



Consultation document for incremental capacity project on the border between Poland TGPS and Germany (Trading Hub Europe)

10th August 2020





This report comprises a joint analysis of the need for incremental capacities to be created by the following companies:

GASCADE Gastransport GmbH.	Operator Gazociągów Przesyłowych	
	GAZ-SYSTEM S.A.	
Kölnische Str. 108-112	Ul. Mszczonowska 4	
34119 Kassel	02-337 Warsaw	
Germany	Poland	





Table of contents

I.	lr	ntroduction	5
II.	Ρ	roject proposal	7
1		Measures on the German side of the border	7
2		Measures on the Polish side of the border1	0
3		Offer level for bundled capacity products1	0
3.1.	0	ffer level (GASCADE)1	0
3.2.	0	ffer level (GAZ-SYSTEM)1	2
4		Alternative allocation mechanisms1	3
5		Provisional time planning1	3
6		Supplementary business terms and conditions14	4
7		Element IND and RP pursuant to NC TAR14	4
8		Economic test	4
8.1.	E	conomic test of GASCADE14	4
a.	f-	factor1	6
b.	R	eference price	8
c.	С	ash value of the estimated increase in the EOG1	9
d.	N	1andatory minimum premium1	9
8.2.	E	conomic test of GAZ-SYSTEM	9
9		Non-binding market requests received after expiry of the deadline1	9
1	0.	Implications on the use of the existing gas infrastructure	9
III.		Contact data	0





List of diagrams

Fig.	1: Expansion	measures for the	maximum	scenario		8
------	--------------	------------------	---------	----------	--	---

List of tables

Table 1: General case matrix of the products that are equivalent or of a higher c	quality
compared to a requested capacity product	11
Table 2: GAZ-SYSTEM's capacities to be offered for bundled offer level	13
Table 3: Provisional time planning	13

List of annexes

Annex 1: GASCADE's Scenario matrix

Annex 2: GASCADE's Offer level

Annex 3: GASCADE's Supplementary business terms and conditions

Annex 4: GASCADE's Parameters of the economic test per scenario





I. Introduction

After completion of Phase 1 of the incremental procedure initiated in 2019 pursuant to the Regulation (EU) 2017/459 (Network Code on Capacity Allocation Mechanisms in Transmission Networks; hereinafter "NC CAM") for creating incremental capacities at the market area border between the market area Trading Hub Europe (THE)¹ and Poland TGPS (Transit Gas Pipeline System) the involved German transmission network operators (FNB) started the planning phase for the corresponding projects (Phase 2). The involved FNB are listed on p. 2 et seq.

The stated enquiries for incremental capacity to be created in line with Art. 26 Para. 8 lit. d NC CAM include the requirement for a combined analysis. In the planning phase the involved FNB accordingly came to the conclusion to jointly analyse the stated enquiries for incremental capacity to be created. The determined measures are dependent on one another, therefore the analysis of individual enquiries with directly allocable measures is not possible and a joint realisation of the expansion measures is useful.

As presented in the Market Demand Assessment Report (MDAR) 2019 (published on 21 October 2019) there is a need for additional capacities for the market area border Poland TGPS and THE on the German side. The MDARs based on the received market demands are accessible to the public on the website of FNB Gas e. V.² The conclusion of the MDAR was that GASCADE will start a project for the creation of incremental capacity. Since the non-binding demand for incremental capacity between GASCADE and GAZ-SYSTEM was requested only on German side of the border and capacities to a sufficient extent are already available on the Polish side of the market area border there was no need to conduct technical analysis on Polish side of the IP Mallnow and no project for development of incremental capacities was initiated by GAZ-SYSTEM. In line with NC CAM the consultation of the project proposal is nevertheless carried out jointly so that the offer level for incremental capacity to be created on German side can be carried out as a bundled capacity.

Besides the non-binding enquiry for incremental capacity to be created presented above, a high number of further enquiries for incremental capacity to be created were received by the German FNB. The various possible combinations of the enquiries led to a multitude of modelling variants, which must have been carried out as a basis of the technical studies. This

¹ Common German market area to be established as of 1 October 2021.

² To be found under: https://www.fnb-gas-capacity.de/en/cycles/2019-2021-incremental-capacity-cycle/market-demand-assessment-reports/





resulted in the adjustment to the original time schedule and the postponement of the consultation of this document.

