Gas System Charges Ordinance 2013, annex 3

Implementation of Commission Regulation (EU) 2017/460 establishing a network code on harmonised transmission tariff structures for gas, OJ L 72/29, 17.03.2017 (TAR NC)

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1 Description of the reference price methodology for contracting capacity (Article 26(1)(e) TAR NC)

1.1 Description of the reference price methodology

The reference price methodology (RPM) applied to calculate the 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".

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. from 01/01/2021 until 30/09/2024.

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 the TAR NC, this RPM (with Baumgarten IP as the reference VP) has already jointly been applied in the previous 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[2]
b. the technical capacity TK_{E_i} or TK_{E_i} and the forecasted booked capacities TK_{E_i} or TK_{E_i} for the (clusters of) entry points TK_{E_i} and the (clusters of) exit points TK_{E_i}; [3] and
c. the distances D_{E_i} from entry points D_{E_i} and D_{E_i} from exit points D_{E_i} to the reference VP.

[1] https://www.acer.europa.eu/Official_documents/Public_consultations/Documents/Revised%20chapter.pdf#page=11
[2] Cf. the table in sub-chapter 1.4.
[3] Cf. the tables displaying capacities in sub-chapter 1.2.

This results in the tariffs T_{E_i} and T_{E_i}.

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).[4] These distances are used for all consecutive steps in the allocation of allowed costs.[5]
2) Capacity-based transmission tariffs for exits into storage facilities are discounted by 50%.[6] 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. The following clusters are proposed:
    a. One entry cluster for all entry interconnection points: these homogenous entry points are clustered to create a level playing field for competition on the Austrian gas market;
    b. One entry cluster for all entry storage points: these entry points are clustered to create a level playing field for storage system operators;
    c. 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;
    d. 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);
    e. 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;
    f. 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. These points also compete with each other, which is why their capacities are offered through a competitive procedure under Article 8(2) Commission Regulation (EU) 2017/459 of 16 March 2017 establishing a network code on

[4] 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).
[5] Pursuant to the methodology approved in line with section 82 Gas Act 2011.
[6] Pursuant to section 74 para. 1 Gas Act 2011, there are no capacity-based transmission tariffs at entry points from storage.

capacity allocation mechanisms in gas transmission systems, OJ L 72/1, 17.03.2017 (CAM NC);[7] and

g. 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.
   $D^W_{E_i} = D_{E_i} \cdot \frac{TK_{E_i}}{\sum_i TK_{E_i}}$ is the capacity-weighted distance for each entry point or cluster $D^W_{E_i} = D_{E_i} \cdot \frac{TK_{E_i}}{\sum_i TK_{E_i}}$
   $D^W_{X_i} = D_{X_i} \cdot \frac{TK_{X_i}}{\sum_i TK_{X_i}}$ is the capacity-weighted distance for each exit point or cluster $D^W_{X_i} = D_{X_i} \cdot \frac{TK_{X_i}}{\sum_i TK_{X_i}}$
2) The entry-exit split is then expressed as the ratio between the capacity-weighted distances:
   $S_E = \frac{\sum_i D^W_{E_i}}{\sum_i D^W_{E_i} + \sum_i D^W_{X_i}}$ is the entry share
   $S_X = \frac{\sum_i D^W_{X_i}}{\sum_i D^W_{E_i} + \sum_i D^W_{X_i}}$ 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):
   $GK^E_{Ost} = GK_{Ost} \cdot S_E$ are the costs to be recovered from all entry points
   $GK^X_{Ost} = GK_{Ost} \cdot S_X$ 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 E_0 are chosen as references. The distances of the other points or clusters can now be expressed as in relation to these references:
   $F_{E_i} = \frac{D_{E_i}}{D_{E_0}}$ is the ratio between an entry point and the entry reference
   $F_{E_i} = \frac{D_{E_i}}{D_{E_0}}$ is the ration between an exit point and the exit reference
   Using Arnoldstein as X_0, these are the ratios for all other exit points and clusters:[8]

[7] 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 ($= \frac{15.660.362 \times 242 + 7.553.250 \times 337}{15.660.325 + 7.553.250}$).
[8] All entry points are comprised in one single cluster.

