to fully satisfy the needs of the gas market.

Figure 3 below shows transported gas quantities in Croatia in period from 2007-2017.

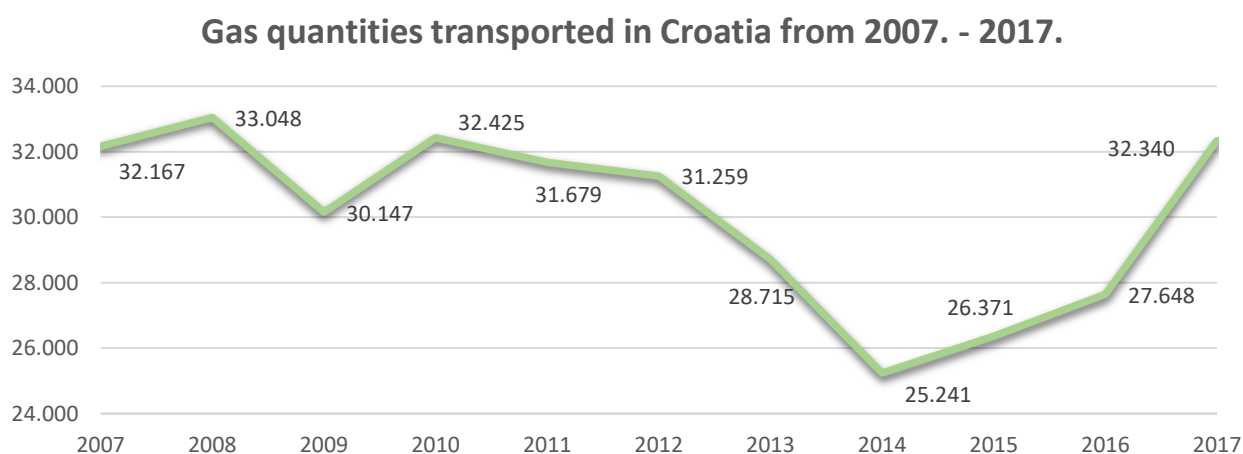


Figure 3 Transported gas quantities in Croatia from 2007-2017

Source: Plinacro, annual report for 2017.

Looking at the past 10 years, gas consumption in households has gradually decreased, associated with temperature fluctuations in the winter months. In 2014, record-breaking positive temperatures were recorded in January across the country, reflecting a much lower gas consumption for the year. On the other hand, the beginning of 2017 was marked by freezing weather, which in turn brought about the lowest air temperatures recorded which led to a record increase in gas consumption.

In 2017, the total amount of natural gas at the entry to the transmission system was 32.348 million kWh. Of this, 11.193 million kWh of natural gas, or 34.6% of the total transmitted volume, came from domestic production, 17.956 million kWh of natural gas was imported into the transmission system, or 55.5% of the total transmitted volume, and 3.199 million kWh of natural gas, or 9.9% of total transmitted quantity, came from the UGS Okoli to the transmission system.

In 2017, the total amount of natural gas at the exit from the transmission system was 32.340 million kWh. Of this amount, 16.955 million kWh of natural gas, or 52.4% of the total quantity was delivered to end customers directly connected to the transmission system, with deliveries to customers on the distribution system amounting to 11.173 million kWh of natural gas, or 34.5% of the total quantity, and a further 4.212 million kWh of natural gas was delivered to UGS Okoli.

In 2017, gas transmission at the Croatian exits has not yet been recorded, as the existing infrastructure does not allow gas delivery at interconnections, therefore total entries to the transmission system were delivered to customers within the Croatia.

Given that domestic gas production has been reduced, it was compensated by imports and storage at UGS Okoli for use during peak periods of consumption.

Regulation (EU) No 994/2010, concerning measures to safeguard security of gas supply prescribes the obligation of the transmission system operator to permanently provide a two-way capacity at all cross-border interconnections between EU Member States and to adjust the functioning of the transmission system in order to fully or partially enable the physical flow of gas in both directions.

As mentioned above and shown in Figure 1, the gas transmission system of the Republic of Croatia is connected to the gas transmission system of the Republic of Slovenia by a one-way interconnection gas pipeline via UMS Rogatec and the gas transmission system of the Republic of Hungary by a two-way interconnection gas pipeline via UMS Dravaszerdahely/Donji Miholjac.

By introducing the concept of an entry - exit system by Regulation (EU) No. 715/2009, entry and exit capacities can be contracted separately and network users can transport gas from any entry point to any exit point. The Croatian transmission system currently consists of two interconnection points enabling gas inflow (imports) into the transmission system.

Since there was no bi-directional flow in the interconnection with the Republic of Hungary, i.e. the gas flow from Croatia to Hungary has not been realized in order to improve network intra-system use of entry/exit services, a new non-standard service for the use of interruptible capacity on interconnection Croatia → Hungary was introduced and will be offered until a long-term and complete operational solution is secured which will ensure gas transmission capacity for the direction from Croatia to Hungary – with the construction of a compressor station (KS Velika Ludina) in the Republic of Croatia whose putting into service is planned for the end of 2019 .

Enabling two-way interconnections is included in the list of projects of common interest of the European Union by Commission Regulation 2018/540 of 23 November 2017, in the section pertaining to the Priority Gas Interconnection Corridor between North and South Central and South East Europe (NSI East - gas), Cluster Krk - LNG terminal with connecting and evacuation pipelines to Hungary and beyond (project number 6.5) and Cluster Croatia-Slovenia-Austria project in Rogatec (project number 6.26).

Realization of the LNG project, jointly implemented by Plinacro Ltd and LNG Croatia will have a significant impact on the future development of the Croatian and European transmission system, given that the project, apart from the construction of the LNG terminal on the island of Krk includes the construction of new gas pipelines for dispatch gas from the LNG terminal and the development of interconnections.

With the construction of the LNG terminal on the island of Krk and supplying pipelines, a new gas supply direction will be provided both for the Croatian market and for the markets of other countries of Central and South-Eastern Europe, thus making the Republic of Croatia an important gas centre for increasing security of supply and diversification of the pipeline gas supply, in the European Union.

The Open Season procedure is currently undergoing the process of contracting the transmission system capacity along the entire line from the LNG terminal to the Hungarian market, which includes the Hungarian operator FGSZ.

The common commercial and technical rules on the gas market related to capacity management are aligned with Commission Regulation (EU) No. 2017/459 from 16 March 2017 about establishing a network code for capacity allocation mechanisms in gas transmission systems, and repealing Regulation (EU) No. 984/2013 (hereinafter: Regulation 2017/459), and the transmission system operator shall provide interconnection capacity reservation through the PRISMA information systems platform for the Rogatec interconnection, i.e. the RBP for the Dravaszerdahely interconnection.

The balancing of the transmission system is in line with the provisions of Commission Regulation (EU) No. 312/2014 on the establishment of a network code for gas balancing of transmission networks.

3.4. Scope of Regulation 2017/460 regarding transmission and non-transmission services

3.4.1. Transmission tariffs

According to Article 4 of the Regulation 2017/460 a given service is considered a transmission service where both of the following criteria are met:

- a) The costs of such services are caused by the cost drivers of both technical or forecasted contracted capacities and distance;
- b) The costs of such services are related to the investment in and operation of the infrastructure which is part of the regulated asset base for the provision of transmission services.

If any of the criteria set in points (a) and (b) are not complied with, a given service may be attributed to either transmission or non-transmission services, depending on the decision of the regulatory authority in the consultation procedure or a decision from Articles 26 and 27.

Based on the defined conditions for transmission services, the transmission system operator in the Republic of Croatia PLINACRO Ltd provides transmission services - the gas transmission and for the same service applies the fee for using the transmission system in accordance with the Methodology for determining the amount of tariff items for gas transmission.

In addition to the above mentioned, the TSO in Croatia also provides the following services in accordance with the Gas Market Act and the Network rules for the gas transmission system:

- a) The connection service to the transmission system and increases in the connection capacity;
- b) Non-standard services.

Connection services and non-standard services that do not have an influence on the predicted contracted capacity nor are investments associated with them included in the regulated assets of the operator, are classified as other services of the transmission system operator, and their coverage and method of calculation are regulated by separate by-laws.

Given the fact that the allowed revenue of TSO is divided entirely to the application of the tariff items for capacity and the tariff items for gas quantity, there are no other services in the application that would be classified as non-transmission.

These services are not considered as transmission or non-transmission as defined by the Regulation 2017/460, so they will be listed and clarified in section 5 of the document, but will not be the subject of consultations within the Regulation 2017/460. They will be discussed in the event of possible changes to the regulation referred to in the Gas Market Act, the Network rules of the gas transmission system, or related methodologies that define and regulate those services.

3.4.2. Commodity-based transmission tariffs

A part of the transmission services revenue may also be recovered by the following commodity-based transmission tariffs pursuant to Article 4 Paragraph 3 of the Regulation 2017/460, i.e. on a flow-based charge, which is:

- levied for the purpose of covering the costs mainly driven by the commodity based gas flow,
- calculated on the basis of forecasted or historical flows, or both, and set in such a way that it is the same at all entry points and the same at all exit points,
- expressed in monetary terms or in kind.

The operator of the gas transmission system PLINACRO Ltd applies the commodity-based transmission tariffs at all exits from the transmission system in Croatia, and at the interconnection exits, whereby 90% of the total allowed revenues of PLINACRO Ltd is realized by applying tariff items for capacity, and 10% by applying a flow-based charge.

Given the fact that the Regulation 2017/460 emphasizes the transparency and simplicity of the calculation and the future projections of the movement of reference prices, according to HERA's opinion the abolishment of the commodity-based tariff contributes to the achievement of these two goals, since users are not able to predict the quantity of gas flow that all system users will realize, while on the other hand the results of annual auctions and contracting over a longer period of time are available through the platforms for capacity booking.