The planned merger of the German Entry-Exit-Systems into the joint German market area THE as of 1 October 2021 also has an influence on the existing capacity that is to be taken into consideration. Only approved technical capacity within the meaning of Section 9 Para. 4 S. 1 German Regulation on Access to Gas Supply Networks [*Verordnung über den Zugang zu Gasversorgungsnetzen - GasNZV*] (hereinafter "Basic Capacity") can be taken into consideration in the procedure for creating incremental capacities.

This circumstance leads to the fact that at the border between Poland TGPS and THE the request for incremental capacity to be created had to be adjusted once again after publication of the non-binding MDAR. In the non-binding MDAR for incremental capacity to be created it was noted in the comments that in total 27,828,000 kWh/h FZK should be achieved at the border. As the Basic Capacity approved by BNetzA on 22 April 2020 at the IP Mallnow is 10,877,000 kWh/h FZK, this results in a difference of 16,951,000 kWh/h FZK to the requested capacity. For this reason, GASCADE has decided by coordination with the enquiring transport customer and the Federal Network Agency to take 16,951,000 kWh/h into consideration as incremental capacity to be created over the further course of the project.

Within the scope of this project for incremental capacity to be created technical studies were conducted for all potential network interconnection points at the German market area border, for which the incremental project was initiated. Both financial aspects as well as the network topology are taken into consideration hereby. After completion of the technical studies the FNB concerned started the process for the design of the coordinated offer levels for the marketing of the capacity products including identified incremental capacity to be created.

This consultation document is a joint draft project proposal of GASCADE and the adjacent transmission system operator GAZ-SYSTEM. Therefore, all necessary consultation elements are described and taken into consideration in this document for both sides of the market area borders. Different interpretations of the NC CAM as well as different stipulations of the national regulatory authorities are to be coordinated with one another over the course of the incremental process after the consultation phase.





II. Project proposal

1. Measures on the German side of the border

A technical study was conducted for the market area border Poland TGPS -THE on the basis of the adjustment to the demand for incremental capacity to be created described above. 16,951,000 kWh/h were analysed as incremental freely allocable capacity (FZK) to be created at the Entry to THE. A more detailed breakdown of the requested capacities as well as the at least equivalent existing capacities at interconnection points, FNB, products and Gas Years can be seen from Annex 2.

The enquiry refers to the period of time between the Gas Year 2022/2023 up to and including Gas Year 2036/37. The realisation of the incremental capacity to be created causes an extensive need for expansion. Therefore, the provision of the capacity will only be possible from the Gas Year 2027/2028.

In total 63 scenarios were analysed in the technical studies of this cycle for incremental capacity to be created, which are respectively based upon another combination of nonbinding requested capacities. The expansion measures were developed under the presumption that all non-binding requested capacities are booked and the economic test is carried out successfully. In this document only the measures of the maximum scenario are described in the text, which are also caused by the requested capacities listed above. All expansion measures of the maximum scenario can be seen from Fig. 1. A most detailed breakdown of costs does not take place at this point. The basis of the listed expansion measures is principally the infrastructure contained in the draft document for the network development plan Gas 2020-2030 (published on 1 July 2020; hereinafter "NEP") including the network expansion measures, which result from the "basic variant". The investment costs concern initial estimates.

In addition to the investments among others operating costs are incurred for propellant, which are necessary in order to operate the compressors. The annual costs are stated below for the maximum scenario. Besides the price for the commodity these costs also include the costs of the natural gas tax as well as the CO₂ costs.







Fig. 1: Expansion measures for the maximum scenario





The following expansion measures are necessary on the EUGAL gas pipeline: The compressor station Radeland II must be modified. The investments amount to approx. €m 16. In total, the additional investments on this section of the pipeline amount to approx. €m 16.

The following measures are necessary on the NEL pipeline east of the Achim shut-off station: A compressor station with a compressor capacity of approx. 75 MW. This is already included in the NEP with a compressor capacity of 50 MW (VDS NEL (middle), ID No. 633-01). The additional investments amount to approx. €m 65. A loop pipeline with a length of approx. 118 km in DN 1400 is to be erected east of the compressor station. The investments amount to approx. €m 500. A loop pipeline with a length of approx. 72 km in DN 1400 is to be erected west of the compressor station, which ends on the Achim shut-off station. The investments amount to approx. €m 305. In total the additional investments on this section of the pipeline amount to approx. €m 870. The annual costs for propellant for this section are approx. €m 19.6.

