

Gasgrid Finland Oy

Document concerning the prices of Gasgrid Finland and the information in accordance with the article 30 of Tariff Network Code

Based on Article 30 of Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonized transmission tariff structures for gas (TAR NC)

Table of Contents

List of definitions.....	5
1 Introduction.....	6
2 Information on parameters used in the applied reference price methodology that are related to the technical characteristics of the transmission system.....	7
2.1 Technical Capacity at entry and exit points and associated assumptions	7
2.2 Forecasted contracted capacity at entry and exit points and associated assumptions	9
2.3 The structural representation of the transmission network with an appropriate level of detail.....	10
3 Financial parameters	13
3.1 Allowed revenue of Gasgrid Finland in 2025.....	13
3.1.1 Allowed revenue for the transmission services.....	14
3.1.2 Allowed revenue for the centralized data exchange service for retail market.....	14
3.1.3 Consideration of balancing services in Gasgrid Finland's operations	15
3.2 Parameters and methodologies according to TAR NC Article 30 (1)(b)(iii).....	16
3.2.1 Types of assets included in the regulated asset base and their aggregated value	16
3.2.2 Cost of capital and its calculation methodology;.....	16
3.2.3 Adjusted Assets and Capital Committed to Network Operations Capital Expenditures.....	16
3.2.4 Operational expenditures	17
3.2.5 Incentive mechanisms and efficiency targets.....	17
3.2.6 Inflation indices	18
4 Relevant information related to derivation of final tariffs	18
4.1 Reference price methodology.....	18
4.2 Entry and exit capacity tariff derivation.....	18
4.2.1 Annualization of capacity bookings	19
4.2.2 Short-term capacity product multipliers in tariff year 2025	20
4.2.3 Discounts for interruptible capacity	22
4.3 Expected revenue to be collected by transmission services	22
4.4 Commodity tariff	23
4.5 Centralized data exchange charge (= datahub charge).....	23
4.6 Balticconnector underutilization fee	23
4.7 The ratios for the transmission service revenue (TAR NC Article 30(1)(b)(v))	24
4.8 Estimated difference between transmission tariffs applicable to the same type of transmission service during the tariff period for which the data are published and transmission tariffs applicable during other tariff periods of the regulatory period	24

5	The price list of Gasgrid Finland.....	25
	Transmission tariffs in tariff period 2025 (1.1.2025 07:00 EET - 1.1.2026 07:00 EET)	25
	Centralized data exchange charge (= gas datahub).....	27
	Charges levied from Balance management.....	27
	Other charges.....	28
	Pricing for connections	28
	Nomination imbalance charge	28
	Transmission tariff calculation example.....	28

Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
BC	Balticconnector
CEF	Connecting Europe Facility
CWD	Capacity Weighted Distance
LNG	Liquified Natural Gas
LTIP	Long-Term Investment Plan
NRA	National Regulatory Authority
RPM	Reference Price Methodology
TAR NC	Tariff Network Code
TSO	Transmission System Operator
UMM	Urgent Market Message

List of definitions

Available capacity means the part of the technical capacity that is not allocated and is still available to the system at that moment.

Firm capacity means gas transmission capacity contractually guaranteed as uninterruptible by the transmission system operator.

Implicit capacity allocation method means a capacity allocation method where, possibly by means of an auction, both transmission capacity and a corresponding quantity of gas are allocated at the same time.

Interruptible capacity means gas transmission capacity that may be interrupted by the transmission system operator in accordance with the conditions stipulated in the transport contract.

Physical congestion means a situation where the level of demand for actual deliveries exceeds the technical capacity at some point in time.

Reference price means the price for a capacity product for firm capacity with a duration of one year, which is applicable at entry and exit points and which is used to set capacity-based transmission tariffs.

Reference price methodology 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.

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.

Transmission capacity means the maximum capacity which can technically be transported with design pressure.

Transmission services mean regulated services provided by the transmission system operator for transmission within the entry-exit system.

1 Introduction

Gasgrid Finland Oy, the Finnish gas transmission system operator (TSO) with system responsibility, publishes the new gas transmission tariffs which will be applied in Finland 1.1.2025 at 07:00 EET – 1.1.2026 at 07:00 EET. The Article 30 of 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 the obligation for Gasgrid Finland to publish the service price list at least 30 days before the beginning of the tariff period.

According to the Natural Gas Market Act, the transmission system operator must set transmission tariffs for each entry and exit point of the transmission network. However, no transmission tariffs are set for the entry-exit point to which a connecting pipe is connected to the natural gas network of another country belonging to the European Economic Area, if not setting the entry or exit tariff is based on an international obligation or agreement binding for Finland. Having the ITC (Inter TSO Compensation) agreement signed by the transmission system operators of Finland, Estonia and Latvia, there is no tariff at all at Balticconnector entry and exit points.

The goal of Gasgrid's transmission pricing is predictability and stability which has been very challenging during past few years due to unforeseen and significant changes affecting the gas market. Gasgrid will keep the reference prices for 2025 (annual capacity product price) for both entry and exit capacity the same as this year. Gasgrid will adjust its transmission system to meet the needs of the gas market by removing compressor capacity from the regulated asset base (RAB) that is no longer considered to have actual use due to the changed flow dynamics. The regulated asset serves as the basis for determining a reasonable return, which sets the framework for transmission pricing. As a result of the measures to be implemented, the RAB will decrease, and thus the measures will have a lowering effect on transmission pricing. With our measures, we want to provide value to our customers by operating cost-effectively in terms of transmission services without compromising on reliable and safe transmission. Although gas consumption has decreased in recent years, this does not mean that the maintenance of the existing infrastructure can be safely reduced. The system's upkeep requires at least the current level of maintenance investment in the future as well.

In recent years, the flow dynamics of the transmission network have fundamentally changed due to the cessation of flows from Imatra, the Balticconnector interconnection point, and the connection of LNG terminals to the network. The combined technical transmission capacity of the LNG terminals and Balticconnector is sufficient to cover Finland's gas demand. As import points, these are different in terms of their characteristics and capabilities to respond to the seasonal demand profile changes typical of the Finnish gas market. The level of gas usage in Finland has recovered from the energy crisis level, with the usage level of 11.9 TWh in 2022 expected to reach 14.5 TWh this year, depending on the weather conditions for the rest of the year.

