



# THIRD ENTSOG REPORT ON IMPLEMENTATION AND EFFECT MONITORING OF THE TARIFF NETWORK CODE

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## 2022 EDITION

BASED ON 2021 DATA



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# 1 OPENING REMARKS

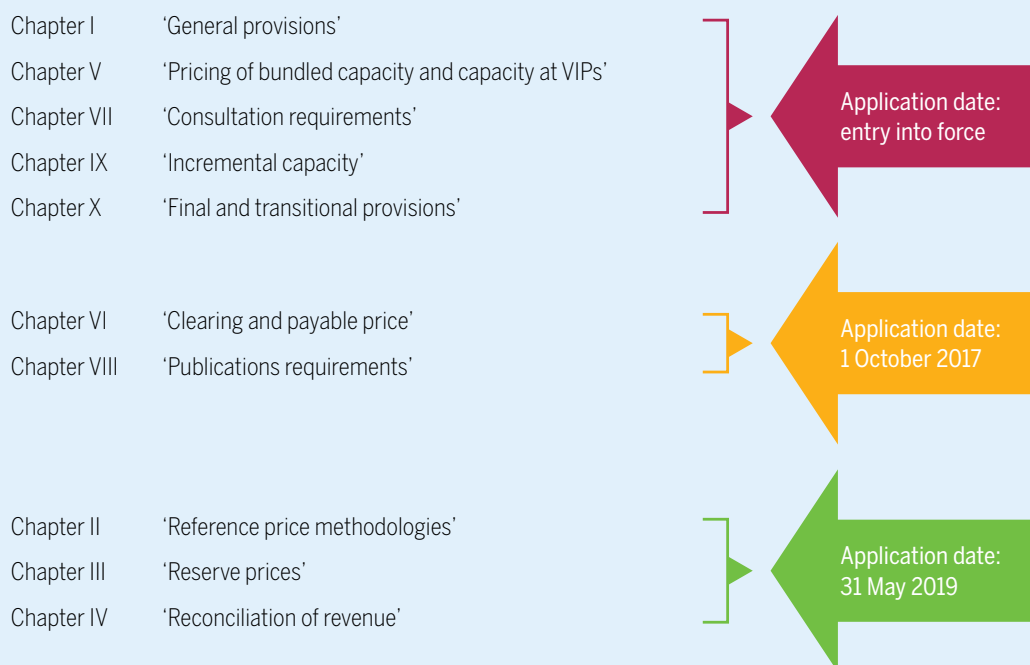
## 1.1 TAR NC AND ITS APPLICABLE DATES

The **Network Code on Harmonised Transmission Tariff Structures for Gas ('TAR NC')** was developed as per the process set out in Article 6 of Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005 ('Gas Regulation'), which involved the European Network of Transmission System Operators for Gas ('ENTSOG'), the Agency for the Cooperation of Energy Regulators ('ACER'), the European Commission ('EC') and other market participants.

**The aim of the TAR NC is to further harmonise the principles laid down in the Gas Regulation**, in particular the

ones set out in Articles 13, 14(1)(b) and 14(2). Thus, the TAR NC contributes to achieving tariffs, or methodologies used to calculate them, which are transparent, take into account the need for system integrity and its improvement, reflect the actual costs incurred, non-discriminatory, facilitate efficient gas trade and competition, avoid cross-subsidies between network users and provide incentives for investment. The TAR NC was published in the Official Journal of the European Union on 17 March 2017 and entered into force on 6 April 2017<sup>1</sup>.

The TAR NC **foresaw three different application dates ('ADs') for its different chapters**, as shown in Figure 1.



**Figure 1:** TAR NC application dates

<sup>1</sup> Official Journal of the European Union 2017, Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas, viewed 18 March 2022



Picture courtesy of Nowega

## 1.2 RATIONALE AND TIME REFERENCE FOR THIS REPORT

This report consists of **two parts: Implementation monitoring ('IM') and Effect monitoring ('EM')**, which echoes the requirements of the Gas Regulation.

Article 8(8) of the Gas Regulation requires ENTSG to 'monitor and analyse the implementation of the network codes and the Guidelines adopted by the Commission in accordance with Article 6(11), and their effect on the harmonisation of applicable rules aimed at facilitating market integration'. This Article also requires ENTSG to 'report its findings to the Agency and [...] include the results of the analysis in the annual report'.

In addition, the TAR NC outlines some specific requirements. Article 36 'Implementation monitoring' of the TAR NC contains specific provisions related to the IM: it sets the deadline of 31 December 2019 for the transmission system operators ('TSOs') to submit the required information to ENTSG. ENTSG complied with submitting the implementation information to ACER by 31 March 2020. The TAR NC does not contain specific provisions related to the EM.

Although this report is being published in 2022, it is the **TAR NC 2021 report** for both IM and EM. ENTSG has developed this report for two reasons:

- (1) to monitor the **implementation** status of the TAR NC by TSOs, as of 1 October 2021, and,
- (2) to monitor its **effects** on the European gas market, with EM 2021 covering data available on 1 October 2021.<sup>2</sup>

Based on provisions in Article 27(5) of the TAR NC, 'the tariffs applicable for the prevailing tariff period at 31 May 2019 will be applicable until the end thereof'. On 1 October 2021, which is the reference date used in this report, because of its long multi-year tariff period the Slovak TSO (eustream, a.s.) was using the 'prevailing' tariffs, and therefore also the prevailing reference price methodology ('RPM') applicable on 31 May 2019. The Bulgarian TSO (Bulgartransgaz EAD) didn't use the 'new' RPM either, since the NRA hadn't made its motivated decision yet. However, eustream, a.s. and Bulgartransgaz EAD have already moved towards the 'new' RPM rules. All the other TSOs had already changed tariff periods and were using the 'new' RPM.

Because the vast majority of TSOs already changed tariff periods since 2019, the reference to 'prevailing' and 'new' tariff periods is not emphasised in this 2021 report. This is a difference with the 2019 report, where many TSOs had not yet shifted to another tariff period to apply TAR NC rules.

It is important to note that it would be wrong to conclude that a TSO which still uses the 'prevailing' RPM is necessarily late in their implementation of the TAR NC, or that TAR NC provisions were not already applied by these TSOs at the reference date of this report.<sup>3</sup> This is mostly the result of the comparison of the selected reference date for data collection, the provision in Article 27(5) allowing for prevailing tariffs to prevail, and the specific tariff period of a TSO.

An executive summary of this report will be included in ENTSG's Annual Report for 2021.

<sup>2</sup> All indicators used in the EM part are focused on data available on 1 October 2021. For some indicators this data covers past calendar years, gas years or specific years (TAR.1 and TAR.2). For other indicators this data describes the prevailing situation on 1 October 2021 (TAR.3, TAR.4 and TAR.5).

<sup>3</sup> For example, the tariffs approved according to the new RPM have already been used as reference prices for the relevant products (products that from an invoicing point of view refer to the next tariff period) during 2021 CAM NC processes, such as the Annual yearly capacity auctions held in July 2021.

### 1.3 TSO PARTICIPATION

From 13 October 2021, ENTSOG contacted the European TSOs to collect the required information for this report. Here is an outline of TSOs whose participation ENTSOG requested or not:

- ▲ **TSOs contacted:** ENTSOG asked for the participation of **52 TSOs from 26 Member States (MSs) and two other European countries** (Switzerland and the United Kingdom).
  - All ENTSOG Members and Associated Partners as of 1 October 2021 were invited to participate. The three Members from the United Kingdom (GNI (UK) Ltd., National Grid Gas plc, and Premier Transmission Ltd.) were therefore contacted.
  - Two Non-Members from Germany (Fluxys Deutschland GmbH and Lubmin-Brandov Gas-transport GmbH) were also contacted, based on their participation in past editions.
  - A Non-Member from Malta (InterConnect Malta Ltd) which didn't participate in past editions was also contacted, due to the 2020 Maltese consultation on TAR NC implementation<sup>4</sup>.
  - Two other Non-Members which didn't participate in past editions were also invited, considering they are headquartered in MSs.
- ▲ **TSOs not contacted:** in accordance with the process followed for previous editions, ENTSOG did not ask for the participation of TSOs with the status of ENTSOG Observers or any other Non-Members. Since a MS (Cyprus) is derogated and, in addition, does not have a TSO system, no Cypriot entity was contacted to participate in this report.

Two of the TSOs contacted by ENTSOG didn't participate in the report. They either didn't reply to ENTSOG's invitation to participate or clarified that they don't have the full status of a TSO.

This report includes participation **from 50 TSOs from 26 out of 27 Member States (MSs) and two other European countries (Switzerland and the United Kingdom)** as detailed below:

**(1) Data was received from 24 MSs where the TAR NC entered into force and applied either as of 6 April 2017** (Austria, Belgium, Bulgaria, Croatia, the Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden) **or since 1 January 2020** (Estonia and Finland)<sup>5</sup>;

**(2) Data was not received from two MSs where a derogation is in place** (Luxembourg and Malta) but the corresponding TSOs participated in the drafting of the report<sup>6</sup>;

**(3) Trans Adriatic Pipeline AG (TAP)**, an Associated Partner of ENTSOG headquartered in a non-MS (Switzerland), participated in the preparation of the report but was not requested to send data because of their ongoing exemption from the European Commission from Articles 9, 32, 41(6), 41(8) and 41(10) of Directive 2009/73/EC.<sup>7</sup>

**(4) In addition, three TSOs from another non-MS (the United Kingdom)** participated and sent data. This is because they took part in past editions of this report before Brexit in 2020 and as they were ENTSOG Members until the end of 2021, and also due to data covered in this report spanning the period before and after Brexit for some indicators.

