Gasgrid Finland Oy

Consultation on the prices of Gasgrid Finland in 2021 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)

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Table of Contents

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 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.

LNG entry point means the virtual point where gasified LNG is injected from the LNG processing plant to the Finnish gas system.

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.

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.

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 1.1.2021 – 31.12.2021 by 30th of November 2020. Before publishing the final tariffs, Gasgrid organizes the public consultation on the tariffs including the information according to the 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). The Article 32 of TAR NC sets the deadline for final tariff publication which is 30 days before the respective tariff period.

Based on Natural Gas Market Act, the rights and obligations of the transmission system operator with system responsibility to set transmission tariffs for 2021 are limited to internal entry and exit points in the system. Regarding international connections in the natural gas transmission system, the national regulatory authority (NRA), the Energy Authority, sets transmission tariffs, which are also described in this document. At the same time of this consultation, Energy Authority organizes a consultation on cross-border tariffs.

Gasgrid Finland will be pleased to receive written opinions about the tariffs and charges proposed in this document. Parties providing comments must separately notify whether their comment or part of it is confidential information that may not be published on the Gasgrid website. The TSO also has the right to submit opinions given to the national regulatory authority (NRA), i.e. to the Energy Authority. The opinions shall be submitted by 5th of November 23:59 EET. Please submit your opinion to the following e-mail: commercial@gasgrid.fi

The final tariffs for 2021 will be published by 30th of November 2020.

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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. Gasgrid Finland offers capacity as much as possible taking into account security of supply and operational abilities.

At Balticconnector entry and exit point, capacity is allocated implicitly based on confirmed nominations according to the nomination submission schedule. Due to this fact, only firm capacity is offered for shippers. After a nomination submission window is closed, shippers may submit renominations. Day-ahead capacity not allocated during nomination submission period shall be offered as a within-day capacity during renomination submission period. Capacity not allocated during nomination submission period is called *Available Capacity.*

Because the transport capability of the Finnish exit zone is high, market participants may book exit zone capacity without limitations. Thus, Gasgrid Finland has not set certain Technical Capacity value for exit zone. Gasgrid accepts the received exit zone capacity booking requests if they are correctly submitted.

At Imatra point, Gasgrid Finland sets the amount of firm daily and within-day capacity offered to shippers to be able to prepare the transmission system for transporting the gas quantities also in the situations where the rapid changes in gas flows exist in a short time period. For longer-term capacity products, there are no capacity booking limitations, because Gasgrid foresees that capacity is sufficient to cover the market needs.

Gasgrid Finland has capability to receive biogas and LNG fulfilling the quality requirements without limitations. Thus, the Technical Capacity is not set to biogas virtual entry point and LNG virtual entry point.

2.1.1 Technical Capacity – Entry points

Balticconnector is the only interconnection point in the Finnish gas system. Balticconnector is a bidirectional pipeline. Balticconnector transmission capacity is the maximum transport capacity in a design pressure which is 81 400 MWh/day.

The Technical Capacity offered for market participants is agreed with Estonian TSO, Elering AS. The TSOs in Finland and Estonia published preliminary Technical Capacities for the Balticconnector interconnection point on 7th of September 2020. The preliminary capacities can be found below. Please note that the values are preliminary including information based on TSOs best knowledge at the time of the publication. If any changes to the values shall be done in the future, the information will be published in Urgent Market Message platform which can be found here: https://umm.getbaltic.com/public-umm

The preliminary Technical Capacities (based on information on 7th of September) for Balticconnector entry direction are presented in Table 1:

Table 1.Preliminary Technical entry capacity of Balticconnector.

	GWh/day	
01/2021	45	
02/2021	46	
03/2021	40	
04/2021	48	
05/2021	53	
06/2021	54/12	(planned maintenance work 25.6.-31.7.)
07/2021	12	(planned maintenance work 25.6.-31.7.)
08/2021	52	
09/2021	51	
10/2021	47	
11/2021	47	
12/2021	57	

At Imatra entry point, Technical Capacity will be 220 000 MWh/day throughout the year 2021.

Hamina LNG will be the new entry point to the Finnish gas system. According to the press release of the Hamina LNG, the terminal will start its commercial operations 1st of April 2021, as the LNG is injected to the distribution system. At the time of starting the commercial activity, the Technical Capacity will be 4 800 MWh/day. According to the project plan of Hamina LNG, the connection to the transmission network will commercially start its activity 1st of August 2021 which would have increasing impact on the Technical Capacity. The physical LNG connection points form the commercial LNG virtual entry point to the gas system through which all natural gas gasified in the LNG processing plant is transported to the Virtual Trading Point according to the gas market model. Shippers book capacity of LNG virtual entry point offering flexibility for them as the booking is not tied into a specific physical point.

There are 6 biogas injection points connected to Finnish gas system. They are located in Espoo, Kouvola, Lahti, Riihimäki and Hamina. The 6th and the most recent biogas injection point is located in Mäntsälä. The biogas injection points form a virtual biogas entry point. Gasgrid Finland has not set the Technical Capacity for the biogas virtual entry point, as Gasgrid has estimated that it has capability to receive biogas without restrictions.

2.1.2 Technical Capacity – Exit points

Balticconnector is the only exit point to the neighboring Estonian-Latvian gas market. The transmission capacity is 81 400 MWh/day. The Technical Capacity for 2021 to exit direction is coordinated together with Estonian TSO. Based on the information in the end of September the Technical Capacity to exit direction is app 50 GWh/day throughout the year 2021.