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^E):

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

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

where f_{E_i} and f_{E_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 $T_{E_i} = T_0^E \cdot F_{E_i}$ 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;[9]
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.[10]
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 1.115. 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 as well as the storage points) and the Murfeld exit point.

[9] S. sub-chapter 4.2.
[10] S. sub-chapter 4.2.

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 contracted capacities, corresponding to the reference capacity under chapter III.1 of the methodology approved under section 82 Gas Act 2011.[11]

[11] https://www.e-control.at/documents/1785851/1811582/ECA_Methode_2017-2020_EN.pdf/7e830468-2bb3-94ec-7297-8426057fdf7d?t=1486112810640

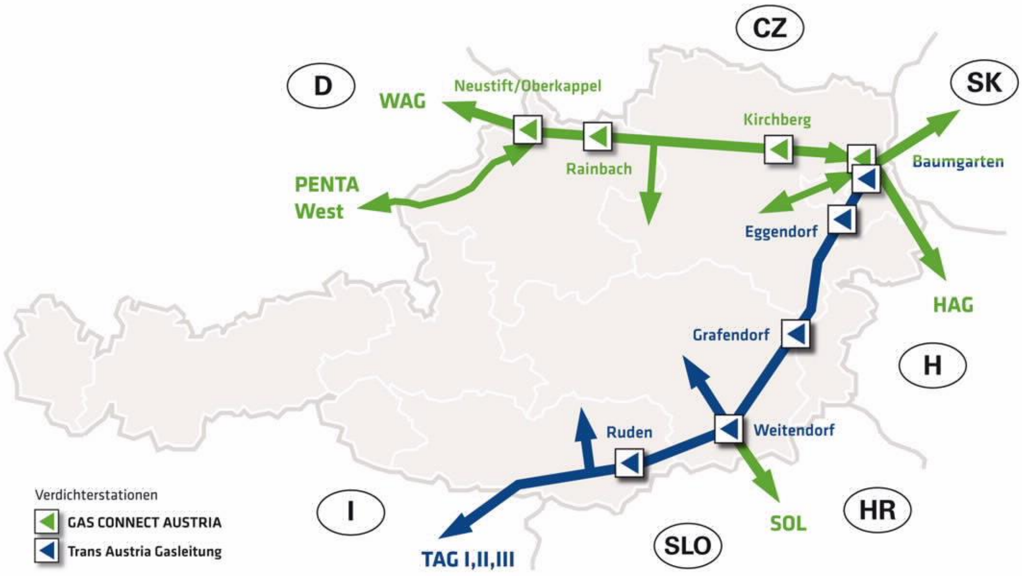
Entry (kWh/h)

Point/cluster	Technical capacity (TVK)	Reference capacity FZK	Reference capacity DZK
Arnoldstein	17,377,622	0	531,335
Baumgarten	96,080,396	81,872,004	0
Oberkappel	10,349,306	9,651,006	0
Überackern	4,750,155	1,393,155	3,357,000
Storage MAB	7,273,500	5749393	0
Storage 7-fields	1,765,900	2,950,825	0
Mosonmagyaróvár	0	0	0
Murfeld	0	0	0
Petrzalka	0	0	0
Distribution area	10,848,000	10,848,000	0

Exit (kWh/h)

Point/cluster	Technical capacity (TVK)	Reference capacity FZK	Reference capacity DZK
Arnoldstein	50,014,969	48,558,893	0
Baumgarten	10,272,000	5,436,471	0
Mosonmagyaróvár	6,378,300	6,378,300	0
Murfeld	4,688,610	3,382,424	0
Oberkappel	15660327	15,660,327	0
Petrzalka	1,119,000	0	0
Überackern	7,273,500	265,539	6,468,514
Storage MAB	7,273,500	5749393	0
Storage 7-fields	1,765,900	2,950,825	0
Distribution area	31,999,754	24985467	7,014,292
Distribution area Carinthia	471,871	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/fernleitungssystem/tag-pipeline-system/
b. GCA pipeline system: https://www.gasconnect.at/netzinformationen/unser-netz-im-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 para. 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 the cross-border storage use of 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 issued the official decisions V MET G 01/17 and V MET G 02/17 to set the TSOs' allowed cost.

