

Gasgrid Finland Oy

Periodic Consultation of Tariff Methodology

Based on Article 26 of Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonized transmission tariff structures for gas (TAR NC)

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Table of abbreviations

BC	Balticconnector interconnection point
CWD	Capacity Weighted Distance
LNG	Liquified Natural Gas
LITP	Long-Term Investment Plan
NRA	National Regulatory Authority
RPM	Reference Price Methodology
TAR NC	Commission regulation (EU) 2017/460 of 16 March 2017establishing a network code on harmonised transmission tariff structures for gas ('Tariff Network Code')
TSO	Transmission System Operator
ITC	Inter-TSO Compensation
CAA	Cost Allocation Assessment

1 Summary

The periodic consultation regarding reference price methodology (RPM) organized by Gasgrid Finland is based on Article 26 of network code on harmonized transmission tariff structures for gas (TAR NC). The consultation includes the comprehensive description and calculation process of the proposed RPM (postage stamp methodology) which is compared to the capacity weighted distance methodology (CWD). Actual (2024 – 2025) and indicative (2026 – 2027) allowed revenue with actual and indicative capacity reference prices for 2024-2027, and indicative commodity tariffs and non-transmission tariffs for 2026 are part of the consultation. Also, the description of Finnish transmission system and cost allocation assessment are included to the consultation.

Gasgrid Finland emphasizes that the values used in the consultation for the upcoming years are indicative, and throughout the document indicative transmission reference prices (the price of the yearly capacity product) are shown to illustrate the impact of different reference price methodologies. These indicative tariffs are non-binding. The indicative tariffs are based on estimates of transmission system costs made in 2025 and an average annual gas consumption of 14 TWh/a in Finland. The indicative values will be revised in autumn 2025 prior to new transmission tariffs will come into force from January 2026.

The Inter-TSO-Compensation (ITC)-agreement entered into force 1st of January 2020 creating a common entry- tariff zone with Estonian and Latvian TSOs. In the common entry-tariff zone cross-border country points of the area, including Balticconnector interconnection point between Finland and Estonia, have no tariffs. Entry tariffs on external borders to the entry-tariff zone are harmonized. In this consultation, the impacts of ITC-agreement to the reference prices and the calculations are illustrated.

In Finland the tariff period is a calendar year. The current regulatory period is 2024-2027. Non-price cap regime is applied which means a regulatory regime under which the allowed revenue for Gasgrid Finland is set.

The proposed reference price methodology is a postage stamp methodology:

- The annual gas consumption estimate used in the calculations is 14 TWh/a based on the historical consumption level from past two years and forecast for the upcoming two remaining years of the regulatory period.
- The estimated revenue is 94,6 M€ annually, including 68,8 M€ revenue estimated to be collected from transmission capacity charges, 3,8 M€ revenue from commodity charges and 22 M€ collected from proposed connection capacity charge.
- Proposed postage stamp methodology gives indicative Exit reference price of 1,24101 €/kWh/day/year for 2026.
- Entry reference price is the same 0,14277 €/kWh/day/year based on the harmonized tariff under the ITC agreement.
- Entry/Exit split is 9%/91%
- Capacity/commodity split is 95%/5%
- Gasgrid proposes the introduction of connection capacity charge as part of the transmission service pricing. The comprehensive justification for this price component is included into the consultation material.
- Intra-system-cross-system split: 100%/0% (ITC-Agreement re-distributes entry revenue collected from transit flow for the TSO whose system gas is finally consumed. Balticconnector, the only cross-system exit point, has no exit tariff).
- At the same time with this consultation, the Finnish Energy Authority organizes a consultation regarding the transmission tariff multipliers, discounts and seasonal factors. Please provide possible opinions regarding these elements to the Finnish Energy Authority.

- Seasonal factors are not considered applicable in 2026.
- According to the amended gas regulation ((EU) 2024/1789), 100 % discount is proposed to be applicable for renewable gas injected into the Finnish gas system from the production facility and 75 % discount for low-carbon gas injected into the Finnish gas system from the production facility.
- The tariff multipliers are proposed to remain the same in 2026 than in 2025.
- The impact of the Inter-TSO-Agreement between Finnish, Estonian and Latvian TSOs is described as a part of the consultation.

As the proposed RPM is the postage stamp methodology, the comparison to Capacity Weighted Distance methodology is a part of the consultation following the Article 26(1)(a)(vi) of TAR NC. Reference prices calculated according to the CWD methodology results in high reference price differences in the system. Instead, uniform capacity tariffs according to the postage stamp methodology provides more predictable reference prices. In Finland, top 10 gas end users use a major share of Finnish total annual consumption. This is foreshadowed by the results of CWD and postage stamp methodology comparison. Furthermore, the ITC-agreement that removes cross-border tariffs between Finnish, Estonian and Latvian TSOs would not be applicable with the CWD methodology, as entry prices are harmonized in the area. The consultation document contains justifications for the proposed reference price methodology.

Commodity and non-transmission tariffs with the description of manner how they are set, are part of the consultation. Underutilization fee of Balticconnector and datahub charge are also presented in this consultation document.

2 Introduction

Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonized transmission tariff structures for gas ('Tariff Network Code, TAR NC') sets out the Union-wide rules which have the objectives of contributing to market integration, enhancing security of supply and promoting the interconnection between gas networks. Key steps in reaching these objectives are to include increasing transparency of transmission tariff structures and procedures towards setting them.

In order to achieve and ensure a reasonable level of cost reflectivity and predictability, transmission tariffs need to be based on a reference price methodology (RPM) using specific cost drivers. 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. According to the TAR NC, a periodic consultation on the chosen tariff methodology shall be arranged at least every five years. Article 26 of TAR NC sets the content for the consultation while the Article 27 sets the timeline for the National Regulatory Authority ('NRA') and Agency for the cooperation of Energy Regulators ('ACER') to perform their responsibilities in regard to the consultation.

According to Article 26 of TAR NC, the periodic consultation shall contain the following information:

- A description of the proposed reference price methodology (RPM), which includes both information on the components of the RPM and a justification of those components;
- A comparison of the indicative reference prices as calculated by the proposed RPM and the indicative reference prices calculated using the capacity-weighted distance (CWD) counterfactual;
- Results, components and the details of these components for the cost allocation assessments;
- An assessment of the proposed RPM against the criteria set out in Art. 7 of TAR NC;
- Indicative information on the allowed revenue of the Transmission System Operator (TSO);
- Indicative information on commodity-based transmission tariffs and non-transmission tariffs; and,
- Explanation of any change in the level of tariffs resulting from the changes proposed in this document, both for the next tariff year 2026 and over the course of the regulatory period.

The Finnish Energy Authority (FIN: Energiavirasto) has decided that Gasgrid Finland shall organize the public consultation on tariff methodology according to the TAR NC article 26. In parallel with this consultation, the Finnish Energy Authority organizes the consultation on the multipliers, discounts and seasonal factors of the transmission service pricing. The consultation is performed between April 16th and June 16th, 2025. The consulted methodology will be applied from the beginning of 2026. Figure 1 below sets the timeline for tariff methodology process according to the TAR NC Article 27. This consultation is subject to the tariff methodology, RPM, which is proposed to be applied in Finland from the beginning of 2026. The Finnish NRA makes the final decision about the RPM by the beginning of October. The consultation includes indicative reference prices (price of the yearly capacity product) to illustrate how RPMs affect to the reference prices in different scenarios. Also, the indicative connection capacity charge is part of the consultation. During the last quarter of 2025, Gasgrid shall publish the document according to TAR NC article 30 about the final tariffs. The final tariffs will be published by 30.11.2025 as shown in the figure below. Please note that there will not be a separate consultation on Q4/2025 regarding tariff multipliers, discounts and seasonal factors after the one organized by the Finnish NRA and launched on April 16, 2025.

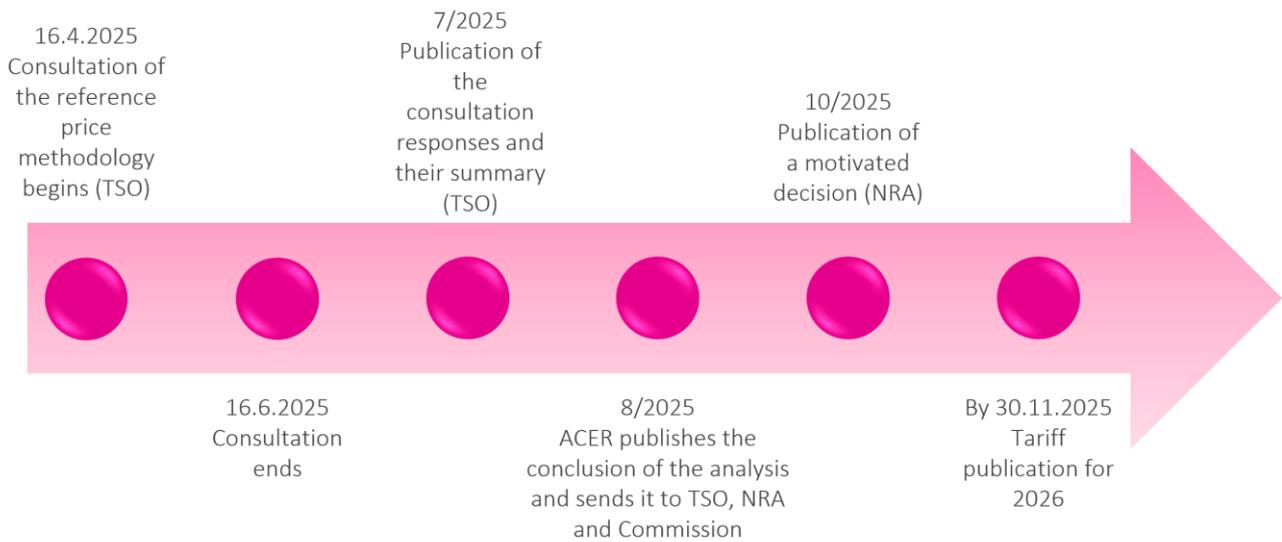


Figure 1. The tariff methodology consultation timeline.

Gasgrid Finland invites all interested parties to submit opinions and comments for this consultation document by e-mail to the e-mail addresses customerservice@gasgrid.fi and kirjaamo@energiavirasto.fi by 23.59 EEST on 16th June 2025. In accordance with TAR NC, within one month following the end of this consultation all responses received, and their summary will be published on Gasgrid Finland's website. Therefore, please include a non-confidential version of your response suitable for publication.

At the same time when launching this consultation, Gasgrid Finland sends the consultation for ACER. Within two months following the end of the consultation, ACER shall publish the conclusion of its analysis which shall be publicly available.

In parallel with this consultation, the Finnish Energy Authority organizes the consultation regarding the tariff multipliers, discounts and seasonal factors. You can find the consultation material from the website of the Finnish Energy Authority. Please provide your opinion regarding the tariff multipliers, discounts and seasonal factors to the Finnish Energy Authority.

Further information on the consultation material and the consultation process gives Mika Myötyri, Head of Market and Customers of Gasgrid Finland.

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3 Gasgrid Finland Oy and the Finnish gas transmission system

3.1 Gasgrid Finland Oy

The derogation from compliance with requirements under EU legislation granted for Finland by the European Union ended when the Balticconnector interconnector pipeline between Finland and Estonia was completed, and the Finnish gas market was opened to competition on 1st of January 2020.

More information about Gasgrid Finland can be found on our website: www.gasgrid.fi/en

3.2 Finnish gas transmission system

As of March 2025, Finnish gas transmission system consists of 8 entry points. Balticconnector interconnection point between Finland and Estonia is the only currently utilized cross-border entry point in the Finnish gas transmission system as there have been no deliveries from Imatra entry point between Russia and Finland since May 2022. In addition to Balticconnector, there are two Liquefied Natural Gas (LNG) terminals at Inkoo and Hamina and 5 biogas plants of which 4 are connected to transmission system and 1 to distribution system.

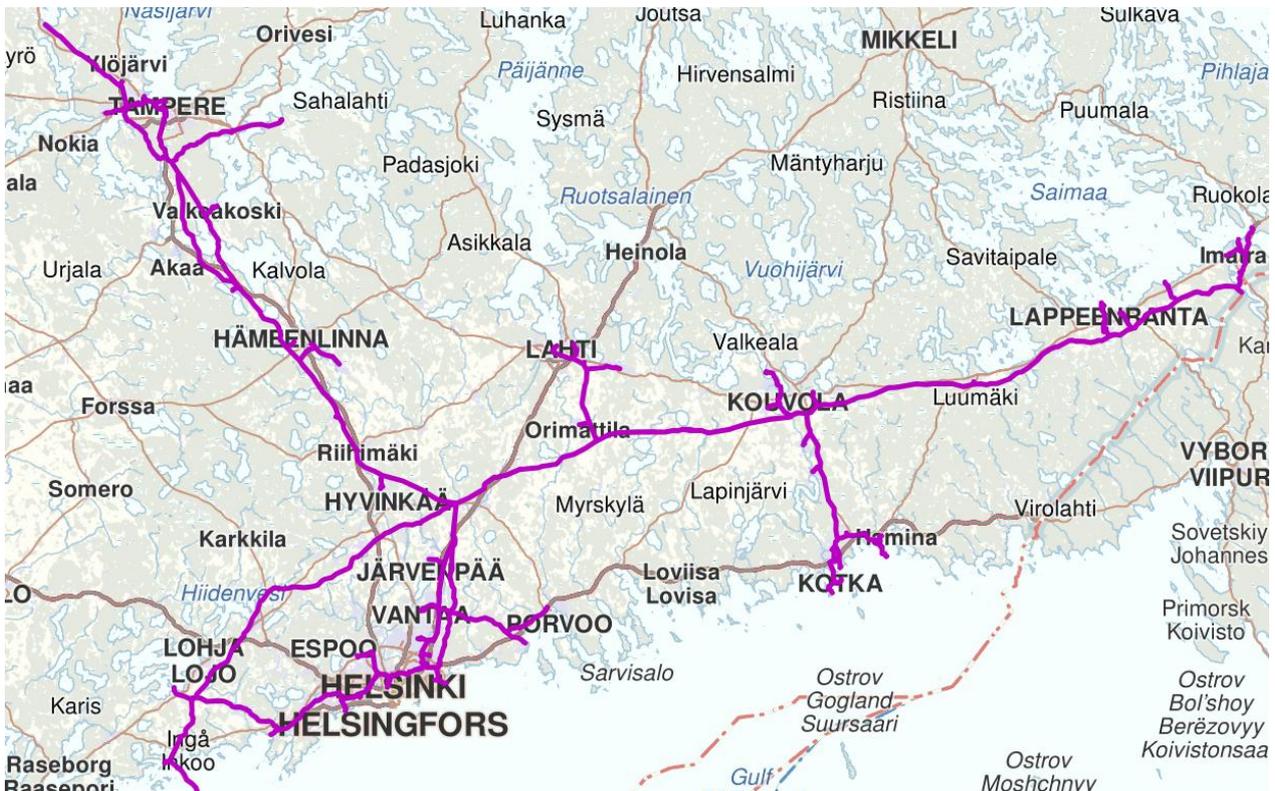


Figure 2. Finnish gas transmission system.