With high-level customer segmentation, gas users can be categorized into the industrial segment with a steady usage profile and the energy production segment that reacts more to momentary conditions. Gasgrid sees that the current transmission tariffs for the use of transmission infrastructure do not optimally reflect the changed market environment, where the transmission infrastructure can provide value to market participants for the increased need for load-following power, but at the same time, predictability has greater value for the transmission system operator to ensure efficient and reliable gas transmission. Furthermore, a significant part of the gas system serves peak demand, but the charges levied on network users are not

allocated accordingly. As a result, Gasgrid will increase the prices of shorter-term exit capacity products based on the annual capacity product price for day and intraday capacity products.

The operational capacity of Gasgrid's transmission network is maintained at an excellent level by the proactive and planned maintenance activities and a maintenance investment program. Our goal is extreme safety and undisturbed gas transmission for our customers. The damage to Balticconnector in October 2023 led to immediate actions by both Gasgrid and the Estonian transmission system operator, Elering AS. The pipeline connection was successfully repaired as planned, and Balticconnector's capacity was available to the market from April 22, 2024.

In this document, Gasgrid Finland described the relevant information from transmission tariff point of view. Also, this document contains information on non-transmission charges, such as datahub charge.

2 Information on parameters used in the applied reference price methodology that are related to the technical characteristics of the transmission system

In this chapter, the information according to TAR NC article 30 (a) is published.

2.1 Technical Capacity at entry and exit points and associated assumptions

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.

At Balticconnector entry and exit point, capacity is allocated implicitly based on confirmed nominations according to the nomination submission schedule and by the exchange operator increasing liquidity in the spot market. Due to the nomination based implicit capacity allocation, only firm capacity is offered for shippers. After nomination submission window is closed, shippers may submit renominations. Day-ahead capacity not sold during nomination submission period shall be offered as a within-day capacity during renomination submission period. Capacity not sold during nomination submission period is called *Available Capacity*.

The flow dynamics in the Finnish gas system changed strongly during 2022 due to the cessation of gas flows through Imatra entry point and Finnish gas demand was mainly covered by gas volumes transferred via the Balticconnector. The commercial commissioning of Hamina LNG Terminal took place in the beginning of October 2022 and few months later Inkoo LNG Terminal was connected to the Finnish gas system. In the summer season of 2024, the physical flow direction in the Balticconnector was mainly from Finland to Estonia, when gas was transmitted through the Finnish LNG terminals, especially to the Incukalns gas storage. After the Balticconnector pipeline damage, gas demand has been covered by gas flows from LNG terminals.



Figure 1. Exit points of the Finnish gas system - Balticconnector exit point and the Finnish exit zone.

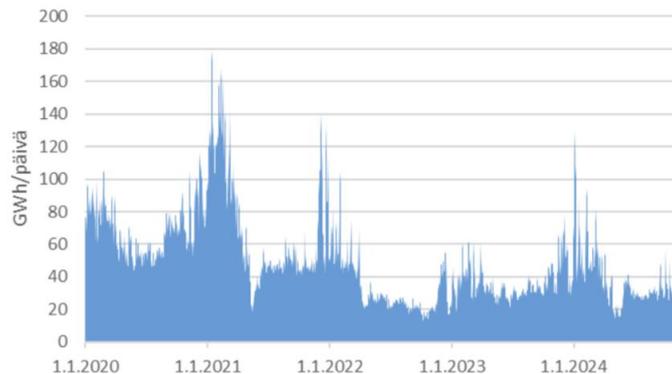


Figure 2. Gas consumption in Finland 2020-2024.

The shippers can book capacity at the Finnish exit zone without restrictions, which enables flexible capacity booking windows. Thus, Gasgrid Finland does not separately set the technical capacity for the exit zone. Gasgrid accepts received capacity booking requests if the shipper fulfils its collateral requirements, request is duly filled and received on time. Gasgrid Finland can receive biogas from all 5 biogas entry points directly connected to the Finnish gas system and liquefied natural gas from Hamina LNG entry point that meet the quality requirements into the Finnish gas system without restrictions. Therefore, the technical capacity is not set separately either for the biogas virtual entry point for Hamina LNG entry point. Gasgrid has published the capacity value of 140 GWh/day at Inkoo LNG entry point. Gasgrid does not set restrictions on the offered capacity products, because the terminal's schedule sets the frames for network regasification in such a way that the aforementioned capacity level is not exceeded.

On May 20, 2022, Gasgrid Finland and Exceleerate Energy signed an agreement to lease a floating LNG terminal vessel (Floating LNG Terminal) for ten years. The LNG terminal will be located in Inkoo according to the schedule in the second half of December. The LNG terminal vessel coming to Finland is 291 meters long and 43 meters wide. It has a volume of about 151,000 cubic meters and corresponds to about 68,000 tonnes of LNG, or liquefied natural gas, when fully loaded. The amount means approximately 1,050 GWh of energy.

The LNG terminal vessel offers a new regional import route for market participants, increasing security of supply in Finland and the Baltic region. The terminal vessel will also have an impact on Balticconnector's capacity (figure 3).



Figure 3. Technical capacities after commercial commissioning of the Floating LNG terminal.

If there are maintenance works performed in the Finnish transmission system impacting on capacities, Gasgrid publishes UMM and updates the technical capacities published at ENTSOG's transparency platform accordingly. Also, if there are maintenance works in Baltic transmission system impacting on Balticconnector capacities, Gasgrid Finland updates BC capacities at the Transparency Platform. Gasgrid Finland offers as much firm capacity as possible, taking into account the security of supply. Gasgrid Finland reserves the right to offer interruptible capacity if the firm capacity is sold out.

Balticconnector is the only interconnection point in the Finnish gas system. Balticconnector is a bidirectional pipeline which maximum transport capacity in a design pressure is 81 400 MWh/day. Balticconnector Technical Capacity offered for market participants is agreed with the neighbouring TSOs. If the maintenance work carried out in the regional transmission infrastructure affects the technical capacity offered to market participants, in addition to the UMM publication, information on the amount of capacity is updated on the ENTSOG transparency platform.