The following measure is necessary on the NEL pipeline west of the Achim shut-off station: A loop pipeline with a length of approx. 67 km in DN 1400 is to be erected. Of this 52 km in DN 1400 are already included in the NEP (NEL pipeline West, ID No. 634-01). The additional investments amount to approx. €m 118. In total the additional investments on this section of the pipeline amount to approx. €m 118.

The following expansion measures are necessary on the MIDAL pipeline: The Rehden compressor station must be extended by a compressor capacity of approx. 48 MW. The investments amount to approx. €m 261. A GDRM plant with a plant capacity of 2.2 million Nm³/h is to be additionally erected in Rehden. The investments amount to approx. €m 17. A loop pipeline with a length of approx. 260 km in DN 1400 is to be erected from Rehden to Reckrod. Of this 61 km are already included in the NEP (MIDAL pipeline middle north, ID No. 627-01; MIDAL pipeline middle south, ID No. 628-01). The additional investments amount to approx. €m 905. A compressor station with a compressor capacity of 84MW is to be erected near Reckrod. This is already included in the NEP with a compressor capacity of 36 MW (VDS Reckrod, ID No. 629-01). The additional investments amount to approx. €m 150. A loop pipeline with a length of approx. 200 km in DN 1400 is to be erected from Reckrod to Lampertheim. Of this 115 km in DN 1000 are already included in the NEP (Wirtheim-Lampertheim pipeline, ID No. 609-01). The additional investments amount to approx. €m 535. A compressor station with a compressor capacity of approx. 46 MW is to be erected near Herchenrode. The investments amount to approx. €m 170. In addition, a GDRM plant with a plant capacity of approx. 4 million Nm³/h is to be erected in Herchenrode. The investments amount to approx. €m 31. In total the additional investments on this section of the pipeline





amount to approx. €m 2,069. The annual costs for propellant for this section are approx. €m 33.

Due to the multitude of non-binding enquiries for incremental capacity to be created, depending on the booking behaviour in the annual auctions 2021 respectively within the scope of an alternative allocation mechanism, this leads to interactions for the borders RU-THE and THE-TTF with regard to the allocated project costs. Depending on the additional capacity to be made available on a network section, synergies or dyssynergies may arise. Synergies essentially arise in this case through economies of scale. The larger respectively the standard diameter of a loop pipeline is chosen, the lower the specific transport costs will be, as a rule, with the same relative capacity utilisation. Dyssynergies primarily arise from leapfrogging investments, e.g. if only the combined additional capacity requirements for several enquiries trigger, for example, a dimensioning leap in a pipeline measure. The cost allocation per expansion measure is carried out broken down according to the provided capacity. The dependencies of the projects are shown in Annex 1 to this consultation document.

The costs that are to be compared with the bookings that are submitted binding will therefore only be known finally after execution of the annual auctions and the alternative allocation mechanism.

2. Measures on the Polish side of the border

Since the upgrade from DZK to FZK was requested only on German side of the entry-exit system and the existing capacity on the Polish side is already sufficient and will stay the same, there are no measures to be taken on Polish side of the entry-exit system.

3. Offer level for bundled capacity products

3.1. Offer level (GASCADE)

In the economic test pursuant to Art. 22 NC CAM it will be examined for an offer level whether the net present value of the total proceeds by bookings of incremental capacity to be created in the marketing in July 2021 ("Proceeds") at least correspond with the product of the f-factor with the net present value of the estimated increase in the admissible proceeds of the FNB, corresponding with the offer levels ("Costs"). In this process, there is only one offer level depending on the project proposal and therefore no competing offer levels.





Product design

Pursuant to Art. 3 Para. 5 NC CAM an offer level refers to the amount of the existing and the incremental capacity to be created. In conjunction with Art. 29 Para. 1 NC CAM an offer level must, if applicable, include several bundled standard capacity products (for example with several relevant network interconnection points (hereinafter "Interconnection Point" or "IP") between the market areas). The relevant capacities will be published in May 2021 as far as possible bundled standard products for each Gas Year, IP, FNB and product. The offer level is published on the website <u>www.fnb-gas-capacity.de</u>. The offer level comprises all incremental capacity products to be created as well as the existing capacity products, which must be booked as a prerequisite for the initiation of the economic test.