- 1) Imatra compressor station
 - 2 gas powered compressor units (third 10 MW unit decommissioned 2025)
 - the shaft power of 2 compressor units is 5 MW each

- transport capability: 2 compressor units 250 000 m³/h each
- 2) Kouvola compressor station
 - 2 gas powered compressor units (third 10 MW unit decommissioned 2025)
 - the shaft power of 2 compressor units is 5 MW each
 - transport capability: 2 compressor units 350 000 m³/h each
- 3) Mäntsälä compressor station
 - 2 gas powered compressor units
 - the shaft power of 2 compressor units 6,4 MW each
 - transport capability: 2 compressor units 300 000 m³/h each
- 4) Inkoo compressor station
 - Inkoo compressor unit is driven by an electric motor
 - the shaft power is 6,4 MW
 - transport capability 300 000 m³/h

The length of Finnish gas transmission pipelines is approximately 1256 km. Most of the pipelines are onshore pipelines, but approximately 39 km is offshore pipeline in Balticconnector. The lengths of the pipelines with different diameters are presented in the Table 1 below:

Table 1. Pipeline lengths in the Finnish gas transmission system.

DN	Total length [km]
≤200	219
250 - 400	359
500	388
700	167
900 - 1000	123
Total	1256

Most of the pipes are made of steel, most of which are coated with polyethylene plastic. In addition to high-pressure pipelines, the transmission network also features 60 km of low-pressure pipelines. The protection against corrosion provided by the gas pipeline coating is supplemented by a cathodic protection system. The oldest sections of the pipelines were taken into use in 1974. 80 % of the pipelines can be inspected internally.

The transmission pipeline network also includes offshore steel pipeline from Paldiski, Estonia, to Inkoo, Finland, which is jointly owned with the Estonian transmission system operator for electricity and gas, Elering AS. The interconnector pipeline can be operated in both directions.

There is valve stations installed at intervals of 8-32 km along the transmission pipeline network. Their safety cut-off devices can be used to cut off gas transmission and distribution and release gas from a pipeline section using a measure called blowdown. The total number of valve stations is 166, and 40 of these are remotely controlled.

Gasgrid Finland has its own data transporting system with link stations via which the network’s operating, monitoring and alert data is submitted to the Kouvola Central Control Room that is staffed 24/7.

Pressure reduction stations form part of the transmission pipeline system. The stations are located at the customer interface close to customers' distribution pipelines or processes. The pressure reduction stations are used to regulate gas pressure to a level suitable for the customer. The volume measurement of gas transmitted takes place at pressure reduction stations.

Gas is odourised before delivery to customers. In special cases, gas can also be delivered unodourised, but this requires a permit from the Finnish Safety and Chemicals Agency (TUKES).

In addition to natural gas, renewable biogas from five Finnish biogas plants is injected into the gas transmission network.

Future development

Gasgrid Finland has a long-term investment plan (LTIP) for the development of Finland's gas network. The plan guides the maintenance of the transmission network and future investments. By updating and following the investment plan, Gasgrid Finland is able to manage its network costs and ensure the proper lifecycle management of the transmission network assets.

The long-term investment plan ensures the continuous maintenance of aging infrastructure. Necessary maintenance investments are carefully planned, updated in the long-term investment plan, and scheduled for the coming years. Finland's gas transmission network has been in operation since 1974. The design of the transmission network focuses on maintaining the existing infrastructure. Safe, reliable, and cost-effective gas transmission is a key objective guiding the development of the network.

Gasgrid Finland is decommissioning two compressor stations during 2025, one 10 MW unit at Imatra and other 10 MW unit at Kouvola.

Gasgrid Finland is expecting that the share of the clean gases in the Finnish gas transmission system including biogas and e-methane will increase by 20-30 times by 2030.

The EU hydrogen and gas decarbonization package, consisting of Directive (EU) 2024/1788 and Regulation (EU) 2024/1789, was adopted in May 2024. The revised gas market rules were published in the EU Official Journal on 15 July and entered into force 20 days later. It updates the rules on the EU natural gas market set out in the Gas Directive 2009/73/EC and the Gas Regulation 715/2009. It also introduces a new regulatory framework for dedicated hydrogen infrastructure. EU countries have until mid-2026 to transpose the new rules into national law. When transposed, they will facilitate the uptake of renewable and low-carbon gases, including hydrogen, while ensuring security of supply and affordability of energy for all EU citizens. As part of the adopted Regulation, it introduces discounts for renewable and low-carbon gases. Considering the objective of Gasgrid Finland to facilitate the development of clean gas market, the discounts for the entry points where renewable or low-carbon gas is injected into the Finnish gas system, are proposed to be applicable starting from January 1, 2026.

Gasgrid has proposed to introduce a new transmission pricing component, namely connection capacity charge, to be applicable starting from January 1, 2026. The change in the transmission tariff model would not have an impact on the transmission system operator's permitted revenue. The gas consumption profile for energy production has changed significantly in recent years. Energy production now primarily uses gas during peak consumption periods. Industrial end-users, on the other hand, require gas more consistently throughout the year. Regardless of the gas usage profile of

network users, the gas transmission infrastructure is available to all parties year-round, and the system's transmission capacity is maintained to meet peak demand needs. With the current gas transmission tariff model based on consumption-based capacity and commodity charges, an increasing share of gas transmission costs is borne by industrial end-users, posing a challenge to the equitable treatment of network users. The purpose of the connection capacity charge is to increase the predictability of the revenue from transmission services and the equal treatment of network users in a situation where gas demand is difficult to predict.

4 Allowed revenue and other relevant financial values

In Finland the regulatory period is four years within an eight yearlong method period. The ongoing period takes place 2024-2027. The respective method period is 2024-2031. Non-price cap regime is applied. The tariff period is a calendar year.

4.1 Regulation method

Energy Authority (FIN: Energiavirasto) is the National Regulatory Authority in Finland. Energy Authority regulates the reasonableness of pricing of gas transmission operations. For this purpose, the regulation method, which has been prepared as an official task within the Energy Authority, is the base for calculating allowed revenue for Gasgrid Finland's business (figure below). The left-hand side of figure below presents methods for adjusting the balance sheet, i.e. calculating a reasonable rate of return. The right-hand side of the figure presents methods for the adjusted income statement, i.e. calculating the realized adjusted profit.

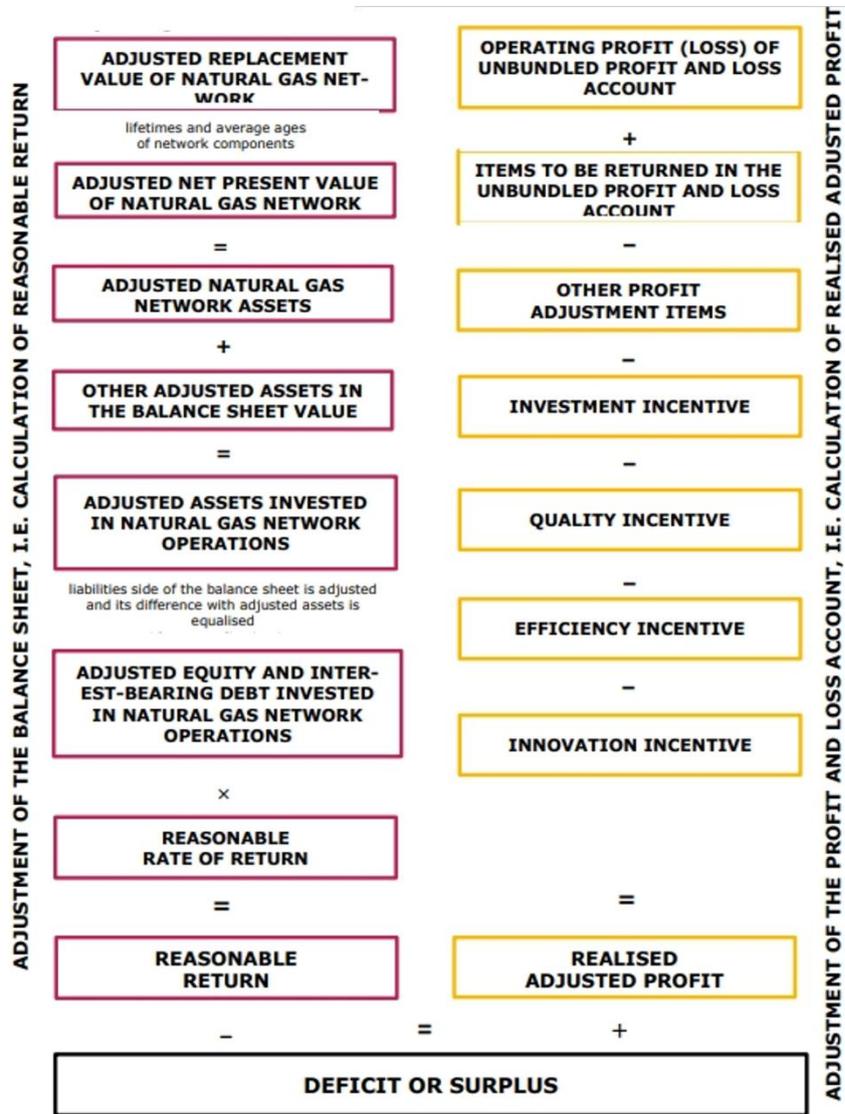


Figure 3. Regulation method during regulatory period of 2024-2027.

In the regulatory decision for the regulation period 2024-2027, the NRA summarizes the realized adjusted profit from each year of the regulatory period applying the regulation method confirmed and the regulatory information provided by Gasgrid Finland. NRA deducts the sum of allowed revenues from the same years from this amount. The result is the regulatory period’s surplus or deficit. If the realized adjusted profits accrued over the entire regulatory period are less than the level of allowed revenue, Gasgrid Finland has a deficit. If the realized adjusted profits accrued over the entire regulatory period are more than the level of allowed revenue, Gasgrid Finland has a surplus.

If the realized adjusted profit has, during the regulatory period, exceeded the level of allowed revenue by at least 5 %, interest in the surplus must be paid. The interest rate used is the average of the reasonable cost of equity over the specific regulatory period. Any interest in surplus is considered in the regulatory decision when calculating any surplus or deficit carried over to the following regulatory period. The regulatory decision takes account of any surplus or deficit carried over from the preceding regulatory period.

4.2 Revenue and allowed revenue during regulatory period 2024-2027

The deficit from the previous regulatory period 2020 – 2023 is -31,3 M€. The actual and expected revenue from transmission and non-transmission services are summarized in table 2 below.

Table 2 Actual and expected revenue to be collected by Gasgrid Finland [M€].

	2024	2025e	2026e	2027e
Net Sales	83,7	83,0	94,6	100,0
Transmission	83,7	83,0	94,6	100,0
Non-transmission	-	-	-	-

The actual and expected profits from transmission and non-transmission services (“Allowed Revenue”) are summarized in the table 3 below.

Table 3. Actual and estimated allowed revenue [M€].

2024	2025e	2026e	2027e
54,7	53,1	46,5	45,1

Gasgrid Finland’s allowed revenue is based on the value of the asset (includes Gasgrid Finland’s gas infrastructure, IT systems etc.) and the WACC (Weighted Average Cost of Capital) -% which is set by NRA. NRA sets the WACC-% for the following year during Q4 each year. Thus, the estimated allowed revenues are based on the forecast of WACC-%. The allowed revenue will be collected by transmission service tariffs.

Gasgrid Finland's estimated revenue (=net income) of the transmission service for 2026 is approximately 94,6 M€. The most significant source of revenue is revenue collected through capacity tariffs. The allowed revenue for 2026 is approximately 46,5 M€. This has been calculated in accordance with the regulation method and describes the profit on the amount of euros that Gasgrid can earn through its regulated business. The regulation method describes in detail the mechanism of calculating the adjusted profit. The estimated revenue of transmission services and reasonable return are not comparable, but operational costs, among other things, are deducted from the turnover of transmission services and various adjustments are made in accordance with the regulation method, such as taking into account incentive effects. The allowed revenue is calculated multiplying the adjusted balance sheet by WACC-%. The accumulated surplus must be neutralized, and the deficit can be neutralized according to the principles of the regulation method.

5 ITC agreement between Finnish, Estonian and Latvian TSOs

Finnish, Estonian and Latvian TSOs have established common entry-tariff zone from 1st of January 2020. The target of the entry-tariff zone is to facilitate cross-border trading and deepen market integration. The common entry-tariff zone consists of two balancing zones – Finnish balancing zone and Estonian-Latvian balancing zone.

5.1 Principles of the ITC mechanism

The common entry-tariff zone follows the principles described below:

- Setting the same level of entry tariff for all external points through coordinated decision making
- No capacity booking on the border between Estonia and Latvia
- Implicit capacity allocation at Balticconnector between Estonia and Finland and no tariff for capacity (two balancing zones within the merged tariff zone)

Tariff setting principles:

- Each country will apply the same RPM (postage stamp) separately
- Reference price of entry tariff set using benchmark
- The same set of short-term multipliers for entry tariffs is applied
- Exit tariffs to domestic consumption and exit tariffs on external entry-exit points are set by national decision
- The result of ITC process is treated as part of transmission service revenue, reducing the share of transmission service revenue collected from exit

ITC mechanism with following principles:

- Simple to implement and beneficial for the gas users and shippers in the joint entry-tariff area
- Treatment of entry revenue as a virtual revenue pool
- Compensation of variable costs of compressor units involved in supporting of gas flows in the region from the virtual revenue pool
- Monthly sharing of residual of pooled revenue (after compensation of variable costs) according to ITC shares - proportions based on the size of specific national market in combined market size of FI, EE and LV (region is end user market, cross-border flows are not taken into account)
- The entry revenue share of each country is calculated ex-ante. After the calendar year, the revenue is reconciliated based on the actual measured gas quantities (validated metering data)

The entry points with harmonized tariff for the area considering the ITC agreement are (in March 2025):

- Finland: Inkoo LNG entry point
- Finland: Hamina LNG entry point
- Latvia-Lithuania border: Kiemenai interconnection point
- Third country entry points

Entry revenue collected from the entry points of the common tariff zone is redistributed between TSOs

The ITC mechanism redistributes the collected entry revenues according to the share of domestic consumption in each country. As a theoretical example, if 100 % of gas would be entered to the tariff zone through Kiemenai entry point, Gasgrid Finland would not get any entry revenue without ITC agreement, because there is no tariff at Balticconnector. Assuming that Finnish gas consumption of total gas consumption in the area is 60 % while Estonian and Latvian TSOs have 20 % share each, 60 % of collected entry revenue would be re-distributed for Gasgrid Finland. Please note, that the figures presented in the example are purely exemplary and do not reflect the actual figures in the area.

The ITC agreement re-distributes the entry revenue pool so that the Finnish market participants do not compensate the costs of regional flows on behalf of other market areas. The revenue collected from entry capacity product bookings is allocated so that the country using gas gets the revenue. The transmission service revenue not collected by entry revenue is collected by exit revenue set on a national basis. The entry reference price and multipliers are harmonized with Estonian and Latvian TSOs and the revenue collected by these tariffs are re-distributed based on national consumption. The rest of the transmission service revenue is collected by exit charges.