The Transmission System Operators of the Finnish-Baltic region (hereinafter referred to as the TSOs) have actively undertaken infrastructure projects with the aim of increasing capacities in the region and enhancing the regional gas system to better meet the transportation needs of market participants. The implemented infrastructure projects have enabled the technical capacity to be increased to 70.5 GWh/day from Estonia to Finland under normal transmission conditions, where there are no capacity-limiting maintenance or repair works in the regional transmission infrastructure.

2.2 Forecasted contracted capacity at entry and exit points and associated assumptions

In Finland, the weather conditions have a significant impact on the gas consumption. In addition, the competitiveness of gas compared to alternative fuels or raw materials has a major impact on annual gas

consumption. Also, consumption is affected by the price of electricity, which is further affected by e.g. wind conditions and rainfall in the Nordic region.

Gas consumption is estimated to be approximately 15 TWh in 2025, which would be slightly higher than the estimated consumption in 2024. As in previous years, the main uncertainties in the consumption estimate are the highly concentrated gas usage in Finland, winter weather conditions, and our customers' ability to switch from gas to alternative fuels or raw materials. The estimated annual consumption includes assumptions that the competitiveness of gas compared to alternative fuels or raw materials is favorable for gas, and that the winter season includes cold periods.



Figure 4. Gas consumption in Finland 2020-2024.

Typically, the peak conditions in gas demand are reached on the coldest days in winter. The peak consumption day of 2024 (until the end of November 2024) was January 9, when gas consumption reached the level of 130 GWh/day.

2.3 The structural representation of the transmission network with an appropriate level of detail

At the time of publication of this document, the Finnish gas system consists of the following entry points where capacity is offered:

- Balticconnector entry point
- Biogas virtual entry point
- Hamina Liquefied Natural Gas ('LNG') entry point
- Inkoo LNG entry point.

There are two exit points where exit capacity is allocated:

- Balticconnector exit point
- Finnish exit zone which covers all exit points for domestic end consumption.

In the figure 5 below, the Finnish transmission system is described.



Figure 5. Transmission system and the compressor stations in Finland.

- 1) Imatra compressor station
 - 2 gas powered compressor units (third 10 MW compressor unit will be disregarded in 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
 - 3 gas powered compressor units (third 10 MW compressor unit will be disregarded in 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 these 2 units is 6,4 MW each.
 - transport capability 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 and transport capability 300 000 m³/h.

The length of Finnish gas transmission pipelines is approximately 1254 km. Most of the pipelines are onshore pipelines, but approximately 39 km is offshore pipeline (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	app. 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 are 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 through 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 six different Finnish biogas plants is injected into the Finnish gas system.

Planned service and maintenance work in the coming tariff period

Gasgrid Finland, together with the Baltic TSOs, has created a common transmission infrastructure service and maintenance plan for the period 1 October 2024-31 December 2025 in order to achieve transparency, predictability and efficient operation of the regional gas system. Gasgrid Finland and the Baltic TSOs will publish urgent market messages (Urgent Market Message, UMM) through ENTSO's UMM platform. Follow the UMM platform, which is used as the primary channel for publishing all information that affects technical capacity due to planned or unplanned maintenance work on Gasgrid Finland's network.

Future development

Gasgrid Finland maintains a long-term investment plan ("LTIP") for gas grid development in Finland. The LTIP is a roadmap for future grid investments and maintenance planning. By updating and following the LTIP, Gasgrid Finland is able to manage its costs and ensure proper life cycle management of the transmission network assets.

The LTIP ensures continuous upkeep of aging assets. All necessary maintenance investments are carefully planned and updated to LTIP and scheduled to following years. The current gas transmission network has been operated since 1974. Safe, reliable and cost-efficient gas transmission are the key drivers of network development.

We have started developing Finland's national hydrogen network and the infrastructure enabling the regional hydrogen market on an accelerated schedule to support the development of the hydrogen economy in Finland. Finland's significant renewable energy resources can enable the emergence and development of new industries based on competitively priced electricity on a European scale, creating new export and production potential.

As part of Gasgrid's strategy, we have strongly promoted hydrogen infrastructure construction projects, the largest of which are the Nordic Hydrogen Route, the Nordic-Baltic Hydrogen Corridor, and the Baltic Sea Hydrogen Collector. These projects were listed as Projects of Common Interest (PCI) by the European Commission in November 2023, and the European Parliament and the European Council approved the listings in April 2024.

3 Financial parameters

In this chapter, revenues, asset values and other relevant financial values are explained.

3.1 Allowed revenue of Gasgrid Finland in 2025

In Finland the regulatory period is four years. The ongoing period takes place 2024-2027. A non-price cap regime is applied meaning that the cap is set for the allowed revenue. The allowed revenue means the profit TSO is entitled to collect by its regulated business. The tariff period is a calendar year. In connection with the new regulatory model, significant changes also occurred in the regulatory model.

- Network assets invested before 2024 are calculated according to the updated unit price list, and the value of network assets increases. From 2024 onwards, a specific unit price for each investment year will be determined.
- In the calculation of the reasonable rate of return, the applicable parameter value for the risk-free interest rate is the average of the daily values of the German government's ten-year bond yield from April to September of the previous year. The frequency of updating the parameters for the reasonable rate of return is also higher.
- The additional risk premium for natural gas transmission network operations decreased from 1.7 percent to 0.9 percent.
- In adjusted straight-line depreciation, a benefit cap: 15% of the benefits from the network operator's cost efficiency in depreciation are directly allocated to customers, and 85% remains with the network operator.

3.1.1 Allowed revenue for the transmission services

The reasonable rate of return (%) is calculated by Finnish Energy Authority (NRA) based on the weighted average cost of capital (WACC model). The allowed revenue of Gasgrid Finland is calculated as follows:

$$R_{k,pre-tax} = WACC_{pre-tax} \times (E + D)$$

, where

$R_{k,pre-tax}$ = reasonable return before corporate taxes, €

$WACC_{pre-tax}$ = reasonable rate of return, %

E = adjusted equity employed in network operations, €

D = adjusted interest-bearing debt employed in network operations, €

$E + D$ = adjusted capital employed in network operations, €

Finnish Energy Authority has determined the reasonable rate of return ($WACC_{pre-tax}$) for 2025 which is 6.95 %. Regulated Asset Base is another key component as determining the Allowed Revenue. The parameters for determining the Allowed revenue for 2025 are presented in the table 2:

Table 2. The Allowed Revenue of Gasgrid Finland enabled by the regulatory method and the key parameters used for determining the Allowed revenue.