Finnish exit zone consist of approximately 200 exit points out of which about 50 % are end consumers directly connected to transmission system and 50 % exit points to distribution network (‘city-gates’). All exit points to domestic consumption sites and to the connection point between transmission and distribution systems form the Finnish exit zone. Shippers may book capacity without restrictions, because the infrastructure is capable to transport much higher gas quantities than currently used by Finnish end consumers. By booking capacity for exit zone, shippers are entitled to offtake gas from Finnish gas system whichever exit point except from Balticconnector exit point.

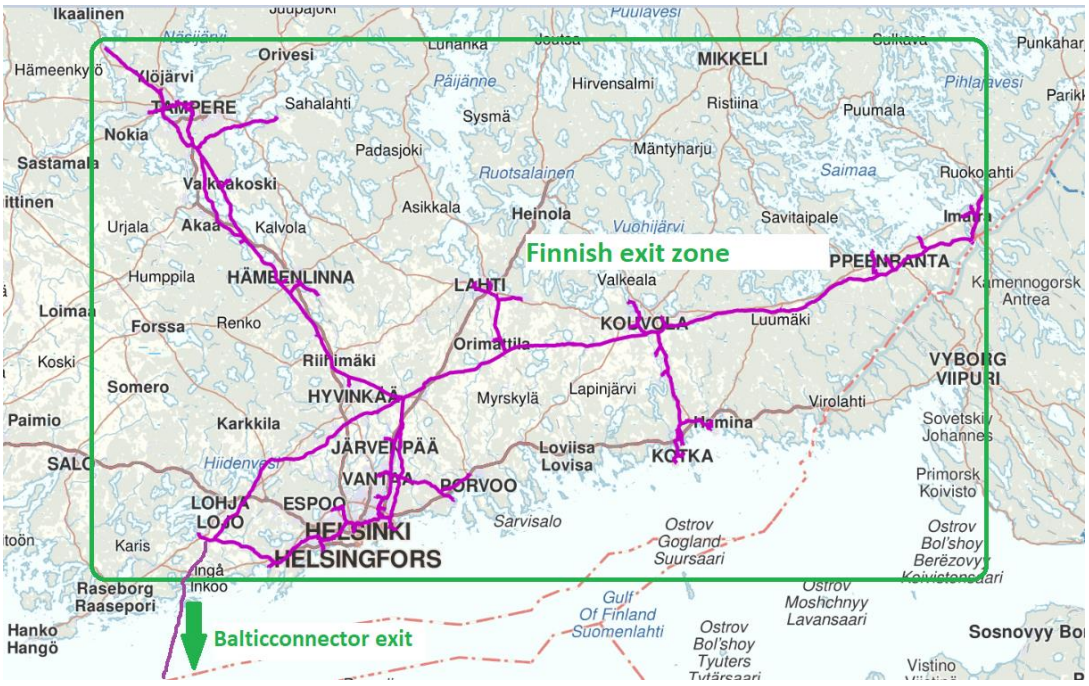

Figure 1. Finnish gas system exit points – Balticconnector exit point and the Finnish exit zone.

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

Balticconnector commissioning was 1st of January 2020. During 2020, the physical gas flow has been from Estonia to Finland. Only small quantities have commercially flown to opposite direction from Finnish gas system to Estonian system. In Finland, the weather conditions (e.g. warm vs cold winter) have a significant impact on the gas consumption. In addition, the competitiveness of gas compared to alternative fuels has an impact on annual gas consumption. Also, gas consumption is affected by the price of electricity, which is further affected by e.g. rainfall in the Nordic region. The impact of COVID-19 brings some uncertainties especially in gas use in industrial sector.

The gas consumption is expected to settle between 22-28 TWh in 2021. With regard to the tariff setting, Gasgrid's estimate of annual consumption is on the more conservative side of the range, assuming an annual gas consumption of 23 TWh based on the gross calorific value (GCV). According to the postage stamp reference price methodology, the same entry and exit tariffs will be applied at all entry and exit points. Thus, the forecasted contracted capacity which will be used in defining the reference prices is based on the estimated annual gas consumption and annualized capacity bookings which takes into account the estimated capacity product pattern and booked volume.

The gas quantities transported through Balticconnector depends highly on the gas commodity market price development. As Balticconnector is a bi-directional pipeline, the price development has significant impact also to the flow direction. Balticconnector utilization rate has been very high from the beginning of the commercial operations of the pipeline. As the compressor station projects on Estonian side are delayed, capacity offered at Balticconnector is limited. Also, the Technical Capacity is affected by the pressure levels of adjacent gas systems, because the pressure level affects to the capability to transport gas from south towards Finland. Based on the latest UMM information published by Estonian TSO, Elering AS, the Puiatu compressor station commissioning would be in December 2020. This would increase the Balticconnector

Technical entry capacity from the current app. 30 GWh/day to the Technical Capacity presented in the table 1 above.

By the time of launching this consultation, there hasn't been any physical transit flows through Finnish gas system. Thus, all gas entered to Finnish gas system was consumed by Finnish end consumers.