Eligible variable costs

As part of the ITC mechanism, the eligible variable costs (costs for TSOs caused by regional flow) are compensated using the variable cost compensation mechanism. The part of variable costs which can be included to the pool of regional flow cost can be subtracted from the entry revenue pool. In practice, the TSO using its compressor stations for the purpose of regional flow, gets compensation, because instead of sharing the entry revenue pool as such, the eligible variable costs are reduced from the pool so that TSO can keep the subtracted revenue itself.

Theoretical example

The principle of the eligible variable cost subtraction is described in the following calculation example with following assumptions. Please note that the following values presented in the example are purely exemplary and do not reflect to the actual figures in the area.

- Share of Finnish market = 50 %, Estonian and Latvian market shares 25 % each
- Entry revenue pool 10 M€ (collected from entry points listed previously)
- Gasgrid Finland has eligible variable cost of 1 M€, no eligible variable costs for Estonian or Latvian TSOs

1) Eligible variable costs are subtracted from the entry revenue pool

$$\text{Entry revenue pool for redistribution} = 10 \text{ M€} - 1 \text{ M€} = 9 \text{ M€}$$

Finnish TSO keeps 1 M€ itself.

2) Entry revenue pool is redistributed based on the share of national market

- Finnish TSO: 50 % * 9 M€ = 4,5 M€
- Estonian TSO: 25 % * 9 M€ = 2,25 M€
- Latvian TSO: 25 % * 9 M€ = 2,25 M€

5.2 Entry tariff setting

In determining the level of entry tariff, the EU entry tariff benchmarking result was adjusted so that the applied value includes the variable costs. Thus, separate commodity tariffs are not applied at entry points, but flow-based costs are included in the ITC agreement by the principle of eligible variable cost calculation. To determine the entry tariff, the objective was to set the reference price and the multipliers so that entry tariffs would stay as is several tariff periods for the sake of predictability for market participants. The value for entry tariff is set together with Estonian and Latvian TSOs and NRAs. The currently valid reference price for entry capacity is 0,14277 €/kWh/day/year (= 0,39115 €/MWh). Also, the multipliers are harmonized in the common tariff zone:

Table 4. Entry tariff multipliers within the common tariff zone.

Capacity product (Entry)	Multiplier
Yearly capacity (reference price)	1
Quarterly capacity	1,1
Monthly capacity	1,25
Daily capacity	1,5
Within-day capacity	1,7

5.3 Impacts of the ITC agreement to the gas market

Without the ITC agreement, for the Finnish gas user, imposing a tariff on the Balticconnector would mean that the gas coming from Estonia would have to be at least equally cheaper than exit tariff set by Estonian TSO and entry tariff set by Gasgrid Finland, so that it would be worth crossing the border. The tariff would be set on both sides of the border. The higher the cross-border transmission charge is, the less likely it is that trade and cross-border flows of gas will occur.

The ITC-Agreement will be renegotiated in case of changes in the operating environment or gas markets that cause detrimental effects to the gas markets of any of the ITC-Agreement participating countries.

6 Principles and alignments used in reference price calculations

In the TAR NC Article 26 (1)(a)(vi) it is stated that “*where the proposed reference price methodology is other than the capacity weighted distance [CWD] reference price methodology detailed in Article 8, its comparison against the latter*” so the comparison of the CWD method and the proposed postage stamp reference price method is part of this consultation.

The CWD methodology assumes charging only capacity-based tariffs and entry/exit split 50/50 must be used. Due to this requirement, CWD calculation with ITC agreement described in the previous section is not possible, as the entry tariff is harmonized with Estonian and Latvian TSOs and there is no tariff at Balticconnector. Thus, the calculation of CWD and postage stamp is done so that impact of ITC agreement is excluded, and Finland is evaluated as its own entry-exit area, with tariffs on all borders and without ITC-agreement in place. This approach enables the comparison of RPMs with comparable input values.

In addition to the comparison of CWD and postage stamp RPMs with same entry/exit split (50/50), the calculation of postage stamp without ITC agreement and postage stamp with ITC agreement is done. In these calculations, the harmonized entry reference price is used as an input value. This approach enables us to illustrate the impact of ITC agreement to the proposed RPM.

The annual domestic gas consumption in Finland is estimated to be 14 TWh/year in the calculations based on the historical consumption levels from 2023 and 2024 together with Gasgrid’s estimations for the upcoming years consumption. Finnish gas consumption has decreased since the opening of the Finnish gas market 1st of January 2020 from the pre-energy crisis levels of around 25 TWh/year down to around the estimated yearly consumption level and no major changes are foreseen for the upcoming years consumptions. However, considering the characteristics of the Finnish gas end users, consumption may vary significantly over the years depending on the energy market circumstances, weather conditions, and price level of alternative fuels and raw materials.

In this consultation all capacity is considered to be firm capacity. At Balticconnector there is no tariff at all, and according to the applied implicit capacity allocation principle, capacity is allocated based on confirmed nominations.

6.1 Annualization factor

In determining the reference prices, the impact of the multipliers of short-term products shall be taken into account, because shippers do not only book yearly capacity product. Thus, the capacity product booking pattern is considered when calculating the reference prices.

Estimated annualization factors used in the reference price calculations are based on the specialist review considering the gas market circumstances and elements estimated for the review period and historical capacity booking patterns in Finland (entry and exit) and within the common entry tariff area under the ITC agreement and determined separately for these three. Annualization factors for entry capacities within the ITC agreement are used in the scenarios, where ITC agreement is included and in other scenarios the domestic annualization factor for Finnish entries is used. Multipliers are different for entry and exit capacity products. The entry capacity multipliers are harmonized and set by the ITC agreement and exit capacity product multipliers are set for each country separately by national decision. The evaluated shares based on historical booking patterns from 2023 – 2024 and Gasgrid’s estimates used in the calculations and the applied capacity product multipliers are presented in the table below:

Table 5. National and regional capacity booking patterns and capacity product multipliers.

Capacity product	Share, Fin entry [%]	Share, ITC entry [%]	Multiplier, entry	Share, Fin exit [%]	Multiplier, exit
Year	1 %	38 %	1	36 %	1
Quarter	29 %	26 %	1,1	34 %	1,1
Month	36 %	16 %	1,25	8 %	1,25
Day	31 %	16 %	1,5	14 %	2
Within-day	4 %	2 %	1,7	8 %	2,5

The presented estimated booking patterns have been used for the annualization of estimated consumption which adjust the estimated domestic consumption and transit flows so that the short-term capacity product derivatives are considered. If this would not be done, the reference prices would be too high, because all capacity is not booked by yearly products with multiplier 1, but the actual booking pattern is a combination of standard capacity products.

In all calculations in this consultation, the annual domestic consumption is estimated to be 14 TWh. The annualization factor and the treatment of transit flow (whether ITC is included or excluded) affect the annualized gas quantity used in the calculation.

The annualization factor is calculated as follows:

$$\text{Annualization factor} = \sum(\text{share of each capacity product} * \text{multiplier of the product})$$

As a result, from the formula and the booking pattern and multiplier information from the table above, annualization factors for the calculations in this consultation are following:

Table 6. Estimated annualization factors used in the calculations.

Capacity type	Annualization factor
National entry Finland	1,30009
ITC entry	1,16675
Exit	1,31114

The difference between national entry and ITC entry annualization factors is caused by higher share of yearly product and lower shares of shorter-term products with regional booking pattern under areas within the ITC agreement compared to national entry booking patterns. With the Finnish exit booking patterns although the annual booking share is larger than with the domestic entry bookings and the shares of shorter-term products are smaller, the higher multipliers explain the small difference between the calculated national entry and exit annualization factors.

7 Capacity Weighted Distance Reference Price Methodology

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.

TAR NC sets pre-condition for the CWD calculation: 50/50 entry/exit split shall be used. Because of this requirement, CWD calculation for the case with ITC mechanism is not possible to calculate, because the harmonized entry tariff cannot reach the share of 50 % with any arrangement in Finland. Thus, Gasgrid Finland has made a reference price calculation for the case *“Finland is not part of any integration and forms its separate entry-exit-area”*.

The reference price methodology shall comply with Article 7 of Regulation (EC) No 715/2009 and with the following requirements:

- a) enabling shippers to reproduce the calculation of reference prices and their accurate forecast;
- b) taking into account the actual costs incurred for the provision of transmission services considering the level of complexity of the transmission network;
- c) ensuring non-discrimination and prevent undue cross-subsidization including by taking into account the cost allocation assessments;
- d) ensuring that significant volume risk related particularly to transports across an entry-exit system is not assigned to final customers within that entry-exit system;
- e) ensuring that the resulting reference prices do not distort cross-border trade.

7.1 Description of capacity weighted distance reference price methodology

In case of the CWD methodology, the cost drivers for the calculation are distance and capacity. The logic of CWD is to distribute all costs among network points in a cost-reflective way, taking into account both the location of the point in the system, and the booked capacity on all points. The logic behind the usage of CWD values is based on the ‘gas does not stay in the system’ principle. CWD methodology assumes that the share of the allowed revenue to be collected from each point should be proportionate to its contribution to the cost of the capacity of the system.

For all entry points the total capacity booking (the amount of gas to be injected into the system at that point) is “distributed” among the exit points proportionally to their booked capacity values. The full distance that the gas flows in the system can be calculated by using the capacity weighted distances between the given entry point and all exit points.

The same applies for exit points: gas going out from the system should have come from one of the entry points, thus the total length of the route the gas was transported on can be calculated as the capacity weighted distance between the given exit point and all entry points. At the end, cost-reflective tariffs for all entry and exit points are calculated, taking into account how much gas should be transported inside the system to realize the level of flows foreshadowed by the bookings on all entry and exit points.

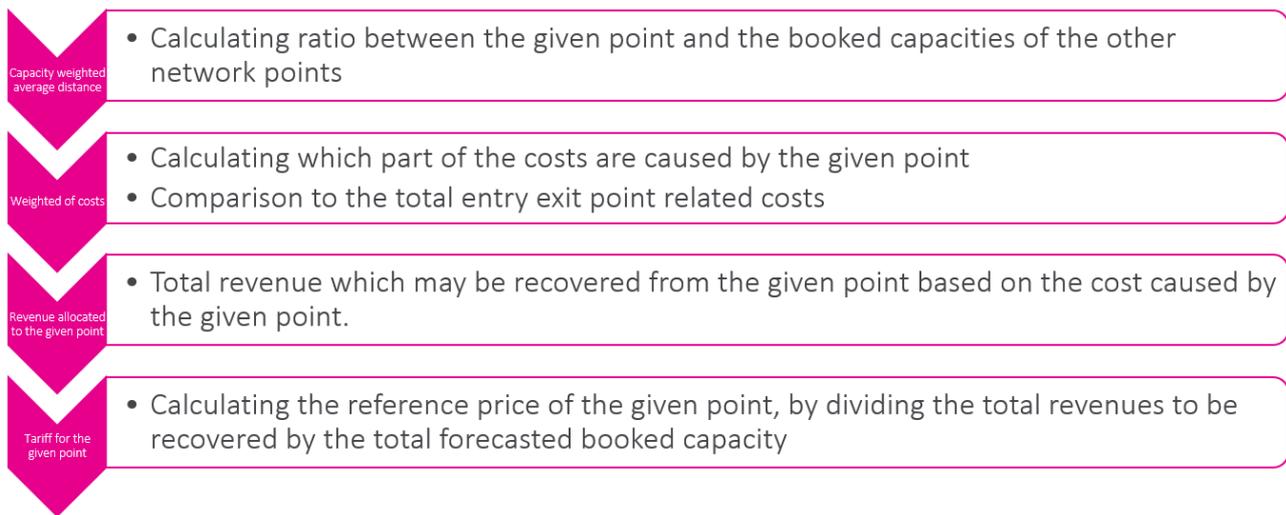


Figure 4. Capacity weighted distance (CWD) calculation process.

According to the article 8 of TAR NC parameters for the capacity weighted distance RPM shall be as follows:

- the part of the transmission services revenue to be recovered from capacity-based transmission tariffs is subject to the calculation;
- the forecasted contracted capacity at each entry point or a cluster of entry points and at each exit point or a cluster of exit points;
- where entry points and exit points can be combined in a relevant flow scenario, the shortest distance of the pipeline routes between an entry point or a cluster of entry points and an exit point or a cluster of exit points;
- the combinations of entry points and exit points, where some entry points and some exit points can be combined in a relevant flow scenario;
- the entry-exit split shall be 50/50.

7.2 Technical capacity calculation

Technical capacity is calculated for each entry point, exit point and clustered exit point. Regulation (EC) No 715/2009 defines technical capacity as follows: 'technical capacity' means the maximum firm capacity that the transmission system operator can offer to the network users, taking account of system integrity and the operational requirements of the transmission network.

In Finland, firm capacity is defined for market participants only at Balticconnector entry and exit point, Inkoo LNG entry point and Hamina LNG entry point. The firm capacity is not published for Finnish exit zone, because Gasgrid Finland has evaluated there is plenty of capacity available for market participants and the capacity can be booked without any limitations. Gasgrid Finland sets capacity available as much as possible taking into account security of supply and operational abilities.

Entry points

There are three entry points excluding the biogas injection points in the Finnish gas system and Imatra entry point where there is no technical capacity, which are Balticconnector, Inkoo LNG entry point and Hamina LNG entry point. Balticconnector is the only interconnection point in the Finnish gas system. Balticconnector is a bidirectional pipeline.

Exit points

Balticconnector is the only exit point to the neighboring gas markets. Thus, flow to exit direction equals to transit flow.

Finnish exit zone consist of approximately 200 exit points out of which about 50 % are end users directly connected to transmission system and 50 % exit points to distribution network ('city-gates'). All exit points to consumption sites form the Finnish exit zone.

The exit points are clustered to 25 exit points. Some clusters cover geographically quite wide area, because the consumption in the clustered area is relatively small. The clustered exit points can be seen from the figure below. Because the firm capacity is not defined at exit zone, technical capacities for clustered exit points are defined by summing up the technical capacity concluded in the connection agreement between TSO and the end user. Such approach has been chosen, because there is plenty of capacity available for shippers at the exit zone.

Exit points are clustered, because there are quite some small-scale exit points in Finland. Instead of clustering all Finnish domestic exit points into one virtual exit point, the clustered exit points cover certain parts of Finnish transmission system (see figure below). The clusters of exit points increase the level of simplicity in the calculation. The exit point clusters are pipeline branches in most cases, but there are also shorter pipeline sections with great technical capacities and longer pipeline sections with smaller technical capacities.