	2020	2021	2022	2023	2024	2025
WACC-%, pre-tax	6,48 %	6,10 %	5,71 %	6,84 %	7,12	6,95
Regulated Asset Base [M€]	746,3	742,0	729,9	716,7	821,4	794,9
Allowed revenue [M€]	48,4	45,3	41,9	49,0	58,5	55,2

3.1.2 Allowed revenue for the centralized data exchange service for retail market

From the beginning of July 2020, the regulation method for determining the revenue from the services of centralized data exchange¹ (datahub) was introduced. Thus, Gasgrid differentiate the costs allocated to the datahub operations and covers the cost of the datahub operations through datahub charges. Gasgrid is entitled to profit from datahub service according to the regulation method defined by NRA.

The cost of capital for the datahub system is accepted as such as the basis for the replacement value. The current value in use is determined on the basis of the total acquisition cost of the underlying non-

¹<https://energiavirasto.fi/documents/11120570/22786719/P%C3%A4%C3%A4t%C3%B6s+Gasgrid+Finland+Oyn+maakaasukaupan+keskitetyntiedonvaihdon+palvelun+hinnottelun+valvontamenetelmist%C3%A4+2020-2027.pdf/711d7145-7951-ff8e-c4ce-52a9b52199ac/P%C3%A4%C3%A4t%C3%B6s+Gasgrid+Finland+Oyn+maakaasukaupan+keskitetyntiedonvaihdon+palvelun+hinnottelun+valvontamenetelmist%C3%A4+2020-2027.pdf?version=1.0&t=1593500097117>

depreciable replacement cost, the technical life of which is determined to be 10 years after the introduction of the datahub system. A remarkable share of datahub's operational costs arise from system licensing and maintenance costs. Other operating expenses include staff and other administrative expenses. The operational costs of the datahub operation are accepted at this stage of the operation as such. The calculation of the adjusted result for operating expenses includes materials and services, personnel expenses and other operating expenses.

In calculating the reasonable rate of return on Datahub operations, the Finnish Energy Authority uses the same capital structure and calculation parameters as for natural gas transmission network operations. However, the calculation of a reasonable rate of return for Datahub operations does not take into account the additional risk premium related to natural gas transmission network operations. The WACC-% of the centralized data exchange service for retail market will be 6.34 %. The datahub charge is calculated in the chapter 4.5. of this document.

3.1.3 Consideration of balancing services in Gasgrid Finland's operations

The Finnish Energy Authority has set Gasgrid Finland in system responsibility, as a result of which Gasgrid is responsible for balancing in the Finnish gas market. Balancing services are a separate set of tasks, and the income and costs are treated separately from the rest of the network business. The TSO shall not make profit or loss from daily imbalance charges, intraday imbalance charges and payments related to balance management activities. The TSO shall transfer to the balance responsible parties the following costs and income through neutrality charges:

- a) all costs and revenues resulting from daily and intraday imbalance charges;
- b) all costs and revenues resulting from the balance management activities carried out; and
- c) all other costs and revenues related to balance management activities performed by the TSO.

Each balance responsible party shall pay to the TSO or the TSO shall reimburse to the balance responsible party for the neutrality charges for each gas month.

The following revenue and expenses of the TSO shall be taken into account as payment components in defining the neutrality charge on a monthly basis:

- paid and credited imbalance charges,
- costs and revenues related to the implemented balance management activities,
- costs related to existing balancing service agreements,
- development, investment and maintenance costs related to balance management activities,
- personnel costs related to balance management activities; and
- financial expenses related to balance management activities.

The development, investment and maintenance costs of the balance management functions include the system operator's IT system purchases and maintenance costs, which include the energy management system and the web portal. Staff costs incurred by persons carrying out balance management activities shall be passed on as part of the cost of balance management activities.

Gasgrid publishes balance management neutrality charges on its website on a monthly basis and performs invoicing of the charges on a quarterly basis.

3.2 Parameters and methodologies according to TAR NC Article 30 (1)(b)(iii)

The Finnish Energy Authority has updated the regulatory method for gas transmission network operations from the beginning of the regulatory period that started at the beginning of 2024.

3.2.1 Types of assets included in the regulated asset base and their aggregated value

The natural gas network is the largest individual part of Gasgrid Finland's assets consisting of several different components. It is recognized in fixed assets on the balance sheet. According to the Natural Gas Market Act, natural gas network refers to a system intended for the transmission of natural gas, consisting of interconnected - natural gas pipes and pipelines - all associated devices and equipment containing natural gas. Network components and unit prices are presented in Appendix 1.

3.2.2 Cost of capital and its calculation methodology;

The Energy Authority defines the cost of capital by the weighted average cost of capital model (WACC model) determined by the acceptable rate of return on network-adjusted capital. The WACC model expresses the average cost of capital employed by a firm, where weight is the relative values of equity and debt.

The detailed description of the calculation method for WACC-% is described here (in Finnish):

Link: [Calculation method for WACC-%](#)

Starting from the beginning of July 2020, the regulatory method for centralized data exchange service entered into force for the period of 2020-2027. According to section 32 b of the Natural Gas Market Act, the TSO with system responsibility is responsible for the centralized data exchange and management required by the market processes of natural gas trade used in distribution networks in the natural gas system. As Gasgrid is the only gas datahub service provider, the allowed revenue for this service is determined by Energy Authority. The WACC-% for datahub service will be 6.34 % in 2025. The regulation method for centralized data exchange service for retail market is described in the following document (in Finnish):

Link: [The Regulation method for centralized data exchange service for retail market](#)

3.2.3 Adjusted Assets and Capital Committed to Network Operations Capital Expenditures

This chapter summarizes the main principles of adjusted assets and capital committed to network operations. Detailed content can be found on the Energy Authority's website: [LINK](#) (available in Finnish)

- Definition and adjustment of natural gas network assets: Natural gas network assets consist of pipes, tanks, devices, and equipment intended for the transmission or distribution of natural gas. Adjustments are made to ensure that the asset value reflects its actual utility value.