In addition, Regulation 2017/460 in Article 7 defines that in the choice of methodology, it should be ensured that significant volume risk linked specifically to transport through an entry-exit system is not assigned to final customers within that entry-exit system.

By abolishing the commodity based tariff, the possibility of under-recovery from gas flow charge and passing through these unrealised revenues to capacity transmission tariffs in forthcoming tariff period is eliminated.

This risk is particularly present in the case of the application of the fixed reference price for the capacities offered in the Open Season procedure (will be explained further in the Document), given that in the case of the usage of the fixed price approach and the commodity fee, the Regulation 2017/460 in Article 19, paragraph 5 and Article 20, foresees that revenue from the realized flow is adjusted only in such a way as to be reflected on transmission tariffs, which would in this case be floating tariffs for users who do not use capacity within the Open Season procedure.

3.4.3. Information about transmission system operator's allowed revenue

According to the Methodology for the determination of the amount of tariff items for gas transmission, the planned revenue of the transmission system operator consists of:

- planned operating costs,
- depreciation
- return on regulated assets

The amount thus obtained is further reduced for planned revenues from connection fees and increased capacities, planned revenues from non-standard services and other planned operating revenues, which are not related to the core business of the transmission system operator.

Smoothed allowed revenue, which determines the amounts of tariff items for gas transmission, is used to mitigate large oscillations in allowed revenues and the resulting amounts of tariff items.

Smoothed allowed revenues are calculated in such a way that the net current value (NPV) of the smoothed allowed revenues for the years of the regulation period is equal to the net present value of planned allowed revenues for the same period, where for the first year of the regulatory period smoothed allowed revenue is equal to the planned allowed revenue, while for the determination of smoothed allowed revenues in the following years, the smoothing factor is determined using an iterative procedure (α).

Furthermore, in 2018 in accordance with the Methodology for determining the amount of tariff items for gas transmission, HERA conducted an analysis of the economic efficiency of the regulated assets of the PLINACRO transmission system, using as the key parameter the utilization of the transmission system capacity, which represents a relevant indicator of economic justification of investments in fixed assets, on the basis of which depreciation and return on regulated assets are calculated-which are the elements for the calculation of allowed revenue.

Consequently, the value of the justified regulated assets is calculated as a share in the total value of the regulated assets, by applying a linear function according to which the justified value of the regulated assets changes depending on the capacity utilization of the transmission system.

As an indicator of the capacity utilization of the transmission system, the utilization of the capacity of all the exits from the transmission system was used, which is calculated by using the realized elements of maximum capacity utilization, contracted capacity and technical capacity of exits from the transmission system in previous years, and then the planned utilization of capacities of all exits from the transmission system for following years projected according to the forecasted contracted capacities and technical capacities of all exits from the transmission system.

Planned indicative smoothed allowed revenues of the transmission system operator generated from the indicative tariff item for capacity and commodity based tariff items, for the years 2019-2026 are shown in Table 3.

Table 3 Planned indicative smoothed allowed revenues of the transmission system operator which is generated from the indicative tariff for capacity and quantity of gas for the years 2019 - 2026

in 000 HRK	2019	2020	2021	2022	2023	2024	2025	2026
$DP_{\alpha t}^P$ – indicative smoothed allowed revenue in the regulatory year t (HRK)	386.294	393.847	417.440	405.049	397.212	389.526	381.989	374.598
DP_{KAP} – indicative total allowed revenue based on the tariff item for capacity (HRK)	347.665	354.462	417.440	405.049	397.212	389.526	381.989	374.598
DP_{KOL} – indicative total DP based on commodity based tariff items (HRK)	38.629	39.385	0	0	0	0	0	0

3.5. Description of the proposed reference price methodology for transmission services

3.5.1. Elements of the proposed reference price

The Regulation 2017/460 defines the reference price as a price for a capacity product for firm capacity with a duration of one year, which is applicable at entry and exit points and which is used to set capacity-based transmission tariffs.

Reference price methodology determines the manner in which the transmission system operator's allowed revenue is allocated to entry-exit points of the system. The amount of the tariff item for the contracted firm capacity on an annual basis for entry and exit points represents the reference price.

Based on the simulations carried out, in accordance with the elements provided by the Regulation 2017/460, HERA proposes to maintain the existing Postage stamp methodology for determining the reference price for gas transmission which, because of specificity and complexity of the Republic of Croatia transmission system, does not take into account distance between entry-exit points when determining the level of transmission tariffs.

All elements for the calculation of the reference price will be in use from January 1, 2021.

The reference price shall be published by HERA's decision on the amount of tariff items for the particular type of tariff item, expressed in the official currency of the Republic of Croatia - HRK / kWh / day, expressed in four decimal places.

Interconnection points prices may also be published in the EUR currency, using an indicative exchange rate of 1 EUR = 7.5 HRK.

Table 4 shows a list of key elements used for proposed reference price methodology.

Table 4 Overview of elements of proposed reference price methodology

Elements of the methodology according to the Regulation 2017/460	Proposed Implementation
Method of regulation	(a) the maximum operator's allowed revenue with the use of floating prices (b) for capacities contracted in Open Season procedure at fixed payable price approach
Reference price methodology	Postage stamp methodology – entry-exit tariffs for homogeneous group of points based on a postage-stamp principle which is not dependent on the entry-exit distance.
Cost drivers for CAA	Forecasted contracted capacity
Transmission services	Gas transmission service
A flow-based charge	No
Non- transmission services	No
Entry / Exit split of revenue	60%-40%
Discount for storage	90% at the entrance to the transmission system; 100% on exit from the transmission system
Discount at entry points from LNG	15% at the entry to the LNG terminal
Multipliers / Seasonal Factors	Yes, the application of multipliers and seasonal factors is proposed
Reserved price for incremental capacity	The possibility of applying a fixed price along with indexation in accordance with Article 25, Art. 1 (b), only for Open Season procedure
Types of payable prices at interconnection points	Floating and fixed prices in accordance with Art. 24 and 25 of the Regulation 2017/460

3.5.2. Homogeneous group of points and system capacities

Homogeneous group of points include a group composed of one of the following types of points:

- (a) entry interconnection points,
- (b) exit interconnection points,
- (c) domestic entry points,
- (d) domestic exit points,
- (e) entry points from the gas storage,
- (f) exit points to the gas storage,

- (g) entry points from the LNG terminal,
- (h) exit points to the LNG terminal and,
- (i) entry points from production facilities.

Where points merge, it is not necessary that they serve the purpose of transmission to the same entry-exit system. For example, warehouse "A" can only be intended for the intra-system use of the network, and warehouse "B" mostly for the internal use of the network. Despite different purposes, all the exits to the gas storage can be considered a homogeneous group of points.

When considering the homogenization of the points, it is possible to carry out the homogenization of a certain group of closely located entry or exit points which, for the purpose of applying reference price methodology, are considered as one entry or exit point. Such a connection is called a cluster of points, thus creating a certain virtual point in the system.

In order to reduce the number of entry / exit combinations, clustering was used in the model for the purpose of simplifying the cost allocation assessment model and calculating the reference price in the CWD model in accordance with obligations under Articles 5 and 8 of the Regulation 2017/460.

Table 5 gives an overview of the connection points and 16 cluster points that have been created by merging the individual connection points and their technical capacities.

Table 5 Cluster and connection points overview

ID	CLUSTER NAME AND INDIVIDUAL CONNECTION POINTS	TECHNICAL CAPACITY (kWh/day)
1253	Baranja	1.778.064
882	Beli Manastir - 3 bar - Beli Manastir	
728	Mece - 3 bar - Mece	
1252	Bjelovar	3.422.760
879	Bjelovar - 3 bar - Bjelovar	
852	Nova Rača - 3 bar - Bjelovar	
803	Rovišće - 3 bar - Bjelovar	
1287	Dugo Selo	2.812.944
899	Trstenik - 3 bar - Asf. baza Trstenik	
900	Trstenik - 3 bar - Trstenik	
873	Rugvica - 3 bar - Rugvica	
719	Rugvica - 3 bar - BC Institut	
866	Dugo Selo - 3 bar - Dugo Selo	
1254	Đakovo	2.267.016
760	Đakovo - 3 bar - Đakovo	
834	Đakovo - 6 bar - Đakovo	
835	Strizivojna - 3 bar - Strizivojna	
1250	Ivanić Grad	2.178.120
891	Graberje - 1,5 bar - Graberje	
869	Ivanić III - 3 bar - Ivanić Grad	
892	Kloštar Ivanić - 2 bar - Kloštar Ivanić	
845	Novoselec - 2 bar - Križ	
1302	Konjščina	1.800.288
912	Konjščina - 25 bar - Zlatar Bistrica	
808	Konjščina - 3 bar - Konjščina	
1286	Kutina	6.783.144
838	Banova Jaruga - 3 bar - Banova Jaruga	
820	Kutina I - 3 bar - Kutina	
821	Kutina II - 3 bar - Kutina	
871	Lipovica - 3 bar - Ludina	
895	Ravnik Popovača - 5,5 bar - Popovača	
1259	Međimurje	8.834.712
827	Mihovljan - 4 bar - Mihovljan	
906	Mursko Središće - 3 bar - Mursko Središće	
1184	Nedelišće - 4 bar - Čakovec, Kuršanec, Šenkovec	
907	Nedelišće - 4 bar - Nedelišće	
1288	Nova Gradiška	4.778.544
844	Lipovljani - 4 bar - Lipovljani	
767	Nova Gradiška - 4 bar - Nova Gradiška	
889	Nova Kapela - 4 bar - Nova Kapela	
1289	Novi Marof	2.311.488
913	Novi Marof - 3 bar - Novi Marof	