While the application of the TAR NC is mandatory in the first 24 MSs above, it is only optional in the MSs with a derogation and for TSOs headquartered in non-MSs. Further information is set out in Section 1.4 below.

In total, **50 European TSOs from the abovementioned 28 countries** (26 EU MSs plus the United Kingdom and Switzerland<sup>8</sup>) participated in the

4 MEAE 2020, Maltese Gas Transmission System Reference Price Methodology in accordance with Commission Regulation (EU) 2017/460 of 16 March 2017, viewed 17 March 2022.

5 Estonia and Finland had general derogations applicable until 1 January 2020. Therefore, their status has changed compared to our previous TAR Monitoring report. However, Estonia keeps a partial derogation until the commissioning of the Poland-Lithuania GIPL pipeline, expected later in 2022.

6 These TSOs are Creos Luxembourg S.A. (LU) and InterConnect Malta Ltd (MT). Only Creos Luxembourg S.A. is an ENTSOG Member.

7 Based on TAP's own network code, this TSO 'has obtained an exemption from provisions on third party access, regulated tariff and ownership unbundling, subject to the terms of the [Final Joint Opinion](#) of the Energy Regulators on TAP AG's Exemption Application dated 6 June 2013, granted by the NRAs pursuant to Directive 2009/73/EC. The NRAs have subsequently approved the Transporter's tariff methodology'. Source: [TAP 2020, Trans Adriatic Pipeline Network Code](#), viewed 17 March 2022, TAP's Tariff Code is published on TAP's website – Tariff information > Trans Adriatic Pipeline (TAP) (tap-ag.com) »

8 In respect of the Trans Adriatic Pipeline AG which is registered in Switzerland.

report: the 45 ENTSG Members<sup>9</sup>, two Associated Partners, and three other European TSOs<sup>10</sup>. But only **47 TSOs contributed with data<sup>11</sup> due to derogations/exemptions**.

For both **IM and EM, 50 TSOs** replied at least partly to questions and indicators, and they were counted as participating in the report (for a full list of participating TSOs, please see Annex A).

- ▲ For two TSOs in Italy (Società Gasdotti Italia S.p.A. and Infrastrutture Trasporto Gas S.p.A.), as per their national regulatory framework,

tariffs are calculated and published by a third TSO from the same MS (Snam Rete Gas S.p.A.) who is responsible for tariff derivation. For this report, the information for these two TSOs is contained in the information sent by the third TSO, and therefore only counted once.<sup>12</sup>

- ▲ Accordingly, there are 47 TSOs counted in the report since they sent data, but 50 TSOs listed as participating in Annex A since they contributed in wording and reviewing.

## 1.4 STATUS OF DEROGATIONS FROM THE TAR NC

Article 2(2) of the TAR NC specifies that the TAR NC does not apply in MSs that hold a derogation in accordance with Article 49 'Emergent and isolated markets' of Directive 2009/73/EC ('Gas Directive'). Article 2(2) echoes Article 30 of the Gas Regulation, which exempts the applicability of the Gas Regulation to MSs for as long as they hold such a derogation. Like all the other network codes, the TAR NC supplements the Gas Regulation, and forms an integral part of it, so if the Gas Regulation does not apply, neither does the TAR NC.

Malta, Cyprus, and Luxembourg currently have derogations.

- ▲ **Cyprus** will not be affected by the TAR NC if it remains an isolated market without a gas transmission system.
- ▲ **Luxembourg** holds a derogation according to Article 49(6) of the Gas Directive, which refers to its Article 9 on unbundling of transmission systems and TSOs.
- ▲ **Malta** is derogated, and the future network of the prospective TSO InterConnect Malta Ltd is not yet commissioned.

It should be noted that, compared to the previous edition of this report, **Finland and Estonia no longer hold derogations since 1 January 2020**. Their derogations expired with the opening of the Finnish-Baltic gas markets and the Balticconnector pipeline's commercial operation started in January 2020.

In addition, **two TSOs** (BBL Company V.O.F. and Interconnector Limited) **are merchant TSOs** that operate interconnectors and hold derogations under Article 37 TAR NC, which means that they have been granted derogations for some provisions of the Code by their NRA(s).<sup>13</sup>

As already mentioned, **Trans Adriatic Pipeline AG (TAP)** was not requested to send data because of their ongoing derogation.

9 As at 1 October 2021, which included the three United Kingdom TSOs, i.e., National Grid Gas plc, Gas Networks Ireland (UK) Ltd., and Premier Transmission Ltd.

10 Fluxys Deutschland GmbH, Lubmin-Brandov Gastransport GmbH, and InterConnect Malta Ltd.

11 As already mentioned, Creos Luxembourg S.A. (LU), InterConnect Malta Ltd (MT), and TAP (CH) did not send data due to derogations/exemptions.

12 According to Italian regulation ([Resolution 114/2019/R/gas of 28 March 2019](#)) which establishes tariff regulatory criteria for the period 2020–2023 in line with TAR NC requirements, the main TSO (Snam Rete Gas S.p.A.) is responsible for the calculation of the transmission tariffs with reference to the entire Italian transmission network. Therefore, it also applies for the portion of the network managed by ENTSG members Società Gasdotti Italia S.p.A. and Infrastrutture Trasporto Gas S.p.A.

13 Ofgem 2019, [Authority decision to derogate BBL Company \(BBL\)](#), viewed 17 March 2022; Ofgem 2018, [Authority decision to derogate Interconnector \(UK\)](#), viewed 17 March 2022.



## 2 EXECUTIVE SUMMARY

This monitoring report 2021 provides the status of the implementation of the TAR NC by European TSOs and its effect on the European gas market, as of 1 October 2021. Information was collected by ENTSOG from European TSOs by questionnaires. The received information is analysed in this report and conclusions are drawn.

The IM part of this report covers the publication requirements that were already applicable for the 2019 report, as well as the requirements that became applicable after the last AD deadline of 31 May 2019.

- ▲ Since the rules prevailing on 31 May 2019 were kept by each TSO until the end of their ongoing tariff period, some of the TAR NC rules actually triggered changes sometimes only after a few years.
- ▲ It explains why this report covers these provisions already applicable in past editions.
- ▲ The IM part of the report is structured based on the numerical order of the Articles in the TAR NC.

By analysing the responses TSOs provided to the IM questionnaire, we can conclude that, **out of 50**

**TSOs participating in the report**, while the last AD came into effect during 2019, and **as of 1 October 2021, 45 European TSOs applied the 'new Reference Price Methodology (RPM)'**, i.e., based on rules in line with the TAR NC<sup>14</sup>. Only two TSOs, the Slovak<sup>15</sup> and Bulgarian TSOs, which have moved to the 'new RPM', still applied the prevailing RPM which was in use on 31 May 2019. These two TSOs with 'prevailing' RPM rules have reported a high level of early compliance for most TAR NC provisions that are only applicable for the new RPM. The remaining three TSOs from three countries in the report (including two MSs) have clarified they had a derogation.

**Now 45 TSOs from 23 countries** (including 22 MSs) have reported applying the 'new' RPM rules as of 1 October 2021<sup>16</sup>. The remaining **five TSOs from five countries** (including four MSs<sup>17</sup>) have either

<sup>14</sup> For an explanation of 'new RPM' and 'prevailing RPM' please see sections 3.1.2.1 and 3.1.2.2.

<sup>15</sup> As of 1 October 2021, Slovak TSO eustream, a.s.'s 'new' RPM was already approved and valid, and waiting to become applicable three months later (since 1 January 2022, eustream, a.s. applies its 'new' RPM).

<sup>16</sup> As of 1 January 2022, 46 TSOs from 24 countries (including 23 MSs) were applying the 'new RPM'; due to the end of the multi-year tariff that prevailed since 2019 in Slovakia. A new tariff period started in this MS on 1 January 2022. The MSs of the remaining four TSOs that participated in this report either still benefit from a general derogation (three TSOs from two MSs and a non-MS), or an NRA has not yet made a motivated decision to implement 'new' RPM rules (one TSO in one MS).

<sup>17</sup> One of these TSOs said it was because of the end of their multi-year tariff period in 2022. The other explained that the new tariff period started before 2022 but their NRA didn't validate the 'new' RPM rules.

said they used the 'prevailing' RPM on 31 May 2019 (two TSOs from two MSs ) or clarified they had a derogation (three TSOs from two MSs and one non-MS). The two TSOs with the 'old' RPM rules have reported a high level of early compliance for most TAR NC provisions that are only applicable for the new RPM; these TSOs are also compliant with the 'prevailing' rules applicable before the shift to 'new' RPM rules. ENTSG considers this a positive aspect that also facilitates a smooth transition from the prevailing RPM to the new one. It should be noted that an estimated 36 TSOs from 18 MSs had adopted the 'new' RPM as of 1 January 2020 already.

As can be seen in the overview table in Annex C, 20 TSOs had had their new RPM consulted upon by the TAR NC deadline of 31 May 2019, and for 16 of them their NRA(s) had taken the motivated decision. In 19 MSs covering 40 TSOs, the NRA was responsible for conducting the final consultation to be finalised by 31 May 2019 in accordance with Article 26 of the TAR NC.