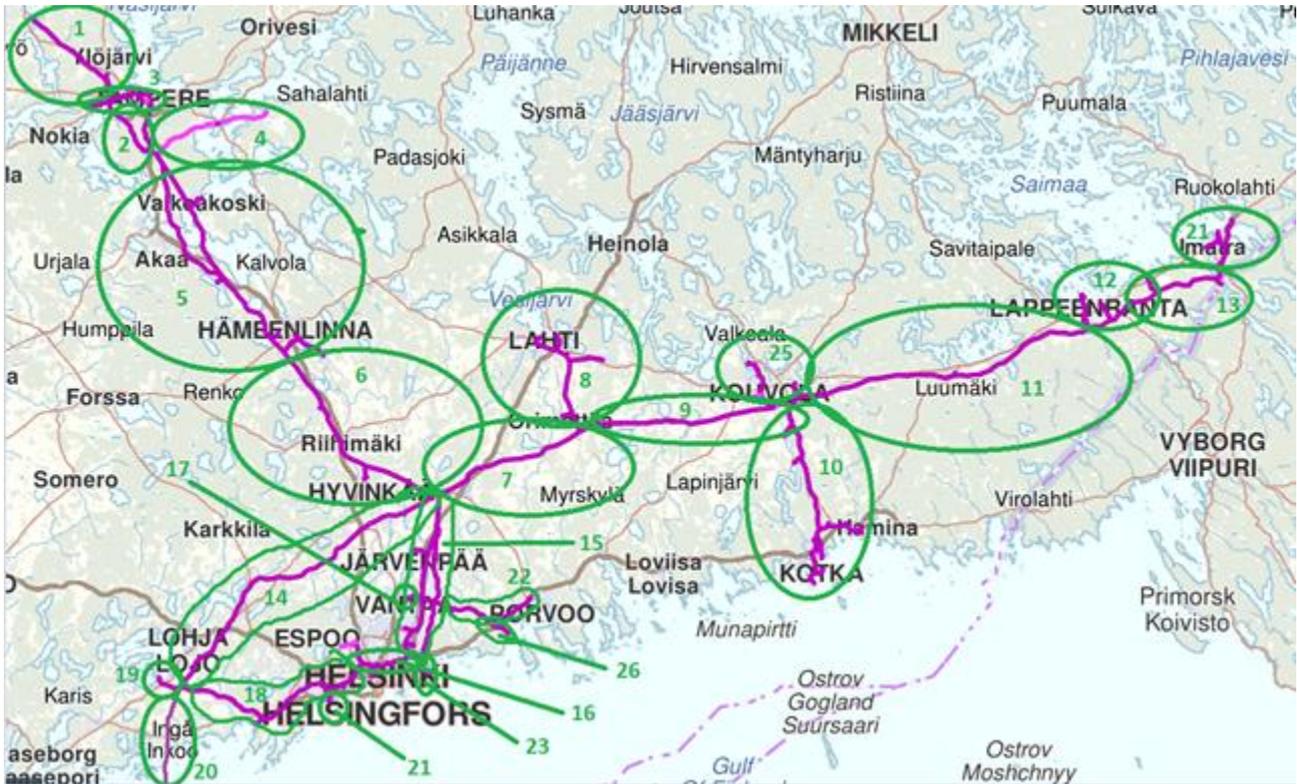


Figure 5. Balticconnector exit point and clustered exit points in the Finnish gas transmission system.

Proportion of the technical entry capacity at each entry point in respect to the total technical entry capacity is calculated as follows:

$$P_{En_i} = \frac{C_{En_i}}{\sum C_{En}} , where$$

P_{En_i} is the proportion factor of entry point i

C_{En_i} is the technical entry capacity of entry point i

Table 7 Technical entry capacities and their capacity shares

Entry point	Technical maximum capacity [MWh/day]	Share of entry capacity from total maximum entry capacity [%]
Inkoo LNG entry	140 000	64,67
Balticconnector entry	70 500	32,56
Hamina LNG entry	6 000	2,77

In similar manner the proportion of the technical exit capacity for each exit point in respect to the total technical exit capacity is calculated as follows:

$$P_{Ex_j} = \frac{C_{Ex_j}}{\sum C_{Ex}} , where$$

P_{Ex_j} is the proportion factor of exit point j

C_{Ex_j} is the technical exit capacity of exit point j

For the calculation of clustered domestic exit point capacities, the technical capacities are based on the connection agreements between the market participant and TSO. Therefore, the technical capacities for each exit point are not shown below to protect the information of the agreements. Instead of the actual technical capacities used in the calculation, the proportions of the exit clusters are listed below to show the share of each exit point cluster.

Balticconnector exit capacity used in the calculation is based on the currently available technical maximum capacity of 78 000 MWh/day.

Table 8. Shares of technical exit capacities of clustered exit points

Exit point	Proportion
Kyrokoski branch	0,01415944
Nokia branch	0,01158500
Marjamäki - Nokia	0,06816300
Kangasala branch	0,00436736
Hämeenlinna - Marjamäki	0,01765333
Mäntsälä - Hämeenlinna	0,03691431
Leipälänkulma - Mäntsälä	0,00183889
Lahti branch	0,06049943
Kouvola - Leipälänkulma	0,00179292
Kotka branch	0,06707346
Hanhijärvi - Kouvola	0,00496500
Lappeenranta branch	0,03846955
Imatra - Hanhijärvi	0,03642838
Mäntsälä - Pölans	0,00533278
Mäntsälä - Suurmetsäntie	0,05139693
Suurmetsäntie - Vihdintie	0,02707763
Martinlaakso branch	0,02978999
Vihdintie - Djupström - Pölans	0,02531690
Pölans - Kirkniemi	0,02804305
Inkoo - BC offshore	0,14940969
Imatra branch	0,04542055
Porvoo branch	0,00688664
Vuosaari branch	0,09810470
Suomenoja branch	0,04393564
Kuusankoski branch	0,03232766
Kilpilahti branch	0,09304776

7.3 Distance calculation (Article 8(1)(c) of TAR NC)

To perform the calculation of CWD reference prices, the distances between each entry point and each exit point or cluster of exit points needs to be calculated.

Entry points are treated individually in the calculation but for exit points, individual exit points are clustered, and the clusters are used in the calculation. The focal point for each cluster of exit points is determined based on the technical capacity weighted distance of individual exit points within the area of the cluster.

Distances between entry and focal point of clustered exit points are defined using weight of capacity. The focal point is defined for each cluster of exit points, and the distance has been defined from each individual entry point to the focal point of the exit cluster.

The calculation of the focal point of the exit cluster is demonstrated in the following example:

Table 9. Example of technical capacities and distances from each exit point within the cluster of exit points and their distances to one entry point.

Exit point	Technical capacity [MWh/day]	Distance from one entry point [km]
Exit point 1	1 000	250
Exit point 2	240	275
Exit point 3	500	300

The focal point for the example of clustered exit points is calculated as follows, based on the values from the table above:

$$Focal\ point\ of\ exit\ cluster = \frac{1000 * 250 + 240 * 275 + 500 * 300}{1000 + 240 + 500} \approx 268\ km$$

For equal treatment, the capacity weighted distance is calculated by defining the focal point of each clustered exit point instead of calculating distance between entry point and the very end of the exit branch. As described in the figure below, the focal point of the exit cluster is closer to the entry point than exit point 2 located in the middle of two other exit points, because exit point 1 has greater capacity which drags the focal point more towards exit point 1 than exit point 3.

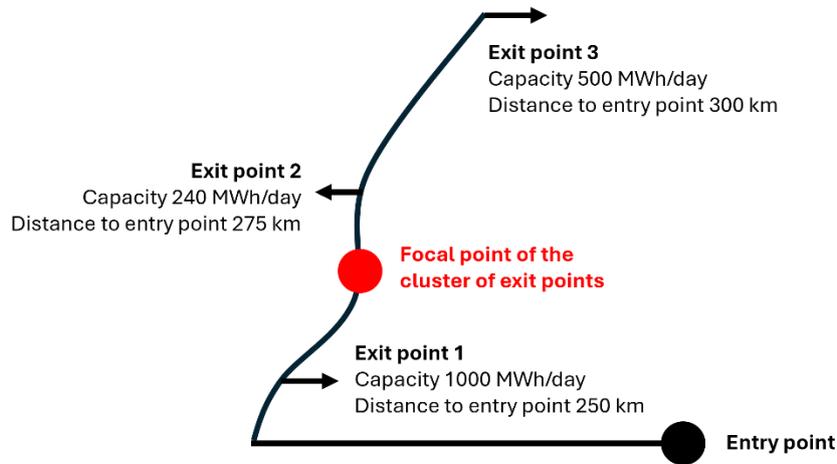


Figure 6. Example of the determination of focal point for cluster of exit points

The capacity weighted average distance between entry and cluster of exit points is calculated after defining the focal point for each cluster of exit points.

The technical capacity of each exit point is multiplied by its distance to each entry point. The same calculation is done for all exit points belonging to the clustered exit point. The sum of values calculated is divided by the sum of technical capacities of each exit points belonging to the clustered exit point.

$$\text{Capacity weighted average distance} = \frac{\sum(\text{technical capacity} * \text{distance})}{\sum(\text{technical capacity})}$$

The calculation is then performed for each entry point as follows:

$$AD_{En_i} = \sum P_{Ex_j} * D_{En_i,Ex_j}, \text{ where}$$

AD_{En_i} is the capacity weighted average distance from entry i

P_{Ex_j} is the proportion factor of exit point j

D_{En_i,Ex_j} is the distance from entry i to exit j

Table 10. Capacity weighted average distance from each entry point to all exit points.

Entry point	Capacity weighted average distance [km]
Inkoo LNG entry	179
Balticconnector entry	179
Hamina LNG entry	194

As the Inkoo LNG entry point and Balticconnector entry point are located close to each other, the same calculated weighted average distance presented in the table above is applicable for both entry points in this calculation.

The calculation is performed for each exit point as follows:

$$AD_{Ex_j} = \sum P_{En_i} * D_{Ex_j,En_i}, \text{ where}$$

AD_{Ex_j} is the capacity weighted average distance from exit j

P_{En_i} is the proportion factor of entry point i

D_{Ex_j,En_i} is the distance from exit j to entry i

Table 11. Capacity weighted average distance from each exit point to all entry points.

Exit point	Capacity weighted average distance [km]
Kyrokoski branch	314
Nokia branch	294
Marjamäki - Nokia	287
Kangasala branch	290
Hämeenlinna - Marjamäki	250
Mäntsälä - Hämeenlinna	198
Leipälänkulma - Mäntsälä	153
Lahti branch	212
Kouvola - Leipälänkulma	218
Kotka branch	270
Hanhijärvi - Kouvola	262
Lappeenranta branch	327
Imatra - Hanhijärvi	334
Mäntsälä - Pölans	79
Mäntsälä - Suurmetsäntie	144
Suurmetsäntie - Vihdintie	126
Martinlaakso branch	124
Vihdintie - Djupström - Pölans	103
Pölans - Kirkniemi	68
Inkoo - BC offshore	8
Imatra branch	369
Porvoo branch	173
Vuosaari branch	143
Suomenoja branch	111
Kuusankoski branch	241
Kilpilahti branch	174

7.4 Determination of the weight and revenue allocation of each entry and exit point

Weight of each entry and exit point is calculated as the ratio between the product of its technical capacity with its average distance and the sums of such products for all entry points (respectively exit point).

$$W_{En_i} = \frac{C_{En_i} * AD_{En_i}}{\sum C_{En_i} * AD_{En_i}}, \text{ where}$$

W_{En_i} is the weight of entry point i

$$W_{Ex_j} = \frac{C_{Ex_j} * AD_{Ex_j}}{\sum C_{Ex_j} * AD_{Ex_j}}, \text{ where}$$

W_{Ex_j} is the weight of exit point j

With the weight of each entry and exit point, the share of transmission service revenue to be collected from each entry and exit point is calculated by multiplying the total revenue to be collected from entry points (respectively exit points) by the weight of each entry point (respectively exit point) as follows:

$$R_{En_i} = W_{En_i} * R_{En}, \text{ where}$$

R_{En_i} is the revenue to be collected from entry point i

$$R_{Ex_j} = W_{Ex_j} * R_{Ex}, \text{ where}$$

R_{Ex_j} is the revenue to be collected from exit point j

As a result, the revenue which is supposed to be collected from the entry and exit points is determined.

7.5 Determination of the reference price for each entry and exit point

The reference price is calculated by dividing the entry/exit revenue to be collected from the particular entry/exit point by the forecasted capacity of the particular entry/exit point as follows:

$$T_{En_i} = \frac{R_{En_i}}{FC_{En_i}}, \text{ where}$$

T_{En_i} is the reference price at entry point i

FC_{En_i} is the forecasted contracted capacity at entry point i

$$T_{Ex_j} = \frac{R_{Ex_j}}{FC_{Ex_j}}, \text{ where}$$

T_{Ex_j} is the reference price at exit point j

FC_{Ex_j} is the forecasted contracted capacity at exit point j

For the domestic exit points, the forecasted contracted capacity is based on the shares of the exit clusters average gas consumption values during 2023 and 2024 and the forecasted total yearly Finnish gas end consumption level of 14 TWh/year. Based on the 2023 and 2024 data and Gasgrid's estimation, a 70/30 split between Finnish end consumption (70 % / 14 TWh/year) and Balticconnector exit flows (30 % / 6 TWh/year) has been used in the exit tariffs calculation as the total forecasted contracted capacity. This estimation results in 20 TWh total exit sum per year between Finnish end consumption and Balticconnector exit flows.

For entry points, the 20 TWh/year estimated value has been divided between the three (3) entry points in the Finnish gas transmission system based on the 2023 and 2024 data with Gasgrid's estimation so that 78 % / 15,6 TWh/year is imported from Inkoo LNG terminal, 20 % / 4 TWh/year is imported from Balticconnector and remaining 2 % / 0,4 TWh/year is imported from Hamina LNG terminal.

The estimated total revenue to be collected by capacity tariffs is 68,8 M €. As the entry/exit split is 50/50 in this calculation for the revenues to be collected by capacity tariffs, this means that 34,4 M € shall be collected from entry tariffs and 34,4 M € from exit tariffs.

Table 12. Estimated flow scenario for CWD calculation.

Entry point	Estimated share from total entries
Inkoo LNG entry	78 %
Balticconnector entry	20 %
Hamina LNG entry	2 %
Exit point	Estimated share from total exits
Exit Zone (domestic consumption)	70 %
Balticconnector exit	30 %

With the estimated entry capacity share presented in the table above, total entry quantity of 20 TWh/year, which after annualization factor for domestic entry is applied becomes 26 001 752 MWh and 34,4 M € revenue to be collected from all entries the entry reference prices for the entry points are following:

Table 13. Entry reference prices from CWD calculation

Entry point	Entry tariff [€/kWh/day/year]	Entry tariff [€/MWh]
Inkoo LNG entry	0,39940	1,09425
Balticconnector entry	0,78440	2,14903
Hamina LNG entry	0,72387	1,98320

With the estimated exit capacity shares of each cluster of exit points, 30/70 split between Balticconnector exit and domestic end consumption, 20 TWh/year total exit estimation, which after annualization factor of Finnish exit is applied becomes 26 222 800 MWh and 34,4 M € revenue to be collected from all exits, the exit reference prices for the exit points or clusters of exit points are following:

Table 14. Exit reference prices from CWD calculation.