757	Tuhovec - 3 bar - Tuhovec	
809	Podrute - 5 bar - Podrute	
1255	Osijek	10.890.576
782	Bizovac - 3 bar - Bizovac	
918	Osijek I - 3 bar - Osijek	
737	Osijek I - 3 bar - Sarvaš	
739	Osijek III - 3 bar - Osijek	
1256	Požega	3.689.472
786	Ferovac - 3 bar - Ferovac	
740	Požega - 3 bar - Požega	
1257	Slatina	2.000.328
940	Sladojevci - 3 bar - Sladojevci	
887	Slatina - 3 bar - Slatina	
1251	Varaždin	13.068.720
798	Cerje Tužno - 3 bar - Cerje Tužno	
800	Jalžabet - 3 bar - Jalžabet	
773	Lepoglava - 3 bar - Lepoglava	
724	Ludbreg - 3 bar - Ludbreg	
804	Varaždin I - 3 bar - Varaždin	
876	Varaždin II - 3 bar - Varaždin	
1285	Vukovar	5.289.720
816	Vukovar - 3 bar - Vukovar	
864	Vukovar - 6 bar - Borovo	
735	Negoslavci - 3 bar - Negoslavci	
1249	Zagreb	53.675.040
780	Zagreb istok - 6 bar - Zagreb	
858	Zagreb jug - 6 bar - Zagreb	
810	Zagreb zapad - 6 bar - Zagreb	

Given the above mentioned, following homogeneous group of transmission system entry-exit points for which separate tariffs will be determined are implemented to transmission system in Croatia, as listed in Table 6.

Table 6 Homogeneous group of transmission system points in Croatia

Group of entry/exit points	Tariff items
Entry groups in the transmission system	
Entry at interconnections	$T_{U,IN}$
Entry from production	$T_{U,PR}$
Entry from gas storage	$T_{U,SK}$
Entries from LNG terminal	$T_{U,UPP}$
Exit groups from transmission system	
Exits at interconnections	$T_{I,IN}$
Exits in Croatia	$T_{I,HR}$

Furthermore, the forecasted technical capacity of the above mentioned homogeneous groups of entry and exit points is explained later in the document, under following related assumptions:

- exits in Croatia, consisting of 16 cluster points and 158 individual exit points, retain the same capacity over the entire period which is equal to 413,737,056 kWh / day,
- exit from the storage facilities retain capacities at the same level as in the current period, at a level of 40,930,560 kWh / day;
- in 2019, the construction of the compressor station "Compressor Station 1" (KS1) in Velika Ludina will be completed, resulting in an increase of capacities on the interconnection with Hungary. Construction of KS1 will enable gas transmission in the direction of Hungary with the existing 75-bar system with an annual capacity of 2.63 Bcm of gas per year. The technical features of the KS1 compressor station are capacity 201,000 m³ / h, power 4,5 MW, 2 working and 1 spare compressor unit;
- in 2021, the LNG terminal is expected to begin to work, which will provide a total capacity of 52.992.000 kWh / day on interconnection;
- the gradual reduction of entry capacities from domestic production due to the exhaustion of existing production fields.

Technical capacity is not included as an input parameter when calculating indicative gas transmission tariffs, since the Regulation 2017/460 stipulates forecasted contracted capacities as a justified input parameter for determining the reference price.

Technical capacities at the entry and exit points of the transmission system of the Republic of Croatia are shown in Table 7.

Table 7 Technical capacities at the entry and exit points of the system

in kWh/day	2021	2022	2023	2024	2025	2026
TEHNICAL CAPACITY OF ALL EXITS						
	507.659.616	507.659.616	507.659.616	507.659.616	507.659.616	507.659.616
Exits in Croatia	413.737.056	413.737.056	413.737.056	413.737.056	413.737.056	413.737.056
Exits to the storage	40.930.560	40.930.560	40.930.560	40.930.560	40.930.560	40.930.560
Interconnections	52.992.000	52.992.000	52.992.000	52.992.000	52.992.000	52.992.000
	2021	2022	2023	2024	2025	2026
TEHNICAL CAPACITY OF ALL ENTRIES						
	261.120.702	261.608.667	262.370.867	261.973.463	261.437.841	257.572.109
PSP Okoli	54.574.152	54.574.152	54.574.152	54.574.152	54.574.152	54.574.152
Entry from production	19.922.550	20.410.515	21.172.715	20.775.311	20.239.689	16.373.957
Interconnections	117.504.000	117.504.000	117.504.000	117.504.000	117.504.000	117.504.000
Entry from LNG	69.120.000	69.120.000	69.120.000	69.120.000	69.120.000	69.120.000

The expected structure of technical capacities in Croatia in 2021 can be seen Figure 4.

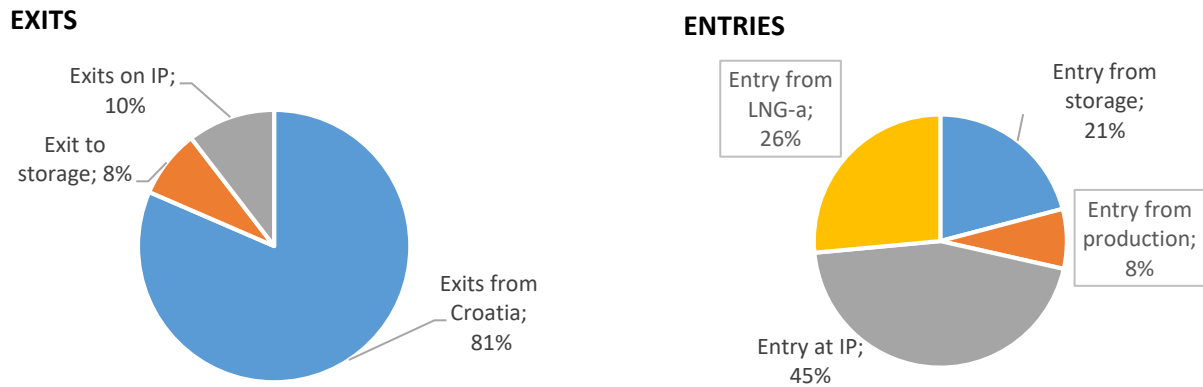


Figure 4 The expected structure of technical capacities in Croatia in 2021

Furthermore, the forecasted contracted capacity of individual homogeneous points of the entry and exit points of the transmission system for the period of 2021-2026 which are included in the calculation of indicative tariffs for the next tariff period is shown in Table 8.

The key assumption of the forecasted contracted capacity is based on the realization of the terminal for LNG according to scenario S1 of 2021:

- the forecasted contracted entry capacity of the LNG terminal in the amount of 39.452.055 kWh / day for all the years of the regulatory period (1.5 Bcm of total capacity for regasification of the LNG terminal itself);
- Interconnection entries are projected to be reduced in terms of capacity from the LNG terminal, amounting to 57,771,692 kWh / day in 2021 (3% less than 2018);
- planned exits at interconnections relates to the part of the capacity from the LNG terminal of 1 Bcm or 26.301.370 kWh / day;
- the planned level of entry capacity from the storage is planned at the same levels as in the current regulatory period of 52.902.040 kWh / day;
- exits in Croatia in 2021 are expected in the amount of 90,844,927 kWh / day, with a 5% increase over the projections for 2019, or 8% compared to 2018, and following the expectation of further growth trend of gas consumption by domestic users;
- reducing the capacity of entry from domestic production due to the exhaustion of existing production fields, which is expected in 2026 at a level of 16,373,957 kWh / day.

Table 8 Forecasted contracted capacity at the entry and exits points of the transmission system for the period 2021 - 2026

in kWh/day	2021	2022	2023	2024	2025	2026
PREDICTED CONTRACTED CAPACITY OF ALL EXITS						
	117.146.297	118.061.184	118.298.377	118.806.648	118.569.455	118.671.109
Exits in Croatia	90.844.927	91.759.814	91.997.007	92.505.278	92.268.085	92.369.739
Interconnections	26.301.370	26.301.370	26.301.370	26.301.370	26.301.370	26.301.370
PREDICTED CONTRACTED CAPACITY OF ALL ENTRIES						
	170.048.337	170.963.224	171.200.417	171.708.688	171.471.495	171.573.149
Entry from gas storage	52.902.040	52.902.040	52.902.040	52.902.040	52.902.040	52.902.040
Entry from production	19.922.550	20.410.515	21.172.715	20.775.311	20.239.689	16.373.957
Entries at interconnections	57.771.692	58.198.614	57.673.607	58.579.282	58.877.710	62.845.097
Entry from LNG terminal	39.452.055	39.452.055	39.452.055	39.452.055	39.452.055	39.452.055

3.5.3. Description of reference price methodology for transmission services

The use of postage stamp methodology is suggested for the calculation and application of the reference price for transmission services for homogeneous group of points (Table 7) in order to apply the same reference price for all points in the homogeneous group of entry or exit points.

The allocation of allowed revenue and the determination of tariff items is based on an entry-exit point model, where the same amount of tariff items for gas transmission are applied for the individual entry and exit measuring points of the same group of homogeneous points, no matter what the length of the transmission route is principle of the postage stamp.