Potentially equivalent existing capacity products can be seen from Table 1. Their consideration is described in detail in the Section "Concrete offer level".

Case	Requested incremental	Potentially equivalent or higher quality products
	capacity product to be created	(at the requested IP/market area border)
1	FZK	≻FZK
2	DZK with allocation to certain	≻FZK
	IP/market area borders	>DZK with allocation to at least the requested
		IP/market area borders

Table 1: General case matrix of the products that are equivalent or of a higher quality compared to a requested capacity product

Marketing horizon

Pursuant to Art. 11 Para. 3 S. 2 NC CAM offer levels, which include incremental capacity to be created, can be offered and booked for a period of up to 15 years after the forecast start of the operational use of the incremental capacity products. Here this corresponds with the period of time from the Gas Year 2027/2028 up to and including Gas Year 2041/2042.

Allocation methodology with existing products

In the marketing of the annual capacities in 2021 GASCADE is planning to market the existing capacity outside of the offer levels for the following five years. The existing capacities, which are relevant for the allocation of the offer level, will however be offered in the offer level including incremental capacity to be created. An overlapping of existing capacity auctions and bookings of the offer level can therefore be avoided.

Amount of the capacity to be offered

The calculation of the amount of the capacities to be offered per product will be carried out pursuant to Art. 11 Para. 6 NC CAM. The reservation quota of 20% for existing as well as





incremental capacities pursuant to Art. 8 Para. 8 NC CAM in conjunction with the stipulation of BK7-15-001 of the BNetzA (hereinafter "KARLA Gas") will be taken into consideration.

Concrete offer level

The offer level 1 can be seen from Annex 2. The economic test is passed if 100% of the offered capacities are booked binding. The offer level comprises the following products:

- 1. Existing capacity products
 - a. IP Mallnow
 - i. GASCADE: FZK
- 2. Incremental capacity products to be created
 - a. IP Mallnow
 - i. GASCADE: FZK

3.2. Offer level (GAZ-SYSTEM)

Since the amount of technical capacity on the Polish side of the border at the level of 38 812 499 kWh/h is already sufficient to enable the incremental capacity on German side GAZ-SYSTEM will only refer to the part of the offer level which is planned to be marketed as bundled.

The table below shows capacity on Polish side of the border to be offered for bundled offerlevel for the gas years 2026/2027-2040/2041 in the yearly capacity auction in 2021 taking into account the obligations of set aside capacity of NC CAM:

Gas Year	Existing Capacity - to be offered for bundling [kWh/h]
2021/2022	34 931 249
2022/2023	34 931 249
2023/2024	34 931 249
2024/2025	34 931 249
2025/2026	34 931 249
2026/2027	31 049 999
2027/2028	31 049 999
2028/2029	31 049 999
2029/2030	31 049 999
2030/2031	31 049 999
2031/2032	31 049 999
2032/2033	31 049 999
2033/2034	31 049 999





2034/2035	31 049 999
2035/2036	31 049 999
2036/2037	31 049 999
2037/2038	31 049 999
2038/2039	31 049 999
2039/2040	31 049 999
2040/2041	31 49 999

 Table 2: GAZ-SYSTEM's capacities to be offered for bundled offer level

4. Alternative allocation mechanisms

Both network operators have jointly decided to apply the standard auction procedure for the allocation of incremental capacity to be offered in 2021.

5. Provisional time planning

The project described above will be initiated after completion of the annual auctions in July 2021. Operational readiness of all technical measures is envisaged for the 1 October 2027 – under the presumption that the economic test conducted after the auctions is successful.