Exit point	Exit tariff [€/kWh/day/year]	Exit tariff [€/MWh]
Kyrokoski branch	2,7981	7,6661

Nokia branch	5,5055	15,0835
Marjamäki - Nokia	1,2727	3,4868
Kangasala branch	1,0710	2,9342
Hämeenlinna - Marjamäki	0,7263	1,9900
Mäntsälä - Hämeenlinna	0,4729	1,2956
Leipälänkulma - Mäntsälä	0,5076	1,3908
Lahti branch	2,9912	8,1950
Kouvola - Leipälänkulma	0,4801	1,3152
Kotka branch	0,8656	2,3716
Hanhijärvi - Kouvola	1,4218	3,8953
Lappeenranta branch	8,2534	22,6120
Imatra - Hanhijärvi	0,6209	1,7012
Mäntsälä - Pölans	0,3808	1,0434
Mäntsälä - Suurmetsäntie	1,6942	4,6418
Suurmetsäntie - Vihdintie	0,2671	0,7317
Martinlaakso branch	1,4063	3,8528
Vihdintie - Djupström - Pölans	0,4022	1,1020
Pölans - Kirkniemi	0,6478	1,7748
Inkoo - BC offshore	0,0105	0,0289
Imatra branch	2,5221	6,9098
Porvoo branch	0,8135	2,2286
Vuosaari branch	0,5024	1,3763
Suomenoja branch	0,6890	1,8876
Kuusankoski branch	0,4656	1,2756
Kilpilahti branch	0,1938	0,5308

In CWD methodology cost drivers are estimated consumption per entry and exit point, technical capacity and the distance between entry and exit points. The characteristic of Finnish gas system is reflected on the reference prices. The number of household customers is limited and centralized to a few certain areas. Industrial gas end user sector creates the steady baseload demand in the Finnish gas transmission system and the energy production end user sector generates fluctuation and occasionally significant peaks to the demand. Together the industrial and energy production consumption sectors cover major share of the total gas consumption in Finland. Less than ten biggest end users cover a great share of total annual consumption. At the exit zone, with great technical capacity, but relatively small consumption the CWD methodology derives unreasonable reference prices for certain exit points. The spread between the highest and lowest reference price becomes large with the CWD reference price calculation method.

8 Postage stamp reference price methodology (TAR NC Article 26 (1)(a))

The postage stamp methodology is the proposed reference price methodology which is currently applied in the Finnish gas transmission system. The postage stamp methodology foresees one same reference price at all entries and one same reference price at all exits. The required inputs are the allowed revenue and the estimated capacity bookings. The reference price for each category of points is given by the targeted revenue for entry (respectively exit) divided by the total booked capacity, which is assumed for entry points (respectively exit points). Thus, the postage stamp methodology does not provide any locational signal, because the tariff is the same at each entry and each exit points.

In the postage stamp methodology, the reference price for entry and exit points is determined in the following way:

$$\text{Reference price, entry} = \frac{\text{Revenue to be collected from entry points}}{\text{Booked entry capacity}}$$

$$\text{Reference price, exit} = \frac{\text{Revenue to be collected from exit points}}{\text{Booked exit capacity}}$$

Finland is a part of common entry tariff zone with Estonia and Latvia, which means that under the ITC agreement the entry tariffs are equal for all entry points within the areas. There is also no tariff for Balticconnector capacity and the Balticconnector capacity is allocated by implicit capacity allocation mechanism.

The proposed tariff model is to continue applying the postage stamp hybrid model with the common entry tariff area with Estonia and Latvia with the ITC agreement in place (case 1). For the sake of comparison, also two other models are calculated, one of which is the postage stamp methodology without the common entry tariff area and without the ITC agreement but with ex-post entry-exit split so that share of entry gives the result of coordinated harmonized entry tariff of 0,14277 €/kWh/day/year to illustrate the impact of ICT agreement to the reference price (case 2). Second model is the postage stamp methodology with ex-ante entry-exit split of 50/50 without common entry-tariff area with Estonia and Latvia and without ITC agreement to compare the CWD and postage stamp calculations (case 3).

Table 15. Input values for postage stamp reference price calculations.

Estimated annual revenue to be collected by capacity tariffs	68 800 000 €
Annual domestic gas consumption	14 000 000 MWh
Transit flow from Finland to Estonia (Balticconnector exit)	6 000 000 MWh

Table 16. Exit capacity product shares based on historical booking patterns in Finland from 2023 and 2024 and Gasgrid estimates.

Capacity product (ExitZone, Fi)	Share [%]	Multiplier
Year	36	1
Quarter	34	1,1
Month	8	1,25
Day	14	2
Within-day	8	2,5

$$\text{Annualization factor} = \sum(\text{share of each capacity product} * \text{multiplier of each capacity product})$$

Annualization factor for exit capacity products based on 2023 and 2024 booking patterns and Gasgrid’s estimates of capacity shares is 1,31114

Table 17. Entry capacity product shares based on historical booking patterns in Finland from 2023 and 2024.

Capacity product (Entry, Fi)	Share [%]	Multiplier
Year	1	1
Quarter	29	1,1
Month	36	1,25
Day	31	1,5
Within-day	4	1,7

Annualization factor for Finnish entry capacity products based on 2023 and 2024 booking patterns capacity shares is 1,30009

Table 18. Entry capacity product shares based on historical booking patterns for entry points under ITC agreement (Fi, Ee, Lv) in 2023 and 2024.

Capacity product (Entry, ITC)	Share [%]	Multiplier
Year	38	1
Quarter	26	1,1
Month	16	1,25
Day	16	1,5
Within-day	2	1,7

Annualization factor for regional entry capacity products under ITC agreement based on 2023 and 2024 booking patterns capacity shares is 1,16675

8.1 Postage stamp calculation case 1 – with ITC agreement (proposed model)

The case 1 is the current and proposed tariff calculation model. In this model, the entry revenues are collected according to the ITC agreement. In this model exit flow from Balticconnector does not affect the revenue, as there is no tariff at Balticconnector and the entry revenue is re-distributed according to the gas consumption in each country. Annual end consumption estimate of 14 TWh is used in the calculations. Share of each capacity product is considered by using the annualization factor as follows:

$$\text{Annualized consumption} = \text{Forecasted consumption} * \text{annualization factor}$$

$$\text{Annualized entry} = 14\,000\,000 \text{ MWh} * 1,16675$$

$$\text{Annualized exit} = 14\,000\,000 \text{ MWh} * 1,31114$$

Table 19. Case 1 annualized entry and exit quantities.

Annualized entry	16 334 479	MWh
Annualized exit	18 355 960	MWh

Entry tariff is set by the ITC agreement to 0,14277 €/kWh/day/year. With the fixed entry price, the above presented annualized entry and exit quantity estimates and the targeted total yearly revenue of 68,8 M € to be collected from the capacity charges, the reference prices are as shown in the table below.

Table 20. Revenues and reference prices calculated for postage stamp method case 1.

Case 1 - ITC agreement		
Entry revenue	6 389 243	€
Exit revenue	62 410 757	€
Total revenue	68 800 000	€
Entry reference price	0,14277	€/kWh/day/year
Exit reference price	1,24101	€/kWh/day/year
Total reference price	1,38378	€/kWh/day/year

8.2 Postage stamp calculation case 2 – no ITC agreement, entry price set to 0,14277 €/kWh/day/year

In this case 2 the estimated flows are the same as in the case 1, but there is no ITC agreement in place, meaning that entry tariffs are collected based on the estimated capacity bookings instead of re-distributing the revenue from the entry capacity bookings based on the national consumption. Entry and exit capacity charges are also applied at Balticconnector in the case 2. As the tariffs in this case 2 are collected based on all entry and exit bookings, the estimated entry and exit flow quantity before annualization becomes 20 TWh/year when estimated Balticconnector quantities are included.

$$\text{Annualized entry} = 20\,000\,000 \text{ MWh} * 1,30009$$

$$\text{Annualized exit} = 20\,000\,000 \text{ MWh} * 1,31114$$

Table 21. Case 2 annualized entry and exit quantities.

Annualized entry	26 001 752	MWh
Annualized exit	26 222 800	MWh

The postage stamp method calculation for the case 2 then gives following results presented in the table below:

Table 22. Revenues and reference prices calculated for postage stamp method case 2.

Case 2 - No ITC agreement		
Entry revenue	10 170 603	€
Exit revenue	58 629 397	€

Total revenue	68 800 000	€
Entry reference price	0,14277	€/kWh/day/year
Exit reference price	0,81607	€/kWh/day/year
Total reference price	0,95884	€/kWh/day/year

The inclusion of transit flow increases the revenues collected from the entry and exit capacity charges which leads to lower exit reference price compared to case 1.

8.3 Postage stamp calculation case 3 – no ITC and entry/exit split 50/50

In the case 3, same entry and exit quantities are used as in the case 2, but the revenues are divided equally between entry and exit points. Same assumptions regarding ITC agreement and revenues collected from all entry and exit points based on estimated bookings are also used as with case 2, but entry reference price is not fixed to 0,14277 €/kWh/day/year as in case 2.

Table 23. Case 3 annualized entry and exit quantities.

Annualized entry	26 001 752	MWh
Annualized exit	26 222 800	MWh

The postage stamp calculation method gives following results for case 3:

Table 24. Revenues and reference prices calculated for postage stamp method case 3.

Case 3 - No ITC agreement, 50-50 entry-exit split		
Entry revenue	34 400 000	€
Exit revenue	34 400 000	€
Total revenue	68 800 000	€
Entry reference price	0,48289	€/kWh/day/year
Exit reference price	0,47882	€/kWh/day/year
Total reference price	0,96171	€/kWh/day/year

8.4 Information according to the Article 30(1)(b)(v)

In this section capacity-commodity split, entry-exit split and intra-system/cross-system split is calculated for all 3 cases described in the previous section.

Capacity-commodity split, meaning the breakdown between the revenue from capacity-based transmission tariffs and the revenue from commodity-based transmission tariffs, is calculated in a following way:

$$\text{Capacity share} = \frac{\text{Capacity revenue}}{\text{Total transmission service revenue}} * 100 \%$$

$$\text{Commodity share} = \frac{\text{Commodity revenue}}{\text{Total transmission service revenue}} * 100 \%$$

Table 25. Capacity-commodity split for all three cases calculated for postage stamp methodology.

Capacity-commodity split	Capacity	Commodity
Cases 1 - 3	95 %	5 %

Entry-exit split, meaning the breakdown between the revenue from capacity-based transmission tariffs at all entry points and the revenue from capacity-based transmission tariffs at all exit points, is calculated in a following way:

$$\text{Entry share} = \frac{\text{Entry revenue}}{\text{Total revenue collected by capacity tariffs}} * 100 \%$$

$$\text{Exit share} = \frac{\text{Exit revenue}}{\text{Total revenue collected by capacity tariffs}} * 100 \%$$

Table 26. Entry-exit splits for the three cases calculated for postage stamp methodology.

Entry-exit split	Entry	Exit
Case 1	9,3 %	90,7 %
Case 2	14,8 %	85,2 %
Case 3	50 %	50 %

Intra-system/cross-system split means the breakdown between the revenue from intra-system network use at both entry points and exit points and the revenue from cross-system network use at both entry points and exit points.

Table 27. Intra-system/cross-system splits for the three cases calculated for postage stamp methodology.

Intra-system/cross-system split	Intra	Cross
Case 1	100 % *	0 % *
Case 2	70 %	30 %
Case 3	70 %	30 %

* ITC mechanism redistributes the entry revenue based on domestic consumption. Thus, TSOs in the common tariff area do not collect revenue from cross-system flows.

8.5 Summary of the cases calculated by the postage stamp methodology

Table 28. Summary of the postage stamp calculation case results.

	Case 1 - ITC	Case 2 – no ITC	Case 3 – no ITC 50/50 split	unit
Entry revenue	6 389 243	10 170 603	34 400 000	€
Exit revenue	62 410 757	58 629 397	34 400 000	€

Total revenue	68 800 000	68 800 000	68 800 000	€
Entry reference price	0,14277	0,14277	0,48289	€/kWh/day/year
Exit reference price	1,24101	0,81607	0,47882	€/kWh/day/year
Total reference price	1,38378	0,95884	0,96171	€/kWh/day/year

8.6 Assessment of the proposed reference price methodology (TAR NC Article 7)

Gasgrid Finland proposes continue using postage stamp methodology including common entry-tariff area with Estonia and Latvia with ITC agreement (“postage stamp hybrid”).

In this section, the proposed RPM, postage stamp, is assessed against the requirements set by TAR NC.

- Postage stamp methodology enables shippers to reproduce the calculation of reference prices and their accurate forecast. Postage stamp methodology is simple, and the cost drivers are forecasted capacity and transmission service revenue collected by capacity tariffs.
- The postage stamp methodology enables better predictability for tariffs than CWD methodology although annual consumption may vary significantly due to the characteristics of Finnish gas users. In CWD, the decision of a single customer in certain pipeline branch may have significant impact on the transmission price level of the branch due to the change in the consumption in that area.
- Postage stamp methodology takes into account the actual costs incurred for the provision of transmission services considering the level of complexity of the transmission network. The feature of Finnish gas user portfolio is that there are a few big gas end users connected to the system, but a large number of small-scale users. The distances are relatively long, because Finland is sparsely populated country also in southern part of country where the transmission system is located. Also, there is great potential to transport much bigger gas quantities at the exit zone than it is currently used. With these facts, some of Finnish gas users would face unreasonably high reference prices by CWD methodology which would most likely lead to decreasing gas use, and further to increasing reference prices.
- Finland, Estonia and Latvia form a common tariff zone where entry reference price of common zone is harmonized. In all countries, postage stamp methodology is applied nationally so that revenue not collected by harmonized entry tariffs are collected by exit tariffs set on a national basis. ITC agreement concluded between Finnish, Estonian and Latvian TSOs re-distribute the collected entry revenue. Proposed methodology ensures that the resulting reference prices do not distort cross-border trade in the common tariff zone. Due to the ITC agreement, there is no tariff at Balticconnector at all, which facilitates cross-border trading between market areas.
- Methodology ensures that significant volume risk related particularly to transports across an entry-exit system is not assigned to final customers within that entry-exit system. Because of ITC agreement, the revenue collected from transit flows is re-distributed to the TSO whose area gas is consumed. The eligible variable costs caused by regional flow is compensated according to the principles of ITC mechanism. Transit flow (inside the common tariff zone) equals to the flow through Balticconnector exit point. ITC mechanism set the revenue sharing so that the country using gas and using its gas infrastructure for transporting gas from country to another inside the common tariff zone, gets compensated. Market area of common tariff zone is an end user market which means the use of common tariff zone area for transit purposes is limited.
- The postage stamp methodology makes it possible to apply the exit zone principle which is currently applied in Finland giving flexibility for market participants. The postage stamp methodology enables to import gas through entry point from where it is cheapest. If the CWD methodology were used to determine different

prices for the pick-up points, the shipper would have to book exit capacity for each exit point separately due to the different reference prices. Diverging transmission tariffs for entry capacity would also mean that it might not be possible to transport gas from where it would be the cheapest.

9 Connection capacity charge

Gasgrid Finland has proposed to amend the transmission service pricing model by introducing new tariff component, namely connection capacity charge which is designed to be based on the connection capacity agreed in the connection agreement between the connecting party (either transmission network end user or distribution system operator) and Gasgrid Finland.

The connection capacity charge would be part of the tariff model for transmission services, and the addition of the connection capacity charge itself would not affect the level of reasonable return on gas transmission, which is still determined according to the Energy Authority's regulatory method.

9.1 Challenges of the Current Gas Transmission Tariff Model

9.1.1 The Current Tariff Model Favors Network Users with Unpredictable Consumption

The gas consumption profile in energy production has changed significantly in recent years. Nowadays, energy production primarily uses gas during peak consumption periods (Figure 7 and 8), resulting in low gas usage for most of the year (Figure 9). On the other hand, industrial end-users require gas more consistently throughout the year. Regardless of the gas consumption profile of network users, the gas transmission infrastructure is available to all operators year-round, and the system's transmission capacity is maintained to meet peak demand needs. Since the current gas transmission tariff model is based on consumption-based capacity and commodity charges, an increasing share of gas transmission costs is borne by industrial end-users, posing a challenge to the equal treatment of network users.