The key determinants of the proposed methodology are as follows:

- transparency in application;
- simplicity of the model by using less input parameters - allowed revenue of the operator, ratio of allowed revenue allocation on entry and exit points, and expected contracted capacities;
- customization for users from the same homogeneous group;
- allowing users to get the same calculation of current and future reference prices tariff periods;
- more precise projections of future tariff developments given the fact that the methodology does not take the distance between entry and exit as a key factor which has an influence on the transmission costs, and consequently results in an extraordinary complexity and the calculation of the requirements for monitoring of new operators' investments that change the length of the transport network while every new supply line or exit requires a re-calculation of tariffs for all points of the transmission system;
- stimulation for investment in the energy sector in order to clear regulatory frameworks and known tariffs for the next 5 years;

- reducing of energy poverty and encouraging ecological progress of economically less developed and more distant regions of Croatia with regards to the entry points in the transmission system;
- protection for customers of gas and avoidance of price discrimination for users of systems living in more distant regions of Croatia with regards to the entry points in the transmission system;
- the postage stamp principle ensures risk avoidance because of the significant quantity risks associated with transmission through the entry-exit system is not transferred to the final customers in the entry-exit system;
- investments in the transmission system are consequently borne equally by all system users, regardless of their location, but equally all system users have proportional benefits from reduction of transmission costs due to economies of scale and higher capacity levels.

In the entry-exit transmission system, which was introduced by the implementation of the third energy package in 2009, transmission costs are no longer tied to the length of the specific route, given the fact that there are various combinations of supply routes available, separate entry and exit capacities are provided and users can obtain / deliver gas via any entry-exit point. Based on this organized system, the transmission system operator has the ability to efficiently manage the transmission system (in regards to the point-to-point transmission system).

3.5.4. Allocation of revenue from entry and exit tariffs

The Regulation 2017/460 in Article 8 paragraph, 1 stipulates that when applying the CWD methodology, the applied ratio of revenues collected from all entries and revenue from all exits is 50:50, but such a ratio is not prescribed as an obligation for the final proposed methodology.

Taking into account that the chosen methodology for determining transmission tariffs has as one of its objectives non-discrimination and prevention of unjustified subsidies between different system users, HERA considers it justified to change the current allocation ratio of 70:30 and to propose a new ratio of 60:40, resulting in tariff-level changes for all homogeneous group of points.

Such revenue allocation, the proposal to abolish gas tariffs, and the abolition of discounts on exits in the inter-system use of the network, significantly reduces the risk of cross-subsidization by other system users.

As mentioned above, this leads to an increase in part of the level of tariffs for the internal use of the network, while on the other hand the tariffs on interconnection points are reduced as a result of a significant increase in the forecasted contracted capacities, which is further described in Chapter 4 of the Indicative reference price.

In the forthcoming tariff period, it is expected that the inter-system use of the network will be facilitated by building new entry and exit infrastructures and system points on which it is possible to contract new capacities, therefore with such a shared entry / exit ratio the system costs can be more appropriately and proportionally distributed.

Structure of total operator revenue and revenue allocation from entry and exit tariffs for the period 2021-2026 is shown in Table 9.

Table 9 Structure of forecasted total operator revenue and revenue allocation from entry and exit tariffs for the period 2021 - 2026

2nd regulatory period (2017 - 2021)			3rd regulatory period (2022 - 2026)					
in 000 HRK	2019	2020	Period covered by final consultation					
			2021	2022	2023	2024	2025	2026
Total allowed revenue	386.294	393.847	417.440	405.049	397.212	389.526	381.989	374.598
Allowed revenue capacity	347.664	354.462	417.440	405.049	397.212	389.526	381.989	374.598
Allowed revenue quantities	38.629	39.385	0	0	0	0	0	0
Part of revenues from entries	70%	70%	60%	60%	60%	60%	60%	60%
Part of revenues from exits	30%	30%	40%	40%	40%	40%	40%	40%
Entry revenue	243.365	248.123	250.464	243.030	238.327	233.716	229.193	224.759
Exit revenue	104.299	106.339	166.976	162.020	158.885	155.810	152.796	149.839

**Indicative revenue amounts*

For 2021, the total allowed revenues of the transmission system operator are estimated at the level of 417,440,147 HRK, or 6% more than in 2020, primarily due to the increase in capital expenditures (CAPEX), ie the inclusion of the remaining infrastructure required for gas transportation from the LNG terminal.

In the following years 2022-2026 there is a gradual decline in allowed revenues because no significant investments are expected in the transmission system, and the reduction is a result of a regular reduction of the operator's assets through the application of a gradual decrease in regulated assets (depreciation effect).

Allowed revenues are in the total amount related to the revenues generated from the capacity, since the proposed methodology does not foresee the application of the amount fee.

The share of revenues expected to be realized from all entries in the system for year 2021 amounts to HRK 250,464,000 (60%), while exits are expected to generate revenues in the amount of HRK 166,976,000 (40%).

3.5.5. Capacity and commodity ratio

Pursuant to Article 4, paragraph 3 of the Regulation 2017/460, HERA proposes that total allowed revenues from the operator are exclusively realized from capacity products. Consequently, the ratio of capacity and revenue related to the commodity is proposed **at 100%: 0%**, and according to the reasons given in part 3.4.2. Transmission tariffs based on quantity.

3.6. Implementation of fixed payable price approach

Currently, Croatian gas transmission system is regulated based on the total allowed revenue of the transmission system operator approach, without applying the maximum price cap limit.

The Regulation 2017/460, in Articles 24 and 25 defines conditions for offering a fixed payable price approach.

Given the fact that one of the conditions under Article 24 of the Regulation 2017/460 includes the provision that the project is included in the European Union list of projects of common interest (PCI list), HERA proposes implementation of a fixed payable price approach as a form of incentive mechanism for contracting long-term capacities during the Open Season procedure.

While considering the possibility of implementing fixed prices in the transmission system under the existing regulatory framework based on allowed revenues, among others, the following significant impact of such approach on the transmission system were taken into account:

- infrastructure related to gas transmission from the LNG terminal was included on the 3rd list of Projects of Common Interest in the groups of projects under category *6.5 Cluster Krk LNG Terminal with connecting and evacuation pipelines towards Hungary and beyond*, as a fundamental precondition for offering a fixed payable price approach;
- a pre-known and fixed price serves as an incentive mechanism to interested users during the Open Season procedure for submitting binding offers and contracting long-term capacities under well-known and transparent conditions;
- reducing the risk of long-term growth of transmission tariffs due to the potential fall in the use of the transmission system under the influence of new energy strategies in the EU and the Republic of Croatia, which in the next 20 years can affect the importance of gas in the energy mix (impacts currently not predictable);
- reducing the risk of long-term growth of transmission tariffs due to significant investments in transmission infrastructure over a longer period, which cannot be predicted at this time;
- security of revenues for the transmission system operator coming from long-term capacity bookings;
- efficient cash flow management for both the transmission system operator and the customer;
- risk of monetary policy deviation in the long run is foreseen under Article 24 or the Regulation 2017/460 by introducing the indexation with a chosen price index.

The project of constructing pipelines and connected infrastructure enabling the re-gasification of LNG, is a project aimed at assuring security of supply to Croatia, Central and Southeastern Europe, and therefore co-financed by the European Union as a project of common interest of the European Commission (PCI project), thus achieving a key prerequisite for considering the application of fixed prices.

3.6.1. Conditions for offering fixed payable price in the Open Season procedure

Regulation 2017/460 prescribes that if at the same auction or within the same alternative distribution mechanism, offers differ between extended and existing capacity, a fixed price approach may be offered if one of the following conditions is met:

1. The alternative distribution mechanism referred to in Article 30 of Commission Regulation (EU) 2017/459 is used;

2. Project is listed on the European Union list of projects of common interest (PCI).

Plinacro Ltd. started the Open Season procedure in cooperation with FGSZ - Hungarian Gas Transmission System Operator, as an operator of the transmission system in Hungary, for an extended interconnection capacity with Hungary before the entry into force of the Regulation (EU) 459/2017. HERA, in accordance with Article 31, adopted the decision on Approval of the Proposal of the Rules for the Distribution of the Capacity of the transmission system at the Dravaszerdahely Interconnection Point, enabling the implementation of the binding phase of Open Season without the application of Articles 26 to 30 of the Commission Regulation 2017/459.

Following these possibilities, it is proposed to implement the fixed price in the methodology, **solely for the long-term booking of capacities for 20 years** at the interconnection point Dravaszerdahely (exit HR -> entry HU), which are contracted within the Open Season process where Plinacro Ltd. offers its constant capacities at the entrance to the transmission system from the LNG terminal (entry Omišalj), while at the interconnection point Donji Miholjac / Drávaszerdahely in the direction of Croatia towards Hungary together with FGSZ offers firm capacity (Omišalj entrance and the existing interconnection point Drávaszerdahely together).

The period for which the fixed price application is foreseen is from 2021 to 2040

In order to apply the fixed reference price in accordance with the indicative amounts stated in this document, the following total forecasted contractual capacity should be achieved - gas transmission of EUR 1.50 Bcm /year, with a equivalent booked capacity at the entry from the **LNG terminal of 171.233 m3 / h (1.644 MWh / h @NCV) and at the exit from interconnection of 114.155 m3 / h (1,096 MWh / h @NCV).**

For the decision on the final amounts of tariff items, and in the year preceding the commissioning of the LNG terminal, HERA will apply the actual level of booked capacities, which in the case of a larger or smaller realized booked capacity will be reflected in the reduction or increase of the applicable reserve fixed price, according to the chosen methodology.

3.6.2. Calculation of the fixed payable price

Fixed payable price approach according to the Regulation 2017/460 is applied using the following formula:

$$P_{\text{fix}} = (P_{R,y} * \text{IND}) + \text{RP} + \text{AP}$$

Where:

P_{fix} - is the fixed payable price;

$P_{R,y}$ - is the applicable reserve price for a yearly standard capacity product which is published at the time when the product is auctioned;

IND - is the ratio between the chosen index at the time of use and the same index at the time the product was auctioned;

RP - is the risk premium reflecting the benefits of certainty regarding the level of transmission tariff, where such a premium shall be no less than 0;

AP - is the auction premium, if any.