Start	End	Description
10.08.2020		Publication of the consultation documents
10.08.2020	10.09.2020	Public consultation
11.09.2020	06.10.2020	Planning of the offer level by the FNB and GAZ-SYSTEM in
		close cooperation with the national regulatory authorities
07.10.2020		Submission of the project proposal to the national regulatory
		authorities
07.10.2020	06.04.2021	Processing of the project proposal by the national regulatory
		authorities
07.04.2021		Approval and publication of the necessary parameters by the
		national regulatory authorities pursuant to Art. 28 Para. 1
		NC CAM
08.04.2021	04.05.2021	Adjustment of the offer level by the FNB and GAZ-SYSTEM to
		the stipulations of the regulatory authorities
05.05.2021		Publication of the approved parameters, the capacity
		products and of the sample contract or the sample contracts
		for the capacities offered within the scope of the network
		expansion project
05.07.2021		Annual auction; the economic test will be carried out after
		completion of the annual auction

The further procedure within the scope of the ongoing process cycle can be seen as follows:

The stated dates are provisional and can therefore be subjected to changes still.

Table 3: Provisional time planning





With a positive result of the economic test the allocated capacities will subsequently flow into the process for the creation of the German network development Gas 2022-2032 and will be taken into consideration in the scenario framework as well as with the (national) modelling.

6. Supplementary business terms and conditions

For the participation in the incremental capacity auctions in 2021, general rules and conditions for each TSO have to be accepted.

A draft of GASCADE's Supplementary business terms and conditions is enclosed with this consultation document as Annex 3.

A draft of GAZ-SYSTEM's General Terms and Conditions for TGPS are available at the following link: <u>https://en.gaz-system.pl/en/customer-zone/download/model-agreements/tgps/</u>

7. Element IND and RP pursuant to NC TAR

Neither GASCADE nor GAZ-SYSTEM plan to apply fixed price approach within the scope of the current cycle for incremental capacity to be created. The elements IND and RP pursuant to Art. 24 lit. b NC TAR are accordingly not to be described here.

8. Economic test

8.1. Economic test of GASCADE

For the economic test pursuant to Art. 22 NC CAM the BNetzA has created and published a calculation tool in order to improve the transparency (hereinafter "BNetzA-Tool"³). This was used by the FNB for the calculations presented below.

Pursuant to Subclause 1 of the operative part of the resolution of the BK 9 (ref. no. BK9-17/609) with the title INKA the economic test is carried out for each offer level of a project for incremental capacity to be created pursuant to Art. 22 NC CAM by the BNetzA. In Part II of the stipulation resolution the BNetzA states that the economic test is an object of the project proposal and all principle questions of the economic test are to be clarified there. The following principle questions of the economic test must be defined still:

- 1. Derecognition requirement of existing capacity products
- 2. Economic test of the offer levels

³ To be found under:

https://www.bundesnetzagentur.de/DE/Sachgebiete/ElektrizitaetundGas/Unternehmen_Institutionen/Netzent wicklungundSmartGrid/Gas/IncrementalCapacity/IncrementalCap_node.html





The German transmission system operators are therefore planning to apply for the following procedure for the conducting of the economic test at the BNetzA:

1. Derecognition requirement of existing capacity products

Pursuant to Art. 22 Para. 1 lit. a Subclause i NC CAM the binding requested incremental capacities to be created and pursuant to Art. 22 Para. 1 lit. a Subclause ii NC CAM the binding requested existing capacities should flow into the economic test.

In order to ensure an efficient network expansion it is to be examined by coordination with the BNetzA as a prerequisite for the start of the economic test whether the available capacity products (existing capacity) have been derecognised in the respective Gas Year pursuant to the project application. If the existing capacity has been derecognised in the respective Gas Year the quantity of the binding requested incremental capacity to be created shall be entered in (kWh/h)/annum per Gas Year in the BNetzA-Tool for testing of the economic. If the existing capacity has not been derecognised in a Gas Year the prerequisite for conducting the economic test does not exist for this Gas Year. No quantities will be entered in the respective Gas Year.

The information regarding the booking situation of the existing capacities will be made available to the BNetzA by the FNB concerned. The examination whether the condition of the derecognition of the existing capacity has been fulfilled in the respective Gas Year shall be carried out by the BNetzA.

2. Economic test of the offer levels

As in this cycle for incremental capacity to be created six projects will be analysed for incremental freely allocable capacity to be created, as described under II.1. there are comprehensive overlappings of the measures, which are necessary in order to be able to offer the capacities at the various market area borders. Therefore, an individual analysis of the enquiries with the associated measures is not target-oriented. The procedure, which the FNB have agreed upon in order to depict all possible booking scenarios, is described below.