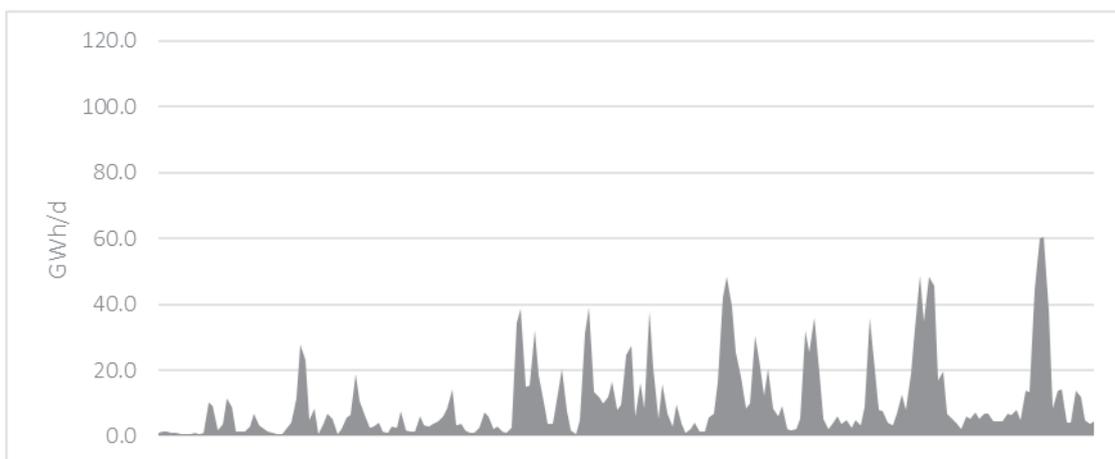


Figure 7. Gas Transmission Volume in Energy Production During Winter Season 24/25.

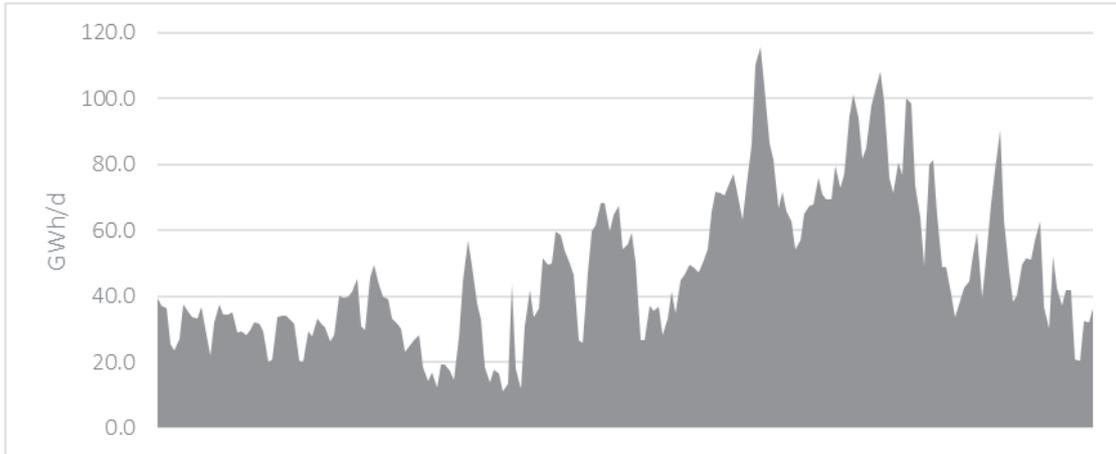


Figure 8. Gas Transmission Volume in Energy Production During Winter Season 20/21.

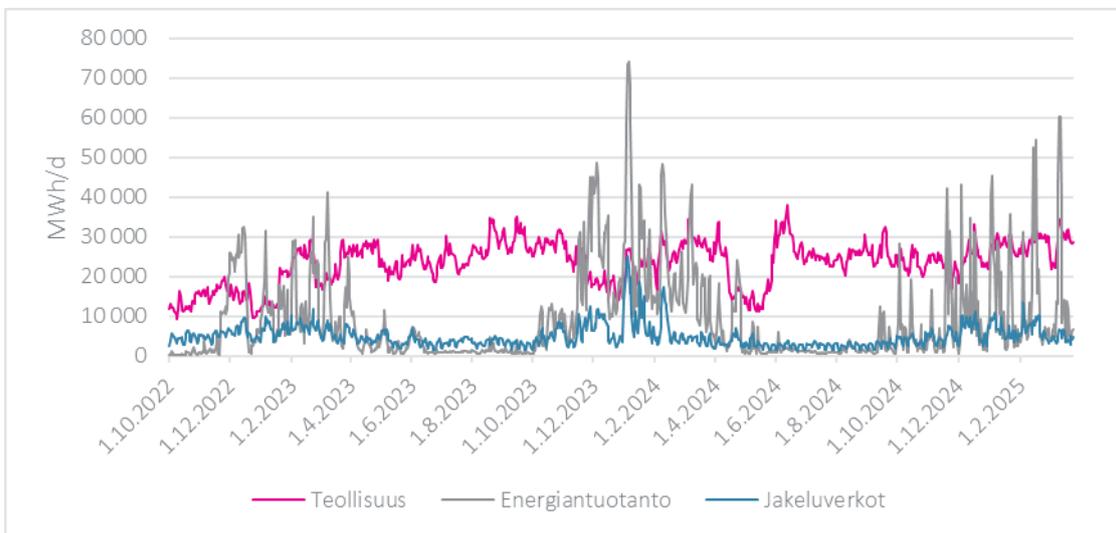


Figure 9. Gas consumption per segment (Teollisuus = Industrial, Energiantuotanto = Energy production, Jakeluverkot = Distribution networks)

9.1.2 Unpredictable Use of Transmission Products Causes Challenges in Managing Surplus and Deficit Revenue

Energy production significantly impacts the daily revenue of gas transmission (Figure 10). Operating weather-dependent and energy market-driven variable energy production and booking gas transmission capacity typically with short notice through short-term capacity products makes the predictability of gas transmission needs challenging and thus the appropriate tariff level for achieving the allowed return in the future.

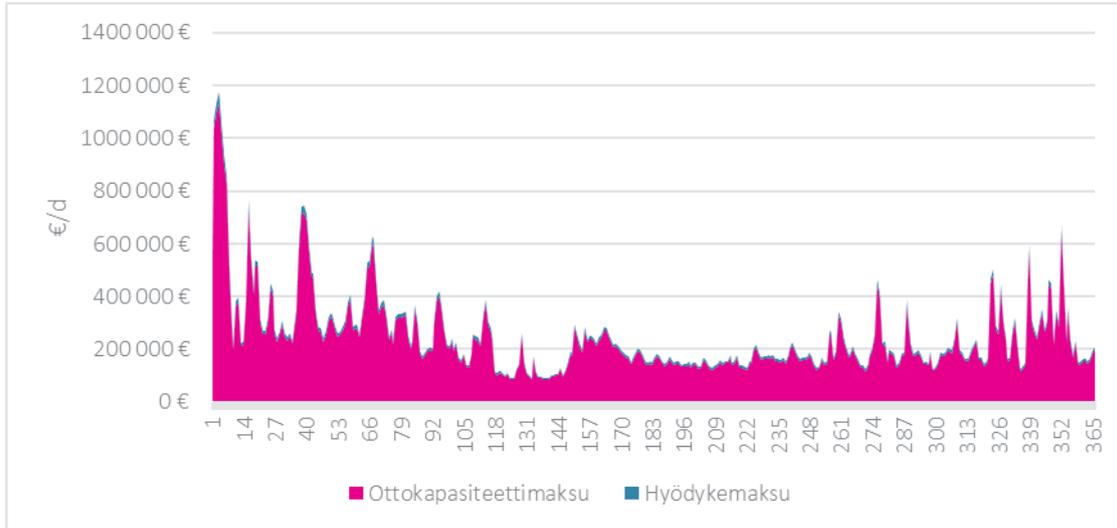


Figure 10. Modeled daily revenue for the exit zone under the current tariff model, based on the example year 2024 (magenta color exit capacity charge and blue commodity charge).

To manage under- and over-recovery of revenue, the alternatives are: 1) increasing the reference prices in the current tariff model, which would further increase the share of transmission costs borne by the industrial sector; or 2) changing the tariff model to be more equal among different network users by introducing the so-called connection capacity charge component.

9.2 Connection capacity charge as part of the tariff model

The current gas transmission tariff model at the Finnish exit zone is based on two components: exit capacity products, which are charged according to the tariffs of booked capacity products, and a commodity charge, which is charged based on the amount of gas transmitted. The connection capacity charge would be a new complementary component that, together with the exit capacity products and the commodity charge, would form the future gas transmission tariff model.

The change in the transmission tariff model would not affect the allowed revenue for the TSO. The purpose of the connection capacity charge is to increase the predictability of transmission service revenue and the equal treatment of network users in a situation where gas demand is difficult to predict.

For end-users of the transmission network, the connection capacity charge would be based on the connection capacity of each connection point. The connection capacity charge would be invoiced to each shipper delivering gas to each connection point monthly in the same way as capacity products and commodity charges are currently invoiced. The connection capacity charge would remain fixed for a year, but the basis for invoicing the connection capacity charge would be determined daily. The connection capacity charge would be transferred to a new shipper from the gas delivery day when the new shipper takes responsibility for the gas deliveries to the consumption point. End-users of the transmission network would be responsible for reporting their connection capacities to their shippers. The connection capacity must correspond to the value stated in the valid connection agreement. The connection capacity could be reviewed once a year, with the transmission network end users report changes to their connection capacity by the end of September, and the updated connection capacities take effect at the beginning of the next calendar year.

For distribution networks, the principles of the connection capacity charge would be the same as above, but the charge would be collected from the distribution network operator instead of the shipper, as multiple shippers can deliver gas through the same connection point between the transmission and distribution networks. The distribution network operator could pass the connection capacity charge on to their connection customers as part of the distribution service. The distribution network operator is responsible for invoicing network services from end-users connected to the distribution network unless the distribution network operator has agreed separately on joint billing with the retailer supplying the end-user. In this case, too, the distribution network operator could pass the connection capacity charge on.

The aggregated connection capacities are several times greater than the current transmission capability. The aggregated connection capacities, including the transmission network end user connection capacities and the city-gates (connection points between TSO and DSO networks) are approximately 18 500 MW while the transmission capability is over 6 000 MW (app. 140 GWh/day). However, instantaneous capacity may be higher than capacity corresponding to the daily consumption of 140 GWh/day. The target of the connection capacity charge is to collect part (approximately 20 % for 2026) of the transmission service revenue by the connection capacity charge.

9.2.1 The connection capacity charge will be based on the capacity agreed in the connection agreement

The connection capacity charge in Finland is proposed to be based on the connection capacity of end-users in the transmission network and, for distribution networks, on the connection capacity at the *city-gate* between the transmission and distribution networks for the following reasons:

1. The connection capacity of network users remains stable, which increases the predictability of transmission pricing and cost predictability for network users.
2. In the gas transmission system, it is not necessary to limit the capacity demand of network users below their technical upper limit, i.e., connection capacity. Limiting it would not avoid future investments (cf. the electricity network). However, it would be possible to review the connection capacity annually.

As the connection capacity charge is proposed to be based on connection capacity agreed in the connection agreement the actual consumption must not exceed the connection capacity. If the actual hourly consumption (MWh/h) would exceed the connection capacity agreed in the connection agreement, a penalty charge for the breach of contract shall be imposed on shippers in situations where the user's declared capacity demand is exceeded. The penalty review period and billing cycle is the calendar year. The penalty charge for the year 2026 is three times the capacity fee.

The penalty charge is calculated as follows:

Penalty charge for exceeding the connection agreement capacity [€] = 3 * (Highest consumption during the review period [MW] – connection capacity [MW]) * connection capacity charge [€]

The penalty charge shall be invoiced after the calendar year.

The penalty charge is designed so that it does not have a negative, consumption-reducing effect in situations where the use of gas is necessary (electricity shortage). On the other hand, it should steer network users not to underestimate the connection capacity demand. The connection capacity penalty charge is proposed to be charged for the part where the factual connection capacity exceeds the capacity agreed in the connection agreement.

If network users were to review their connection capacity downwards in connection with the introduction of the connection capacity charge, this would have a decreasing effect on the revenue collected through this price component. However, the revenue collected through the connection capacity charge is aimed at being kept stable, so the reduction in connection capacity would create a need to increase the unit price of the connection capacity charge. The effects of the connection capacity charge on the tariff model are presented in the next section (9.3).

9.2.2 The connection capacity charge is the complementary charge recognized by the Commission Regulation (EU) 2017/460 ('Tariff Network Code')

The purpose of the connection capacity charge is to increase the predictability of the revenue from transmission services, as stated above. From the perspective of the tariff network code, the connection capacity charge can be considered a so-called complementary charge in accordance with the tariff network code. Part of the revenue from transmission services can be covered by complementary charges, provided that the charge is levied to manage under- and over-recovery of revenue (TAR NC 4(3)). The complementary charge must be calculated based on forecasted or actual capacity allocations and flows, or both. Additionally, the complementary charge can only be applied at points other than interconnection points and only after the national regulatory authority has assessed its cost-reflectiveness and its impact on cross-subsidization between interconnection points and other points.

9.2.3 Allowed Increases in Transmission Tariffs in the Natural Gas Market Act

Gasgrid Finland sets the charges for transmission services within the limits of a reasonable return. Pricing may need to be adjusted if the actual outcome results in a deficit or surplus, or is forecasted to do so. The Natural Gas Market Act stipulates that the TSO may increase the charges for gas transmission by a maximum of 15 percent compared to the charges collected during the preceding 12 months (Section 24 of the Natural Gas Market Act). The Natural Gas Market Act does not specifically address how this provision should be applied in a situation where the tariff model for transmission services changes.

9.3 The connection capacity charge can solve the challenges of the current tariff model

9.3.1 The connection capacity charge would improve the manageability of under- and over-recovery of revenue, and create conditions for more predictable and stable pricing

The fixed component introduced by the connection capacity charge to the tariff model (in the model, the capacity charge corresponds approximately 20 % of the total revenue targeted from transmission services) would reduce the share of consumption-based components and thus the share of more unpredictable demand in the total amount of transmission tariffs (Figure 11). This would increase the predictability of the allowed revenue from gas transmission as well as the predictability of gas transmission costs for network users. In addition to balancing intra-year variations, the connection capacity charge component could also reduce the risk of price fluctuations between different years.