2.3 The quantity and the direction of the gas flow for entry and exit points and associated assumptions, such as demand and supply scenarios for the gas flow under peak conditions

Typically, the peak conditions in gas demand are reached on the coldest days in winter. The estimated gas flow during peak conditions in 2021 is approximately 160 GWh/day which is on the same level than in 2019. This estimation includes the assumption that there is not transit flow from Finland to Estonian-Latvian market area. For comparison, the highest daily consumption in Finland was reached in February 2011 as the consumption was app. 220 GWh/day. It should be noted that the annual gas consumption was approximately two times bigger during that time.

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

As of 2021 the Finnish gas system will consist of 4 entry points where entry capacity is offered:

- Balticconnector entry point
- Imatra entry point
- a biogas virtual entry point covering the physical biogas injection points of Finnish gas system.
- a Liquified Natural Gas ('LNG') virtual entry point covering the physical LNG injection points of Finnish gas system.

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 2 below, the Finnish transmission system is described.

Figure 2. Transmission system and the compressor stations in Finland.

1) Imatra compressor station
   - 3 gas powered compressor units;
     - the shaft power of 2 compressor units is 5 MW each, one unit 10 MW
     - transport capability: 2 compressor units 250 000 m3/h each, one unit 500 000 m3/h
2) Kouvola compressor station
   - 3 gas powered compressor units;
     - the shaft power of 2 compressor units is 5 MW each, one unit 10 MW.
     - transport capability: 2 compressor units 350 000 m3/h each, one unit 700 000 m3/h
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 1247 km. Most of the pipelines are onshore pipelines, but approximately 39 km is offshore pipeline. The lengths of the pipelines with different diameters are presented in the Table 2 below:

Table 2. Pipeline lengths in the Finnish gas transmission system.

DN	Total length [km]
≤200	219
250 - 400	353
500	386
700	167
900 - 1000	123
Total	**app. 1248**

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 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 four different Finnish biogas plants is injected into the gas transmission network. The biogas plants are located in Espoo, Kouvola, Lahti and Riihimäki. In Lahti biogas entry point, there is possibility to inject biogas into the transmission system from biogas containers in addition to the biogas plant. In addition, two biogas plants are connected to the distribution network: one located in Hamina and another located in Mäntsälä.

In 2017 one of the two parallel pipelines from Imatra to Pajari was decommissioned to increase cost-efficiency of the transmission system. The remaining capacity satisfies well the needs of the Finnish gas market.

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 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. Over four decades no significant incidents have incurred on the gas transmission network due to well-planned preventive maintenance.

Gasgrid Finland, together with Estonian and Latvian TSOs involving to the common tariff zone, have created a common maintenance plan for the period 1.10.2020-1.1.2022. Following maintenance works with effect on cross-border capacities will be executed in the Finnish system:

- Imatra receiving station modification work 20 April – 23 April 2021, capacity in Imatra is limited to 3 000 MW.
- Inkoo annual maintenance work 15 March – 21 March 2021 (preliminary), capacity in Balticconnector is limited and dependent of Estonian system transmission capacity.
- Annual maintenance works of Imatra, Kouvola and Mäntsälä compressor stations 1 April – 30 November 2021, capacity in Imatra is limited to 5 200 MW.

The regional maintenance plan can be found here:
- https://umm.getbaltic.com/public-umm (Finnish system)
- https://dashboard.elering.ee/en/umm/gas (Estonian system)
- https://capacity.conexus.lv/?id=222&lang=eng (Latvian system)

Finnish gas use has decreased from over 50 TWh (GCV) to the current level of 22-28 TWh per annum in the past ten years. As the Finnish gas transmission network is in a good condition, it fulfils the current transmission needs. As no significant increase in future gas consumption is expected, no major investments are currently planned to the network. The connection of Hamina LNG transmission system, which is under development, is the biggest infrastructure expansion project potentially increasing the length of transmission network by few kilometers. However, the current focus on network planning is the maintenance of existing assets. Safe, reliable and cost-efficient gas transmission are the key drivers of network development.

Gasgrid Finland started a project on company's strategy update in spring 2020. Gasgrid has started to investigate the requirements and needs of the future carbon-neutral energy system for the development of the gas transmission network in Finland.

3 Financial parameters

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

3.1 Allowed revenue of Gasgrid Finland in 2021

3.1.1 Allowed revenue for the transmission services

The regulatory period is four years in Finland. The ongoing period takes place 2020-2023. 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.

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 defined the reasonable rate of return ($WACC_{pre-tax}$) for 2021. The Regulated Asset Base (RAB) is an another key component as determining the Allowed Revenue for 2021. The key financial components for determining the Allowed revenue are presented in the table 3:

Table 3. The Allowed revenue of Gasgrid Finland and the key parameters used for determining the Allowed revenue.

	2020	2021
WACC-%, pre-tax	6,48 %	6,10 %
Regulated Asset Base [M€]	765,8	750
Allowed revenue [M€]	49,6	45,8

The parameters above includes the impact of Balticconnector infrastructure. As components financed by subsidies or compensations for the construction of the network are not included in the Regulated Asset Base, they do not increase the allowed revenue. 75% EU contribution of Balticconnector has therefore been taken into account in the calculation of allowed revenue.