In total, in the current cycle an enquiry is made for incremental capacities to be created at five market area borders. At the market area border to Russia, in addition to incremental capacity to be created, at the IPs Greifswald and Lubmin II an enquiry was respectively made for acapacity upgrade from existing DZK to FZK. Consequently, in the current cycle offer levels can be booked for the following projects:

- 1. Poland E-Gas (GCP GAZ-SYSTEM/ONTRAS)
- 2. Poland TGPS (Mallnow)





- 3. Russian Federation/The Netherlands (combined in an alternative allocation mechanism)
- 4. Russian Federation/Greifswald (capacity upgrade)
- 5. Russian Federation/Lubmin II (capacity upgrade)
- 6. Denmark

One offer level exists for each of these six projects. An enquiry can be made independently for each of the offer levels and pass the economic test. As a result, all combinations of positive and negative economic tests are conceivable. Which of the aforementioned enquiries are actually made binding can only be determined after the auctions or the evaluation of the alternative allocation mechanism.

In order to guarantee an efficient network expansion, the FNB have depicted all possible combinations of enquiries and determined the need for expansion respectively necessary for this. The overview of all 63 combinations is listed in Annex 1. The costs of a necessary expansion measure including operating costs will be allocated to the enquiries causing this measure respectively in the ratio of the requested capacity. The net present value of the total of these pro rata costs on individual measures produces the total admissible increase in the allowed revenues (hereinafter "EOG"), which are assumed for a project in the economic test.

32 scenarios of combinations are derived for each enquiry with enquiries at the other market area borders. Each of these scenarios has the following specific parts, which are listed in Annex 4:

- 1. f-factor
- 2. Cash value of the estimated increase in the EOG
- 3. Obligatory minimum premium

When conducting the economic test with the BNetzA-Tool it must first of all be determined which of the 63 booking scenarios has occurred in order to subsequently enter the three parts listed above in the tool for the economic calculation.

a. f-factor

Pursuant to Art. 27 Para. 3 NC CAM the consultation among others comprises the details regarding the scope of the user promises, expressed as an estimate of the f-factor applied pursuant to Art. 23, which is proposed by the FNB after the consultation and is subsequently approved by the national regulatory authorities concerned.

The f-factor for each offer level is stipulated by the national regulatory authorities by taking the following aspects into consideration (Art. 23 Para. 1 NC CAM):





- a) the amount of technical capacity set aside in accordance with Article 8 Para. 8 and Article 9;
- b) positive externalities of the incremental capacity project on the market or the transmission network, or both;
- c) the duration of binding commitments of network users for contracting capacity compared to the economic life of the asset;
- d) the extent to which the demand for the capacity established in the incremental capacity project can be expected to continue after the end of the time horizon used in the economic test.

For the economic test pursuant to Art. 22 NC CAM the BNetzA has created and published a calculation tool in order to improve the transparency (hereinafter referred to as "BNetzA-Tool" ⁴). The result of the completed BNetzA-Tool with the data relating to the offer levels analysed here is enclosed with this consultation document as Annex 4.

The BNetzA-Tool contains mathematical evaluations for the determination of the f-factor. The f-factor is produced hereby from the ratio of the cash value of the binding promises of network users to the contracting of capacities over the time horizon of the first annual auction, in which the respective incremental capacities to be created were offered, pursuant to Art. 22 Para. 1 lit. a NC CAM at the cash value of all expected bookings of network users to the contracting of the respective capacities.

The most recent currently known reference price is estimated in the BNetzA-Tool as estimated reference price pursuant to Art. 22 Para. 1 lit. a Subclause i NC CAM and is updated until the respective year. As with the determination of the increase in the allowed revenues of the respective FNB by the incremental capacities to be created contained in the respective offer level the inflation is not taken into consideration, the inflation index for the reference prices was also estimated with 0%.

For the purposes of the economic analysis according to Art. 23 NC CAM it was assumed that the existing capacities with each offer level will be completely derecognised in the initial marketing, in which the respective incremental capacities to be created are offered. The assumptions with regard to the booking of the incremental capacities are explained below.