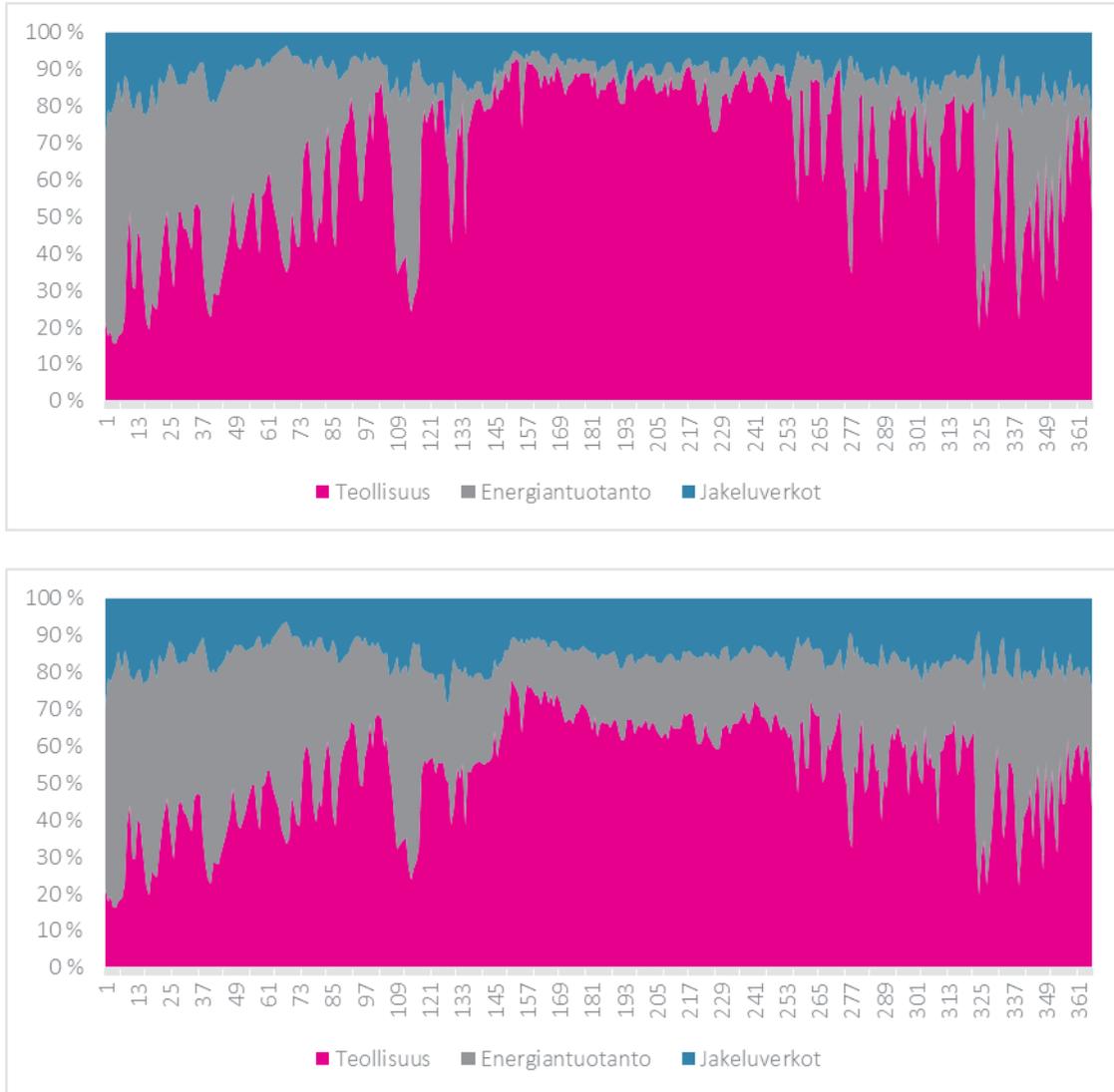


Figure 11. Modeled distribution of exit zone revenue with the current tariff model (upper figure) and with the connection capacity charge component (lower figure), based on the example year 2024 (industry (red); energy production (grey) and distribution (blue))

Adding a connection capacity charge to the tariff model would balance the distribution of total revenue across different segments. According to the modeling, the connection capacity charge would reduce the share of industrial users, while the share of energy production and distribution networks in the revenue would increase.

Although adding the connection capacity charge to the tariff model would increase gas transmission costs for energy production and distribution networks compared to industrial users, the changes relative to the cost of consumed gas would remain moderate. For example, relative to a gas price of €30/MWh, the cost change would be a few percent without considering emission allowance and transmission costs. Relative to connection capacity, the share of tariffs for industrial users would remain significantly higher than for energy production and distribution networks even after adding the capacity charge, as the share of other transmission tariff components for industrial users would still remain dominant.

9.4 Indicative connection capacity charge unit prices

The designed connection capacity charge for the tariff period 2026 is proposed to be 1188,74 €/MW. This would cover approximately 20 % of the targeted transmission service revenue for 2026.

The connection capacity penalty charge is proposed to be charged for the part where the factual connection capacity exceeds the capacity agreed in the connection agreement. The connection capacity penalty charge is proposed to be 3 times the connection capacity charge.

In this consultation material, the unit prices described above are indicative, and the final transmission service prices for 2026 shall be published by November 30, 2025.

10 Tariff discounts for renewable and low-carbon gases

The amended regulation (EU) 2024/1789 of the European Parliament and of the Council on the internal market for renewable gas, natural gas, and hydrogen sets a fundamental obligation for transmission system operators to apply a tariff reduction at entry injection points for renewable and low-carbon gas. In order to exploit the most economic locations for the production of renewable gas and low-carbon gas, network users should benefit from discounts in capacity-based tariffs. The reduction recognized in the regulation is 100% for renewable gas and 75% for low-carbon gas. The discount should not affect the general tariff setting methodology but should be provided ex post on the relevant tariff. In order to benefit from the discount, network users should submit to the TSO the required information (Proof of Sustainability or the Guarantees of Origin as the case may be).

Gasgrid Finland proposes that the discounts according to Article 18 of Regulation (EU) 2024/1789 be implemented from the start of the tariff period 2026 (1 January 2026 at 07:00 EE(S)T). At the entry points of the Finnish gas system where renewable gas is injected into the network from renewable gas production facilities, Gasgrid proposes a 100% discount on the entry capacity tariff. At the entry points of the Finnish gas system where low-carbon gas is injected into the network from low-carbon gas production facility, Gasgrid proposes a 75% discount on the entry capacity tariff.

For the renewable and low-carbon gases fulfilling the criteria for allowing the discount, the invoicing of entry capacity products would be carried out in the same manner as currently, and the tariff discounts would be implemented through the refund procedure defined by the regulation, where capacity tariffs would be refunded ex-post when the shipper demonstrates in the provided sustainability certificate or guarantees of origin the renewability of the gas injected into the Finnish gas system from the production facility or the low-carbon nature of the gas injected into the Finnish gas system in the provided sustainability certificate (proof of sustainability). The discount is granted for renewable or low-carbon gas that is physically injected into the Finnish gas system from a renewable or low-carbon gas production facility directly connected to the gas system.

The Finnish gas system also has so-called container entry points, which enable the injection of renewable or low-carbon gas into the Finnish gas system from a renewable or low-carbon gas production facility located outside the network (*offgrid*). A discount can be granted for such a container entry point if the shipper can demonstrate in the sustainability certificate (proof of sustainability) that the container from which the renewable or low-carbon gas is injected into the Finnish gas system has been transported by the most direct route from the renewable or low-carbon gas production facility.

11 Comparison of the proposed reference price methodology and the CWD methodology described in the TAR NC Article 8

Where the proposed reference price methodology is other than the capacity weighted distance reference price methodology, the latter should serve as a counterfactual for comparison with the proposed reference price methodology. In order to compare the reference prices calculated by CWD methodology and postage stamp methodology, entry exit split of 50/50 is assumed. For postage stamp methodology, this is the case 3 presented in section 8.3. above. The comparison of CWD and postage stamp gives the following results:

Table 29. Comparison of the reference prices of CWD and postage stamp methodologies [€/kWh/day/year].

Entry point	CWD	Postage stamp - no ITC	Difference
Inkoo LNG entry	0,3994	0,4829	-0,0835
Balticconnector entry	0,7844	0,4829	0,3015
Hamina LNG entry	0,7239	0,4829	0,2410

Exit point	CWD	Postage stamp - no ITC	Difference
Kyrokoski branch	2,7981	0,4788	2,3193
Nokia branch	5,5055	0,4788	5,0267
Marjamäki - Nokia	1,2727	0,4788	0,7939
Kangasala branch	1,0710	0,4788	0,5922
Hämeenlinna - Marjamäki	0,7263	0,4788	0,2475
Mäntsälä - Hämeenlinna	0,4729	0,4788	-0,0059
Leipälänkulma - Mäntsälä	0,5076	0,4788	0,0288
Lahti branch	2,9912	0,4788	2,5124
Kouvola - Leipälänkulma	0,4801	0,4788	0,0012
Kotka branch	0,8656	0,4788	0,3868
Hanhijärvi - Kouvola	1,4218	0,4788	0,9430
Lappeenranta branch	8,2534	0,4788	7,7746
Imatra - Hanhijärvi	0,6209	0,4788	0,1421
Mäntsälä - Pölans	0,3808	0,4788	-0,0980
Mäntsälä - Suurmetsäntie	1,6942	0,4788	1,2154
Suurmetsäntie - Vihdintie	0,2671	0,4788	-0,2118
Martinlaakso branch	1,4063	0,4788	0,9274
Vihdintie - Djupström - Pölans	0,4022	0,4788	-0,0766
Pölans - Kirkniemi	0,6478	0,4788	0,1690
Inkoo - BC offshore	0,0105	0,4788	-0,4683
Imatra branch	2,5221	0,4788	2,0433
Porvoo branch	0,8135	0,4788	0,3346
Vuosaari branch	0,5024	0,4788	0,0235
Suomenoja branch	0,6890	0,4788	0,2102
Kuusankoski branch	0,4656	0,4788	-0,0132
Kilpilahti branch	0,1938	0,4788	-0,2851

Reference prices calculated according to the CWD methodology results in high price differences in the system. Such tariff differentiation would impact on competition between points in the Finnish transmission system. Instead, uniform capacity tariffs according to the postage stamp methodology provides more transparent price signal compared to the CWD. It enables shippers to reproduce the tariff calculation based on the total expected capacity bookings.

The flow patterns have an impact on the reference prices calculated by CWD methodology while postage stamp methodology does not consider which point is used and how much. ITC agreement is not part of the comparison, because CWD calculation with ITC mechanism is not possible. The cost drivers of CWD are distance and capacity of each entry and exit point separately. If market situation changes so that one year gas is cheaper to be transported through one point and another year gas is cheaper to be transported through another point, this would change the reference prices significantly so that the reference price of entry point through which gas is forecasted to be injected more into the gas system decreases while another point the reference price increases.

In Finland, top 10 gas end users use a major share of Finnish annual consumption. The share of few big end users of total Finnish consumption is significant. This is reflected on the results of CWD and postage stamp methodology comparison. Where the annual consumption is high and closer to the technical capacity, these drives have decreasing impact on the reference price as the cost drivers are capacity and distance. High technical capacity and low forecasted capacity have an increasing impact on the reference price in CWD.

In some clustered exit points the gas consumption has decreased significantly during the last decade. Combining this with high technical capacity, the CWD gives higher reference prices than postage stamp methodology. On the contrary, in the entry or exit points where forecasted capacity is high and the technical capacity is utilized relatively well, the CWD gives lower reference prices than postage stamp methodology.

CWD sets out the exit points where the technical capacity is high, but consumption is low to unreasonable reference prices. The distances between entry and exit points are quite long in Finland. Price differences resulting from the CWD calculation method are remarkable and could cause some end users to have to stop using gas due to unreasonably high tariffs and have a negative impact on the Finnish gas consumption. Decreasing consumption due to this reason would mean also higher prices for the remaining gas end users as the revenue would have to be collected from smaller gas quantities driving the unit prices of the tariffs up.

Since the CWD methodology determines a separate reference price for each entry and exit point, the Finnish exit zone principle could not be applied due to different reference prices in each exit point. The different reference prices would require market participants to book capacity for each exit point. As a result, a market participant would not be able to book capacity for the exit zone, but it would have to book capacity for its consumption sites separately.

12 TAR NC article 26(1)(a)(2)(ii): The value of the proposed adjustments for capacity-based transmission tariffs pursuant to TAR NC Article 9

Article 9 sets the requirements for adjustments of tariffs at entry points from and exit points to storage facilities and at entry points from LNG facilities and infrastructure ending isolation.

There are no storage facilities within the Finnish gas transmission system. There are two LNG terminals connected to the Finnish gas transmission network. No discounts are foreseen to be applied in 2026 for the above-mentioned points.

The amended regulation (EU) 2024/1789 of the European Parliament and of the Council on the internal market for renewable gas, natural gas, and hydrogen sets a fundamental obligation for transmission system operators to apply a tariff reduction at entry injection points for renewable and low-carbon gas. The discount of 100 % is proposed to be applied for renewable gas and 75 % for low carbon gas injected into the Finnish gas system starting from January 1, 2026.

Please provide your opinion directly to the Finnish Energy Authority regarding the tariff multipliers, discounts and seasonal factors to the consultation organized by the Finnish Energy Authority in parallel with this consultation.

13 Commodity-based transmission tariff (TAR NC Article 26 (c)(i))

Commodity tariff is flow-based tariff which is collected from the exit zone. Due to the ITC agreement, compressor costs caused by regional flow (exit through Balticconnector), are compensated via the agreement. A major part of the flow-based costs is caused by the compressor stations – more specifically the compressor units' gas and electricity which is used for the own use. A flow-based charge provides a way of recovering the associated costs from shippers in a cost-reflective manner.

The commodity-based tariff is targeted to be set so that it covers the flow-based costs of domestic gas consumption. For the year 2026, the target revenue to be collected by commodity tariff is 3.80 M€. Most of the costs are estimated to be caused by the commodity compensation of the pressure reduction stations as well as the use of the Inkoo compressor unit. The consumption of gas-fueled compressor stations in Finland has been low. The costs arising from these factors are proportionately charged to shippers through flow-based commodity charge.

In the commodity charge calculation, it is estimated that domestic gas consumption would be 14 TWh. This results to the commodity charge of 0,00027143 €/kWh (= 0,27143 €/MWh) in 2026.

14 Non-transmission tariffs (TAR NC Article 26 (c)(ii))

14.1 Centralized data exchange charge (= Datahub charge)

Starting from the Finnish gas market opening in 2020, centralized data exchange system, datahub, was introduced in the retail market. Retailers and distribution system operators are carrying out their retail market processes through the datahub. The datahub is operated by Gasgrid Finland. Since the system has a legal monopoly in the provision of its services, the regulation method for pricing of the services was established on 1st of July 2020. Supervision of datahub's operation is entrusted to the Energy Authority.

The DSO is charged with regard to the consumption sites in distribution networks owned or operated by the DSO for which information is maintained in the register of centralized data exchange system (= all daily or non-daily read metering sites in the distribution network except small-scale individual non-daily read sites using gas only for cooking purposes).

According to the principles of regulation method for datahub service, the target turnover to be collected by datahub charge is 60 000 € in 2026. Gasgrid Finland is entitled to collect regulated profit from datahub service. There are

approximately 3 900 delivery points which are subject to the invoice of the datahub charge. The datahub charge for 2025 is 1,29 €/metering point/month.

14.2 Balticconnector underutilization fee

Underutilization fee is applicable in the Balticconnector entry and exit points and it is applied only during days, when Balticconnector is congested. The principles regarding the underutilization fee are determined in the terms and conditions of Balticconnector. Shippers may renominate downward in the Balticconnector free of charge a maximum of tolerance set by the TSO. The TSO may change the tolerance limit between 10 000 and 50 000 kWh/h, taking into account the operational operating limits of the Finnish natural gas system. The underutilization fee of 0,002 €/kWh is charged to the shipper for the amount exceeding the tolerance limit.