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

From the beginning of July 2020, the new regulation method for determining the revenue from the services of centralized data exchange[1] (datahub) was introduced. Thus, Gasgrid differentiate the costs allocated to the datahub operations and covers the cost of the datahub operations through the datahub charge. Gasgrid is entitled to collect profit from datahub service according to the regulation method determined 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-depreciable replacement cost, the technical life of which is determined to be 10 years after the introduction of the datahub system. A significant portion 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.

The WACC-% of the centralized data exchange service for retail market will be 4,83% in 2021. The datahub charge is calculated in the chapter 4.4. of this document.

3.1.3 Consideration of balancing services in Gasgrid Finland's operations

The Finnish Energy Authority has set Gasgrid Finland as a transmission system operator with system responsibility, as a result of which Gasgrid is responsible for balance management 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 its 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 imbalance charges and within-day 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

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

- 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.

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

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 transmission 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;

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 the company, where weight is on the relative values of equity and debt.

The parameters of the WACC model are fixed for the regulatory period 2020-2023, except for the risk-free interest rate, which is updated annually. The detailed description of the calculation method for WACC-% is described here (in Finnish):

Link: Calculation method for WACC-%

The WACC-% for transmission network operations for 2021 is 6,10 %. The values used in the calculation are presented here (document in Finnish):

Link: WACC-% calculation for 2021

Starting from the beginning of July 2020, the new regulation method for centralized data exchange service of retail market 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. **The WACC-% for datahub service for retail market is 4,83 %.** 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 Capital expenditures

3.2.3.1 Methodologies to determine the initial value of the assets and re-evaluate them

The value of the transmission network is adjusted in regulation methods to correspond with its actual replacement cost. The adjustment is made so that the value pertaining to the unbundled balance sheet is not used in the calculation of reasonable return. Instead, the regulated asset base of the transmission network calculated from its replacement value is used.

Unit prices for network components are used to calculate the replacement value of network assets. The replacement value is calculated using average network component-specific unit prices. Network components and unit prices used during the regulatory period in 2020-2023 are presented in Appendix 1 of this document. No inflation adjustment is made to unit prices over different years, as inflation is considered in the reasonable rate of return. When delivering regulatory information for the Finnish Energy Authority, Gasgrid Finland shall provide an account of these components and their balance sheet values pertaining to unbundled financial statements to allow them to be considered by NRA.

Lifetimes are used to calculate the regulated asset base of the transmission system assets and adjusted straight-line depreciation. The possible lifetimes of different network components are also presented in Appendix 1. Gasgrid Finland must select the lifetimes of network components to correspond with their actual average technical and financial lifetimes within the scope of these lifetime intervals. This refers to the average time over which network components are in use before their replacement. The selected lifetimes take the TSO's maintenance and investment strategy into account.

Average ages are used to calculate the regulated asset value of transmission system assets. TSO must identify the actual age of each network component at the end of each regulatory year. Gasgrid has taken the responsibility to submit the necessary data for NRA from the start of 2020. Gasgrid calculates the average age of each available network component and report them for NRA in the regulatory information system. Actual age refers to the lifetime of a component, i.e. age calculated from the first commissioning date or the year of manufacture. When reporting a new component in regulatory information for the first time, its age is the age calculated from the first commissioning date.

Components and property items not included in network operations are not included in adjusted assets employed in network operations. These include land areas that are not used in network operations. These items do not accumulate Gasgrid Finland's allowed revenue, as they are not included in network operations. Network operations do not include:

- Components which are not controlled by the TSO, but are used by the TSO through an arrangement under the law of assets where the right to control the network is not transferred from the TSO
- Components which are not within the scope of the TSO's development obligation
- Do not comprise network operations pertaining to the TSO's network license
- Components which are not necessary for the operation of the network.

Components that are not included in network operations cannot be included in natural gas network assets. In addition, adjusted natural gas network assets do not include components that are not connected to the network, are not in actual use and/or have not caused acquisition costs to the TSO.

Components funded by subsidies or compensation obtained for building a network are not included in the regulated asset value of natural gas network assets, i.e. they do not produce a reasonable return. However, components funded by subsidies or compensation are considered in the replacement value of natural gas network assets when adjusted straight-line depreciation on natural gas network assets is calculated in the investment incentive.

3.2.4 Depreciation periods and amounts per asset type

In the table 4 the depreciations of network components for 2021 are listed. The Finnish part of Balticconnector pipeline and Inkoo compressor station are included.

Table 4. Depreciation periods and lifetimes of the network components.

Network component	**Depreciation (€)**	**Lifetime (years)**
Gas pipes	15 100 000	65
Pressure reduction stations	1 800 000	65
Quality management equipment	100 000	20
Compressor stations	2 700 000	60
Total	**19 700 000**	

3.2.5 Operational expenditures

Operational expenditures consist of Gasgrid Finland's fixed and variable costs in order to meet its responsibilities and obligations. Operating costs are estimated for 2021. Also, the costs for 2020 are estimated as the year is still ongoing during the time of launching the consultation. Operating expenses of 2020 and 2021 are estimated in Table 5.

Table 5. Estimated operational expenditures in 2020 and 2021.

	2020	2021
Estimated operational expenditures [M€]	23,3	27,1

The estimate of operational expenditures in 2021 includes the change in the treatment of pressure reduction station consumables due to the terms and conditions for connection to the natural gas transmission network approved by the Energy Authority in September 2020. Due to the change, the operating and maintenance costs of Gasgrid Finland's pressure reduction stations will increase by approximately 1,5 M€ per annum. In addition, operational expenditures are expected to return to normal level as in 2020, variable costs will remain exceptionally low due to e.g. warm weather in the beginning of the year and the favorable development of electricity prices. Strengthening Gasgrid 's organization with new recruitments will also have increasing impact on operational expenses in 2021.