The proposed f-factor was determined as follows:

⁴ To be found under:

https://www.bundesnetzagentur.de/DE/Sachgebiete/ElektrizitaetundGas/Unternehmen_Institutionen/Netzent wicklungundSmartGrid/Gas/IncrementalCapacity/IncrementalCap_node.html





- a) According to Art. 8 Para. 8 NC CAM as well as pursuant to KARLA Gas technically available capacity will be withheld in the amount of 20% based on the incremental technical capacity to be created in the respective offer level. It is assumed here that the set aside capacities within the scope of the marketing of the capacities will accordingly be used in full in the following years and will accordingly also be booked.
- b) Further positive external effects were not examined.
- c) For the period of time from the Gas Year 2027/28 up to and including Gas Year 2041/42 it was assumed that the incremental capacities to be created that were offered in the annual auction 2021 will be fully derecognised.

The start of the operational use is envisaged for the year 2027. The commercial useful life of the plants was estimated in line with the regulatory depreciation durations. The described investments refer both to compressor stations as well as to the pipeline construction. Consequently, an average useful life of 45 years is assumed for pipelines pursuant to GasNEV. The start of the operational use is envisaged for 2027, the end of the operational use is for the time being assumed for Gas Year 2071/72.

The gas infrastructure will also be of high significance in the future energy market. The FNB hereby assume a follow-up use of the infrastructure by hydrogen. By the transport of hydrogen, a lower transport potential is to be assumed. Consequently, for the period of time from the Gas Year 2053/54 up to and including the Gas Year 2071/72 a use of the infrastructure of 65% is assumed.

d) The decisive year for the determination of the time horizon of the commercial useful life and the economic test is 2072. No bookings were taken into consideration for the period of time from 2072.

The proposed f-factor is oriented to the occurred booking scenario and is contained in Annex 4.

b. Reference price

The current forecast of the reference price is the reference price published in the draft of the BNetzA decision REGENT 2021 for freely allocable capacity (FZK) of the market area THE for 2023 in the amount of \leq 3.78/(kWh/h)/annum. This reference price is merely used for the economic test and is not a part of the contract.





c. Cash value of the estimated increase in the EOG

The cash value of the estimated increase in the EOG depends on the inflation as well as the amount and the time distribution of the costs, which are allocated to the project. The costs are dependent on the other projects for incremental capacity to be created. The cash value of the estimated increase in the EOG is presented in Annex 4.

d. Mandatory minimum premium

Analogue to the f-factor and to the cash value of the estimated increase in the EOG the mandatory minimum premium also depends on which measures become necessary due to the marketing of incremental capacity to be created on 5 July 2021. Which mandatory minimum premium is to be applied for the corresponding booking scenario can be derived from Annex 4. Its amount is assessed in each scenario to the extent that the economic test can only be passed with a full booking of the capacity included in the offer level. This should also guarantee that the transport customer must not over-compensate the estimated increase in the EOG.

8.2. Economic test of GAZ-SYSTEM

As GAZ-SYSTEM does not bear any investment costs due to the fact that enough capacity is available on Polish side of the border, there is no need to set the f-factor and conduct the economic test. Thus, the results of the economic test on German side of the border will be binding for the project on both sides of the border.

9. Non-binding market requests received after expiry of the deadline

After expiry of the deadline for the non-binding demand indication for incremental capacity to be created pursuant to Art. 26 Para 7 NC CAM a further request has been received by GASCADE. The request referred to incremental FZK to be created from Denmark to Germany in the amount of 7,088,000 kWh/h of Gas Year 2021/2022 up to and including Gas Year 2041/2042. The late enquiry was not taken into consideration in the current cycle for incremental capacity to be created.

GAZ-SYSTEM received no non-binding demand indications after expiry of a deadline in accordance with Article 26 Para 7 NC CAM.

10. Implications on the use of the existing gas infrastructure

The incremental capacity to be created is not expected to lead to any continuing, substantial fall in the use of other non-depreciated gas infrastructure in the market area THE nor in Poland or in neighbouring infeed/outlet systems or along the same gas transport route.





III. Contact data

GASCADE Gastransport GmbH

Michael Walkus

Tel.: +49 561 934 2968

Michael.Walkus@gascade.de

Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A.

Marta Zapart-Choma

Tel.: +48 22 220 18 47

marta.zapart@gaz-system.pl