Consultation document

Implementation of the network code on harmonised transmission tariff structures for gas

Vienna, 06/11/2019

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The tariffs published here are consulted according to Regulation (EU) 2017/460 (TAR NC). Please note that the tariffs published here represent indicative, non-binding tariffs that are provided for information purposes and might change as different inputs will be used for the new tariff period.

1 Description of the proposed reference price methodology (Article 26(1)(a) TAR NC)

1.1 Description of the proposed reference price methodology

The reference price methodology (RPM) applied to calculate the indicative tariffs for the Austrian entry-exit system is the virtual point-based approach (variant B) described by the Agency for the Cooperation of Energy Regulators (ACER) in its documents "Revised chapter on Cost Allocation and determination of the reference price of the draft Framework Guidelines on rules regarding harmonised transmission tariff structures"[1] and "Tariff Methodologies: Examples. Illustrating the document: Public Consultation on Draft Framework Guidelines on rules regarding harmonised transmission tariff structures for gas".[2]

In accordance with Article 6(3) TAR NC, the RPM is applied jointly by all transmission system operators within the Austrian entry-exit system to all entry and exit points. The resulting reference prices will be applied during the upcoming tariff period, i.e. likely from 1 October 2020 until 1 October 2024.

Due to the structural characteristics of the systems and the prevalent flow patterns in the Market Area East, the Baumgarten interconnection point (IP) emerges as single dominant node, which can be clearly identified as reference virtual point (VP).

In anticipation of Regulation (EU) 2017/460 (TAR NC), this RPM (with Baumgarten as the reference VP) is already jointly applied in the current tariff period (starting in 2016) and has already proven to be an accepted, transparent and cost-reflective reference price methodology for the Austrian entry-exit system.

The transmission service revenues are to be recovered through capacity-based transmission tariffs.

The RPM uses the following inputs:

a. the allowed cost GK_{Ost} of the TSOs in the Market Area East, both for controllable and non-controllable costs;[3]
b. the technical capacity TK_{E_i} or TK_{X_i} and the forecasted booked capacities K_{E_i} or K_{X_i} for the (clusters of) entry points E_i and the (clusters of) exit points X_i; [4] and

[1] https://www.acer.europa.eu/Official_documents/Public_consultations/Documents/Revised%20chapter.pdf#page=11
[2] https://www.acer.europa.eu/Official_documents/Public_consultations/Documents/TARIFF_METHODOLOGIES_EXAMPLES.pdf#page=24
[3] In English, R_{East}. Cf. the table in sub-chapter 1.4.
[4] In English, C_{E_i} and C_{X_i} for technical entry and exit capacities, BC_{E_i} and BC_{X_i} for the forecasted booked entry and exit capacities, and E_i and X_i for (clusters of) entry and exit points. Cf. the tables displaying capacities in sub-chapter 1.2.

c. the distances D_{E_i} from entry points E_i and D_{X_i} from exit points X_i to the reference VP.[5]

This results in the tariffs T_{E_i} and T_{X_i}.[6]

The virtual point-based RPM in Austria's Market Area East is based on the following specifications:

1) The distance to the VP is determined based on the measured distance along the pipeline system (route length).[7] These distances are used for all consecutive steps in the allocation of allowed costs.[8]
2) Capacity-based transmission tariffs for exits into storage facilities are discounted by 50%.[9] This applies for freely allocable capacity (FZK) and all capacity products based thereon.
3) The discount for capacity-based transmission tariffs for dynamically allocable capacity (DZK) is maintained at 10%.
4) Entry and exit clustering of homogenous points and certain groups of entry points and groups of exit points – as in the current tariff period – is continued, taking into account their geographic vicinity and the creation of a level playing field for competition on the Austrian gas market. The clusters' distances to the VP correspond to the capacity-weighted average of the respective points' distances to the VP.[10] The following clusters are proposed:
    a. One entry cluster comprising all entry points: these homogenous entry points are clustered to create a level playing field for competition on the Austrian gas market;
    b. An exit cluster "domestic" comprising all exit points to the distribution area except for exit points to the distribution area in Carinthia (which is not connected to the rest of the distribution-level grid). Suppliers do not book capacity at this domestic cluster; instead, the distribution area manager books all capacity needed to service end-users in the Market Area East. The relating costs are integrated into the distribution grid charges and are thus borne by customers and storage system operators in the Market Area East. Clustering the relevant points simplifies day-to-day operation of this mechanism;
    c. An exit cluster "Carinthia" comprising all exit points to the distribution area in Carinthia: the distribution network in Carinthia is not connected to the rest of the distribution-level grid. A separate cluster for these points enables reflecting their particular cost drivers (distance and capacity);
    d. An exit cluster "east" comprising the exit points Baumgarten, Petrzalka and Mosonmagyaróvár: these exit points are located within the vicinity of each other and are grouped into one exit cluster for the application of the RPM;

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[5] In English, D_{E_iVP} and D_{X_iVP} for the distances from exit and entry points to the VP.

[6] In English, unchanged.

[7] Cf. the tables displaying route length in sub-chapter 1.2. Due to the fact that the exit in Baumgarten is exclusively used for flows from the western border, its distance is set to the distance from Oberkappel to Baumgarten (242 km).

[8] Pursuant to the methodology approved in line with section 82 Gas Act 2011.

[9] Pursuant to section 74(1) Gas Act 2011, there are no capacity-based transmission tariffs at entry points from storage.

[10] For instance, the capacity-weighted distance of the exit cluster "west" is calculated as follows: the cluster comprises the exit points Oberkappel (technical capacity: 15,660,325 kWh/h; distance from VP: 242 km) and Überackern (technical capacity: 7,553,250 kWh/h; distance from VP: 337 km). The capacity-weighted distances are added up and divided by the sum of the technical capacities.
The cluster "west" thus has a capacity-weighted distance of 273 km ($= \frac{15,660,362 \times 242 + 7,553,250 \times 337}{15,660,325 + 7,553,250}$).

e. An exit cluster “west” comprising the exit points Oberkappel and Überackern: these exit points are located within the vicinity of each other and are grouped into one exit cluster for the application of the RPM. Please note that this is competing capacity pursuant to Article 8(2) CAM NC; and

f. An exit cluster “storage” comprising the storage exit points 7-fields and MAB: these homogenous exit points are clustered to create a level playing field for competition on the Austrian storage market.