- Use of unit prices: Unit prices are used in the adjustment of network assets to ensure that pricing is reasonable and cost-effective. Unit prices are based on average costs and are updated every four years.
- Replacement value and straight-line depreciation: The frozen replacement value of network assets is determined annually based on the investment year. Straight-line depreciation is calculated by dividing the replacement value by the useful life of the network component.
- Current utility value: The current utility value is calculated based on the frozen replacement value, considering the age and useful life of the components. This value represents the actual utility value of the assets during the monitoring period.
- Principles of network asset adjustment: The adjustment only considers components that are actually in use. The network operator must provide a report with the monitoring data that justifies the necessity and cost-effectiveness of the components.

3.2.3.1 Depreciation periods and amounts per asset type.

In the table 3, the depreciations of network components in 2024 are described. Finnish part of Balticconnector pipeline and Inkoo compressor station have been included.

Table 3. Depreciation periods and lifetimes of the network components in 2024.

Network component	Depreciation (€)	Lifetime (years)
Gas pipes	21 663 378	65
Pressure reduction stations	1 680 615	65
Quality management equipment	59 500	20
Compressor stations and stations' pipelines/equipment	2 334 667	60
Boilers	682 500	20
Total	26 420 661	

3.2.4 Operational expenditures

Operational expenditures consist of Gasgrid Finland's fixed and variable costs in order to meet its responsibilities and obligations. Operating expenditures are estimated to be in line with Table 4.

Table 4. Operational expenditures in 2020-2025.

	2020	2021	2022	2023	2024 (estimate)	2025 (forecast)
Estimated operational expenditures [M€]	24,0	26,4	30,4	30,4	24,1	28,4

3.2.5 Incentive mechanisms and efficiency targets

The regulation method includes an incentive mechanism, which consist of the following elements:

- The investment incentive which purpose is to encourage network holders to make cost-efficient investments and to enable replacement investments.

- The quality incentive which purpose is to encourage network holders to develop the quality of the natural gas transmission system.
- The efficiency incentive which purpose is to encourage network holders to be cost efficient.
- The innovation incentive which purpose is to encourage network holders to develop and use innovative technical and functional solutions in network operations.

More detailed criteria for defining and calculating incentives are described in chapter 6 of the Energy Authority's Regulation method document.

Link: [Regulation method for regulating the reasonableness of the pricing of natural gas transmission network](#)

3.2.6 Inflation indices

The inflation index is not needed in Finland, because a nominal WACC is used. The nominal interest rate is nominal. If the effect of inflation is removed from the nominal interest rate, a real interest rate is obtained, which defines the return after inflation. Due to the use of nominal WACC, there has been no need to determine the inflation index separately.

4 Relevant information related to derivation of final tariffs

4.1 Reference price methodology

The Reference Price Methodology ('RPM') applied in Finland is a Postage stamp methodology. The postage stamp methodology foresees the same reference price at all entry points and the same reference price at all exit points. The key parameters in calculating the reference prices are the targeted revenue collected by capacity tariffs and the assumptions on 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 locational signal, because the tariff is the same at each entry and each exit points.

$$\text{Reference price entry (exit)} = \frac{\text{Revenue to be collected from entry (respectively exit) points}}{\text{Booked entry (respectively exit) capacity}}$$

4.2 Entry and exit capacity tariff derivation

The Finnish, Estonian and Latvian TSOs established common entry tariff zone from 1st of January 2020. The target of the entry tariff zone is to facilitate the cross-border trading and deepen the market integration. The common entry tariff zone consists of two balancing zones – Finnish balancing zone and Estonian-Latvian balancing zone. In the common entry tariff zone, the reference price for entry capacity and the entry tariff multipliers for short-term capacity products are harmonized. Also, the tariffs from the internal borders (Latvia-Estonia border and Finland-Estonia border) have been removed. This is enabled by Inter-TSO-Compensation ('ITC') agreement between TSOs.

The transmission service revenue collected from the market participants consists of entry tariffs, exit tariffs and commodity tariff charged at the Finnish exit zone.

The reference price for entry capacity is defined according to the principle set by the ITC agreement. In determining the level of entry tariff, the EU entry tariff benchmarking result was used. As determining the

entry tariff, the objective was to set the reference price and the multipliers so that entry tariffs would remain the same for several tariff years to ensure predictable pricing.

Instead, the reference price of exit capacity is determined nationally. In its pricing strategy, Gasgrid aims for proactive and stable transmission pricing. The energy crisis and the resulting significant decrease in gas usage have made the goals of the pricing strategy very challenging. Adapting the pricing to better match the changed conditions has taken several years. Gasgrid will keep the reference prices for 2025 (annual capacity product price) for both entry and exit capacity the same as this year. Gasgrid is adjusting its transmission system to meet the changing needs of the gas market by removing compressor capacity from the regulated asset base (RAB) that is no longer considered to have actual use due to the changed flow dynamics. The regulated asset base serves as the basis for determining a reasonable return, which sets the framework for transmission pricing. As a result of the measures taken, the RAB will decrease, and thus the measures will have a lowering effect on transmission pricing.