The initial fixed price level at the interconnection point Dravaserdahely (exit HR -> entry HU) for the capacities associated with the LNG terminal is directly dependent on the floating price determined for that homogeneous entry or exit point in 2021, based on the forecasted contracted capacity, by the total allowed operator's income, the level of proposed allowances and the proposed methodology.

Following the above mentioned calculation of the initial fixed price level, in order for all users to book capacities in the Open Season on equal terms, the fixed price application is proposed for all users who booked capacities according to the above conditions.

The fixed tariff is fixed for the following homogeneous points:

(i) tariffs for entries from LNG terminal;

(ii) tariffs for exit at interconnection.

The calculation and the indicative fixed tariffs for the entry from the LNG terminal and at the Dravaserdahely interconnection point is given below in the document titled "Indicative reference prices" for the period 2021-2040.

3.6.2.1. Risk premium

Since the LNG project and the project for the expansion of transmission capacities are defined as projects of common interest of the European Commission (PCI project), for which there is approved co-financing within the Connecting Europe Facility (CEF) - ENERGY, there are no suggestions for the implementation of a risk premium for capacity bookings.

However, in the case that one or more users who have booked the transmission system capacity within the Open Season procedure on a long-term basis, and accordingly acquire the right to a fixed reference price in accordance with the amounts set out in Tables 15 and 16, perform the activities of commercial gas substitution (swap) which significantly alters the level of contracted capacities at the entry and / or exits from the transmission system of the Republic of Croatia applied in the calculation of the fixed reference price for the remaining years of the contracted capacity in the Open Season procedure, the calculation of the fixed reference price with the inclusion of a risk premium reflecting the aforementioned influence of commercial gas substitution will be applied, and in accordance with the resulting decrease in contracted capacity at entry and / or exits from the transmission system.

3.6.2.2. Indexation of fixed prices

The Regulation 2017/460 in Article 24 provides harmonization of a fixed reference price for the ratio of the value of the selected index at the time of use of the product and its value when the product is being offered at auction.

Since indexation is already being applied in the existing methodology for calculating the allowed revenue of the transmission system operator when estimating trends in operating costs in the regulatory period, it is proposed that a uniform approach be applied using the Consumer Price Index (CPI) in Croatia.

By comparing the CPI indexes for Croatia and the HICP index at the European Union level (Harmonized Index of Consumer Prices), it can be seen that the CPI, following Croatia's accession to the EU, has a steady trend akin to the HICP index, which is why the Consumer Price Index³ can be considered a relevant indicator for indexation.

In addition, the CPI index's forecasts for the next three-year period, in line with the expectations of the Ministry of Finance and the European Central Bank for the HICP index projections, are identical and amount to 1.7%.

Comparison of the CPI index and HICP index for the period 2010 - 2018 is shown in Figure 5.

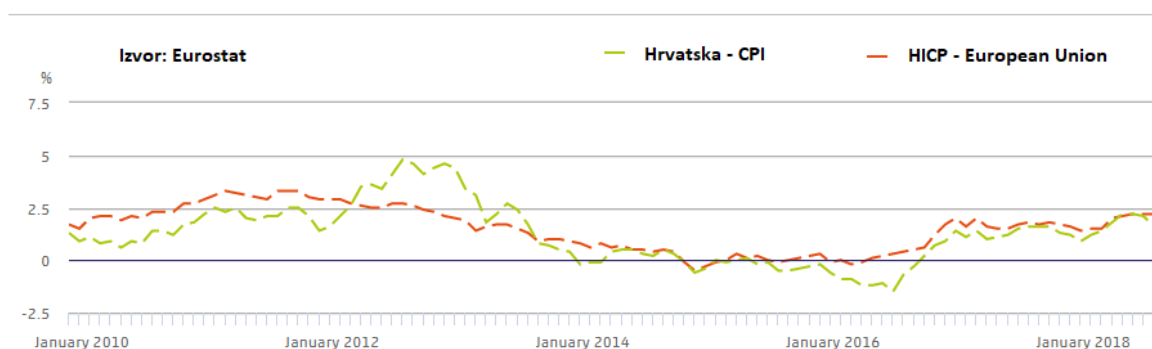


Figure 5 Comparison of CPI and HICP 2010-2018

³ The details and indeks components are available at: <https://www.dzs.hr/>

3.6.3. Capacity allocation process at interconnection points

The transmission system operator carries out procedures for negotiating capacities for all interconnections in accordance with the provisions of Regulation 2017/459.

Standard products that are subject to interconnection auctions are listed in Table 10.

Table 10 Standard products at interconnection point

Capacity	Contracting Period
Firm	Annual – capacity contracting on an annual level - annual auction for one or more gas years, within a period of 15 gas years, Quarterly – capacity contracting on a quarterly level - annual auction for four quarters of the following gas year,
Interruptible	Monthly – capacity contracting on a monthly level - monthly auction for the following month, Daily – capacity contracting on a daily level - daily auction for the following gas day, Within-day – within-day capacity contracting on an hourly level - within-day auction for the remaining hours of the current gas day.

The interconnection capacity negotiation process is described in the Interconnection Capacity Handling Instructions available on the Transmission System Operator's Web site, and capacity booking and interconnection agreements are implemented through auction platforms:

- UMS Rogatec - PRISMA
- UMS Dravaszerdahely - RBP

and the predetermined time schedule of the auction (the ENTSO-G auction calendar for 2017/2018, 2018/2019).

The calculation of the default price at interconnection points is calculated according to the following formula:

$$P_{flo} = P_{R, flo} + AP$$

Where:

P_{flo} – is the floating payable price;

$P_{R, flo}$ – is the reserve price for a standard capacity product applicable at the time when this product may be used;

AP – is the auction premium, if any.

3.7. Adjustment of transmission tariffs at entry and exit points of the system

3.7.1. Proposed discounts on storage entry and exit points

In Croatia there is only one natural gas storage facility at Okoli, called PSP Okoli, under the management of the energy company Podzemno skladište plina Ltd

The storage facility is technologically connected with the main gas pipeline of the Republic of Croatia, the point of Velika Ludina, and the technological process occurs in two cycles: (i) the cycle of gas injection and (ii) the withdrawal cycle of gas.

The technical capacity of the storage is 553 million m³ of natural gas, with the primary purpose being seasonal balancing of the gas system.

Gas storage represents a significant interest for the Republic of Croatia, primarily in order to achieve the following:

- Increase the safety and reliability of gas supply through efficient gas storage facility PSP Okoli;
- Opening of the gas market;
- Increasing the capacity of gas injection into the storage and providing spare capacities of injection;
- Construction of new storage capacities

Following all of the above, the following tariff discounts are proposed:

- 90% discount for entry into the gas transmission system from storage;
- 100% for exit from the transmission system and entry of the gas in the PSP Okoli, as it is already in use in the 2nd Regulatory Period

The PSP Okoli is not directly connected to any other transmission system, except the main Croatian gas pipeline.

3.7.2. Proposed discounts at LNG terminal entry points

In order to secure supply, it is possible to apply a discount on the appropriate capacity-based transmission rates at entry points from LNG facilities, and at entry points and exit points developed for the purpose of ending the isolation of member states in respect to their gas transmission systems.

The Regulation does not prescribe a minimum level of discount, as is the case with storage, therefore, the following discount on the tariffs for the entry to the LNG terminal is proposed:

- 15% discount on gas transmission for contracted firm capacity at the annual level for entry from the LNG terminal.

3.8. Cost allocation assessments and cost drivers

The purpose of the cost allocation assessment (CAA) in the manner provided by the Regulation 2017/460 shall indicate the degree of cross-subsidisation between intra-system and cross-system network users.

Assessment indicates the ratio between expected revenues and related capacity levels, separate for intra-system and cross-system network use, according to calculations prescribed in Article 5 of the Regulation 2017/460.

According to the same Article, cost allocation assessment relating to the capacity-based transmission tariffs, cost drivers could be driven by:

- i. technical capacity,
- ii. forecasted contracted capacity,
- iii. technical capacity and distance,
- iv. forecasted contracted capacity and distance.

Considering the possible factors mentioned above, and methodology based on the postage stamp principle, HERA proposes to apply a forecasted contracted capacity for the cost allocation assessment for calculation of reference price methodology.

Due to low-utilization of the transmission system, the average technical capacity is 36% for 2019 – 2021 and 43% for 2022 – 2026 using the scenario S1 for contracted capacity. Technical capacity, for the reason above, is not considered a relevant factor on costs, and resulted in a higher level for the cost allocation index.

The main parameters for cost allocation assessment on intra-system and cross-system network use by type of input data are submitted in the following Table 11.

Table 11 An overview of factors that affect the allocation of costs for CAA calculation

Type of entry	Intra-system capacity weighted average distance	Cross-system capacity weighted average distance	Intra-system forecasted annual contracted capacity	Cross-system forecasted annual contracted capacity
Entry from the gas storage	1.773.585.402	2.440.983.058	41.543.876	11.358.164
Entry from production	2.573.115.878	1.609.480.715	15.645.142	4.277.408
Entry at interconnection	10.136.576.647	764.395.168	55.576.322	2.195.370
Entry from LNG terminal	6.533.041.348	3.563.264.214	30.981.627	8.470.428
Total	21.016.319.275	8.378.123.155	143.746.967	26.301.370
			according to Article 5(5)(a) of the Regulation 2017/460	

Given that the transmission system in Croatia is characterized by a wide dispersion due to geographically indented territory, the methodology that would be included along with the contractual capacity and the distance as a factor influencing the costs would result in a CAA distribution index of 20,78% in 2021 and a reference price at the exit interconnection points of 2.2114 HRK / kWh / day, which is estimated at a high price level that would negatively affect the ability to book capacity on interconnections and thereby potentially endanger the realization of projections according to an S1 scenario.