Applying the above specifications and model parameters, the following calculations are made:

1) In order to determine the entry-exit split, each point’s distance to the VP is weighted with its technical capacity, separately for entry and exit.

$$D_{E_i}^{W} = D_{E_i} \cdot \frac{TK_{E_i}}{\sum_i TK_{E_i}}$$ is the capacity-weighted distance for each entry point or cluster E_i [11]

$$D_{X_i}^{W} = D_{X_i} \cdot \frac{TK_{X_i}}{\sum_i TK_{X_i}}$$ is the capacity-weighted distance for each exit point or cluster X_i

2) The entry-exit split is then expressed as the ratio between the capacity-weighted distances:

$$S_E = \frac{\sum_i D_{E_i}^{W}}{\sum_i D_{E_i}^{W} + \sum_i D_{X_i}^{W}}$$ is the entry share [12]

$$S_X = \frac{\sum_i D_{X_i}^{W}}{\sum_i D_{E_i}^{W} + \sum_i D_{X_i}^{W}}$$ is the exit share

3) Based on this entry-exit split, costs (i.e. the revenues to be collected) are allocated to all entry points (as a group) and all exit points (as a group):

$GK_{Ost}^{E} = GK_{Ost} \cdot S_E$ are the costs to be recovered from all entry points [13]

$GK_{Ost}^{X} = GK_{Ost} \cdot S_X$ are the costs to be recovered from all exit points

[11] In English:

$DC_{E_iVP} = D_{E_iVP} \cdot \frac{C_{E_i}}{\sum_i C_{E_i}}$ for each entry point or cluster E_i

$DC_{X_iVP} = D_{X_iVP} \cdot \frac{C_{X_i}}{\sum_i C_{X_i}}$ for each exit point or cluster X_i

[12] In English:

$\%E = \frac{\sum_i DC_{E_iVP}}{\sum_i DC_{E_iVP} + \sum_i DC_{X_iVP}}$ is the entry share

$\%X = \frac{\sum_i DC_{X_iVP}}{\sum_i DC_{E_iVP} + \sum_i DC_{X_iVP}}$ is the exit share

[13] In English:

$R_{East}^{E} = R_{East} \cdot \%E$ are the costs to be recovered from all entry points

$R_{East}^{X} = R_{East} \cdot \%X$ are the costs to be recovered from all exit points

4) To calculate the tariffs, a random entry point E_0 and a random exit point X_0 are chosen as references. The distances of the other points or clusters can now be expressed in relation to these references:

$F_{E_i} = \frac{D_{E_i}}{D_{E_0}}$ is the ratio between an entry point E_i and the entry reference E_0 [14]

$F_{X_i} = \frac{D_{X_i}}{D_{X_0}}$ is the ratio between an exit point X_i and the entry reference X_0

Using Arnoldstein as X_0, these are the ratios for all other exit points and clusters:[15]

Cluster	Distance from the VP (Baumgarten)	Ratio relative to the reference (Arnoldstein, at 382 km)
Exit Arnoldstein	382 km	1.00
Exit Murfeld	238 km	0.62
Exit east	159 km	0.42
Exit west	273 km	0.72
Exit domestic	37 km	0.10
Exit Carinthia	338 km	0.89
Exit storage	98 km	0.26

5) The next step is to calculate the tariff at the reference point Arnoldstein (T_0^E and T_0^X):

$T_0^E = \frac{GK_{Ost}^E}{\sum_{i,q} F_{E_i} \cdot f_{E_i}^q \cdot K_{E_i}^q}$ is the entry tariff at Arnoldstein [16]

$T_0^X = \frac{GK_{Ost}^X}{\sum_{i,q} F_{X_i} \cdot f_{X_i}^q \cdot K_{X_i}^q}$ is the exit tariff at Arnoldstein

where f_{E_i} and f_{X_i} denote the discounts that apply for DZK and for storage, respectively.

6) FZK tariffs for the other points then result from multiplying the tariff at the reference point by the ratio determined in step 4: $T_{E_i} = T_0^E \cdot F_{E_i}$ for entry and $T_{X_i} = T_0^X \cdot F_{X_i}$ for exit.[17]

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[14] In English:

$RT_{E_i} = \frac{D_{E_i VP}}{D_{E_0 VP}}$ is the ratio between an entry point $\mathrm{E_i}$ and the entry reference $\mathrm{E_0}$

$RT_{X_i} = \frac{D_{X_i VP}}{D_{X_0 VP}}$ is the ratio between an exit point $\mathrm{X_i}$ and the entry reference $\mathrm{X_0}$

[15] All entry points are comprised in one single cluster.

[16] In English:

$T_{E_0} = \frac{R_{East}^E}{\sum_{i,q} RT_{E_i} \cdot f_{E_i}^q \cdot BC_{E_i}^q}$ is the entry tariff at Arnoldstein

$T_{X_0} = \frac{R_{East}^X}{\sum_{i,q} RT_{X_i} \cdot f_{X_i}^q \cdot BC_{X_i}^q}$ is the exit tariff at Arnoldstein

[17] In English, $T_{E_i} = T_{E_0} \cdot RT_{E_i}$ for entry and $T_{X_i} = T_{X_0} \cdot RT_{X_i}$ for exit.