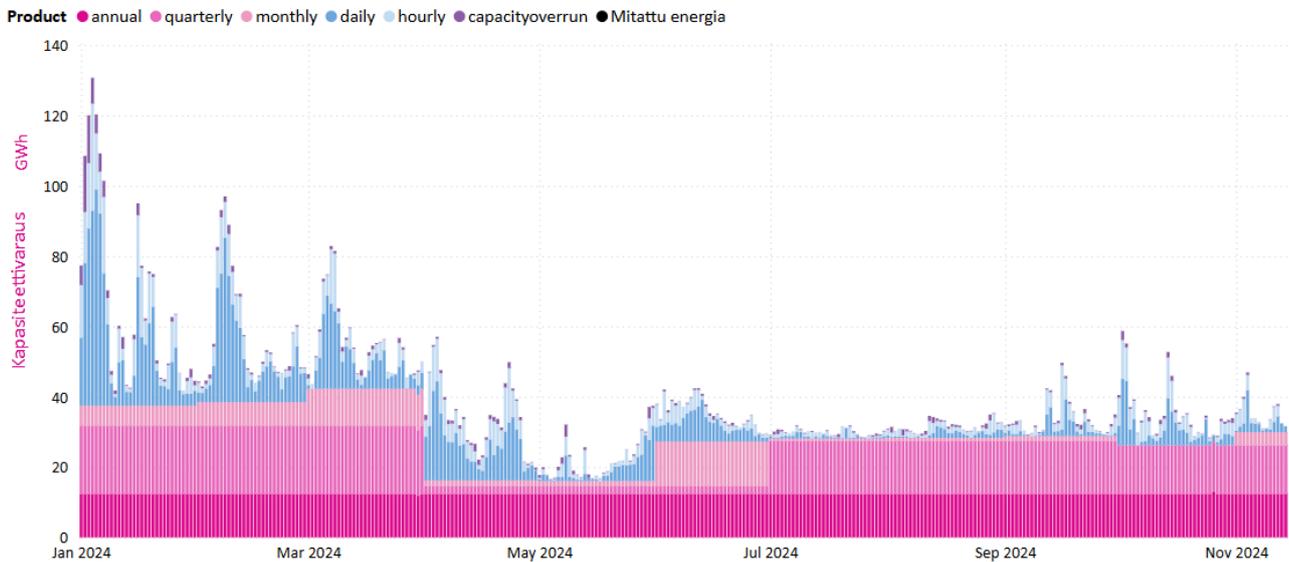
4.2.1 Annualization of capacity bookings

According to the exit-exit model, standard capacity products according to Commission Regulation (EU) 2017/459 (Capacity Network Code) are offered for shippers. In determining the reference prices, the impact of the multipliers of short-term capacity products shall be considered, because shippers do not only book yearly capacity product. Thus, the capacity product booking pattern is considered in deriving the reference prices.

In order to calculate the annualization factor, the booking patterns of entry and exit capacity are needed. Due to the regional entry tariff zone, the booking pattern for entry capacity is determined on a regional basis according to the principles of ITC mechanism which defines all entry capacity booking revenue is collected to the common basket and the revenue is shared between TSOs based on the share out of total consumption in the region. Thus, for example, the product mix of capacity products booked at Hamina LNG entry point is not in itself relevant in assessing the product mix of entry capacity products, but is examined at regional level, taking into account also the other entry points covered by the ITC agreement. Instead, the booking pattern for exit capacity is defined on a national basis.

The relative share of annual capacity reservations for the exit zone in 2025 is expected to be at the same level as in 2024. The amounts of booked short-term capacity products are significantly affected by winter weather conditions, as the gas consumption in the energy production sector and thus the capacity need is largely determined within a timeframe of less than a month. The estimated booking patterns have been used for the annualization of estimated capacity bookings.

Table 5. The booking patterns of exit capacity products in 2024.



The annualization factor is calculated as follows:

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

The factor weighted by capacity booking shares is calculated according to the above formula. For 2025, the estimated annualization factor for entry capacity determined using estimated entry capacity bookings in FINESTLAT common entry tariff zone, the annualization factor of the entry capacity is approx 1.20, and the annualization factor of the exit capacity determined at the national level is approx. 1.39.

4.2.2 Short-term capacity product multipliers in tariff year 2025

The Energy Authority has approved the short-term capacity product multipliers, seasonal factors and discounts which will be applied in tariff period 2025.

In accordance with Tariff Network Code “multiplier” means the factor applied to the respective proportion of the reference price in order to calculate the reserve price for a non-yearly standard capacity product. Article 13 sets the following constraints:

- a) for quarterly standard capacity products and for monthly standard capacity products, the level of the respective multiplier shall be no less than 1 and no more than 1,5;
- b) for daily standard capacity products and for within-day standard capacity products, the level of the respective multiplier shall be no less than 1 and no more than 3. In duly justified cases, the level of the respective multipliers may be less than 1, but higher than 0, or higher than 3.

The level of multipliers for exit capacity

Gasgrid Finland will apply the following multipliers for standard capacity products in Hamina LNG entry point, Inkoo LNG entry point, Imatra entry point and biogas virtual entry point for the upcoming tariff period:

Table 6. Entry capacity product multipliers for the upcoming tariff period.

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

If at the Inkoo LNG entry point, the allocation (confirmed nominations) of the shipper exceeds the allocated entry capacity for the gas day, the confirmed nomination quantity exceeding the allocated capacity will be subject to capacity overrun charge, which is one and a half (1.5) times the unit price of the within-day entry capacity (multiplier 1.7). The multiplier for the entry capacity overrun charge is calculated as follows: entry capacity reference price x 1.5 x 1.7 = 2.55.

Reasoning:

The Finnish, Estonian and Latvian TSOs have established a common tariff zone starting from 1st of January 2020. The TSOs have concluded an ITC (Inter-TSO Compensation) agreement in which the same level of entry tariff is set for all entry points at the tariff zone and in which there is no entry or exit tariff set at Balticconnector. The multipliers shown in Table 1 are set in ITC agreement for entry points. The multipliers are harmonized with Estonian and Latvian TSOs.

The level of multipliers for exit capacity

Gasgrid Finland sets the multipliers for capacity products at the exit zone. Gasgrid Finland proposes that the following multipliers shall be applied at the Finnish exit zone for the upcoming tariff period.

Table 7. Exit capacity product multipliers for the upcoming tariff period.

Capacity product	Multiplier
Yearly (reference price)	1
Quarterly	1,1
Monthly	1,25
Daily	2,0
Within-day	2,5

If at the Finnish exit zone, the allocation (metering data of final balance settlement) for the gas day exceeds the allocated exit capacity of the shipper for the gas day, a capacity overrun charge will be charged for the gas quantity exceeding the allocated exit capacity of the shipper. The capacity overrun charge is one and a half (1.5) times the unit price of within-day exit capacity (multiplier 2.5). Thus, the capacity overrun charge = exit capacity reference price x 1.5 x 2.5 = 3.75.

With high-level customer segmentation, gas users can be categorized into the industrial segment with a stable usage profile and the energy production segment, which reacts more to momentary conditions.