3.2.6 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 the TSO to make cost-efficient investments and to enable replacement investments.
- The quality incentive which purpose is to encourage the TSO to develop the quality of the natural gas transmission system.

- The efficiency incentive which purpose is to encourage the TSO to be cost efficient.
- The innovation incentive which purpose is to encourage the TSO 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

3.2.7 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 is 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. On the 1st half of 2020 Gasgrid organized a public consultation concerning the RPM in Finland. The Finnish Energy Authority confirms the RPM before the final tariffs are set. 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 postage stamp methodology does not provide locational signal, because the tariff is the same at each entry and each exit points.

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

4.2 Entry and exit capacity reference price 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. In addition to that, 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 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 a base. 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.

The reference price of exit capacity is determined by estimating the exit capacity needs of the Finnish national market during 2021.

4.2.1 Annualization of capacity bookings

According to the exit-exit model, standard capacity products (year, quarter, month, day, within-day) 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 has an impact on the reference prices. The expected annual gas consumption used in pricing is used as a key input for annualization.

In the chapter 2.2 of this document, the range of expected gas consumption and the consumption assumption used in pricing are described with the reasoning. In tariff setting, the annual consumption of 23 TWh is used as an input value.

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 collected by TSOs of common entry tariff zone is collected to the common basket and the revenue is shared between TSOs based on the share out of total consumption in the region. Instead, the booking pattern for exit capacity is defined on a national basis. For 2021, the booking patterns have been separately estimated for entry and exit capacity bookings:

1) Finnish national booking pattern for exit capacity booking pattern – one shipper

2) Regional booking pattern consisting of Finnish and Estonian-Latvian market areas for entry capacity → used in determining the entry capacity revenue collected by Gasgrid Finland according to the principles of ITC agreement.

The estimations of the booking patterns for 2021 are presented in the table 6 below.

Table 6. Estimated capacity booking patterns for entry and exit capacity for 2021.

Capacity product	Share entry (%)	Share exit (%)	Multiplier
Year	13	46	1
Quarter	14	29	1,1
Month	62	14	1,25
Day	10	9	1,5
Within-day	1	3	1,7

The estimated booking patterns have been used for the annualization of estimated capacity bookings. As regards to capacity bookings, it is estimated that before annualization of capacity bookings, the entry and exit capacity is booked based on the assumed annual consumption used in tariff setting (23 TWh).

The annualization factor is calculated as follows:

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

The annualization factors for entry and exit capacities are the following:

1) The annualization multiplier for the exit capacity reference price derivation: 1,12.

2) The annualization multiplier for the entry capacity revenue calculation: 1,23.

The difference in the entry and exit annualization factors is caused by the higher share of short-term entry capacity bookings in the FIN+EST+LAT market area compared to the share of short-term exit capacity bookings in Finnish market area.

4.2.2 Short-term capacity product multipliers in tariff year 2021

Energy Authority organized the public consultation on the short-term capacity product multipliers, seasonal factors and discounts 1st of April – 1st of June 2020. Regarding these components, it is presented the following:

- The following short-term capacity product multipliers will be applied:

Capacity product	Multiplier
Year (reference price)	1
Quarter	1,1
Month	1,25
Day	1,5
Within-day	1,7

- The seasonal factor will be one (1), which means there will not be seasonal differences in tariffs.

- Article 9 of TAR NC defines the possibility to set discount on tariffs at entry points from LNG facilities and infrastructure ending isolation. No discounts will be applied.

The grounds for the multipliers are the following:

- Finnish gas market is characterized by industry's and energy production's fast start-up needs after malfunctions. If high multipliers were used the competitiveness of gas would be reduced which would put gas in difficult position in rapidly evolving needs and could lead to the use of alternative fuels.

- Capacity bookings of the market participants serve as input data for TSO's operative planning. To achieve a high security of supply and a cost-efficient operation of the network it is important for TSO to know one day prior with appropriate precision what kind of transfer volumes it should be prepared for. Thus, Gasgrid Finland has proposed a price step among short term products, which is hoped to guide capacity booking to rather daily products than within-day products.

The same multipliers are applied in Finland and in Estonian-Latvian market area enabling gas flowing to the common entry tariff zone from the cheapest source of gas.

4.2.3 Discounts for interruptible capacity

Interruptible yearly, quarterly and monthly capacity is offered only if all yearly, quarterly and monthly firm capacity is sold out. Interruptible daily capacity is offered only if daily firm capacity is sold out. At Imatra point, interruptible capacity has not been offered during 2020, as firm capacity has been sufficient to fulfil the market needs. Gasgrid Finland estimates that firm capacity will cover the market needs also in 2021 and the probability for offering interruptible capacity is low. Gasgrid proposes that at the Imatra point, the discount for interruptible capacity compared to the corresponding price for the firm product is 5 %, which is the same than in 2020.

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

At LNG entry point no discount is proposed to be applied 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.

4.2.4 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 2021, the estimated transmission services revenue is presented in table 7.

Table 7. Transmission services revenue in 2021.