The following adjustments in accordance with Article 6(4)(a) TAR NC are made:

1) A special benchmark exit tariff for Murfeld in order to meet the competitive level of a competing transportation route;[18]
2) A general benchmark that results in limiting the maximum tariff increase compared to the current tariff period to 10% in order to safeguard existing contracts and tariff stability as well as to avoid market distortion.[19]
3) Rescaling in accordance with Article 6(4)(c) TAR NC at all entry and exit points by multiplying by a constant. Rescaling is required to reflect the effects of storage discounts, the application of the special benchmark in Murfeld and the application of the general benchmarking (resulting in a 10% cap on tariff increases). The rescaling constant is 1.104. It applies to all entry and exit points, with the exception of points where the tariff increase has been capped at 10% (these are the entry points at Baumgarten, Mosonmagyaróvár, Petrzalka and Arnoldstein DZK and the exit points at Baumgarten, Mosonmagyaróvár and Petrzalka) and the Murfeld exit point.

1.2 Parameters used in the applied reference price methodology that are related to the technical characteristics of the transmission system (Article 26(1)(a)(i) TAR NC)

Parameters related to the technical characteristics of the transmission system and used in the applied reference price methodology are:

i. Technical capacity at entry and exit points (marketable firm capacities = TVK)
ii. Forecasted booked capacities in two sub-sets:
    a. For the consideration of non-controllable costs: actual forecasted booked capacity on an average yearly basis
    b. For the consideration of controllable costs: reference capacity in accordance with chapter III.1 of the methodology pursuant to section 82 Gas Act 2011,[20] i.e. the higher of the following two: the historical booking situation and actual forecasted booked capacity

[18] S. sub-chapter 4.2.
[19] S. sub-chapter 4.2.
[20] https://www.e-control.at/documents/1785851/1811582/ECA_Methode_2017-2020_EN.pdf/7e830468-2bb3-94ec-7297-8426057fdf7d?t=1486112810640

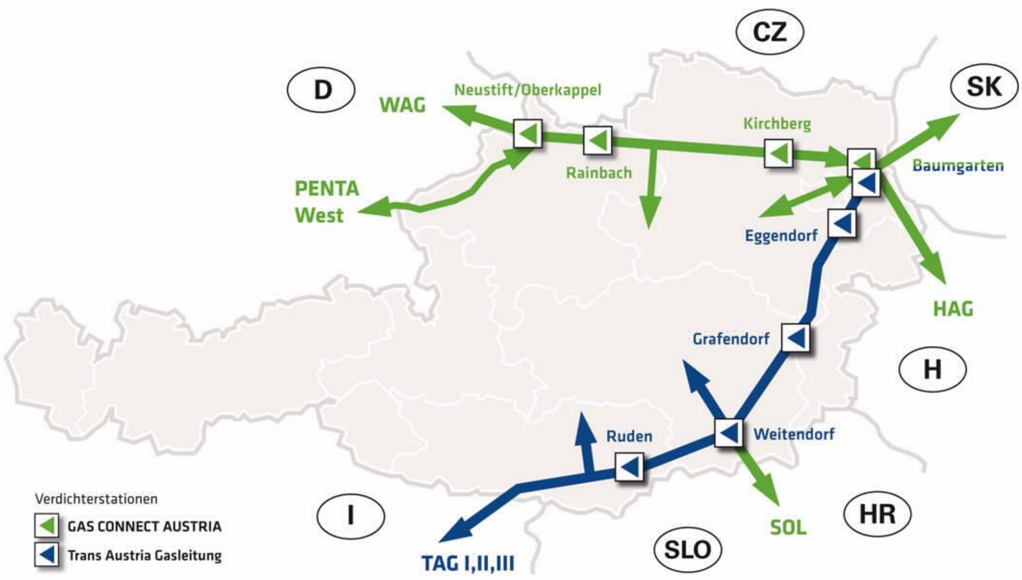
Entry (kWh/h)

Point/cluster	Technical capacity (TVK)	Forecasted booked capacity FZK	Forecasted booked capacity DZK	Reference capacity FZK	Reference capacity DZK
Arnoldstein	17,377,622	0	521,331	0	531,335
Baumgarten	96,080,396	67,288,393	0	81,872,004	0
Oberkappel	10,349,306	10,319,273	0	9,651,006	0
Überackern	4,750,155	2,311,811	3,357,000	1,393,155	3,357,000
Storage MAB	7,273,500	6,663,038	0	5,749,393	0
Storage 7-fields	1,765,900	1,765,900	0	2,950,825	0
Mosonmagyaróvár	0	0	0	0	0
Murfeld	0	0	0	0	0
Petrzalka	0	0	0	0	0
Distribution area	10,848,000	10,848,000	0	10,848,000	0

Exit (kWh/h)

Point/cluster	Technical capacity (TVK)	Forecasted booked capacity FZK	Forecasted booked capacity DZK	Reference capacity FZK	Reference capacity DZK
Arnoldstein	50,014,969	43,571,929	0	48,558,893	0
Baumgarten	10,272,000	7,932,725	0	5,436,471	0
Mosonmagyaróvár	6,378,300	6,415,166	0	6,378,300	0
Murfeld	4,688,610	1,810,850	0	3,382,424	0
Oberkappel	15,660,325	14,873,464	0	15,660,327	0
Petrzalka	1,119,000	0	0	0	0
Überackern	7,273,500	0	6,431,372	265,539	6,468,514
Storage MAB	7,273,500	6,663,038	0	5,749,393	0
Storage 7-fields	1,765,900	1,765,900	0	2,950,825	0
Distribution area	31,999,754	25,004,944	7,014,292	25,004,944	7,014,292
Distribution area Carinthia	471,871	391,653	0	471,871	0

iii. Structural representation of the Market Area East: transmission network, power of compressor stations and diameter of pipelines