**The EM part of this report** analyses the effect of the TAR NC on the European gas market, taking account of the different application dates of the TAR NC. The effect of the TAR NC across the market has been studied by means of five indicators (the same indicators were used in the previous edition of the report, with at times limited changes, though):

- ▲ **TAR.1** 'ratio of under-/over-recoveries to allowed/target revenues'
- ▲ **TAR.2** 'changes in capacity-based tariffs'
- ▲ **TAR.3** 'seasonal factors for IPs'
- ▲ **TAR.4** 'publication of information in English'
- ▲ **TAR.5** 'multipliers for products with quarterly, monthly, daily and within-day durations'

The information collected from the TSOs provided a useful insight of how the TAR NC impacts the market, and it does not show a very different picture compared to the 2019 report.

- ▲ The average European TSO gets an **under-/over-recovery comprised in a range from -1.3 % to +4.0 %** compared to its allowed/target revenue over 2013–20, although some TSOs have annual under-/over-recoveries significantly higher/lower than these values.

- ▲ **The median and average TSOs display some stability also in tariffs**, with an evolution which is close to inflation levels; however, this fact hides that, especially in 2019 and 2020, **the tariff evolutions among European TSOs increasingly diverged**. Over the whole 2013–20 period, several TSOs had significant tariff reductions, while a few others saw their tariffs at least double. Market mergers explained a good part of this divergence, with some TSOs sharply increasing tariffs to be aligned with other TSOs in the system, in accordance with TAR NC rules. Therefore, **the tariff average in line with inflation can be misleading** regarding individual cases.

- ▲ **Seasonal factors are used by only eleven TSOs** and follow rules from the TAR NC.

- ▲ Regarding publication of tariff information in English, when it was TSOs' responsibility to publish such information, it **was published in English in all cases, except for one TSO regarding the tariff period** (in this case, English translation was only partly available).

- ▲ In terms of multipliers, **all TSOs were compliant** with the ranges of multipliers defined in the TAR NC, **except one TSO regarding quarterly, monthly, and daily products, and except two TSOs regarding within-day multipliers**. However, for daily and within-day products, ranges for multipliers may not be followed in case other values are duly justified by the NRA.

This EM report is an updated picture of the situation of TSOs. It includes data from years prior to the first application date (1 April 2017) and data from years after that date, with **1 October 2021** set as the reference for data collection. Also considering data from the two previous reports (in 2017 and 2019), it looks like **the evolution of some indicators is not yet perceptible**. Besides, even though EM indicators are pretty much unchanged compared to the 2019 edition, comparability with the 2017 report is sometimes limited because of changes in indicators, based on discussions with TSOs and ACER. However, it is already possible to ascertain some general trends and to observe some effects of the TAR NC. In future years, it should be even more clear.

# 3 IMPLEMENTATION MONITORING

## 3.1 INTRODUCTION

This part of the report presents the results of the implementation monitoring for all participating

TSOs for each of the provisions of the TAR NC, with information applicable on **1 October 2021**.

### 3.1.1 INFORMATION SOURCES AND DATA COLLECTION

As previously explained in section 1.3, ENTSOG received participation for the TAR NC IM from **50<sup>18</sup> TSOs from 28 countries** (26 EU MSs plus Switzerland and the United Kingdom) where the TAR NC applies. The information was collected by means of a questionnaire, but only 47 TSOs sent data, due to derogations. The questionnaire was evidence-based where possible. TSOs were asked to provide links to published information or other supporting data to back-up their answers.

Article 36 'Implementation monitoring' of the TAR NC states: 'ENTSOG shall ensure the completeness and correctness of all relevant information to be provided by transmission system operators'. For

ENTSOG, this means that all the relevant information is published consistently as per the TAR NC and that the information provided on the TSO's website (and on ENTSOG's Transparency Platform) corresponds to the relevant gas year and tariff period. Ensuring that all individual data items published by the TSOs are correct remains a responsibility for the relevant NRAs as part of the NRA's obligation to ensure TSO compliance with their obligations. In case the publication requirement lays with the NRA, TSOs could provide information and links to the NRA website on a voluntary basis. However, ENTSOG has no obligation to monitor the NRAs' activities.

### 3.1.2 SCOPE

According to TAR NC Article 36, the scope of the 2021 monitoring report should cover all provisions of TAR NC other than Chapter VIII 'Publication requirements'. However, in agreement with ACER, it was decided to only cover the most significant and relevant parts of the TAR NC. The report discusses provisions from all Chapters but two:

▲ **Chapter VII 'Consultation requirements'** was not included in the IM questionnaire. In 2019, since ACER was already doing its own monitoring of the Chapter VII requirements, it was jointly agreed that it was not necessary to cover

the same information in ENTSOG's monitoring report. The same approach was followed in this report, and ENTSOG shared its draft questionnaire to ACER prior to get their feedback.

▲ **Chapter IX 'Incremental capacity'** was not included either. Since incremental capacity topics were covered in parallel for the INC Monitoring report published by ENTSOG, the contents of Chapter IX of the TAR NC on 'Incremental capacity' were shifted to the INC Monitoring report.

#### 3.1.2.1 Application date and compliance date

Although all Chapters of the TAR NC have specific ADs, the TAR NC allows for compliance at a later date for some provisions within these Chapters. For example, the AD for Chapter II 'Reference price methodology' is 31 May 2019. However, Article 27(5) permits retaining tariffs applicable at such date **until the end of the prevailing tariff period**. Therefore, the compliance date is later than the AD, since different tariff periods are applicable across

the EU. For this reason, this report covers the RPM that was applicable for each TSO as of 1 October 2021, and not the prospective one.

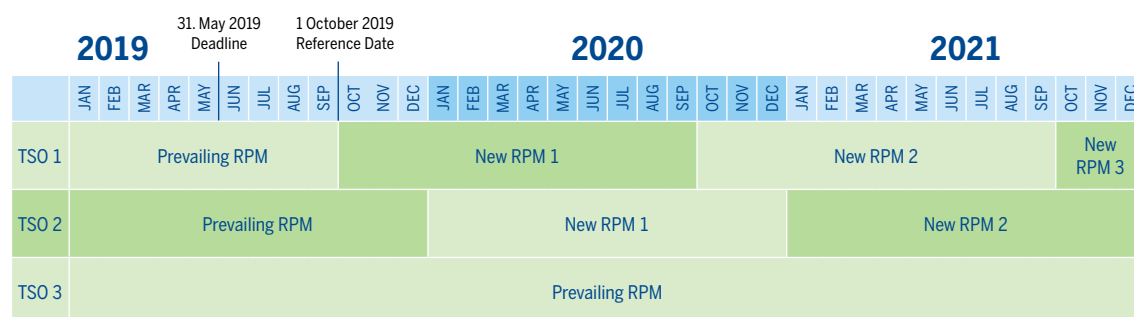
Compared to the 2019 report, where a significant share of EU TSOs were still using the 'prevailing' RPM on 1 October 2019, by 1 October 2021 all European TSOs, with the eustream, a.s., have moved to the 'new' RPM when they changed tariff periods. As of 1 October 2021, 'new RPM' rules were applicable

<sup>18</sup> It includes the two other Italian TSOs.

for all European TSOs but two. The Slovak TSO, eustream, a.s., still used the same RPM as the one in use on 31 May 2019, because the Slovak tariff period was a long multi-year period (change was effective for 1 January 2022). The Bulgarian TSO, Bulgartransgaz EAD, still used the same RPM since 2017, because the Bulgarian NRA hadn't made its motivated decision about the 'new RPM' yet. Since

most TSOs now use the 'new' principles for their tariffs, the distinction between 'prevailing' and 'new' RPM will not be applied in a systematic manner in this report, which is a difference with the previous report, when it was more justified.

Figure 2 illustrates how the different tariff periods affect the change of RPM.



TSO 1: Tariff period in line with gas year | TSO 2: Tariff period in line with calendar year | TSO 3: Tariff period covering multiple years

**Figure 2:** The impact of different tariff periods on the change of RPM

To summarise, the 50 TSOs can be distributed in the following categories, as regards the situation of TAR NC implementation as of 1 October 2021 (reference date of this report):

- Two TSOs with 'prevailing' RPM: Bulgartransgaz EAD<sup>19</sup> and eustream, a.s.;
- Three TSOs with a general derogation on TAR NC implementation: Creos Luxembourg S.A., InterConnect Malta Ltd, and TAP;
- 45 TSOs with 'new' RPM: AB Amber Grid, bayernets GmbH, BBL Company V.O.F.<sup>20</sup>, Conexus Baltic Grid, DESFA S.A., Elering AS, Enagás Transporte S.A.U., Energinet, FGSZ Ltd, Fluxys Belgium S.A., Fluxys Deutschland GmbH, Fluxys TENP GmbH, Gas Connect Austria GmbH, GASCADE Gastransport GmbH, Gasgrid Finland Oy, Gasunie Deutschland Transport

Services GmbH, Gasunie Transport Services B.V., GAZ-SYSTEM S.A., GRTgaz, GRTgaz Deutschland GmbH, Gastransport Nord GmbH, Gas Networks Ireland, Gas Networks Ireland (UK), Infrastrutture Trasporto Gas S.p.A.<sup>21</sup>, Interconnector Limited<sup>22</sup>, Lubmin-Brandov Gastransport GmbH, National Grid Gas plc, NEL Gastransport GmbH, NET4GAS, s.r.o., Nordion Energi<sup>23</sup>, Nowega GmbH, ONTRAS Gastransport GmbH, Open Grid Europe GmbH, Plinacro d.o.o., Plinovodi d.o.o., Premier Transmission Ltd., Regasificadora del Noroeste S.A., REN – Gasodutos, S.A., Snam Rete Gas S.p.A., Società Gasdotti Italia S.p.A.<sup>24</sup>, terranets bw GmbH, Thyssengas GmbH, Teréga SAS, Trans Austria Gasleitung GmbH, and Transgaz S.A.