	Entry revenue [M€]	Exit revenue [M€]	Commodity revenue [M€]	**Total [M€]**
Transmission service revenue 2021 [M€]	11,1	74,0	4,5	**89,6**

4.2.5 The reference price of entry and exit capacity in tariff year 2021

In the tariff derivation, the following parameters are used:

- Annual consumption used in tariff setting: 23 TWh (reasoning in chapter 2.2.)
- Annualization factor for entry capacity: 1,23 (reasoning in chapter 4.2.1.)
- Annualization factor for exit capacity: 1,12 (reasoning in chapter 4.2.1.)
- Expected transmission service revenue to be collected by capacity tariffs: 85,1 M€
- **Reference price for entry capacity: 0,14277 €/kWh/day/year** (except Balticconnector where no tariff is set for entry capacity)
- **Reference price for exit capacity: 1,04859 €/kWh/day/year** (except Balticconnector where no tariff is set for exit capacity)

Gasgrid Finland finds very important that there are no rapid changes in reference prices and the predictability and anticipation in tariffs is high. Based on these reasons, Gasgrid Finland proposes to apply the same reference prices for entry and exit capacity in 2021 than in 2020. Based on the information on the time of launching this consultation, the reference price levels in 2022 and 2023 are estimated in chapter 4.7.

4.3 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.

Due to the ITC agreement, compressor costs caused by regional flow (exit through Balticconnector), are compensated via the agreement. The 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 the way of recovering the associated costs from shippers in a cost reflective manner.

The commodity-based tariff shall be set so that it covers the flow-based costs of domestic gas consumption. For the year 2021, the target revenue to be collected by commodity tariff is 4,5 M€. The costs to be covered by commodity charge includes uncertainty, because the pressure level from Russia and Estonia as well as the gas consumption and flow profile (temperature, competitiveness of gas energy) have a significant impact on the annual self-consumption of electricity and gas in compressor units. In addition, with the introduction of Balticconnector, the flow profile has changed significantly, which affects the operation of the compressor units in the Finnish gas system. The costs of compressor maintenance costs with flow-dependence is also subject to the cost which will be collected by commodity charge, but the impact of this component is limited compared to other cost components.

The cost of Inkoo compressor unit's electricity is estimated to be approximately 1,5 M€ per year. The fuel gas costs of the Imatra, Kouvola and Mäntsälä compressor units are estimated to total approximately 1 M€, so that Imatra's share of the costs is estimated at 20 %, Kouvola's share at 75 % and Mäntsälä's share at approximately 5 %. The maintenance costs, which are mainly driven by amount of gas flow, are estimated at 0,5 M€. Energy Authority has approved the Terms and Conditions of Connection Services to the Transmission Network. According to these terms and conditions, Gasgrid is responsible for the procurement of consumables for the delivery stations. This means the cost of heating the gas as well as the electrical costs of the pressure reduction stations have impact on the commodity charging. The costs caused by pressure reduction stations are estimated to be approximately 1,5 M€ per year. Summing these cost components, the total basket to be covered through commodity charges is approximately 4,5 M€.

With the estimate that domestic gas consumption is 23 TWh, the commodity charge for 2021 is 0,0001957 €/kWh. The increase in the commodity charge compared to the charge in 2020 (0,00006 €/kWh) is due to the following reasons: 1) Estimated costs caused by new compressor station in Inkoo are updated. 2) The costs arising from the consumables of the pressure reduction stations (gas heating costs and electricity acquisition costs). 3) Attributable gas-flow driven compressor unit maintenance costs.

4.4 Centralized data exchange charge (= datahub charge)

From the beginning of 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 are 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 revenue to be collected by datahub charge is 180 000 € in 2021. Gasgrid Finland is entitled to collect regulated profit from datahub service. The Energy Authority has set the WACC-% for datahub service which is 4,83 %.

There are approximately 7000 consumption sites in the distribution systems which are exposed to the datahub charge. The datahub charge for 2021 is 2,15 €/month/metering point.

Compared to the year 2020, the datahub charge increases, because TSO didn't have information about the number of metering points in the distribution networks before market opening and the introduction of datahub. Based on the data received during the year, the amount of metering points is found to be smaller than expected. The amendment to the gas market act with new regulatory method has also limited impact on the datahub charge as the TSO is entitled to collect regulated profit from datahub service.

4.5 Balticconnector underutilization fee

Underutilization fee is applicable in the Balticconnector interconnection point and it is applied only during days, when Balticconnector is congested. Shippers may renominate downward in the Balticconnector free of charge a maximum of 50 000 kWh/h (tolerance) compared to the Shipper's highest confirmed nomination for the gas day. For amounts exceeding the tolerance limit, the shipper shall pay an underutilization fee which is 0,002 €/kWh. The level of tolerance and the underutilization fee was part of public consultation organized in 2019. Balticconnector underutilization fee is not subject for profit.

The tolerance is set to the absolute value so that the tolerance gives flexibility for shippers, but it does not endanger operational capabilities to operate the transmission system cost-effectively with high security of supply. Absolute value means that shippers transporting smaller quantities have smaller risk to reach the tolerance limit compared to shippers transporting plenty of gas through BC. The absolute value instead of relative value (%-based tolerance for downward renomination) is set, because Balticconnector capacity is an absolute value and small absolute change in the transported gas quantities does not have significant impact on the physical network operations.