For further details please refer to:

a. TAG pipeline system: https://www.taggmbh.at/en/transmission-system/tag-pip-line-system/
b. GCA pipeline system: https://www.gasconnect.at/en/network-information/our-net-work-in-detail/

iv. Length of pipelines

Point	Pipeline distances from reference VP (km)
Arnoldstein	382
Baumgarten	0
Mosonmagyaróvár	46
Murfeld	238
Oberkappel	242
Petrzalka	36
Überackern	337
Storage MAB	2
Storage 7-fields	334
Auersthal	24
Kirchberg	78
Gr. Göttfritz	133
Rainbach	185
Bad Leonfelden	202
Arnreith	222
Baumgarten-PVS2	1
Eggendorf	72
Grafendorf	137
St. Margarethen	180
Weitendorf	211
Sulmeck-Greith	231
Ettendorf	269
Waisenberg	300
Ebenthal	321
Finkenstein	361

1.3 Value of proposed adjustment at entry and exit points to storage facilities (Article 26(1)(a)(ii) TAR NC)

Pursuant to section 74(1) Gas Act 2011, there are no capacity-based transmission tariffs at entry points from storage. National legislation thus provides for a 100% discount at these points, thereby acknowledging the stabilising effect of storage for the network. The discount at exit points to storage is 50%, in accordance with Article 9(1) TAR NC.

No discount applies for storage facilities which are connected to more than one transmission or distribution network and which compete with an interconnection point. While calculations are based on the discounted rate, these facilities must pay a system utilisation charge for cross-border storage usage; the total resulting charges for entry from storage and for exit into storage then correspond to the tariff at the competing interconnection point for each day.

There are no discounts at entry points from LNG facilities and at entry points from and exit points to infrastructure developed with the purpose of ending the isolation of Member States in respect of their gas transmission systems.

1.4 Allowed revenue (Article 30(1)(b)(i) TAR NC)

The allowed revenue of the transmission system operator is the average allowed cost during each year of the tariff period, set according to the methodology pursuant to section 82 Gas Act 2011. In more concrete terms, E-Control will issue the official decisions V MET G 01/17 and V MET G 02/17 to set the TSOs' allowed cost. These official decisions and the methodology for calculating the cost have not yet been handed down, so the calculations in this document use the following indicative figures:

GCA total costs €	138,000,000
GCA non-controllable costs €	11,000,000
GCA controllable costs €	127,000,000

TAG total costs €	293,000,000
TAG non-controllable costs €	80,000,000
TAG controllable costs €	213,000,000

1.5 Inter-TSO compensation mechanism (Article 10(3) TAR NC)

As a consequence of the two TSOs jointly applying the same RPM in the Market Area East, there is a systematic difference between the revenues based on tariffs in the ordinance multiplied by the capacities in the official cost decision (forecasted revenues) and the allowed cost of each TSO as stated in the individual official cost decision. The surplus of one TSO thereby amounts to the shortfall of the other TSO and thus determines the compensation amount to be paid. This compensation is determined before the start of the tariff period, fixed in the Austrian gas system charges ordinance and to be paid in equal shares on a monthly basis.

2 Transmission tariff level and estimation

2.1 Value of indicative reference price (Article 26(1)(a)(iii) TAR NC) and difference in the level of transmission tariffs for the same type of transmission service (Article 30(2)(a)(i) and Article 30(2)(a)(ii) TAR NC)

The following indicative capacity-based transmission tariffs, expressed in EUR/kWh/h, result from applying the RPM with the input parameters described in chapter 1. The tables below compare them to the tariffs from the gas system charges ordinance 2017.

GCA				
Point	capacity-based tariff EUR/kWh/h	VO 2017 tariff EUR/kWh/h	absolute difference EUR/kWh/h	relative difference
FZK Entry Baumgarten	0.85	0.77	0.08	10%
FZK Entry Oberkappel	1.12	1.30	-0.18	-14%
FZK Entry Überackern	1.12	1.30	-0.18	-14%
FZK Entry Moson	0.85	0.77	0.08	10%
FZK Entry Murfeld	1.12	1.10	0.02	2%
FZK Entry Petrzalka	0.85	0.77	0.08	10%
FZK Exit Baumgarten	1.23	1.12	0.11	10%
FZK Exit Oberkappel	3.49	3.44	0.05	1%
FZK Exit Murfeld	1.90	3.33	-1.43	-43%
FZK Exit Mosonmagyaróvár	1.23	1.12	0.11	10%
FZK Exit Petrzalka	1.23	1.12	0.11	10%
FZK Exit distribution area	0.47	0.53	-0.06	-12%
FZK Entry distribution area	0.00	0.00	0.00	
FZK Exit Überackern	3.49	3.44	0.05	1%
DZK Entry Überackern (Oberkappel)	1.01	1.17	-0.16	-14%
DZK Exit distribution area (Baumgarten)	0.42	0.48	-0.06	-12%
DZK Exit distribution area (Oberkappel)	0.42	0.48	-0.06	-12%
DZK Exit Überackern (Oberkappel)	3.14	2.99	0.15	5%
ÜA Sudal (Überackern ABG)	0.14	0.14	0.00	0%
ÜA ABG (Überackern Sudal)	0.14	0.14	0.00	0%
Exit storage 7-fields	0.43	0.40	0.03	7%
Entry storage 7-fields	0.00	0.00	0.00	
Entry storage MAB	0.00	0.00	0.00	
Exit storage MAB	0.43	0.40	0.03	7%

TAG				
Point	capacity-based tariff	VO 2017 tariff	absolute difference	relative difference
	EUR/kWh/h	EUR/kWh/h	EUR/kWh/h	
FZK Entry Baumgarten	0.85	0.77	0.08	10%
FZK Entry Arnoldstein	1.12	1.30	-0.18	-14%
FZK Exit Arnoldstein	4.89	4.63	0.26	6%
FZK Exit distribution area	0.47	0.53	-0.06	-12%
FZK Exit distribution area Carinthia	4.33	4.20	0.13	3%
DZK Entry Arnoldstein (distribution grid)	0.68	0.62	0.06	10%

2.2 Explanation of the differences between tariff in the current and next tariff period (Article 26(1)(d) TAR NC)

The difference in the level of transmission tariffs for the same type of transmission service applicable for the current tariff period and for the tariff period for which the information is published is explained below.