Gasgrid sees that the transmission fees charged for the use of the transmission infrastructure do not currently best match the changed market environment, where the transmission infrastructure can offer market participants value for the increased need for balancing power, but at the same time, predictability has greater value for the transmission system operator to ensure efficient and reliable gas transmission. Gasgrid will increase the prices of shorter-term exit capacity products based on the annual capacity product price for day and intraday capacity products, raising the price multiplier for day capacity products from 1.7 to 2.0 and for intraday capacity from 2.0 to 2.5

4.2.3 Discounts for interruptible capacity

In accordance with Article 9 in Tariff Network Code:

1. A discount of at least 50 % shall be applied to capacity-based transmission tariffs at entry points from and exit points to storage facilities, unless and to the extent a storage facility which is connected to more than one transmission or distribution network is used to compete with an interconnection point.

2. At entry points from LNG facilities, and at entry points from and exit points to infrastructure developed with the purpose of ending the isolation of Member States in respect of their gas transmission systems, a discount may be applied to the respective capacity-based transmission tariffs for the purposes of increasing security of supply.

Gasgrid Finland Oy has proposed that no discounts should be applied in Finland.

Article 16 of the Tariff Network Code sets requirements regarding interruptible capacity products. At biogas virtual entry point, Hamina LNG entry point, Inkoo LNG entry point and at the exit zone, capacity is available without restrictions. Thus, only firm capacity products are available at aforementioned points. At Balticconnector, capacity is allocated according to confirmed nominations. Consequently, at Balticconnector only firm capacity is offered.

Interruptible capacity would only be offered if there is not enough firm capacity available or if there is no physical firm capacity for a certain entry or exit point. In such a situation, shippers are offered interruptible capacity instead of firm capacity. The price of interruptible capacity at Imatra entry point is 5% lower than corresponding firm capacity product. Imatra entry point is not available to market participants.

4.3 Expected revenue to be collected by transmission services

Expected revenue to be collected by transmission services consists of revenue collected by entry and exit capacity tariffs and commodity charge.

For 2025 transmission services revenue is presented in Table 8.

Table 8. Estimated transmission services revenue in 2025.

	Entry revenue [M€]	Exit revenue [M€]	Commodity revenue [M€]	Total [M€]
Transmission service revenue 2025 [M€]	7,2	79,0	3,0	89,2

- Reference price for entry capacity: 0,14277 €/kWh/day/year (0,39115 €/MWh)

- Reference price for exit capacity: 1,31283 €/kWh/day/year (3,59679 €/MWh)

4.4 Commodity tariff

Commodity tariff is a flow-based tariff which is collected from the exit zone. The revenue collected by commodity charge is included into the transmission revenue basket. Hence, the transmission service revenue consists of revenue collected by capacity charges and commodity charges.

The commodity-based tariff is targeted to be set so that it covers the flow-based costs of domestic gas consumption. For the year 2025, the target revenue to be collected by commodity tariff is 3.0 M€. Most of the costs are estimated to be caused by the commodity compensations 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 during the year. 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 15,4 TWh in 2025. This results to the commodity charge of 0,00019361 €/kWh (= 0,19361 €/MWh) in 2025.

4.5 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 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 50 000 € in 2025. Gasgrid Finland is entitled to collect regulated profit from datahub service. There are approximately 3 900 delivery points which are subject to invoicing of the datahub charge. During the ongoing year, the number of metering sites has decreased around 10 % compared to previous year. The datahub charge for 2025 is 1,06 €/metering point/month. The increase in the unit price of the datahub charge compared to 2024 (0,91 €/metering point/month) is due to smaller number of consumption points subject to the datahub charge.

4.6 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.

4.7 The ratios for the transmission service revenue (TAR NC Article 30(1)(b)(v))

Capacity-commodity split, meaning the breakdown between the revenue from capacity-based transmission tariffs and the revenue from commodity-based transmission tariffs:

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

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

Capacity-commodity split: 97%/3%

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:

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

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

Entry-exit split: 8%/92%

Intra-system-cross-system split, meaning 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:

Due to the regional entry tariff zone, revenue collected from cross-system use is re-distributed so that Gasgrid Finland does not collect any revenue from cross-system flows.

Intra-system-cross-system split: 100%/0%

4.8 Estimated difference between transmission tariffs applicable to the same type of transmission service during the tariff period for which the data are published and transmission tariffs applicable during other tariff periods of the regulatory period

Table 9. The tariffs between 2020-2025

	2020	2021	2022	2023	2024	2025
Entry reference price [€/kWh/day/year]	0,14277	0,14277	0,14277	0,14277	0,14277	0,14277
Exit reference price [€/kWh/day/year]	1,00567	1,00567	0,83592	0,97875	1,31283	1,31283

The main factors affecting transmission pricing during the regulatory period 2024-2027 are the development of gas usage volumes in the coming years, the development of EU regulations, and the evolution of transmission pricing structures, considering the strengthening of the role of clean gases. Gasgrid will evaluate the current pricing structure, which is mainly based on capacity products reserved by market participants, during the coming year. Additionally, Gasgrid will assess transmission pricing as a whole next year, as it will conduct a reference price methodology consultation in accordance with EU regulations, which was first organized when the Finnish gas market opened in 2020.

5 The price list of Gasgrid Finland

Transmission tariffs in tariff period 2025 (1.1.2025 07:00 EET - 1.1.2026 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	1,31283 €/kWh/day/year (3,59679 €/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
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:

$$\text{Tariff} = (3,58697 \times 1,25) \text{ €/kWh/day/month} = 1,64104 \text{ €/kWh/day/month}$$

At the end of this document, an illustrative calculation example of the entry and exit capacity tariff unit conversion from a capacity unit (€/kWh/day/year) to an energy unit (€/MWh) is demonstrated.

Commodity charge

Commodity charge (= energy charge) is charged at Finnish exit zone.	
Based on the transported gas quantity	0,00019361 €/kWh (0,19361 €/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: 1,06 €/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

Transmission tariff calculation example

For illustrative purposes only, non-binding example calculations for use of the firm transmission capacity price list.