Such reference price levels would undermine cross-border trade and the level of inter-institutional use of the network that is currently trying to stimulate the existing investment in transmission infrastructure.

Cost Estimates (CAA) and tariffs according to contracted capacity and distance are shown in Table 12.

Table 12 Results of Cost Estimates (CAA) and tariffs according to contracted capacities and distance for the year 2021

CONTRACTED CAPACITY AND DISTANCE (CWD)				
Capacity based allowed revenue (HRK)	325.603.315		Exit tariffs	HRK/kWh/day
Entry ratio	50%		Exit to interconnection	2,2114
Exit ratio	50%		Exit in Croatia	1,1519
Revenues from entry (HRK)	162.801.657		Entry tariffs	
Revenues from exit (HRK)	162.801.657		Entry from the gas storage	0,1057
Revenues from entry for intra-system network usage (HRK)	146.311.389		Entry from production	1,9519
Revenues from entry for cross-system network usage (HRK)	16.490.268	5(5)(c)	Entry from interconnection	1,8087
Revenues from exit for intra-system network usage (HRK)	104.639.856	5(5)(b)	Entry from LNG terminal	0,3507
Revenues from exit for cross-system network usage (HRK)	58.161.801			
Revenues – intra-system (HRK)	250.951.245			
Revenues – cross-system (HRK)	74.652.070			
Cost drivers (capacity and distance)			Cost allocation index	
Intra-system for entries	21.016.319.275			
Intra-system for exits	24.707.958.502			
Total - intra-system	45.724.277.777		for intra-system network usage	0,005488359
Cross-system for entries	8.378.123.155		for cross-system network usage	0,004455179
Cross-system for exits	8.378.123.155		CAA	20,78%
Total - cross-system	16.756.246.311			

In the case of a change in the entry / exit ratio in the CWD model of 50:50 to the ratio of the suggested 60:40 postage stamp methodology, the cost allocation index results in a value of 24.32%.

Table 13 Results of Cost Estimates (CAA) and tariffs according to contracted capacity based on postage stamp methodology for the year 2021

CONTRACTED CAPACITY (postage stamp methodology)				
Capacity based allowed revenue (HRK)	325.603.315		Exit tariffs	HRK/kWh/day
Entry share	60%		Exit to interconnection	1,1118
Exit share	40%		Exit in Croatia	1,1118
Entry revenues (HRK)	195.361.989		Entry tariffs	
Exit revenues (HRK)	130.241.326		Entry from the gas storage	0,1677
Entry revenues dedicated for Intra (HRK)	157.877.276		Entry from production	1,6767
Entry revenues dedicated for Cross	37.484.712	5(5)(c)	Entry from interconnection	1,6767
Exit revenues from Intra (HRK)	101.001.390	5(5)(b)	Entry from LNG terminal	1,4252
Exit revenues from Cross (HRK)	29.241.863			
Revenues for Intra (HRK)	258.878.666			
Revenues for Cross (HRK)	66.726.575			
Cost drivers (capacity and distance)			Cost allocation index	
Cost driver for Entry Intra	143.746.967			
Cost driver for Exit Intra	90.844.927			
Cost driver for Intra	234.591.894		for intra-system network usage	1,103527757
Cost driver for Entry Cross	26.301.370		for cross-system network usage	1,268500000
Cost driver for Exit Cross	26.301.370		CAA	13,91%
Cost driver for Cross	52.602.740			

3.9. Evaluation of the proposed reference price methodology

Evaluation of the proposed reference price methodology must be in accordance with Article 7 of the Regulation.

(a) enabling network users to reproduce the calculation of reference prices and their accurate forecast.

Amounts of tariff items for natural gas transmission are determined for each type of entry into the transmission system and exit from the transmission system for the particular year of the regulatory period. Types of tariff items for gas transmission are:

- tariff item for entry at interconnection
- tariff item for entry from production
- tariff item for entry from the gas storage system
- tariff item for entry from the LNG terminal
- tariff item for the exit at interconnection
- tariff item for the exit in Croatia

On 7 December 2018, HERA issued a Decision on the amounts of tariff items for gas transmission for Plinacro Ltd ("Official Gazette", No. 111/2018), which determines the amounts of tariff items for gas transmission for the remaining years of second regulatory period 2019 - 2021. The decision is valid from 1 January 2019.

For the regulatory period from 2019 to 2021 a tariff calculator is used based on the Methodology for determining the amount of tariff items for gas transmission. Transmission System Operator Plinacro Ltd has developed a tariff calculator for users, as a part of the SUKAP system – open to the public, and is available at the following link: <http://www.sukap.plinacro.hr>

The system allows for the modification of parameters with relation to GCV / NCV, capacity amounts, selection of individual MRS points, analysis of all tariff items, type of reservation (yearly, quarterly, monthly, daily, within-day) and capacity (firm and interruptible capacity), all with the aim of users having the opportunity of calculating applicable transmission tariffs in the current tariff period and in the following years.

The system is updated with approved tariffs for the new regulatory period, i.e. for changes within the same regulatory / tariff period.

3.9.1. Possibility for calculation of reference prices and forecasting

Network users are enabled the possibility of calculating reference prices and their accurate forecast for the intra-system network use and the cross-system network use based on the available data and the simplified model published on the website of HERA as a part of of the Final Consultation. The amount of allowed revenue and the method of calculation is described in detail in the existing legal framework, and in particular in the paragraphs in the Methodology for determining the amount of tariff items for gas transmission.

The amount of allowed revenues of the transmission system operator for 2021 will be published on the operator's website in accordance with Article 30 of the Regulation 2017/460 and will be established by HERA at the end of the current regulatory period.

3.9.2. Consideration of actual costs incurred through the provision of transmission services and degree of complexity of the network

Despite the fact that the gas market in terms of the amount of consumption and flow in Croatia is relatively small compared to the immediate environment, it is relatively complex as it has its own production on land and sea, gas storage and two interconnections with neighbouring countries through which gas is imported into Croatia.

Considering the important role of securing gas supplies in the market supply in Croatia and the European Union, Croatia is planning to build an LNG terminal on the island Krk, which will contribute to the diversification of the supply routes of South East and Central Europe, which is currently relatively dependent on Russian Federation gas imports.

In accordance with the above mentioned but also other advantages, the LNG project has the status of an EU priority gas supply insurance project for Central and South-Eastern Europe.

Based on the interest shown by the tenderer for capacity booking in the non-binding phase of the Open Season process, Plinacro Ltd started the binding phase of the Open Season procedure in cooperation with the Hungarian operator FGSZ. The actual transmission needs, i.e. the decision of which scenario will be realized (capacity, quantity and dynamics), will depend on the results of the binding phase of the Open Season process, which will be completed in January 2019.

An additional complexity in the system is derived by the number of direct exit connections of customers directly connected to the transmission system, with large nominal pressure ranges, from 1.5 bar to 31 bar, which require significant system pressure adjustments and compliance with all components of the transmission system, including adequate compressor stations.

Given the current system configuration and the absence of gas exports from Croatia, the gas which is imported to Croatia and produced in Croatia is entirely intended for the intra-system network use, and consequently there is no revenue from the transmission system operator from the cross-system network use.

Neighbouring countries with which the Republic of Croatia has established interconnections (Slovenia and Hungary) have secured access to gas directions at the gas nodes, hence they do not have the need to transport gas through Croatia.

This assumption changes in the context of a reduction in European gas reserves when it is expected that the transmission route through Croatian gas pipelines will provide additional security of supply to these countries through the possible new supply routes accessible through the future LNG terminal project.

During the past 10 years, the energy strategy of the Republic of Croatia has included significant investment in the modernization and construction of the gas transmission system, which has resulted in increased coverage of the country's gas pipeline system and enabled the use of gas in the less developed regions of Croatia, especially Lika and Dalmatia.

The framework of this system was the construction of the main Bosiljevo-Split gas pipeline, 292 km long, on which were connected 80 km of regional gas pipelines and 11 MRS. The introduction of natural gas in parts of the country that have the smallest share of GDP in Croatia and with low GDP per capita, had a dual impact.

On the one hand, in regions that were dependent on oil, fuel oil and solid fuels, access was enabled to an environmentally friendly energy source, while on the other, the goal was to stimulate economic development of these regions by ensuring a safe and reliable energy source.

The Republic of Croatia is characterized by significant spatial concentration of the economy, which is manifested in the large differences between Croatian regions. With regard to the distribution of GDP, the City of Zagreb, which accounts for most of Croatia's total GDP, achieves almost three times higher GDP than the Lika⁴ region, which is characterized by a mountainous landscape and the lowest population density.

In view of the above, in the context of consideration of the application of the cost of transmission related to the real cost of construction of the system through this area (CWD methodology), the same would result in the transmission cost, i.e. gas use, where those regions with the aforementioned degree of development could not economically bear without a further negative impact on GDP.

It would also be contrary to the Regional Development Strategy of the Republic of Croatia, which aims to contribute to the establishment of activities needed for strengthening development potential of all Croatian regions, reducing regional disparities, and strengthening and developing undeveloped parts of Croatia and all with the goal of overall growth and economic progress of the Republic Croatian.

⁴ According to the data of the Croatian Bureau of Statistics

3.10. Comparison of proposed reference price methodology and CWD methodology

If the proposed methodology for determining the reference price is not in accordance with the CWD methodology described in Article 8 of Regulation 2017/460, it would be necessary to compare those two methodologies, with reference to the reference prices that are the subject of the Final consultation.

In addition to the above, Table 14 shows a comparison of CWD methodology and selected postage stamp methodology with key input parameters and characteristics for the year 2021.