Though in principle the same RPM is applied for both tariff periods, tariffs deviate for the following reasons:

i. In order to safeguard tariff stability and existing contracts and to avoid market distortion the RPM caps tariff increases from one tariff period to the next (as was already done in 2016), promoting a gradual approach. As a result thereof, entry tariffs increase from the current to the next tariff period in order to converge towards the calculated entry-exit split. The gradual convergence of effective tariffs on theoretical tariffs depends on the overall development of the cost base, the booking situation, discounts, and special benchmark tariffs. Depending on the development of the factors above, it is possible that theoretical tariffs effectively apply from the next but one regulatory period onwards.

ii. The application of a special benchmark exit tariff for Murfeld in accordance with Article 6(4)(a) TAR NC leads to a significant tariff decrease for the otherwise non-competitive exit tariff and via rescaling to a small effect on other entry and exit points.

2.3 Simplified tariff model (Article 30(2)(b) TAR NC)

See attached excel model

3 Transmission service revenue (Article 30(1)(b)(iv) TAR NC)

The transmission service revenue is equal to the allowed revenue according to chapter 1.4. The regulated services that are provided by the transmission system operators within the entry-exit system for the purpose of transmission are fully recovered through capacity-based transmission tariffs.

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 results in an entry-exit split of 19.1:80.9.

The breakdown between the revenue from intra-system network use at both entry and exit points and the revenue from cross-system network use at both entry and exit points results in an intra-system/cross-system split of 6.5:93.5.

4 RPM assessments (Article 26(1)(a) TAR NC)

4.1 Cost allocation assessment (Article 26(1)(a)(iv) TAR NC)

According to Article 5 TAR NC, the authority shall perform an assessment to verify that the proposed RPM prevents cross-subsidies between network uses. The assessments that were carried out confirm that the proposed tariffs are cost reflective and are based on the cost drivers set out in Article 5(1) TAR NC.

The cost drivers considered for the calculation are:

i. forecasted booked capacity; and
ii. distance

The capacity cost allocation comparison index amounts to 1.62%, thus the TAR NC does not require a justification.

	TEST results	
Ratio intra	7.064	EUR/(km*MWh/h)
Ratio cross	7.180	EUR/(km*MWh/h)
CAA cap.	1.62%	

4.2 Choice of the reference price methodology (Article 26(1)(a)(v) TAR NC)

The ideal reference price methodology is both as straightforward as possible and results in cost-reflective tariffs. The proposed virtual point-based RPM strikes a balance between these two objectives. The structure of the Market Area East is characterised by

i. a non-meshed network, which allows for clearly measuring the distances between the entry and exit points; and
ii. a dominant node in Baumgarten where the main transmission systems connect and most gas flows are dispatched and routed.

These are ideal conditions for ACER's variant B (the virtual point-based approach)[21] as the RPM for the Austrian entry-exit system. This methodology integrates capacity and distance as cost drivers, and it is already being applied for the current tariff period.

The entry-exit split is a result of the methodology and therefore in line with the methodology's cost allocation on the basis of capacity and distance as cost drivers.

In order to maintain tariff stability and avoid market distortion, clustering and equalisation of homogeneous points are kept as they are in the current tariff period.

In addition, tariff increases from one period to the next are capped at 10%, ensuring tariff stability, safeguarding existing contracts and avoiding market distortion. Much of the Austrian transmission capacity is bound in long-term contracts for transits across the entry/exit system. This creates a volume risk for domestic supply, i.e. if large transit contracts were to unreasonably deteriorate, domestic tariffs would be driven into a hike. Article 7(d) TAR NC requires protecting system users from this risk so that their economic situation does not degrade significantly. The general terms and conditions of German TSOs, which are subject to a quite similar legal framework, deem an annual tariff increase in line with the consumer price index (CPI) acceptable. For the third regulatory period, the Austrian CPI for the years 2017-2020 is relevant. As of mid-October 2019, Statistics Austria had published the numbers for 2017 (2.1%) and 2018 (2.0%). Together with the pertinent forecasts for the CPI for 2019 and 2020 (by the Austrian central bank OeNB, IMF, Institute for Advanced Studies, Austrian Institute of Economic Research WIFO, Austrian Ministry of Finance), this results in 7.5 to 8% for the third period. Considering these numbers, and to enable actual tariffs to converge on the RPM level soon, tariff increases are capped at 10%.

For the exit at Murfeld, a benchmark tariff (against the route to the Croatian entry-exit system via Mosonmagyaróvár) is created so that the resulting values meet the competitive level of reference prices on a competing route. At the moment, the tariff difference in the Market Area East is 2.21 €/kWh/h/year; this has prompted capacity bookings to be shifted onto the Hungary route to such an extent as to create contractual congestion at the Mosonmagyaróvár point. This is clearly visible in the graphs below.

[21] https://www.acer.europa.eu/Official_documents/Public_consultations/Documents/Revised%20chapter.pdf#page=11

Booked capacity, 1 October 2016 – 30 September 2020[22]

Murfeld

Mosonmagyaróvár

The benchmark tariff for Murfeld serves to avoid a situation where the tariffs create investment signals for the Mosonmagyaróvár point (e.g. in the form of auction premia corresponding to 100% of the 2019 reserve price) even though much capacity at Murfeld is going unused, i.e. is not contributing to cost recovery.

The figure below shows the tariffs for the competing transport routes to Croatia as of 1 October 2019.

Murfeld route (excluding Austria):

- Entry SI: 2.76 kWh/h/year
- Exit SI: 1.54 kWh/h/year
- Fuel gas* SI: 0.97 kWh/h/year

= 5.27 kWh/h/year

Mosonmagyaróvár route (excluding Austria):

- Entry HU: 2.67 kWh/h/year
- Exit HU: 2.22 kWh/h/year
- Fuel gas* HU: 1.05 kWh/h/year

= 5.94 kWh/h/year

⟶ difference: 0.67 €/kWh/h/year

* assuming a utilisation degree of 86%, based on historical data.