19 Based on information provided by Bulgartransgaz EAD, the Bulgarian NRA had not yet provided its motivated decision by 1 October 2021, therefore the 'prevailing' RPM still applied in practice.

20 BBL Company V.O.F. is an interconnector with a derogation from some articles of the TAR NC. It does not have a tariff period as such but has started to apply the tariffs derived from the new RPM.

21 According to Italian regulation ([Resolution 114/2019/R/gas of 28 March 2019](#)) which establishes tariff regulatory criteria in line with TAR NC requirements, the main TSO (Snam Rete Gas S.p.A.) is responsible for the calculation of the transmission tariffs with reference to the entire Italian transmission network, therefore also for the portion of the network managed by ENTSOG members Società Gasdotti Italia S.p.A. and Infrastrutture Trasporto Gas S.p.A. Tariffs calculated according to the TAR NC methodology have been used for the relevant products during 2021 CAM processes, such as the annual yearly capacity auctions held in July 2021.

22 Interconnector Limited is an interconnector with a derogation from some articles of the TAR NC.

23 In previous reports, Swedish TSO Nordion Energi was referred to as 'Swedegas AB'. The change in name was effective in 2020.

24 According to Italian regulation ([Resolution 114/2019/R/gas of 28 March 2019](#)) which establishes tariff regulatory criteria in line with TAR NC requirements, the main TSO (Snam Rete Gas S.p.A.) is responsible for the calculation of the transmission tariffs with reference to the entire Italian transmission network, therefore also for the portion of the network managed by ENTSOG members Società Gasdotti Italia S.p.A. and Infrastrutture Trasporto Gas S.p.A. Tariffs calculated according to the TAR NC methodology have been used for the relevant products during 2021 CAM processes, such as the annual yearly capacity auctions held in July 2021.

### 3.1.2.2 Requirements covered in the report

Further details of what is covered in the IM part of this report are provided below, with the Chapters listed in the order they are discussed in the report. All in all, the IM questionnaire comprised **92 questions**. However, for a given TSO, not all of them were generally applicable.

Information collected for **Chapter I 'General provisions'** includes Article 2 'Scope', Article 4 'Transmission and non-transmission services and tariffs', and Article 5 'Cost allocation assessment'. Article 2 covers the 'limited scope' rules applied at (1) points with third countries and (2) points other than interconnection points ('IPs') and other than points with third countries, where the NRA has decided to apply the rules at these points. Article 4 covers provisions available for classification as non-transmission services, and rules for the use of commodity-based charges. Article 5 covers the assessments carried out on the capacity and commodity-based transmission tariffs indicating the degree of cross-subsidisation between intra-system and cross-system network use.

**Chapter II 'Reference price methodology'** – The provisions in this Chapter apply to the 'new RPM'. When referring to the 'new RPM' in this report, this is the RPM that has been consulted on as per TAR NC Article 26 and should have been approved by the respective NRA by 31 May 2019. As mentioned in section 3.1.2.2, TSOs have progressively changed to the 'new RPM' by changing tariff periods, and almost all TSOs now use the 'new RPM' on the data collection reference date of 1 October 2021. The TAR NC Articles covered in this Chapter are Article 6 on RPM application, Article 8 on the Capacity-Weighted Distance (CWD) RPM, and Article 10 on rules for multi-TSO entry-exit systems in a single MS.

For **Chapter III 'Reserve prices'** at IPs, multipliers are covered and whether they are within the TAR NC stipulated ranges or not. Seasonal factors, and whether they have been calculated as per the TAR NC methodology, and discounts on interruptible capacity products are also covered. This Chapter discusses the following TAR NC Articles: Article 12 on general provisions, Article 13 on multipliers and seasonal factors, Article 15 on reserve price calculations for short-term firm products, and Article 16 on reserve prices calculations for interruptible capacity products.

For **Chapter IV 'Reconciliation of revenue'** the focus was on TSOs that function under a non-price cap regime, and the information collected covered the reconciliation period, the reconciliation of non-transmission services, how the regulatory account is utilised, and, where applied, the level of auction premium. These topics correspond to TAR NC Article 17 on general provisions, Article 19 on the regulatory account, and Article 20 on regulatory account reconciliation.

The information collected for **Chapter V 'Pricing of bundled capacity and capacity at virtual interconnection points'** covers the plans for the attribution of the auction premium from the sale of bundled capacity and the options used for the calculation of the reserve price for unbundled products offered at Virtual Interconnection Points (VIPs). These topics correspond to TAR NC Article 21 on the price of bundled capacity and Article 22 on VIP pricing.

For **Chapter VI 'Clearing price and payable price'**, information was collected regarding the application of fixed or floating payable prices at IPs and the risk premium applied on fixed payable prices. The corresponding TAR NC Article is Article 24 on payable price calculations at IPs.

As in 2019, **Chapter VII 'Consultation requirements'** is not discussed in this 2021 edition. As noted in 3.1.2 above, in 2019 ACER prepared a monitoring of consultation requirements and the topic was not kept in the 2019 edition of the TAR NC monitoring report. The same approach was kept for this 2021 edition.

**Chapter VIII 'Publication requirements'** – As in the previous edition of this report, publication requirements as per Article 29 'Information to be published before the annual yearly capacity auction' are not covered in this report. This is because it is covered in detail by a review carried out by ACER after the 2019 capacity auctions. In contrast, TAR NC Article 30 'Information to be published before the tariff period' is covered in this report – including parameters used in the applied reference price methodology and revenue information. A question also corresponds to TAR NC Article 31 on ENTSOG's Transparency Platform (TP) publications. According to TAR NC Article 32, the information should be published no later than 30 days before the start of each tariff period, and this aspect is also covered here.



Picture courtesy of Enagas

**Chapter IX 'Incremental capacity'** is not covered in this 2021 report. This is a difference compared to the 2019 edition. The justification for this choice is that incremental capacity should be directly discussed in the Demand Assessment Reports for the Incremental capacity process 2021 (data collection was run in parallel in autumn 2021). The goal is for

this report on tariffs not to overlap with the incremental report.

The information collected for **Chapter X 'Final and transitional provisions'** covers TAR NC Article 35 'Existing contracts' and whether these contracts have been impacted by the TAR NC.

### 3.1.2.3 Remarks on possible TSO answers

In many cases, the questions were structured to allow the TSO to answer **'Yes', 'No', 'N/A'** (i.e., 'not applicable') and/or **'NRA responsibility'** (in case the TSO is not in charge of the specific topic), followed by a text box to provide additional or clarifying comments. In other cases, there was no predefined answer to a specific question.

For the implementation of certain provisions of the TAR NC, such as Chapter VIII 'Publication requirements', responsibility could either be with the NRA or the TSO, as decided by the NRA. As this report only covers the implementation of the TAR NC by TSOs, not NRAs, **in the MSs where the responsibility for a certain provision is with the NRA**, the TSOs could answer 'NRA responsibility' in the questionnaire and move on to the next question. Alternatively, TSOs had the opportunity to mention 'NRA responsibility' and to provide information on

recent developments and any interaction they had with their NRA on these provisions, such as sharing documents or related information.

The TSO could also answer 'N/A' for certain **questions that were not relevant to them**. For example, a question on seasonal factors could be answered 'N/A' if the TSO does not apply seasonal factors. 'N/A' could also be answered for the articles that were irrelevant for the TSOs that hold a derogation under Article 37.

Chapters II, III and IV are altogether not applicable for the **'prevailing RPM' TSOs**, as explained in chapter 3.1.2.1. In the present report, there are only two TSO with a 'prevailing RPM'. They were given the possibility to provide answers to these questions on a voluntary basis to describe their prevailing RPM, as of the reference date of 1 October 2021.

## 3.2 ANALYSIS OF RESPONSES

This section has been structured following the numerical order of the Chapters in the TAR NC. Information from the **47 TSOs** which provided data

was considered. Since two TSOs are represented by a third one in one MS, charts and graphs hereafter only indicate a total of **45 TSOs** for simplicity.

### 3.2.1 CHAPTER I – GENERAL PROVISIONS

#### 3.2.1.1 ‘Scope’ Article 2

The TAR NC can be divided into ‘broad scope’ rules and ‘limited scope’ rules.

- ▲ ‘**Broad scope**’ rules are applied to all points on the transmission network;
- ▲ ‘**Limited scope**’ rules only apply at IPs by default.

However, nothing prevents NRAs from extending the ‘limited scope’ rules to non-IPs. As per definitions in the CAM NC, ‘IP’ means a physical or virtual point connecting adjacent entry-exit systems or connecting an entry-exit system with an interconnector within the EU. ‘Non-IPs’ include entry-points-from or exit-points-to third countries and points such as domestic exit points, entry-points-from or exit-points-to storage facilities or other facilities. As set out in Article 2 of the TAR NC, the ‘limited scope’ rules are covered in Chapters III, V, VI, Article 28, Article 31(2) and (3) in Chapter IX.