A comparison of results indicates that the application of CWD methodology resulted in higher levels of cross-subsidization (CAA 20.78% versus 13.91% according to postage stamp methodology).

Furthermore, the CWD methodology according to a 50:50 allocation gives a reference price at the exit interconnection points of 2.2114 HRK / kWh / day, which is considered too high a level and would negatively affect the ability to lease capacities at interconnections and thereby reduce the level of planned cross-system use of the network, which is currently being stimulated by the existing investment in transmission infrastructure.

Table 14 Comparison of CWD methodology and selected postage stamp methodology for the year 2021

Comparison parameters	CWD methodology	Selected postage stamp methodology
I.) Key input		
Regulation method used		Maximum allowed revenue according to building block approach
Allocation of allowed revenue to entry / exit points	YES	YES
Distance between entry and exit points of TS	YES	NO
Estimated contracted capacity	YES	YES
Commodity rate	NO	NO
Entry and exit revenue distribution ratio	50:50	60:40
II.) Result of Estimate Costs - Based on Capacities - Article 5 (1) a Regulation 2017/460		
Factor that affects the costs within the system	45.724.277.777	234.591.894
Factor influencing out-of-system costs	16.756.246.311	52.602.740
Intra-system capacity ratio	0,00549	1,10353
Cross-system capacity ratio	0,00446	1,26850
Forecasted revenue from intra-system network use	250.951.245	258.878.666
Forecasted revenue from cross-system network use	74.652.070	66.726.575
Cost allocation index	20,78%	13,91%
III.) Result of Estimate Costs - Based on Commodity - Article 5 (1) b of Regulation 2017/460	N/A	N/A
Factor that affects the costs within the system	0	0
Factor influencing out-of-system costs	0	0
Intra-system commodity ratio	0	0
Cross-system commodity ratio	0	0
Forecasted revenue from intra-system network use	0	0
Forecasted revenue from cross-system network use	0	0

Cost allocation index	0	0
IV.) Compliance with Article 7 of Regulation 2017/460		
Allow network users to independently obtain the same reference price calculation and their exact prediction	NO	YES
Takes into account the actual costs incurred by providing transmission services to the level of complexity of the transmission network	YES	YES
Ensures non-discrimination and prevent unjustifiably cross-subsidization	YES	YES
Ensures that the quantitative risk associated with transport through the inbound and outbound system is not borne by the end customers within that system	YES	YES
Ensure that the obtained reference prices do not undermine cross-border trade (CAA analysis results)	NO	YES
V.) Comparison of reference prices for 2021.	HRK/kWh/day	HRK/kWh/day
Exit reference prices		
Exits at interconnection	2,2114	1,1118
Exits in Croatia	1,1519	1,1118
Entry reference prices		
Entry from the gas storage	0,1057	0,1677
Entry from production	1,9519	1,6767
Entry at interconnection	1,8087	1,6767
Entry from LNG terminal	0,3507	1,4252

4. INDICATIVE REFERENCE PRICES ACCORDING TO PROPOSED POSTAGE STAMP METHODOLOGY

4.1. Indicative reference prices for the period 2021 – 2026

Following the adoption of this document, pursuant to the Regulation 2017/460, which proposes a methodology for determining the reference price of gas transmission services for the upcoming tariff period 2021-2026, and taking into account that in June 2018, HERA issued a Decision for determining indicative amounts of tariff items gas transmission system for the contracted firm capacity on a yearly basis for entry into the transmission system from LNG terminal and indicative amounts of tariff items for the contracted firm capacity on a yearly basis for the exit from the transmission system at the interconnection (class: 310-34/17-03/03, Reg. No: 371-01-18-66) which contains indicative tariffs for the period 2021-2040, **this document should determine new applicable indicative tariffs in accordance with the proposed and justified methodology.**

Accordingly, the indicative amounts of tariff items for gas transmission system according to scenario S1 for the contracted firm capacity on a yearly basis for the entry into the transmission system from the LNG terminal and indicative amounts of tariff items for the contracted firm capacity on a yearly basis for the exit from the transmission system at the interconnection, PLINACRO Ltd, Savska cesta 88 A, Zagreb, for the implementation of the binding phase of the Open Season process for the project of LNG terminal on island Krk, which, **in relation to the Decision on Indicative Amounts of Tariff Items for Gas Transmission ("Official Gazette", No. 56/18) proposes new indicative amounts of tariff items for gas transmission for scenario S1.**

Scenario S1 anticipates the following forecasted contracted capacities - gas transmission of 1.50 Bcm/year, with the capacity booked at the entry into the transmission system from LNG terminal of 171,233 m3/h (1,644 MWh/h @NCV) and at the exit from the transmission system at the interconnection of 114,155 m3/h (1,096 MWh/h @NCV).

The indicative amounts of the tariff items for gas transmission in Table 15 and 16 are presented in the unit HRK / kWh / day in NCV and additionally in unit EUR / MWh in GCV using an indicative exchange rate of 1 EUR = 7.5 HRK, for the purpose of comparison of tariffs with a separate HERA decision on the indicative amounts of tariff items for the reception and dispatch of liquefied natural gas.

Table 15 Indicative amounts of reference price for contracted firm capacity for the entry into the transmission system from LNG terminal for the period 2021-2040 according to scenario S1 gas transmission for PLINACRO Ltd, Savska cesta 88A, Zagreb

Capacity booked scenario	Unit	2021.	2022.	2023.	2024.	2025.	2026.	2027.	2028.	2029.	2030.
S1	HRK/kWh /day (NCV)	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252
	EUR/MWh (GCV)	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47
Capacity booked scenario	Unit	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
S1	HRK/kWh /day (NCV)	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252
	EUR/MWh (GCV)	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47

Table 16 Indicative amounts of reference price for contracted firm capacity for the exit from the transmission system at the interconnection for the period 2021-2040 according to scenario S1 gas transmission for PLINACRO Ltd, Savska cesta 88A, Zagreb

Capacity booked scenario	Unit	2021.	2022.	2023.	2024.	2025.	2026.	2027.	2028.	2029.	2030.
S1	HRK/kWh/day (NCV)	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118
	EUR/MWh (GCV)	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37
Capacity booked scenario	Unit	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
S1	HRK/kWh/day (NCV)	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118
	EUR/MWh (GCV)	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37

In order to apply the fixed reference prices in accordance with the indicative amounts set out in Tables 15 and 16, it is necessary to have the following contracted capacity from the LNG terminal in Open Season process - gas transmission of 1.50 Bcm/year, with the capacity booked **at the entry into the transmission system from LNG terminal of 171,233 m3/h (1,644 MWh / h @NCV)** and **at the exit from the transmission system at the interconnection of 114,155 m3/h (1,096 MWh/h @NCC)** using the load factor 1.

However, when determining the final reference price for the tariff items, HERA will apply the actual booked capacity, which in case of lower realized booked capacities will be reflected in the increase of the applicable fixed payable price, in accordance with the methodology chosen.

Furthermore, Table 17 shows the indicative amounts of reference prices according to the proposed postage stamp methodology for scenario S1 for the period 2021-2026.

Table 17 Indicative amounts of reference price for contracted firm capacity on yearly basis for entries and exits of transmission system for the period 2021-2040 according to scenario S1 gas transmission for PLINACRO Ltd, Savska cesta 88A, Zagreb

Tariff item name	Tariff item mark	Tariff items according to Regulation 2017/460 for tariff period 2021 - 2026						Measuring unit
		2021	2022	2023	2024	2025	2026	
Tariff item for the entry at interconnection	T _{U,IN}	1,6767	1,6142	1,5798	1,5426	1,5158	1,4851	HRK/kWh/day
Tariff item for the entry from production	T _{U,PR}	1,6767	1,6142	1,5798	1,5426	1,5158	1,4851	HRK/kWh/day
Tariff item for the entry from the gas storage system	T _{U,SK}	0,1677	0,1614	0,158	0,1543	0,1516	0,1485	HRK/kWh/day
Tariff item for the entry from the LNG terminal	T _{U,UPP}	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252	HRK/kWh/day
Tariff item for the exit at interconnection	T _{I,IN}	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118	HRK/kWh/day
Tariff item for the exit in Croatia	T _{I,HR}	1,1118	1,0704	1,0476	1,0229	1,0052	0,9849	HRK/kWh/day

4.2. Comparison of reference prices applicable in the current tariff period and reference prices for the period 2021-2026

In accordance with the proposed postage stamp methodology for determining the reference price, transmission tariffs for the tariff period 2021-2026 have changed in relation to the transmission tariffs for the same type of transmission service applicable in the current tariff period 2019 - 2020 according to the currently valid Methodology for determining the amount of tariff items for gas transmission, due to changes in the following parameters:

- the new proposed ratio of the total allowed revenue based on the tariff item for the capacity at the entries and exits of the transmission system in the amount of 60:40 compared to the current ratio in the amount of 70:30,
- the abolition of the tariff item for gas commodity (flow base charge) at the exits from the transmission system in Croatia and at the exits from the transmission system at interconnection, proposing 100% of total allowed revenues by applying tariff items for capacity, as opposed to 90% so far,
- the new proposed safety coefficient for entries from production k_{PR} 1.00 compared to the current coefficient k_{PR} 0.90, i.e. the abolition of the discount for entries from production,
- the new proposed safety coefficient for entry into the transmission system from LNG terminal k_{UPP} 0.85 with respect to the current coefficient k_{UPP} 0.90, i.e. the increase of the discount for entry into the transmission system from LNG terminal with 10% to 15%
- the new proposed security coefficient for the exit in Croatia k_{HR} 1.00 compared to the current coefficient k_{HR} 0.15, i.e. the abolition of the discount for the exit in Croatia,
- new projections of planned allowed revenues and contracted capacity of the transmission system on a yearly basis, and due to the planned start of the LNG terminal in 2021 in relation to the scenario that does not include the LNG terminal and based on which tariffs for the current tariff period are set.