The RPM introduces a benchmark tariff that limits the difference between Murfeld and Mosonmagyaróvár to 0.67 €/kWh/h/year, i.e. if the applicable rate at Mosonmagyaróvár were 1.00 €/kWh/h/year, the corresponding rate at Murfeld could not be more than 1.67 €/kWh/h/year. This creates a level playing field for the routes to Croatia, thereby avoiding both under-use at Murfeld and congestion at Mosonmagyaróvár.

The cost allocation assessment according to Article 5 TAR NC confirms that the RPM is cost reflective and that the cost drivers and transmission revenues are coherent, i.e. that there is no noticeable cross-subsidisation.

[22] S. https://transparency.entsog.eu. The blue line traces technical capacity, the black line firm capacity bookings.

4.3 Comparison against the capacity-weighted distance RPM (Article 26(1)(a)(vi) TAR NC)

According to Article 26(1)(a)(vi) TAR NC, in case that the proposed reference price methodology deviates from the capacity-weighted distance reference price methodology a comparison between these two reference price methodologies must be made.

The parameters for the capacity-weighted distance reference price methodology are as follows:

i. the part of the transmission services revenue to be recovered from capacity-based transmission tariffs;
ii. the forecasted contracted capacity at each entry point or a cluster of entry points and at each exit point or a cluster of exit points;
iii. where entry points and exit points can be combined in a relevant flow scenario, the shortest distance of the pipeline routes between an entry point or a cluster of entry points and an exit point or a cluster of exit points;
iv. the combinations of entry points and exit points, where some entry points and some exit points can be combined in a relevant flow scenario;
v. the entry-exit split referred to in Article 30(1)(b)(v)(2) TAR NC shall be 50/50.

For further details regarding the calculation methodology please refer to Article 8 TAR NC.

The following tables compare the indicative tariffs (‘capacity-based tariff’), the tariffs of the current tariff period (‘VO 2017 tariff’) and the charges, expressed in EUR/kWh/h, that would result from the application of the capacity-weighted distance RPM (‘CWD tariff’).

GCA			
Point	capacity-based tariff	VO 2017 tariff	CWD tariff
	EUR/kWh/h	EUR/kWh/h	EUR/kWh/h
FZK Entry Baumgarten	0.85	0.77	2.29
FZK Entry Oberkappel	1.12	1.30	2.29
FZK Entry Überackern	1.12	1.30	2.29
FZK Entry Moson	0.85	0.77	2.29
FZK Entry Murfeld	1.12	1.10	2.29
FZK Entry Petrzalka	0.85	0.77	2.29
FZK Exit Baumgarten	1.23	1.12	0.54
FZK Exit Oberkappel	3.49	3.44	1.77
FZK Exit Murfeld	1.90	3.33	0.42
FZK Exit Mosonmagyaróvár	1.23	1.12	0.54
FZK Exit Petrzalka	1.23	1.12	0.54
FZK Exit distribution area	0.47	0.53	0.66
FZK Entry distribution area	0.00	0.00	2.29
FZK Exit Überackern	3.49	3.44	1.77
DZK Entry Überackern (Oberkappel)	1.01	1.17	2.06
DZK Exit distribution area (Baum-garten)	0.42	0.48	0.59
DZK Exit distribution area (Oberkappel)	0.42	0.48	0.59
DZK Exit Überackern (Oberkappel)	3.14	2.99	1.60
ÜA Sudal (Überackern ABG)	0.14	0.14	n.a.
ÜA ABG (Überackern Sudal)	0.14	0.14	n.a.
Exit storage 7-fields	0.43	0.40	0.42
Entry storage 7-fields	0.00	0.00	n.a.
Entry storage MAB	0.00	0.00	n.a.
Exit storage MAB	0.43	0.40	0.42

TAG			
Point	capacity-based tariff	VO 2017 tariff	CWD tariff
	EUR/kWh/h	EUR/kWh/h	EUR/kWh/h
FZK Entry Baumgarten	0.85	0.77	2.29
FZK Entry Arnoldstein	1.12	1.30	2.29
FZK Exit Arnoldstein	4.89	4.63	3.27
FZK Exit distribution area	0.47	0.53	0.66
FZK Exit distribution area Carinthia	4.33	4.20	2.93
DZK Entry Arnoldstein (distribution grid)	0.68	0.62	2.06

The cost allocation assessment based on preliminary CWD tariffs shows that costs allocated intra-system would be much higher than costs allocated cross-system, resulting in a cost allocation comparison index of 60.43%. This is because the CWD methodology allocates more costs to entry tariffs, thereby significantly increasing entry tariffs for intra-system use, while the related cost drivers remain unchanged. Entry tariffs are uniformly applied for intra-system and cross-system usage and thus neglect the significant difference in weighted distances between intra-system and cross-system exit points. (The difference in capacity-weighted distances between intra-system and cross-system usage can only be reflected by differentiating between intra-system and cross-system exit points.)

5 Discounts, multipliers and seasonal factors (Article 28 TAR NC)

5.1 Level of multipliers (Article 28(1)(a) TAR NC)

Gas networks are designed to transport at peak conditions during the whole year, but they are not usually utilised at full capacity all the time. Multipliers allow for charging for short-term peak usage of the system, with the following positive effects:

i. avoiding cross-subsidies between uses with a high load factor and uses with a lower load factor;
ii. incentivising long-term capacity bookings;
iii. optimising efficient revenue recovery;
iv. promoting an efficient use of the system.