**Insight 1: Just under half of TSOs are applying the limited scope at points with third countries**  
**18 TSOs** are applying ‘limited scope’ rules at points with third countries. **27 TSOs** replied that they are not, or that this question is non-applicable for them, for example as they do not have points with third countries.

**Application of limited scope to points with 3<sup>rd</sup> countries (No. of TSOs)**



**Figure 3:** Only 18 TSOs apply limited scope to points with 3<sup>rd</sup> countries

**Insight 2: Less than 25 % of TSOs apply the limited scope at points other than IPs and 3<sup>rd</sup> country points**

Currently **11 TSOs** are applying applicable ‘limited scope’ rules at points other than IPs and other than points with third countries. The remaining **34 TSOs** are not applying ‘limited scope’ rules at these points.

Moreover, **almost all TSOs** which sent data to ENTSOG indicated that there is no general derogation applicable in their country. Only one TSO in the Baltic region explained that a derogation still applies in their country due to lack of connection to mainland European networks via Poland. Besides this, it should be noted that the interconnectors benefit from a partial or full derogation in Member States where other TSOs without derogations also operate.

**Application of limited scope to other points than IPs and other than points with 3<sup>rd</sup> countries (No. of TSOs)**



**Figure 4:** Only 11 TSOs apply limited scope to other points than IPs and other than points with 3<sup>rd</sup> countries

3.2.1.2 'Transmission and non-transmission services and tariffs' Article 4

The TAR NC covers the way TSOs collect revenues via different tariffs associated with the provision of services at entry and exit points. The services are therefore separated into 'transmission services'

and 'non-transmission services'. The transmission services revenue splits into a 'capacity' part and a 'commodity' part.

**Insight 3: 60 % of TSOs provide Non-Transmission Services**  
27 TSOs have indicated that they provide non-transmission services. Some of the services listed are 'biogas charge', 'market area conversion levy', 'storage services', 'metering services', 'pressure reduction fee' and 'administrative fee'. 18 TSOs have indicated that they do not provide non-transmission services.

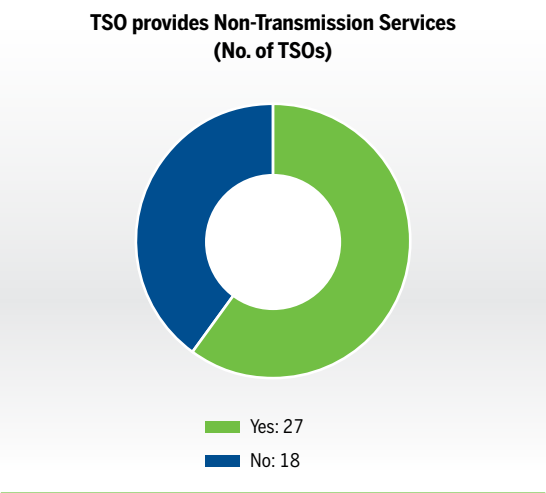


Figure 5: Non-Transmission Services are offered by 27 TSOs in Europe

**Insight 4: Less than 45 % of TSOs charge a commodity tariff**  
19 TSOs have indicated that they apply commodity-based tariffs. 26 TSOs have said that they don't. Therefore, the proportion is roughly the opposite of the one for the offer of Non-Transmission Services.

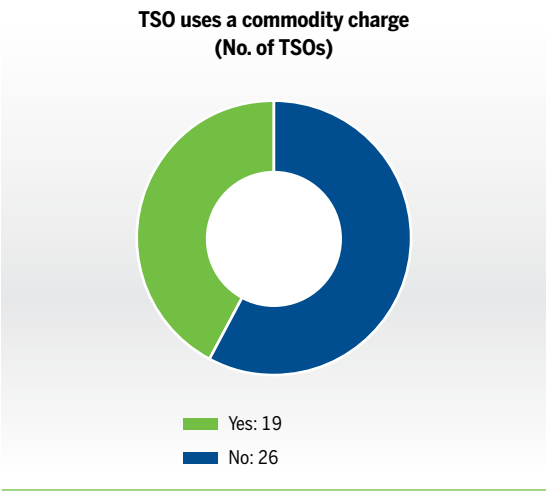


Figure 6: Commodity tariffs are charged by only 19 TSOs in Europe



3.2.1.3 'Cost allocation assessments' Article 5

The TSO or the NRA, as decided by the NRA, shall perform, and publish as part of the final consultation referred to in Article 26, a **cost allocation assessment** relating to the transmission services revenue to be recovered by capacity-based transmission tariffs, as well as a cost allocation assessment relating to the transmission services revenue to be recovered by commodity-based transmission tariffs, if any.

The purpose of the cost allocation assessments is to indicate the degree of cross-subsidisation

between intra-system and cross-system network use, based on the proposed RPM. For additional information on the Article 26 consultations and publications thereof please see Annex C, and the **Implementation Document (IDoc)** developed by ENTSOG, TSOs, and other stakeholders<sup>25</sup>.

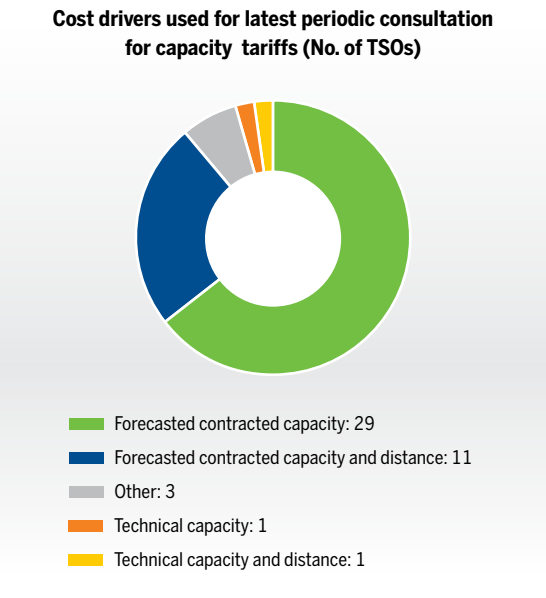
The TAR NC stipulates that, for the capacity CAA, **cost drivers** should be 1) technical capacity, or 2) forecasted contracted capacity, or 3) technical capacity and distance, or 4) forecasted contracted capacity and distance.

**Insight 5: Forecasted contracted capacity was used by more than 85 % of TSOs as a cost driver for the capacity CAA**

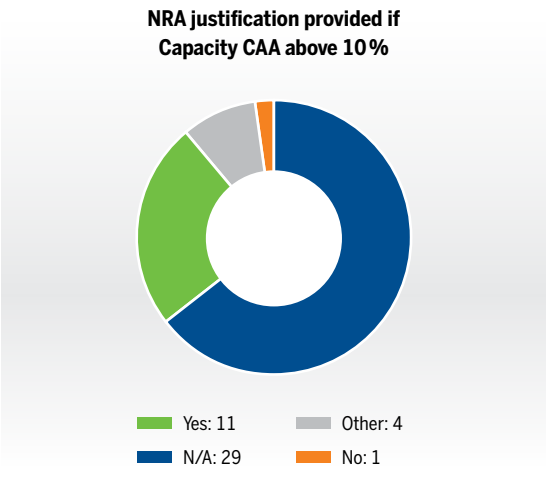
**In 29 cases, forecasted contracted capacity was the sole cost driver used for the capacity CAA.** Distance was also used as a cost driver for the capacity CAA for 12 TSOs. In contrast, technical capacity was applied as a cost driver in two cases. Three TSOs replied 'Other' to this question, either because they had a derogation on capacity CAA provisions, or in one case because they pointed out the CAA calculations were irrelevant for them since cross-system use is virtually non-existent on their network.

**Insight 6: Less than 25 % of NRAs had to justify the value of the capacity CAA**

**For 29 TSOs**, results from the capacity CAA were under the threshold of 10 % set in the TAR NC<sup>26</sup>, which shows that cross-subsidies between intra-system and cross-system use, as measured by the CAA, were very limited in many cases. Hence, no justification is required (answer is 'N/A'). When above 10 %, **eleven TSOs said their NRAs** gave an explanation. Only in five cases, there was no justification provided (cases 'Other' and 'No'); for one TSO because a very recent periodic consultation was run in 2021, for two TSOs because of a derogation, and for one TSO because there is no transit possible from the TSO network, which means that the CAA is not a meaningful indicator for this matter. One TSO clarified that the NRA had provided no justification.



**Figure 7:** Forecasted contracted capacity is used by 40 TSOs as a cost driver for the CAA on capacity tariffs



**Figure 8:** Only eleven European TSOs said that their NRA had to justify a CAA test above 10 %

25 ENTSOG 2018, **Implementation Document for the Network Code on Harmonised Transmission Tariff Structures for Gas (IDoc)**, viewed 11 March 2022.

26 Article 5(6) of the TAR NC stipulates that '[w]here the results of the capacity, or respectively commodity cost allocation comparison indexes referred to in paragraph 3(c) or, respectively paragraph 4(c), exceed 10 percent, the national regulatory authority shall provide the justification for such results in the decision referred to in Article 27(4)'. This criterion is used to check if the amount of cross-subsidies between intra-system – i.e. domestic – use and cross-system – i.e. transit – use does not exceed a certain level. A result above 10 % indicates for example that the revenue-to-cost ratio from domestic users is significantly higher than the revenue-to-cost ratio from transit users; it implies that domestic users pay significantly more than transit users for the network costs they generate, which means cross-subsidies to the benefit of transit users. The CAA also assesses cross-subsidies to the benefit of domestic users.