Underutilization fee is set so that the fee sets incentive for shippers to submit nominations close to their actual needs. Upward nominations can be submitted freely in line with Balticconnector rules. On the other hand, defining the value for the fee it is considered that the fee is reasonable and does not cause undue precautions in shippers' operations.

4.6 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:

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

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

Capacity-commodity split: 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:

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

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

Entry-exit split: 13%/87%

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%

4.7 The estimated difference in the level of transmission tariffs for the same type of transmission service applicable for the tariff period for which the information is published compared to other tariff periods within the same regulatory period.

Table 8. The estimated tariff development during the regulatory period of 2020-2023.

	2020	**2021**	2022	2023
Entry reference price [€/kWh/day/year]	0,14277	**0,14277**	0,14277	0,14277
Exit reference price [€/kWh/day/year]	1,00567	**1,00567**	0,982	0,982

The estimated reference prices for 2022 and 2023 include the following uncertainties: 1) The confirmed deficit or surplus of the previous regulatory period is not yet known 2) Capacity bookings during the following years will affect pricing in subsequent years.

5 The price list of Gasgrid Finland

The price list of Gasgrid Finland consists of transmission service charges, balance management related charges and centralized data exchange charges.

5.1 Transmission service charges

Starting from 1 January 2020, the postage stamp methodology is applied as the reference price methodology in the Finnish entry-exit system. The postage stamp methodology is applied to capacity tariffs. A capacity charge is applied both to entry and exit capacity.

The price of a capacity product depends on the duration of the product – the longer the duration of the capacity product, the lower the price. Gasgrid offers annual, quarterly, monthly, daily and within-daily capacity products. In addition to the capacity-based tariff, Gasgrid levies a commodity charge at the exit zone to cover variable costs arising from gas transmission.

Firm capacity tariff for yearly product (reference prices)	
Entry capacity	
Imatra	0,14277 €/kWh/day/year
Balticconnector	-
Biogas virtual entry point	0,14277 €/kWh/day/year
LNG virtual entry point	0,14277 €/kWh/day/year
Exit capacity	
Balticconnector	-
Finland's domestic exit zone	1,04859 €/kWh/day/year

Short-term capacity product multipliers for entry and exit capacity	
Capacity product	**Multiplier**
Year	1
Quarter	1,1
Month	1,25
Day	1,5
Within-day	1,7

Interruptible capacity	
Interruptible capacity discount (%) on the corresponding price for the firm product	
Entry capacity	**Discount**
Imatra	5 %
Biogas virtual entry point	0 %
LNG virtual entry point	0 %

Commodity charge (energy charge)	
Based on the quantity of gas transferred	0,0001957 €/kWh
Commodity charge payable in the Finnish exit zone	

Capacity overrun charge

One and a half (1,5) times the unit price based on within-day firm capacity will be charged for the quantity exceeding the allocated capacity.

A Capacity overrun charge is paid in Finland's exit zone, biogas virtual entry point and LNG entry point.

Capacity overrun charge

A Capacity overrun charge is paid in Finland's exit zone, LNG virtual entry point and at the biogas virtual entry point.

Finland's exit zone: Based on the results of the final balance settlement, if an offtake of the shipper from the exit zone exceeds the shipper's total booked exit zone capacity per gas day, the shipper must pay capacity overrun charge.

Biogas virtual entry point and LNG virtual entry point: Based on the results of the final balance settlement, if a biogas injection exceeds the shipper's booked total biogas virtual entry capacity per gas day, the shipper must pay capacity overrun charge. Based on the results of the final balance settlement, if a LNG injection exceeds the shipper's booked total LNG virtual entry capacity per gas day, the shipper must pay capacity overrun charge.

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

5.2 Other charges

Underutilization fee

Underutilization fee is applicable in the Balticconnector interconnection point and it is applied only during days, when Balticconnector is congested.

A Shipper may renominate downward in the Balticconnector free of charge a maximum of 50 000 kWh/h (tolerance) compared to the Shipper's highest Confirmed Nomination for the Gas Day. For amounts exceeding the tolerance limit, the Shipper shall pay an underutilization fee.

Tolerance: 50 000 kWh/h
Pricing: 0,002 €/kWh

The underutilization fee is set so that it encourages shippers to nominate according to their actual needs, because TSO uses the nomination information to operate the system. Rapid changes during the ongoing gas day may cause operational challenges. The tolerance is set so that the tolerance gives some flexibility for shippers to adjust their nominations in changing market circumstances but ensures that TSO can operate the gas system effectively by avoiding rapid and significant changes in nominations.

Pricing for connections

TSO has an obligation to connect new infrastructure to its grid as long as connecting infrastructure fulfills 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 case by case

Nomination imbalance charge

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

Pricing: 0 €/kWh

Daily imbalance charge

Buy and sell prices of balance gas

The transmission system operator with system responsibility's definition for neutral gas price: *Neutral gas price is the weighted average price of intraday products on the Gas Exchange in €/kWh during the gas day.*

Balance gas buy price of the transmission system operator with system responsibility equals to adjusted neutral gas price: Neutral gas price less 10% of the neutral gas price.

Marginal price of purchase: The lowest price of the following:

1) Trading price (weighted average) of the transmission system operator with system responsibility for intra-day products on the gas day concerned if the imbalance forecast in the system has been in the yellow zone (TSO has participated in trading at gas exchange and/or activated a balancing service agreement) during the gas day or
2) The applicable adjusted neutral gas price.