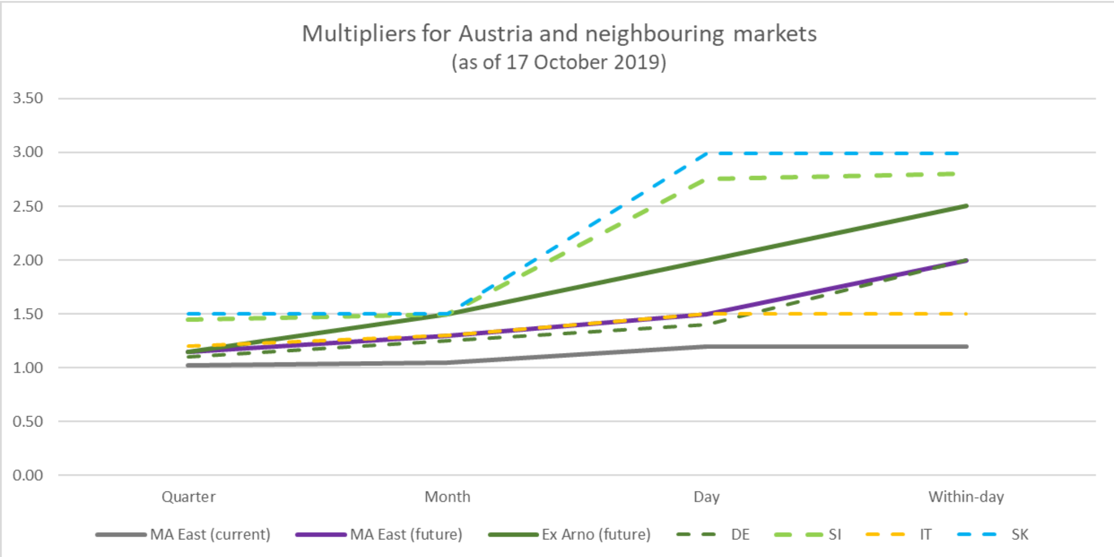
The following level of multipliers is proposed, taking into account the limits set by the TAR NC:

Year	Quarter	Month	Day	Within-day
1.00	1.15	1.30	1.50	2.00

The above multipliers do not apply to the Arnoldstein exit point, where there is a need to avoid under-usage. Instead, the following multipliers apply for Arnoldstein:

Year	Quarter	Month	Day	Within-day
1.00	1.15	1.50	2.00	2.50

As short-term capacity at cross-border interconnection points is becoming more and more popular, the effect of multipliers and their contribution to reaching the above-described goals increases. The popularity of short-term contracts at interconnection points creates pockets of systemic under-use and costs at points where bookings cannot be adjusted to short-term demand swings, i.e. domestic supply, domestic production and gas storage. In line with Article 7(d) TAR NC, this asymmetric impact on domestic consumers must be offset by raising multipliers. In addition, the introduction of bundled capacity has shifted the focus on the 'whole package', i.e. on the total tariffs that apply on both sides of any given border, including multipliers. Demand for a TSO's capacity products thus also depends on the multipliers applied by the neighbouring TSO. So far, the multipliers in the Market Area East have been far below those in adjacent market areas. The proposed increase in multipliers represents a harmonisation at the lower end of the scale (s. the below figure),[23] it reduces under-use and the related costs resulting from short-term swings, and it improves cross-border coherence of tariffs for bundled capacity products.



5.2 Level of seasonal factors (Article 28(1)(b) TAR NC)

No seasonal factors apply.

5.3 Level of interruptible discounts (Article 28(1)(c) TAR NC)

According to Article 16(4) TAR NC, the national regulatory authority may decide to apply an ex-post discount, whereby network users are compensated after the actual interruptions incurred. Such ex-post discounts may only be used at interconnection points where there was no interruption of capacity due to physical congestion in the preceding gas year. As this condition for applying ex-post discounts was not fulfilled at the interconnection points Entry

[23] The chart does not trace multipliers in Hungary, where multipliers and seasonal factors are consolidated into combined factors; separate numbers for multipliers are not available.

Oberkappel and Entry Überackern in the gas year 2018/19, an ex-ante discount needs to be applied at these interconnection points instead.

Ex-ante discounts

According to Article 16(2) TAR NC the calculation of the ex-ante discount is as follows:

$$\boldsymbol{Di_{ex-ante}} = \boldsymbol{Pro} \times \boldsymbol{A} \times \mathbf{100\%}$$ [24]

Where:

$\boldsymbol{Di_{ex-ante}}$ is the level of an ex-ante discount;

$\boldsymbol{A}$ is the adjustment factor that reflects the estimated economic value of the respective interruptible capacity product. E-Control sets this value at 1.0. The underlying considerations are given below.

$\boldsymbol{Pro}$ is the factor for the probability of interruption of interruptible capacity. The underlying considerations are given below.

Calculation of ex-ante discounts does not differentiate between different durations (i.e. within-day up to yearly) of interruptible capacity products. In the authority’s view, this is not conflict with Article 16 TAR NC, since the ‘type of standard capacity product’ does not refer to the duration of a product but to the fact that some Member States use a variety of types of standard capacity products for interruptible capacity. Moreover, an integrated consideration of interruptible capacity with different durations adds to transparency, since transparency data published by TSOs for the information of network users does not provide the level of detail that would be required for such a differentiation.

The probability of interruption is calculated for the IPs which require the application of an ex-ante discount for interruptible capacity (Entry Oberkappel und Entry Überackern). E-Control is of the opinion that a sufficiently reliable forecast of future interruptions can only be derived from historical data (actual interruptions). Since capacity is offered in competing auctions at these interconnection points, E-Control believes that an integrated assessment is required and that in any case, the same level of discount needs to be applied at these IPs. This reflects the fact these IPs connect to the same neighbouring market, i.e. network users could use them interchangeably.

The historical assessment of interruptions is calculated in accordance with the principle set out in Article 16(3) TAR NC for the previous gas year (2018/19). This resulted in a Pro factor of 0.41% for the IP Oberkappel (entry) during that period.