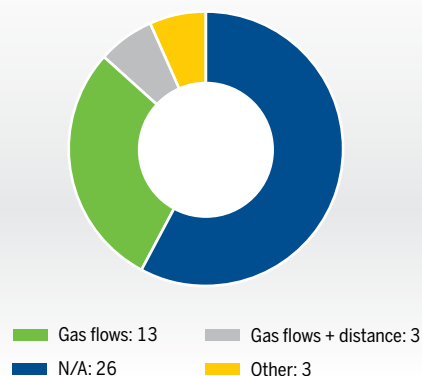
**Insight 7: Gas flows were used by 35 % of TSOs as a cost driver for the commodity CAA**

Regarding the [commodity CAA](#), [26 European TSOs do not apply a commodity charge](#). Therefore, they replied 'N/A' as to which cost drivers were used in the latest periodic consultation. Three TSOs replied 'Other', either due to a derogation they hold regarding the commodity CAA provisions, or because cross-system use is virtually non-existent on their network.

[All TSOs but one declared that NRAs did not have to provide a justification for a commodity CAA above the 10 % threshold](#), since the calculated ratio was always under this value. This is a consequence of the application of the TAR NC in the different MSs: Art. 4(3) stipulates that the flow-based charge should be 'the same at all entry points and the same at all exit points.' Therefore, since TSOs apply in practice one single commodity charge whatever the points and at all their points, the absence of commodity tariff modulation per point results in no cross-subsidies through the commodity charge.

The one TSO where a justification was provided explained that it is because of a specific rule that excludes commodity charge at the only cross-border point connecting this TSOs to other TSOs in their multi-MS multi-TSO entry-exit system.

**Cost drivers used for latest periodic consultation for commodity tariffs (No. of TSOs)**



**Figure 9:** Gas flows are used by 16 TSOs as a commodity cost driver for CAA

## 3.2.2 CHAPTER II – REFERENCE PRICE METHODOLOGY

### 3.2.2.1 'Reference price methodology applications' Article 6

[Applying the RPM results in reference prices for each entry and exit point on the system](#), so it applies not only to IPs but also to non-IPs. For IPs, it provides the basis for calculating the reserve prices for different standard firm and interruptible capacity products. A general requirement is to apply the same RPM at all the entry and exit points within an entry-exit system. The only exception is for a multi-TSO entry-exit system, whereby the respective TSOs can apply the same RPM jointly or separately, or different RPMs separately.

[The TAR NC does not insist on a particular RPM](#). Instead, it specifies the requirements for such methodologies, their aims, and possible adjustments to the application of the RPM. It also requires that the chosen RPM for each TSO be compared to the Capacity-Weighted Distance (CWD) counterfactual, as described in Art. 8 of the TAR NC.

**Insight 8: More than 95 % of TSOs applied the TAR NC-based 'new RPM' rules on 1 October 2021** [43<sup>27</sup> TSOs indicated that, as of 1 October 2021, they were applying the 'new RPM' rules](#) set out in the TAR NC and following the requirements of the periodic consultation that had to be finalised by 31 May 2019. The situation for the other TSOs is as follows:

- One TSO explained that they will apply new rules as from 1 January 2022 because they are still using the tariff period that prevailed on 31 May 2019 until the end of 2021.
- Another TSOs mentioned that they were not yet applying the TAR NC-based rules for their methodology, because their NRA hasn't made a motivated decision regarding the RPM.

**TSO applying the 'New RPM' based on 2019 public consultation (No. of TSOs)**



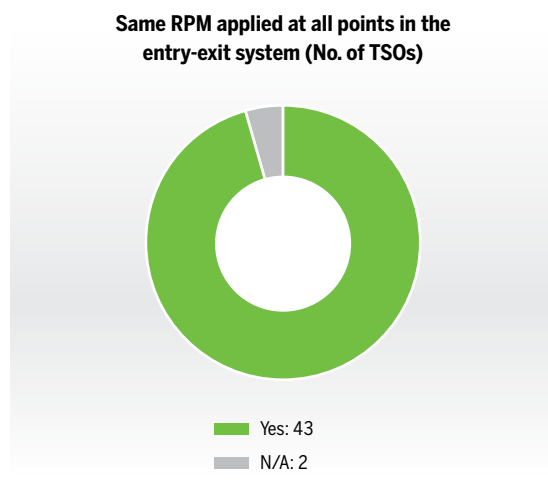
**Figure 10:** The 'new RPM' rules are already applied by 43 European TSOs

<sup>27</sup> One TSO represents two other TSOs, due to national regulations in one MS. Therefore, 45 European TSOs were applying the 'new RPM' rules as of 1 October 2021.

**Insight 9: The same RPM is applied at all points in the entry-exit system in 95 % of TSOs**

It is a key provision in the TAR NC that the tariffs at all TSO points should be calculated following the same methodology.

All TSOs to whom this provision applied confirmed that they apply the same RPM at all their network points. This ensures homogeneity in the tariff approach and rules out undue cross-subsidies that would result from different methodologies applied at different points. However, a TSO said they had a derogation, while another indicated they were still using the 'old RPM', and therefore both replied 'N/A', as can be seen on the chart.

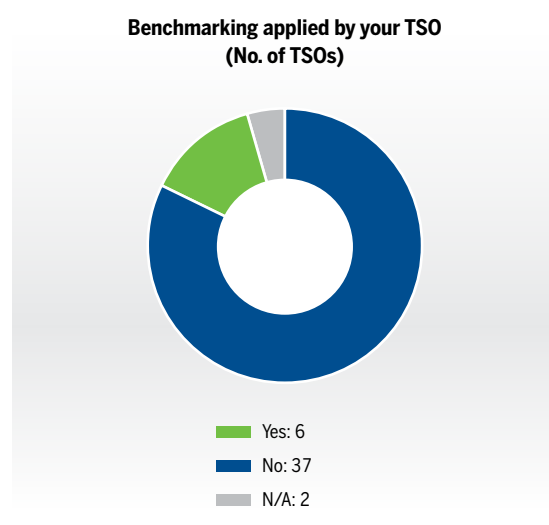


**Figure 11:** All TSOs to whom this provision applied confirmed that they apply the same RPM at all their network points

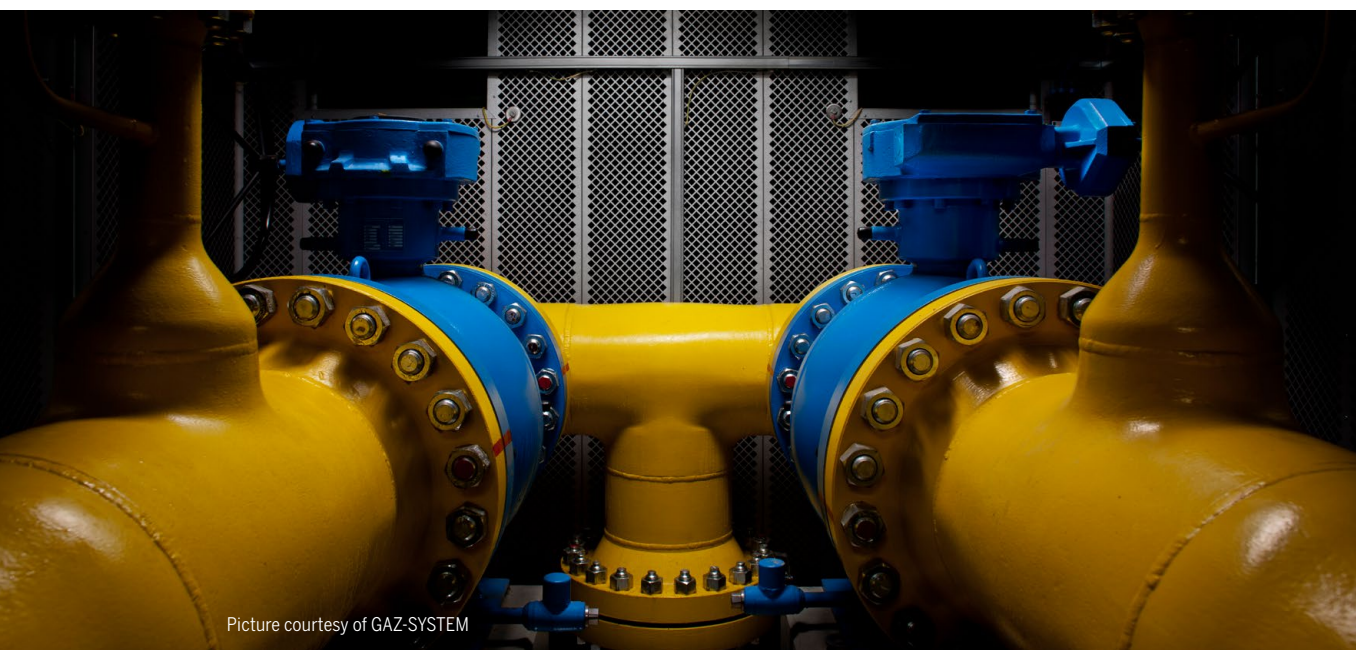
**Insight 10: The benchmarking adjustment is in use in less than 15 % of TSOs**

According to Article 6 of the TAR NC, the benchmarking provision makes it possible to adjust tariffs at specific points in case non-adjustment would result in detrimental effects, because of competition from other gas routes, especially regarding transit flows.