Conversion of yearly capacity tariff from capacity unit into energy unit (example is based on the tariffs in 2021)

The shipper estimates that it requires transmission capacity at an average capacity of 100 MW (=total transmission requirement during a gas day is $100 \text{ MW} \times 24 \text{ h/gas day} = 2\,400 \text{ MWh/gas day}$) throughout the year. For this purpose, the shipper books the required entry capacity from Hamina LNG entry point and the exit capacity for Finnish exit zone.

The market participant may obtain the transmission capacity from Hamina LNG entry point 1 kWh/gas day for a year with the unit price of the entry capacity. If the annual booking lasts 365 days, the unit price 0,14277 € equates to a transmission quantity of 365 kWh (0,365 MWh). The

total transmission quantity required by the shipper is $2\,400 \text{ MWh/day} \times 365 \text{ days} = 876\,000 \text{ MWh}$. In which case the shipper requires $876\,000 \text{ MWh} / 0,365 \text{ MWh/unit} = 2\,400\,000$ units of entry capacity. The unit price is $0,14277 \text{ €/unit}$, in other words the total cost is $0,14277 \text{ €/unit} \times 2\,400\,000 \text{ units} = 342\,648 \text{ €}$. The average cost of entry capacity is $342\,648 \text{ €} / 876\,000 \text{ MWh} = 0,3912 \text{ €/MWh}$.

The market participant may obtain in Finnish exit zone to get the transmission capacity to the exit point 1 kWh/gas day for a year with the unit price of the exit capacity. If the annual booking lasts 365 days, the unit price $1,04859 \text{ €}$ equates to a transmission quantity of 365 kWh ($0,365 \text{ MWh}$). The total transmission quantity required by the shipper is $2\,400 \text{ MWh/day} \times 365 \text{ days} = 876\,000 \text{ MWh}$. In which case the shipper requires $876\,000 \text{ MWh} / 0,365 \text{ MWh/unit} = 2\,400\,000$ units of exit capacity. The unit price is $1,04859 \text{ €}$, in other words the total cost is $1,04859 \text{ €/unit} \times 2\,400\,000 \text{ units} = 2\,516\,616 \text{ €}$. The average cost of exit capacity is $2\,516\,616 \text{ €} / 876\,000 \text{ MWh} = 2,8728 \text{ €/MWh}$.

The average cost of the capacity booking is therefore $0,3912 \text{ €/MWh} + 2,8728 \text{ €/MWh} = 3,264 \text{ €/MWh}$.

Appendix 1: Network component list of Regulation method

Verkkokomponentti	Yksikkö	€/yksikkö	Pitoaika
SIIRTOVERKON PUTKIVERKKO			
PUTKIKOKO, 54bar(g)			
DN 80 tai pienempi	km	420 000	50 - 65
DN 100	km	450 000	50 - 65
DN 150	km	540 000	50 - 65
DN 200	km	580 000	50 - 65
DN 250	km	630 000	50 - 65
DN 300	km	630 000	50 - 65
DN 400	km	780 000	50 - 65
DN 500	km	1 000 000	50 - 65
DN 700	km	1 220 000	50 - 65
DN 800	km	1 680 000	50 - 65
DN 900	km	1 760 000	50 - 65
DN 1000	km	3 790 000	50 - 65
PUTKIKOKO, 54bar(g)			
DN 100	km	980 000	50 - 65
DN 500	km	980 000	50 - 65
PUTKIKOKO, 8 bar(g), MATALAPAINEPUTKI, PEH MUOVIA			
PEH 315	km	380 000	65
PEH 200	km	330 000	65
alle PEH 200	km	310 000	65
Meriputki Fjusö-Paldiski, Suomen osuus			
Meriputki Fjusö-Paldiski, Suomen osuus	km	519 800	65
Maaputki Inkoo - Fjusö			
Maaputki Inkoo - Fjusö	km	287 000	65
Maaputki Pölans-Inkoo			
Maaputki Pölans-Inkoo	km	348 000	65
SIIRTOVERKON ASEMAT			
PAINEENSÄÄTÖASEMAT			
Paineenvähennysasema 500 - 1000 MW ilman kattilaa	kpl	1 880 000	65
Paineenvähennysasema 500 - 1000 MW / Kattila	kpl	150 000	20
Paineenvähennysasema 500 - 1000 MW	kpl	2 030 000	65
Paineenvähennysasema 250 - 500 MW ilman kattilaa	kpl	1 380 000	65
Paineenvähennysasema 250 - 500 MW / Kattila	kpl	150 000	20
Paineenvähennysasema 250 - 500 MW	kpl	1 530 000	65

Paineenvähennysasema 100 – 250 MW ilman kattilaa	kpl	1 050 000	65
Paineenvähennysasema 100 – 250 MW / Kattila	kpl	150 000	20
Paineenvähennysasema 100 – 250 MW	kpl	1 200 000	65
Paineenvähennysasema 50 – 100 MW ilman kattilaa	kpl	520 000	65
Paineenvähennysasema 50 – 100 MW / Kattila	kpl	150 000	20
Paineenvähennysasema 50 – 100 MW	kpl	670 000	65
Paineenvähennysasema alle 50 MW ilman kattilaa	kpl	300 000	65
Paineenvähennysasema alle 50 MW / Kattila	kpl	150 000	20
Paineenvähennysasema alle 50 MW	kpl	450 000	65
Laadunhallintalaitteisto, asemakohtainen	kpl	170 000	20
VASTAANOTTOMITTAUS- JA KOMPRESSORIASEMAT			
Vastaanottomittaus. Imatra	kpl	8 750 000	60
Vastaanottomittaus. Inkoo	kpl	8 750 000	60
Kompressoriaseman putkistot ja laitteet	kpl	7 770 000	60
Kompressoriyksikkö 4,7 MW	kpl	6 830 000	60
Kompressoriyksikkö 5,0 MW	kpl	6 920 000	60
Kompressoriyksikkö Inkoo	kpl	12 449 000	60
Kompressoriyksikkö 6,5 MW	kpl	7 070 000	60
Kompressoriyksikkö 10,0 MW	kpl	10 590 000	60
Kompressoriaseman automaatiolaitteisto, asemakohtainen	kpl	2 000 000	20
Kompressorihalli	m2	2 808	60
Inkoon LNG-terminaalin liityntä / Kaasun purkuvarsi	kpl	1 886 000	60