The balance gas sell price of the transmission system operator with system responsibility equals to the adjusted neutral gas price: Neutral gas price plus 10% of the neutral gas price.

Marginal price of sale: The highest price of the following:

1) Trading price (weighted average) of the transmission system operator with system responsibility for intra-day products on the gas day concerned if the imbalance forecast in the system has been in the yellow zone (TSO has participated in trading at gas exchange and/or activated a balancing service agreement) during the gas day or
2) The applicable adjusted neutral gas price.

Once the competent authority has announced that a crisis level in the supply is in force, the transmission system operator with system responsibility may, authorized by the competent authority, determine the pricing of balance gas in some other way.

Neutrality charge

The TSO shall not gain or lose by the payment and receipt of daily imbalance charges, within-day charges, balancing actions charges and other charges related to its balancing activities. In order to ensure the cost-neutrality of balance management activities, a neutrality charge is introduced.

The price of the gas month-specific neutrality charge shall be determined after each gas month. The price of the neutrality charge [€/MWh] shall be determined on the basis of total sums of revenues minus total costs and by dividing the result by the total amount of offtakes of all of the balance responsible parties for that gas month. Taken into account as offtakes shall be offtakes included in the balancing portfolios of the balance responsible parties in the exit zone, virtual trading point (VTP) and Balticconnector. The balance responsible party's monthly neutrality charge [€/gas month] shall be determined by multiplying the amount of aggregate offtakes included during the gas month in the balance responsible party's balancing portfolio (incl. exit zone, VTP and Balticconnector) by the price of the neutrality charge applicable to that gas month.

Compensation for non-conformity with gas quality and supply requirements

Compensation terms and conditions have been mentioned in the framework agreement of Shipper and Trader.

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

Centralized data exchange charge (=Datahub charge)

The charge is applied to cover the investment and development costs of the centralized data exchange. The regulation method for centralized data exchange service pricing was introduced 1st of July 2020. According to the regulation method, NRA has determined the WACC-% which is the input value as determining allowed revenue for the service. The distribution system operator is charged with regard to the consumption sites in distribution networks owned or operated by the distribution system operator 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 for individual non-daily read gas cooker sites).

Pricing: 2,15 €/metering site/month

Appendix 1

TRANSMISSION PIPELINE NETWORK			
PIPELINE SIZE, 54 bar(g)			
Network component	Unit	Unit price, EUR	Lifetime, years
DN 80 or lower	km	350,000	50–65
DN 100	km	380,000	50–65
DN 150	km	450,000	50–65
DN 200	km	490,000	50–65
DN 250	km	530,000	50–65
DN 300	km	530,000	50–65
DN 400	km	650,000	50–65
DN 500	km	840,000	50–65
DN 700	km	1,020,000	50–65
DN 800	km	1,400,000	50–65
DN 900	km	1,470,000	50–65
DN 1000	km	3,160,000	50–65
PIPELINE SIZE, 80 bar(g)			
Network component	Unit	Unit price, EUR	Lifetime, years
DN 500	km	820,000	50–65
PIPELINE SIZE, 8 bar(g), LOW PRESSURE PIPELINE, PEH PLASTIC			
Network component	Unit	Unit price, EUR	Lifetime, years
PEH 315	km	320,000	65
PEH 200	km	280,000	65
under PEH 200	km	260,000	65

TRANSMISSION NETWORK STATIONS

PRESSURE REGULATING STATIONS

Network component	Unit	Unit price, EUR	Lifetime, years
Pressure reducing station, 500–1,000 MW	quantity	2,030,000	65
Pressure reducing station, 250–500 MW	quantity	1,530,000	65
Pressure reducing station, 100–250 MW	quantity	1,200,000	65
Pressure reducing station, 50–100 MW	quantity	670,000	65
Pressure reducing station, under 50 MW	quantity	450,000	65
Quality management equipment, station-	quantity	170,000	20
Pressure increasing equipment, more than 4	quantity	1,540,000	50
Pressure increasing equipment, under 4 MW	quantity	1,210,000	50
Processing plant, more than 4 MW	quantity	3,590,000	50
Processing plant, under 4 MW	quantity	2,760,000	50

ACCEPTANCE MEASUREMENT AND COMPRESSOR STATIONS

Network component	Unit	Unit price, EUR	Lifetime, years
Acceptance measurement, Imatra	quantity	8,750,000	60
Compressor station pipelines and equipment	quantity	7,770,000	60
Compressor unit, 4.7 MW	quantity	6,830,000	60
Compressor unit, 5.0 MW	quantity	6,920,000	60
Compressor unit, 6.5 MW	quantity	7,070,000	60
Compressor unit, 10.0 MW	quantity	10,590,000	60
Compressor station automation equipment, station-specific	quantity	4,450,000	20
Compressor facility	m^2	2,808	60

TRANSMISSION NETWORK SYSTEMS AND COMMUNICATIONS

SYSTEMS AND COMMUNICATIONS NETWORKS

Network component	Unit	Unit price, EUR	Lifetime, years
Data transfer system	quantity	3,310,000	20
Operations monitoring system	quantity	3,580,000	20
Measurement and balance management	quantity	4,530,000	20