Data collected from TSOs shows that only six MSs implemented the benchmarking adjustment. One TSO said they benefit from a derogation and therefore, this question was not applicable for them; another TSO pointed to the 'old RPM' they still use, to clarify that this question was not relevant for them either.



**Figure 12:** The benchmarking adjustment is used by only six European TSOs



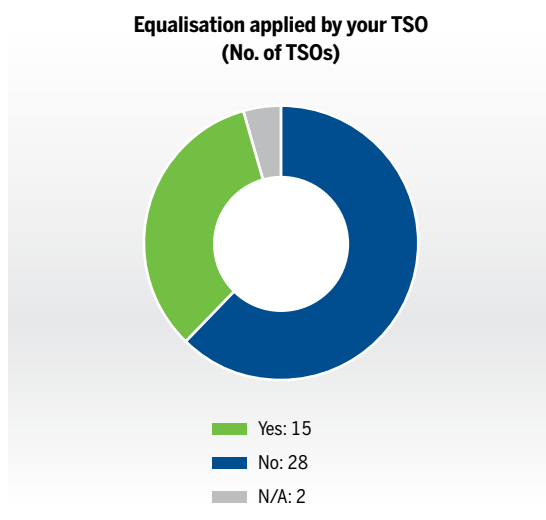
#### Insight 11: One third of TSOs declared they apply the equalisation adjustment

Along with the benchmarking adjustment in the same Article 6 of the TAR NC, the **equalisation adjustment offers NRAs the possibility to decide that the same tariff will apply at all points of a homogeneous group**. For example, the NRA may decide that the TSO entry tariff will be the same at all LNG terminals, or the same at all entry and/or exit IPs.

**Twenty-eight TSOs indicated that they did not apply equalisation in 2021**, while one said they had a derogation, which makes the question not applicable to them; another TSO clarified they still apply the 'old RPM', and therefore this question was not relevant for them either.

It should be noted there is a key difference between the equalisation and the benchmarking adjustments. Benchmarking gives the option to use a different tariff approach at specific points, while equalisation gives the option to use the same tariff value at specific points.

In addition, with the implementation of the TAR NC, a number of European TSOs have now shifted to the 'simple' Postage Stamp (PS) methodology<sup>28</sup>. It should be noted that this RPM itself already equalises the tariffs upfront. It is therefore not necessary for these TSOs to use equalisation which is 'built-in' to their methodology. That is why the relatively 'low' number of TSOs replying they do apply equalisation should not hide the fact that **tariffs are already de facto equalised by the Postage Stamp RPM in several cases**.



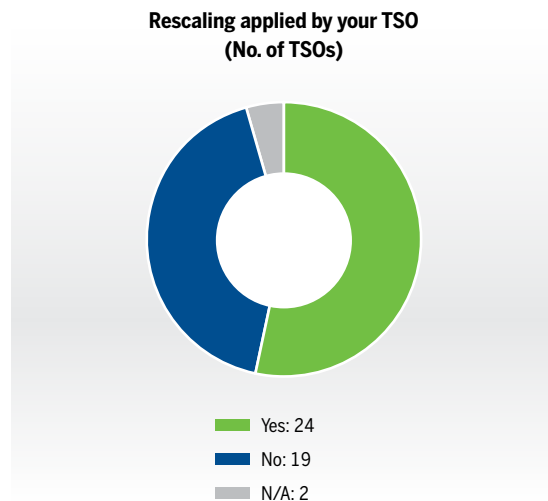
**Figure 13:** Only 15 European TSOs apply the equalisation adjustment

#### Insight 12: Rescaling is more widespread than the two other Article 6 adjustments since it is used by 24 European TSOs

Beside benchmarking and equalisation, Article 6 also sets out the possibility of **rescaling tariffs, so that the whole set of tariffs may be adjusted up or down via the same additive or multiplicative coefficient**. The objective is to ensure that, after tariffs are calculated based on the RPM and considering potential discounts, revenues collected through tariffs should match the TSO's allowed or target revenue.

Compared to benchmarking and equalisation, there is a larger use of rescaling, with roughly half of TSOs applying it in 2021 (24 TSOs). The preferred approach for rescaling was via a **multiplicative** coefficient to adjust tariffs (22 TSOs), rather than an **additive** amount (2 TSOs). Two other TSOs said the topic was not applicable for them, either due to a derogation or due to the 'old RPM' they still use. All the remaining 19 TSOs do not apply rescaling.

As a last remark on Article 6 adjustments, it should be reminded that some TSOs apply two or the three types of adjustments together, for example 'benchmarking and equalisation and rescaling'. There is no restriction in the TAR NC regarding combinations of these adjustments.



**Figure 14:** With 24 European TSOs using rescaling, it is the adjustment with the widest use

<sup>28</sup> Data available in Annex D indicates that 29 TSOs from 14 European countries applied PS as their RPM in 2021.

### 3.2.2.2 'Capacity weighted distance reference price methodology' Article 8

The TAR NC requires a comparison of the resulting indicative reference prices to those derived from the only RPM set out in the TAR NC, which is the **Capacity Weighted Distance ('CWD') counterfactual**. This comparison is to be included in the tariff methodology consultation, as set out in Article 26(1). The CWD methodology is used as the counterfactual as it incorporates key cost drivers, i.e., capacity and distance.

#### Insight 13: Forty-two European TSOs fully comply with the CWD counterfactual comparison

In 2021, while most TSOs have now shifted to a new tariff period after the TAR NC deadline of 31 May 2019, comparison of tariffs based on their own RPM with tariffs based on the TAR NC CWD is supposed to be almost generalised. This is indeed the case, since **42 TSOs report that either they apply the TAR NC-based CWD methodology, or they apply another RPM but compared it with the CWD as per Article 8 of the TAR NC**. Two TSOs mentioned derogations and one said they are still using the same tariff period as on 31 May 2019, and for this reason they all replied 'N/A'. No TSO said they were

amending CWD parameters set out in the TAR NC when running the comparison. This result **shows excellent levels of compliance across Europe in terms of comparison of the chosen RPM in each MS with the CWD methodology** described as a reference approach in the TAR NC.

Counterfactual applied as per Art. 8  
(No. of TSOs)



Figure 15: Forty-two European TSOs said they apply the CWD counterfactual according to Art. 8 rules

### 3.2.2.3 'Adjustments of tariffs at entry points from and exit points to storage facilities and at entry points from LNG facilities and infrastructure ending isolation' Article 9

Along with Article 6 adjustments (benchmarking, equalisation, and rescaling), the TAR NC also offers additional **flexibility in Article 9**, with the setting of discounts at TSO points connected to storages, LNG terminals, or specific infrastructure ending isolation of MSs.

#### Insight 14: All 29 TSOs connected to a storage facility apply storage discounts equal to or higher than the default 50 %

The TAR NC stipulates that 'a discount of at least 50 % shall be applied to capacity-based transmission tariffs at entry points from and exit points to storage facilities, unless and to the extent a storage facility which is connected to more than one transmission or distribution network is used to compete with an interconnection point.' The case of storage facilities connected to several networks is quite marginal and can be neglected in this report.

In practice, **29 TSOs apply high capacity discounts** (i.e., equal to or above 50 %) **at entry and exit points with storage facilities**, as depicted in Figure 16<sup>29</sup>. **20 TSOs in our study have mentioned they apply tariff discounts between 75 % and 99 %** on capacity charges at points with SSOs. Four TSOs apply the default discount value of 50 %, or up to 74 %. There are five other TSOs which fully

exempt network users from capacity charges at points with storages (i.e., with a 100 % discount). No TSO indicates they do not apply any discount or apply a discount lower than 50 % at points with storages. Finally, 16 European TSOs either have no storage facility on their net work, or clarified they still use their 'old RPM', and therefore the question was 'not applicable' for them.

Value of storage discounts  
(No. of TSOs in each category)

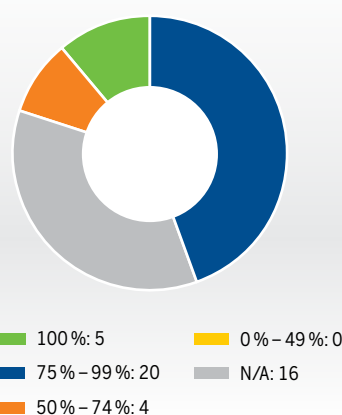


Figure 16: All 29 European TSOs connected to a SSO apply capacity tariff discounts of at least 50 %

<sup>29</sup> Please note that the chart considers the average of TSO discounts at entry and exit storage points in case different discounts are set by a TSO, depending on the flow direction.

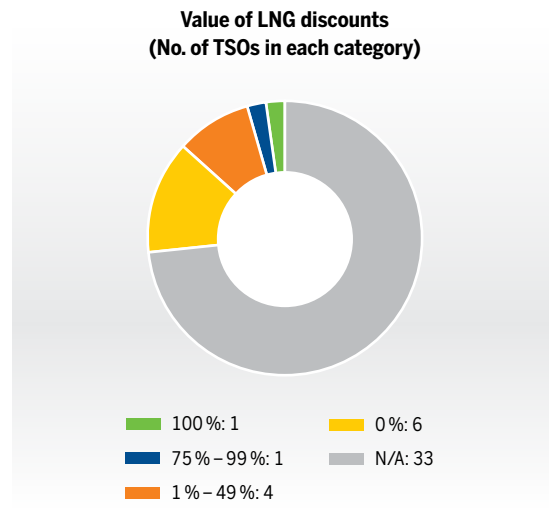
**Insight 15: No single approach prevails on discounts at TSO entries from LNG terminals**

While storage practices across Europe generally show TSO tariff discounts of at least 50 %, **the situation is much more contrasted for TSO discounts at entries from LNG terminals**. The TAR NC sets out that '[a]t entry points from LNG facilities, and at entry points from and exit points to infrastructure developed with the purpose of ending the isolation of Member States in respect of their gas transmission systems, a discount may be applied to the respective capacity-based transmission tariffs for the purposes of increasing security of supply.'