GCA total costs €	126092600
GCA non-controllable costs €	9831600
GCA controllable costs €	116261000

TAG total costs €	278833200
TAG non-controllable costs €	69496800
TAG controllable costs €	209336400

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 2013 and to be paid in equal shares on a monthly basis.

2 Transmission tariff level and estimation

2.1 Value of 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 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	0.97	1.30	-0.33	-25%
FZK Entry Überackern	0.97	1.30	-0.33	-25%
FZK Entry Moson	0.85	0.77	0.08	10%
FZK Entry Murfeld	0.97	1.10	-0.13	-12%
FZK Entry Petrzalka	0.85	0.77	0.08	10%
FZK Exit Baumgarten	1.23	1.12	0.11	10%
FZK Exit Oberkappel	3.26	3.44	-0.18	-5%
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	0.42	0.53	-0.11	-21%
FZK Entry distribution area	0.00	0.00	0.00	
FZK Exit Überackern	3.26	3.44	-0.18	-5%
DZK Entry Überackern (Oberkappel)	0.88	1.17	-0.29	-25%
DZK Exit distribution area (Baumgarten)	0.38	0.48	-0.10	-21%
DZK Exit distribution area (Oberkappel)	0.38	0.48	-0.10	-21%
DZK Exit Überackern (Oberkappel)	2.93	2.99	-0.06	-2%
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	0.44	0.40	0.04	10%
Entry storage 7-fields	0.00	0.00	0.00	
Entry storage MAB	0.00	0.00	0.00	
Exit storage MAB	0.44	0.40	0.04	10%

TAG				
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 Arnoldstein	0.97	1.30	-0.33	-25%
FZK Exit Arnoldstein	4.35	4.63	-0.28	-6%
FZK Exit distribution area	0.42	0.53	-0.11	-21%
FZK Exit distribution area Carinthia	3.85	4.20	-0.35	-8%
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. The allowed cost for the tariff period 2017-2020 was EUR 424,811,800 per year. For the upcoming period, the allowed cost is EUR 404,925,800 per year. This roughly corresponds to a 5% reduction in allowed cost, which translates into lower rates at most entry and exit points.

ii. 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.

iii. 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 separate spreadsheet

3 Transmission services 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 20.6:79.4.

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 7.5:92.5.

4 Assessment of the reference price methodology (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 cost allocation comparison index is 12.29%. Details about the calculations have been published in a separate spreadsheet.

	TEST results	
Ratio intra	**7,358**	*EUR/(km*MWh/h)*
Ratio cross	**6,506**	*EUR/(km*MWh/h)*
CAA cap.	**12,29%**	

Given that the cost allocation comparison index is just above 10%, the TAR NC requires a justification. Calculations reveal that the ratio between the revenues and cost drivers for intra-system network use (ratio intra) is higher than the ration between the revenues and cost drivers for cross-system network use (ratio cross), i.e. intra-system network use contributes more revenues towards the cost drivers than cross-system network use.

A cost allocation comparison assessment of the rates that would result from the RPM without the 10% cap and the benchmark tariff at Murfeld would yield a 13.18% index (ratio intra > ratio cross). As explained in sub-chapter 4.3 below, a cost allocation comparison assessment of the rates that would result from a capacity-weighted distance RPM pursuant to Article 8 TAR NC would result in a higher 75.71% index (ratio intra > ratio cross). Of the options examined, the RPM as modified yields the lowest cost allocation comparison index, just above 10%. It is thus the option that best prevents cross-subsidisation between the different types of network use.

4.2 Assessment 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)[12] 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 tariff period 2017-2020.

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 end of April 2020, Statistics Austria[13] had published the

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

[13] https://www.statistik.at/web_en/statistics/Economy/Prices/consumer_price_index_cpi_hcpi/index.html

numbers for 2017 (2.1%), 2018 (2.0%) and 2019 (1.5%). Together with the pertinent forecasts for the CPI for 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 7.0 to 7.5% 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.