15 Cost allocation assessment (TAR NC Article 5)

As part of the periodic consultation, two assessments are performed to comply with the principle of avoiding cross-subsidies between network uses. One assessment is for capacity charges, the other is for commodity charges. According to article 5 of TAR NC, the assessments involve calculations that may be based on forecasted revenues, bookings, flows and cost drivers, potentially based on historical data. Gasgrid Finland, Elering AS and Conexus Baltic Grid form a common tariff zone. Thus, cross-border exit flows in Finland (equals to exit flows through Balticconnector) are still intra-flows from common tariff zone point of view, because Balticconnector entry and exit tariffs are removed. In this consultation the definition transit flow is used to describe the flows entering Finnish gas system and exiting through BC. For instance, the common tariff area enables that gas can be transported from Inkoo LNG entry point through Finnish gas system to Incukalns gas storage and withdraw gas quantities later back to Finnish gas system for end consumption. Shippers need to pay entry tariff as gas is entered to common tariff one and exit tariff as gas is transported for end consumption. With the ITC agreement, there are no tariffs between Finland and Estonia and Estonia and Latvia.

15.1 Cost allocation assessment for capacity-based tariffs

A cost allocation assessment relating to the transmission services revenue to be recovered by commodity-based transmission tariffs shall be based exclusively on one the following cost drivers:

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

In Finland the assessment is performed by choosing the cost driver of forecasted contracted capacity.

In Finland, the only exit point to the neighboring gas system is Balticconnector. Thus, the booked exit capacity BC equals the cross-system use.

For the cost allocation assessment, the forecasted contracted capacity values are used. This approach reflects the expected revenue collection of intra-system use and cross-system use. The proposed reference price methodology, postage stamp, is used in the calculation.

The **intra-system capacity ratio** is calculated as follows:

$$Ratio_{cap}^{intra} = \frac{Revenue_{cap}^{intra}}{Driver_{cap}^{intra}}, \text{ where}$$

$Revenue_{cap}^{intra}$ is the revenue obtained from the capacity tariffs and charged for intra-system network use

$Driver_{cap}^{intra}$ is the value of capacity related cost driver for intra-system network use such as the sum of average yearly forecasted contracted capacity at each intra-system entry point and intra-system cluster of exit points.

The **cross-system capacity ratio** is calculated as follows:

$$Ratio_{cap}^{cross} = \frac{Revenue_{cap}^{cross}}{Driver_{cap}^{cross}}, \text{ where}$$

$Revenue_{cap}^{cross}$ is the revenue obtained from the capacity tariffs and charged for cross-system network use

$Driver_{cap}^{cross}$ is the value of capacity related cost driver for cross-system network use such as the sum of average yearly forecasted contracted capacity at each cross-system entry or exit point.

The **capacity cost allocation comparison index** between the ratios presented above is calculated as follows:

$$Comp_{cap} = \frac{2 * |Ratio_{cap}^{intra} - Ratio_{cap}^{cross}|}{Ratio_{cap}^{intra} + Ratio_{cap}^{cross}} * 100\%$$

Calculation is based on the flow scenario, where domestic yearly consumption in Finland is 14 TWh and transit flow from Finland to Estonia is 6 TWh/year. The expected revenue to be collected from the transmission service capacity charges is 68,8 M€/year and it has been split between the entry and exit capacity charges based on the forecasted annualized entry and exit capacity values and tariffs presented previously in the postage stamp calculation case 1 of this consultation, with the ITC agreement in place.

The calculations result in following values:

Table 30. Values for CAA calculation for capacity-based tariffs.

Capacity revenue	68 800 000	€
Entry share	9 %	%
Exit share	91 %	%
Entry revenue	6 389 243	€
Exit revenue	62 410 757	€
Entry revenue dedicated for intra	6 389 243	€
Entry revenue dedicated for cross	0*	€
Exit revenue dedicated for intra	62 410 757	€
Exit revenue dedicated for cross	0**	€
Revenue for intra	68 800 000	€

Revenue for cross	0*	€
Cost driver for entry intra	16 334 479	MWh
Cost driver for exit intra	18 355 960	MWh
Cost driver for intra	34 690 439	MWh
Cost driver for entry cross	7 000 491	MWh
Cost driver for exit cross	7 866 840	MWh
Cost driver for cross	14 867 331	MWh
Ratio intra	1,98	
Ratio cross	0	
CAA (Comp_{cap})	200	%

* Gasgrid Finland will not collect revenue from transit flows due to ITC agreement and no tariff at Balticconnector

**Due to ITC agreement there is no tariff at Balticconnector

As a result, the CAA gives the value of 200 %. According to article 5(6) of TAR NC, Where the results of the capacity cost allocation comparison indexes, exceed 10 percent, the NRA shall provide the justification for such results in the decision. The reason for exceeding the 10 % limit in CAA is the ITC agreement.

ITC agreement, which enables the establishment of common entry-tariff zone, has a major impact to the CAA calculation due to the following reasons:

- 1) All entry revenue collected from transit flow will be re-distributed so that Gasgrid Finland do not collect revenue from capacity tariffs from transit flows as these revenues are collected to entry revenue pool.
- 2) There is no tariff at all in Balticconnector exit point which is the only exit point which is used for cross-system use.

Gasgrid Finland, Elering AS and Conexus Baltic Grid form a common tariff zone. In this consultation the definition transit flow is used to describe the flows entering Finnish gas system and exiting through BC. Even though exiting Finnish gas system, gas flow stays inside the common tariff zone. The common tariff zone consists of the areas of 3 TSOs with individual regulatory methods so in this context 'transit flow' is used although gas flow stays inside the common tariff zone.

The CAA results to high value, because Gasgrid Finland do not collect any revenue from transit flows, but do not pay any costs caused by regional flow due to compensation mechanism according to the principles of ITC agreement. This approach facilitates cross-border trading, because the tariff removal from Balticconnector and entry revenue re-distribution enables market participants to operate in a bigger market area in terms of number of market participants and alternative entry points. Also, this approach removes the 'pancaking' between the borders of two separate balancing zones – balancing zone of Finnish market area and balancing zone of Estonian-Latvian market area. Without common tariff zone, entry and exit revenue would be collected similarly from transit and intra flows. If cross-system revenue would be collected from Balticconnector, which means common tariff zone does not exist, it is seen as a factor of slowing down the development of gas market and competition in Finland as the cross-border trading activity would most probably decrease due to entry and exit tariffs at Balticconnector.

15.2 Cost allocation assessment for commodity-based tariffs

The commodity assessment compares transmission service revenue collected by commodity charges for intra-system and cross-system network use taking into account cost drivers. The commodity assessment compares the intra-system commodity ratio to the cross-system commodity ratio.

Commodity tariff will be set for Finnish exit zone. Because there is no tariff at Balticconnector, there is no commodity charge at Balticconnector exit point. Cross-system commodity costs are covered by the mechanism described in the ITC agreement. The mechanism description can be found from section 5. of this consultation. The cost incurred from the transit flows are included into the calculation so that the TSO operating its system for transit can reduce the incurred costs from the common entry revenue pool and get the compensation.

The target revenue to be collected by commodity tariff is 3,8 M€. The transit flow costs are considered as setting the target revenue so that the total commodity charge revenue is adjusted to deal with the flows of intra-system use.

Because there is no commodity component for cross-system exit point, the result of CAA is 200 %. The reason for exceeding the value of 10 % is the ITC agreement which sets no tariff for Balticconnector and flow-based the entry revenue redistributed based on the national consumption among the TSOs of common tariff zone.

16 The simplified tariff model according to TAR NC 30 (2)(b)

The simplified tariff model can be found from Gasgrid Finland's website: <https://gasgrid.fi/en/our-services/transmission-tariffs-and-service-price-list/>

17 Transmission tariff levels (Indicative information set out in Article 30(2))

In this chapter, the indicative transmission tariff levels are described. The final tariffs will be published by November 30, 2025.

The preliminary transfer and service prices for the tariff period 2026 are described in the price list below. The target revenue for transmission services is estimated to be approximately €5 million higher in 2027 than in 2026 (€95 million vs. €100 million). With the target revenue outlook being over 5% higher in 2027 compared to the previous year, there is an upward pressure on transmission service pricing for 2027. However, transmission service pricing is influenced by gas usage levels and market outlooks both in the current and upcoming year, which means the estimate contains significant uncertainties.

Please note that the Finnish Energy Authority is organizing the consultation on the capacity product multipliers, discounts and seasonal factors in parallel with this reference price methodology consultation. Please provide your opinions regarding these elements to the Finnish NRA. Further information can be found from the website of the Finnish Energy Authority.

Indicative transmission tariffs and service prices in tariff period 2026 (1.1.2026 07:00 EET - 1.1.2027 07:00 EET)

In Finland, the *postage stamp* reference price methodology is applied. In the postage stamp methodology, the distance between entry and exit points or the technical transmission capacity do not affect the unit price of entry or exit capacity, but the tariff for entry or exit capacity is the same for all entry or exit points.

Firm capacity products

The price of yearly capacity product (= reference price)	
Entry capacity	
Balticconnector	– €/kWh/day/year
Biogas virtual entry point	0,14277 €/kWh/day/year (0,39115 €/MWh)
Hamina LNG entry point	0,14277 €/kWh/day/year
Imatra	0,14277 €/kWh/day/year
Inkoo LNG entry point	0,14277 €/kWh/day/year
Exit capacity	
Balticconnector	– €/kWh/day/year
Finnish exit zone	1,24101 €/kWh/day/year (3,40002 €/MWh)

The price of short-term entry capacity products	
Entry Capacity product	Tariff multiplier
Year (= reference price)	1,00
Quarter	1,10
Month	1,25
Day	1,50
Within-day	1,70
Capacity overrun	1,5 x 1,7 = 2,55

The price of short-term exit capacity products	
Exit Capacity product	Tariff multiplier
Year (= reference price)	1,00
Quarter	1,10
Month	1,25
Day	2,0
Within-day	2,50

The price of short-term exit capacity products	
Exit Capacity product	Tariff multiplier
Year (= reference price)	1,00
Capacity overrun	1,5 x 2,5 = 3,75

The tariffs for short-term capacity products are calculated by multiplying the reference price (the price of an annual capacity product) by the tariff multiplier of short-term capacity products.

Example (imaginary numbers): The tariff of monthly capacity at the Finnish exit zone:

$$Tariff = (1,24101 \times 1,25) \text{ €/kWh/day/month} = 1,55126 \text{ €/kWh/day/month}$$

Connection capacity charge

The unit price of the connection capacity charge is €1188.74/MW.

The connection capacity charge is based on the connection capacity specified in the connection agreement for each delivery point. The actual usage of the connection must not exceed the connection capacity specified in the agreement. For example, if the connection capacity specified in the agreement is 100 MW, this results in an annual connection capacity charge of €118 874. The connection capacity is planned to be invoiced monthly.

If the actual hourly consumption at the usage location exceeds the connection capacity specified in the agreement, a penalty charge will be levied for the excess part due to the violation. The review period and billing cycle for the penalty charge is the calendar year. The penalty charge in 2026 is three times the connection capacity charge.

The penalty charge is calculated as follows:

$$\text{Penalty charge for exceeding the connection capacity [€]} = 3 * (\text{Maximum capacity during the review period [MW]} - \text{connection capacity [MW]}) * \text{connection capacity [€]}$$

Commodity charge

Commodity charge (= energy charge) is charged at Finnish exit zone.	
Based on the transported gas quantity	0,00027143 €/kWh (0,27143 €/MWh)

Interruptible capacity

At Inkoo LNG entry point, Hamina LNG entry point and biogas virtual entry point, there is no discount for interruptible capacity, because Gasgrid Finland foresees to be able to receive LNG fulfilling the quality

requirements without limitation meaning that only firm capacity will be offered. Only firm capacity is offered also at the Finnish exit zone.

At Balticconnector, capacity is allocated according to the confirmed nominations. Thus, only firm capacity is offered.

The price of interruptible capacity at the Imatra entry point is 5% lower than that of equivalent firm capacity products. However, capacity at the Imatra entry point is not available to market participants.

Capacity overrun charge

Capacity overrun charge

Capacity overrun charge pricing: One and a half (1,5) times the unit price based on within-day firm capacity will be charged for the quantity exceeding the booked capacity.

Capacity overrun charge = reference price × 1,5 × multiplier of for withinday capacity

Capacity overrun charge is paid at the exit zone, biogas virtual entry point and Inkoo LNG entry point.

Finnish exit zone: If, based on the results of the final balance settlement, exit quantities during the gas day to the domestic end consumption exceed the shipper's total exit zone capacity of the gas day, the shipper must pay capacity overrun charge for the gas quantity exceeding the allocated capacity.

Biogas virtual entry point: If, based on the results of the final balance settlement, gas entry quantities injected into the Finnish gas system during the gas day through biogas virtual entry point exceed the shipper's total biogas virtual entry point capacity of the concerned gas day, the shipper must pay capacity overrun charge for the gas quantity exceeding the allocated capacity.

Inkoo LNG entry point: If, based on the results of the final balance settlement, gas entry quantities injected into the Finnish gas system during the gas day through Inkoo LNG entry point exceed the shipper's total Inkoo LNG entry point capacity of the concerned gas day, the shipper must pay capacity overrun charge for the gas quantity exceeding the allocated capacity.

Underutilization fee of Balticconnector

Underutilization fee is applicable at the Balticconnector entry and exit point. The principles regarding the underutilization fee are determined in the terms and conditions of Balticconnector capacity allocation mechanism.

Tolerance: 10 000 - 50 000 kWh/h

Pricing: 0,002 €/kWh

Centralized data exchange charge (= gas datahub)

The centralized data exchange charge is charged from the Distribution System Operators. The DSO is charged with regard to the consumption sites in distribution networks owned or operated by the DSO for which information is maintained in the register of centralized data exchange system (= all daily or non-daily read metering sites in the distribution network except small-scale individual non-daily read sites using gas only for cooking purposes).

Pricing: 1,29 €/metering site/month

Charges levied from Balance management

The principles for determining the buy and sell prices of imbalance gas, including neutrality charges, are described in the Terms and Conditions of Balancing, which can be found on Gasgrid's website.

Other charges

Pricing for connections

TSO has obligation to connect new infrastructure to its grid as long as connecting infrastructure fulfils technical requirements set by the TSO. Connecting infrastructure may consist of natural gas usage or storage facilities as well as LNG or biogas infrastructure. TSO is justified to collect all reasonable costs which have been generated because of the new connection.

Pricing: Price of the connection is evaluated by Gasgrid Finland case by case.

Nomination imbalance charge

A nomination imbalance charge may be applied in Finnish exit zone.

Pricing: 0 €/kWh

Compensation for non-conformity with gas quality and supply requirements

Compensation terms and conditions have been mentioned in the Shipper and Trader Framework Agreement which can be found from [Gasgrid webpage](#).

Charges in a prevailing emergency situation

Compensation is agreed separately case by case between the transmission system operator with system responsibility and the shipper.

Capacity right transfer charge

Pricing: 0 €/transfer notification