Since the number of interruptions, the duration of interruptions and the level of interrupted capacity (N, D_{int} and $CAP_{av.int}$) according to Article 16(3) TAR NC are solely based on historical

[24] In English, unchanged.

data and thus cannot take into account potentially changing future circumstances, E-Control believes that a contingency element must apply. Such an element must reflect the fact that the quality of a capacity product determines the interruption sequence, i.e. interruptible capacity should be interrupted prior to firm dynamically allocable capacity (i.e. DZK with an applicable discount of 10%). This is even more relevant since a discount of 10% applies for DZK and Article 4(2) TAR NC states that transmission tariffs may be set in a manner as to take into account the conditions for capacity products.

Based on the above considerations E-Control concludes that the contingency element should be 12%. The actual probability of interruption corresponds to the higher of either the maximum of this contingency mark-up or the level of the Pro factor as calculated based on historical interruptions.

Point	Direction	Neighbouring Market	Level of ex-ante discount
Oberkappel	Entry	NetConnect Germany	12%
Überackern	Entry	NetConnect Germany	12%

<u>Ex-post discounts</u>

The ex-post compensation paid for each day on which an interruption occurred is set to three times the reserve price for daily standard capacity products for firm capacity.

Currently, the rates for interruptible capacity are the same as those for the corresponding firm capacity. System users are compensated if interruptions occur. Such compensations take the form of reductions of the charge payable for the respective service month.

Taking into account the requirement of the TAR NC, the amount of such reduction to be granted by the transmission system operator (E_{Rm}) is calculated by applying the following formula:

$$\boldsymbol{E_{Rm} = (D_{rf} * 3) * AvgC_{int} \leq F_m}$$ [25]

Where:

E_{Rm} is the compensation of the interruptible capacity product interruption for a day;

D_{rf} is the reserve price for the firm daily capacity product;

3 is the compensation factor, equal to three times the reserve price for daily standard capacity products for firm capacity.

$\boldsymbol{AvgC_{int}}$ is the average interruptible capacity interrupted in the relevant day, calculated as

[25] In English, unchanged.

$$\boldsymbol{AvgC_{int}} = \left(\frac{\sum_{i=1}^{h_R} c_{diff,i}}{h_R}\right)$$ [26]

Where:

$c_{diff,i}$ is the actual interrupted capacity of the product calculated as the difference between the hourly capacity offered and the actually available hourly capacity during each hour affected by the interruption;

h_R is the number of hours of a gas day;

i is the relevant hour where an interruption occurs;

F_m is the invoiced fee of the period when the interruption occurred.

6 Non-transmission tariffs (Article 26(1)(c) TAR NC)

n.a.

7 Annex

Element in German equation	Element in English equation	Explanation
$\boldsymbol{A}$	A	adjustment factor
$\boldsymbol{AvgC_{int}}$	$AvgC_{int}$	average interruptible capacity interrupted in the relevant day
$c_{diff,i}$	$c_{diff,i}$	actual interrupted capacity of the product
$\boldsymbol{D_{E_i}}$	D_{E_iVP}	distance from entry point E_i to the VP
$\boldsymbol{D^w_{E_i}}$	DC_{E_iVP}	capacity-weighted distance from entry point E_i to the VP
$\boldsymbol{D_{X_i}}$	D_{X_iVP}	distance from exit point X_i to the VP
$\boldsymbol{D^w_{X_i}}$	DC_{X_iVP}	capacity-weighted distance from exit point X_i to the VP
$\boldsymbol{Di_{ex-ante}}$	$Di_{ex-ante}$	level of an ex-ante discount
D_{rf}	D_{rf}	reserve price for the firm daily capacity product
DZK	DAC	dynamically allocable capacity
$\boldsymbol{E_i}$	E_i	a given entry point or cluster of entry points
E_{Rm}	E_{Rm}	compensation of the interruptible capacity product interruption for a day
$\boldsymbol{F_{E_i}}$	RT_{E_i}	ratio between an entry point E_i and the entry reference E_0

[26] In English, unchanged.

F_m	F_m	invoiced fee of the period when the interruption occurred
$\boldsymbol{F_{X_i}}$	RT_{X_i}	ratio between an exit point X_i and the entry reference X_0
FZK	FAC	freely allocable capacity
$\boldsymbol{GK_{Ost}}$	R_{East}	total allowed cost, i.e. total revenue, of the TSOs in the Market Area East
$\boldsymbol{GK_{Ost}^{E}}$	R_{East}^{E}	costs to be recovered, i.e. allowed revenue, from all entry points in the Market Area East
$\boldsymbol{GK_{Ost}^{X}}$	R_{East}^{X}	costs to be recovered, i.e. allowed revenue, from all exit points in the Market Area East
h_R	h_R	number of hours of a gas day
i	i	relevant hour where an interruption occurs
$\boldsymbol{K_{E_i}}$	BC_{E_i}	forecasted booked entry capacity at point E_i
$\boldsymbol{K_{X_i}}$	BC_{X_i}	forecasted booked exit capacity at point X_i
$\boldsymbol{Pro}$	Pro	factor for the probability of interruption of interruptible capacity
$\boldsymbol{S_E}$	%E	entry share
$\boldsymbol{S_X}$	%X	exit share
$\boldsymbol{T_{E_i}}$	T_{E_i}	tariff at entry point E_i
$\boldsymbol{T_0^E}$	T_{E_0}	entry tariff at the reference point (Arnoldstein)
$\boldsymbol{T_{X_i}}$	T_{X_i}	tariff at exit point X_i
$\boldsymbol{T_0^X}$	T_{X_0}	exit tariff at the reference point (Arnoldstein)
$\boldsymbol{TK_{E_i}}$	C_{E_i}	technical entry capacity at point E_i
$\boldsymbol{TK_{X_i}}$	C_{X_i}	technical exit capacity at point X_i
TVK	MFC	marketable firm capacities
$\boldsymbol{X_i}$	X_i	a given exit point or cluster of exit points