Due to the above mentioned changes, according to the postage stamp methodology for determining the reference price, the transmission tariffs in the period 2021 - 2026 have been changed in relation to the transmission tariffs for the same type of transmission service applicable in the current tariff period 2019 - 2020 according to current valid Methodology for determining the amount of tariff items for gas transmission, as shown in Table 18.

Table 18 Indicative amounts of reference price for contracted firm capacity on yearly basis for entries and exits of transmission system for the period 2021 - 2040 according to tariff items

Tariff item name	Tariff item mark	Reference price in the current tariff period		Reference prices according to Regulation 2017/460 for the period 2021 – 2026 (HRK/kWh/day)						% change
		2019	2020	2021	2022	2023	2024	2025	2026	2021/2020
Tariff item for the entry at interconnection	T _{U,IN}	2,0635	1,9425	1,6767	1,6142	1,5798	1,5426	1,5158	1,4851	-14%
Tariff item for the entry from production	T _{U,PR}	1,8572	1,7483	1,6767	1,6142	1,5798	1,5426	1,5158	1,4851	-4%
Tariff item for the entry from the gas storage system	T _{U,SK}	0,2064	0,1943	0,1677	0,1614	0,158	0,1543	0,1516	0,1485	-14%
Tariff item for the entry from the LNG terminal*	T _{U,UPP}	-	-	1,4252	1,4252	1,4252	1,4252	1,4252	1,4252	-
Tariff item for the exit at interconnection	T _{I,IN}	5,0941	4,2989	1,1118	1,1118	1,1118	1,1118	1,1118	1,1118	-74%
Tariff item for the exit in Croatia	T _{I,HR}	0,7641	0,6448	1,1118	1,0704	1,0476	1,0229	1,0052	0,9849	72%
Tariff item for gas quantity	T _K	0,0015	0,0015	0	0	0	0	0	0	-

* Fixed reference prices in accordance with Chapter 3.6. Implementation of fixed payable price approach

5. OTHER SERVICES OFFERED BY TRANSMISSION SYSTEM OPERATOR WHICH ARE NOT CLASSIFIED IN THE REGULATION 2017/460

The transmission system operator offers a wide range of activities and services to the network users which are not included in the operator's allowed revenue, nor are investments included in the regulated assets. These services are regulated with separated methodologies stipulated in Network rules of the transmission system and contracted separately from the standard transmission service contracts.

Fees for these services reflect the actual costs of providing such services, and the planned revenues from these services are excluded from the total amount of allowed revenues in the process of calculating the tariff for the next regulatory period, so that the costs included in the operating costs as one of the components of the allowed revenue of the operator would not come to the cross-subsidization of these services by the users of the transmission system to whom transmission tariffs are charged.

Below is a description of the calculation of the operator's allowed revenue and items of other services that are excluded from the revenue that are allocated to the transmission tariffs of the system user.

Planned operator's allowed revenue is calculated according to the formula:

$$DP_t^P = OPEX_t^P + A_t^P + PRO_t^P + PV\delta_t - (P_{PRIK_t}^P + P_{NU_t}^P + P_{OST_t}^P)$$

Where is:

- DP_t^P - planned allowed revenue in regulatory year t (HRK),
- OPEX_t^P - planned operating expenditure in regulatory year t (HRK),
- A_t^P - planned depreciation of regulated assets in regulatory year t (HRK),
- PRO_t^P - planned return from regulated assets in the regulatory year t (HRK),
- PVδ_t - part of the difference between revised allowed revenues and realized revenues in year T-1 and in the previous years of the regulatory period expressed in the regulatory year t (HRK),
- P_{PRIK_t}^P - planned revenues from the connection fee and the increase in the connection capacity in the regulatory year t (HRK),
- P_{NU_t}^P - planned revenues from non-standard services in the regulatory year t (HRK),
- P_{OST_t}^P - other planned operating income that does not relate to the core business of the transmission system operator.

5.1. Connection services to the transmission system or increase of connection capacity

The transmission system operator provides a connection service to the transmission system or increases the connection capacity according to the Methodology for determining the connection fees for the gas distribution or transmission system and increases in the connection capacity⁵.

This methodology determines the categories of connections to the gas distribution or transmission system, the complexity of the groups, the manner, elements and criteria for calculating the **connection fees** to the gas distribution or transmission system and for the increases in the connecting capacity, the procedure for requests i.e. changes in the amount of connection fee, issuance, publication and application of connection fees.

The connection fee is charged directly to the investors at whose request the service initiates, and the fee itself depends directly on the complexity of the work. The methodology defines the connection category coefficients and the required working hours for performing the work of a single complexity group for the connection to the transmission system of a particular category of connection.

The cost of preparatory – completed work for the regulatory period is determined by the formula:

$$TG = B_{rs} \times JC_{rs}$$

⁵ The methodology is published in the Official Gazette of the Republic of Croatia at: https://narodne-novine.nn.hr/clanci/sluzbeni/2018_05_48_927.html

Where is:

- TG - cost of preparatory and completed tasks for a particular group of complex work (HRK),
- B_{rs} - required number of working hours for work performed for a single complex group, where the connection to the transmission system is established according to Table 2. of Annex 2. of the Methodology (h),
- JC_{rs} - unit price of a worker's hour that performs the tasks of a particular complex group (HRK/h).

For each complexity group, the unit price of the working hour is set for the regulatory period according to the following formula:

$$JC_{rs} = PC_{rs} \times k_{kp} \times k_{sr}$$

Where is:

- JC_{rs} - unit price of a worker's hour that performs the tasks of a particular complex group (HRK/h),
- PC_{rs} - price of average working hour,
- k_{kp} - connection category coefficient for connection to the transmission system set out in Table 4. of Annex 2. of the Methodology,
- k_{sr} - coefficient of work complexity of connection to the transmission system set out in Table 5. of Annex 2. of the Methodology.

The average price of the working hour is determined and published by the HERA for each regulatory period in accordance with the provisions of the Methodology for determining the price of non-standard services for gas transmission, gas distribution, gas storage, reception and dispatch of liquefied natural gas and public gas supply service.

5.2. Non-standard services

Based on the Act on the Regulation of Energy Activities and Article 94. Paragraph 3. of the Gas Market Act HERA adopted in May 2018. the Methodology for determining the price of non-standard services for gas transmission, gas distribution, gas storage, reception and dispatch of liquefied natural gas and public gas supply service.

The transmission system operator, the distribution system operator, the gas storage system operator, the liquefied natural gas terminal operator, the public service provider and the last resort supplier are all obliged to use this methodology.

This methodology has identified services that are considered non-standard for groups of energy subjects identified as follows:

- structure of price list non-standard services of the transmission system operator, distribution system operator, gas storage system operator, liquefied natural gas terminal operator and public service provider,
- method, elements and criteria for calculating the price of non-standard services,
- method of calculating the average hourly work price,
- number of worker-hours necessary for execution of a specific non-standard service,
- publication and application of price list non-standard services.

Since the methodology for non-standard services defines the price list structure, the criteria for the calculation of the prices of non-standard services, the method of calculating the average working hour price and the number of worker-hours necessary for execution of a non-standard service, **these services are excluded from the Regulation 2017/460.**

Revenues from non-standard services represent a lower share in the total operating revenues of the transmission system operator and reflects the actual costs associated with performing a particular service in accordance with the non-standard services price list.

For the current regulatory period revenues are projected at 0.2% of total operating revenue.

Table 19 List of non-standard services of the transmission system operator

Non-standard services	
1.	Issuance of Energy approval for the facility or a part of the facility with one billing metering point and the connection capacity;
2.	Drawing up a study of extraordinary creation of technical conditions in the transmission system;
3.	Approval for the execution of works in the transmission system protective zone;
4.	Supervision for the execution of works in the transmission system protective zone;
5.	Drawing up the positions of the transmission system elements into the maps;
6.	Installation and deinstallation of a gas meter and other measuring equipment;
7.	Installation or deinstallation of the regulation, safety and other equipment;
8.	Installation or deinstallation of gas meters and other metering equipment with increased number of functions, including the module for remote reading;
9.	Dislocation of the billing metering point in case of unauthorised gas consumption;
10.	Dislocation of the gas transmission system elements;
11.	Repair of transmission system elements due to damage or misappropriation which could have been prevented by the user;
12.	Putting gas connection out of function;
13.	Temporary disconnection from the transmission system for carrying out planned maintenance, reconstruction or development of the connected gas system, buildings or facilities;
14.	Reading of a gas meter status on a special request of a gas supplier;
15.	Control testing of the proper operation of a gas meter and other measuring equipment on the request of the user in the authorized service with the expertise of the State Office for Metrology (DZM) or by a legal person authorized for testing gas meters;
16.	Temporary change of the exit pressure on the request of the distribution system operator or the end user connected to the transmission system;
17.	Elimination of liquid technological impurities from a device for the extraction of liquid technological impurities;
18.	Supervision of the elimination of liquid technological impurities from a device for the extraction of liquid technological impurities;
19.	Issuance of the authorisation to a legal or pshysical person for performing connections to the transmission system for a period of two years;
20.	Preparation-completion time;
21.	Registration of trade for a seller on the secondary market;
22.	Registration of trade for a customer on a secondary market;
23.	Fee for access to the application for a buyer at the secondary market who is not the transmission system user;
24.	Monthly fee for access to the application for a buyer at the secondary market who is not the transmission system user;
25.	Fee for the use of interruptible capacities with reduced possibility of interruption at Croatia-Hungary interconnection, HRK/MWh.

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