In the 2018-2019 gas year, the tariff difference in the Market Area East was 2.21 EUR/kWh/h/year; this 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.

Booked capacity, 1 October 2016 – 30 September 2020	
Murfeld[14]	Mosonmagyaróvár[15]
	

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.

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

 	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.

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 50/50 entry-exit split referred to in Article 30(1)(b)(v)(2) TAR NC.

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

The following table compares the indicative tariffs (‘capacity-based tariff’), the tariffs of the previous tariff period (‘VO 2017 tariff’), the rates that would result from the application of the capacity-weighted distance RPM under Article 8 TAR NC with a 50/50 entry-exit split (‘CWD tariff w. 50/50 split’), and the rates that would result from the CWD tariff if an entry-exit split of 20.6/79.4 were applied (‘CWD tariff w. 20.6/79.4 split), all expressed in EUR/kWh/h.

GCA				
Point	capacity-based tariff	VO 2017 tariff	CWD tariff w. 50/50 split	CWD tariff w. 20.6/79.4 split
	EUR/kWh/h	EUR/kWh/h	EUR/kWh/h	EUR/kWh/h
FZK Entry Baumgarten	0.85	0.77	1.89	0.78
FZK Entry Oberkappel	0.97	1.30	1.89	0.78
FZK Entry Überackern	0.97	1.30	1.89	0.78
FZK Entry Moson	0.85	0.77	1.89	0.78
FZK Entry Murfeld	0.97	1.10	1.89	0.78
FZK Entry Petrzalka	0.85	0.77	1.89	0.78
FZK Exit Baumgarten	1.23	1.12	0.45	0.72
FZK Exit Oberkappel	3.26	3.44	1.57	2.49
FZK Exit Murfeld	1.90	3.33	0.46	0.73
FZK Exit Mosonmagyaróvár	1.23	1.12	0.45	0.72
FZK Exit Petrzalka	1.23	1.12	0.45	0.72
FZK Exit distribution area	0.42	0.53	0.52	0.83
FZK Entry distribution area	0.00	0.00	1.89	0.78
FZK Exit Überackern	3.26	3.44	1.57	2.49
DZK Entry Überackern (Oberkappel)	0.88	1.17	1.70	0.70
DZK Exit distribution area (Baum-garten)	0.38	0.48	0.47	0.75
DZK Exit distribution area (Oberkappel)	0.38	0.48	0.47	0.75
DZK Exit Überackern (Oberkappel)	2.93	2.99	1.41	2.24
ÜA Sudal (Überackern ABG)	0.14	0.14	n.a.	n.a.
ÜA ABG (Überackern Sudal)	0.14	0.14	n.a.	n.a.
Exit storage 7-fields	0.44	0.40	0.46	0.73
Entry storage 7-fields	0.00	0.00	n.a.	n.a.
Entry storage MAB	0.00	0.00	n.a.	n.a.
Exit storage MAB	0.44	0.40	0.46	0.73

TAG				
Point	capacity-based tariff EUR/kWh/h	VO 2017 tariff EUR/kWh/h	CWD tariff w. 50/50 split EUR/kWh/h	CWD tariff w. 20.6/79.4 split EUR/kWh/h
FZK Entry Baumgarten	0.85	0.77	1.89	0.78
FZK Entry Arnoldstein	0.97	1.30	1.89	0.78
FZK Exit Arnoldstein	4.35	4.63	2.79	4.42
FZK Exit distribution area	0.42	0.53	0.52	0.83
FZK Exit distribution area Carinthia	3.85	4.20	2.49	3.95
DZK Entry Arnoldstein (distribution grid)	0.68	0.62	1.70	0.70

The cost allocation assessment based on CWD tariffs with a 50/50 entry-exit split shows that costs allocated intra-system would be much higher than costs allocated cross-system, resulting in a cost allocation comparison index of 75.71%. 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.)

The cost allocation assessment based on CWD tariffs with a 20.6/79.4 entry-exit split shows that here, too, costs allocated intra-system would be much higher than costs allocated cross-system, resulting in a cost allocation comparison index of 51.99%. This is because higher costs are allocated to exits for intra-system use.