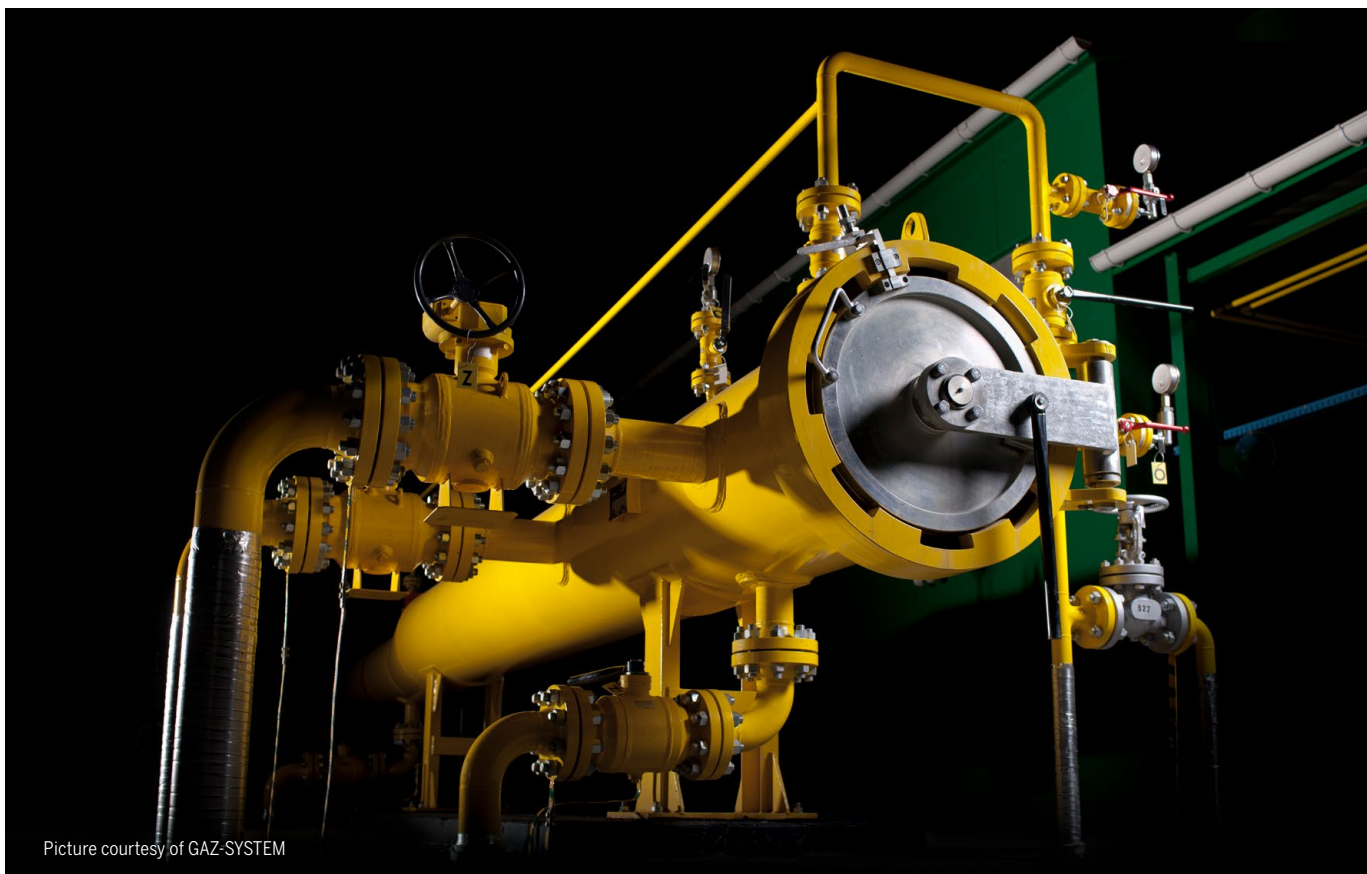
In contrast to tariff discounts for storage points, **discounts at: (a) LNG points and (b) points to infrastructure with the purpose of ending Member State isolation, are conditional to the objective of increasing security of supply**. No TSO in Europe currently uses discounts for reason (b). The conditionality of LNG discounts may explain the wide array of values for LNG discounts, and the lack of a general profile in Europe, as seen in Figure 17.

First, **33 European TSOs in our study are not connected to an LNG terminal**, which implies that the answer to this question is 'not applicable' for them.

Among the 12 TSOs with a connection to an LNG terminal, six of them mention that they apply no tariff discount at entry from LNG facilities. But the others do set discounts, albeit in **a very heterogeneous way**: four TSOs use discounts under 50 %, one is at or above 75 % but under 100 %, and the last one applies a 100 % discount on TSO capacity tariffs at points with LNG regasification terminals.



**Figure 17:** Out of 12 TSOs connected to an LSO, six TSOs apply no capacity tariff discounts



Picture courtesy of GAZ-SYSTEM

### 3.2.2.4 'Rules for entry-exit systems within a Member State where more than one transmission system operator is active' Article 10

As mentioned in section 3.2.2.1, by default the same RPM must be applied to all entry and exit points within a system.

An exception is for MSs with more than one TSO active, where Article 10 of the TAR NC gives the possibility to either apply the same RPM separately, or different RPMs separately in the event of a planned system merger. If the TSOs apply the same RPM jointly, their respective NRAs should consult on the principles of an effective inter-transmission system operator compensation (ITC) mechanism at the same time as the Article 26 consultation.

#### Insight 16: Twenty-three TSOs operate in a multi-TSO system within one MS/country

In 2021, MSs and European countries where multi-TSO entry-exit systems prevail within one MS or European country are [Germany, Austria, Spain, France, Italy, and – within the United Kingdom – Northern Ireland](#)<sup>30</sup>. Most of the other TSOs operate as the only TSO in an entry-exit system covering one and the same MS. The remaining TSOs are active in multi-TSO entry-exit systems spanning at least two MSs: this is the case in the BeLux system (Belgium and Luxembourg), in the Danish-Swedish entry-exit system, and in the Baltic area (Finland, Estonia, and Latvia)<sup>31</sup>.

Regarding multi-TSO systems in a single MS or country, they represent 23 European TSOs, as shown in Figure 18. The other TSOs are either the only operators in their MS (or country) or belong to a multi-MS system.

Far from being a marginal topic, the situation of multi-TSO systems in a single MS/country represents [a frequent configuration in terms of the number of TSOs; however, it concerns only six MSs or countries in Europe](#).

TSOs in a multi-TSO system in 1 MS/country  
(No. of TSOs)



Figure 18: Twenty-three European TSOs operate in multi-TSO systems in one MS/country

#### Insight 17: Joint RPM application is the only approach used in one-MS/country multi-TSO systems

Even if the TAR NC envisages the option that the RPM be applied separately for the different TSOs in a multi-TSO system in one MS/country, in practice [the default approach of a joint RPM application is followed in every European MS/country concerned by this configuration](#). Figure 19 shows that all 23 TSOs in this situation are covered by a joint RPM application in 2021. The option of a separate RPM application is not used in 2021.

RPM applied in one-MS/country  
multi-TSO systems



Figure 19: None of European TSOs in one MS/country multi-TSO systems applies RPMs separately

30 TSOs in Northern Ireland belong to the same entry-exit system, which is separate from the system in Great Britain where National Grid Gas plc is the only TSO. Due to different NRAs monitoring each market (Ofgem for Great Britain and UREGNI for Northern Ireland), Northern Ireland and Great Britain obey to different regulatory systems, although they belong to the same country (the United Kingdom).

31 Therefore, if one aggregates TSOs operating either under a national or international entry-exit system, most European TSOs belong to multi-TSO systems.

### Insight 18: Each TSO belonging to a one-MS/country multi-TSO system is covered by an ITC mechanism

Information reported by European TSOs operating in one-MS/country multi-TSO entry-exit systems shows that **all of them are covered by ITC mechanisms**. Overall, this proves good compliance with Article 10 of the TAR NC, which mandates the use of an ITC in this specific configuration. **For all six MSs/countries in this situation with a multi-TSO system in the same MS/country** (Germany, Austria, Spain, France, Italy, and – in the United Kingdom – Northern Ireland only), **the NRAs have therefore designed ITC mechanisms** that ensure revenue transfers among TSOs, especially to accommodate for the removal of IPs connecting TSOs which belong to the same entry-exit system.

Is an ITC applied in the multi-TSO system in 1 MS/country?

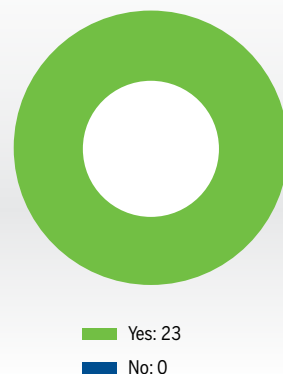


Figure 20: All 23 TSOs in multi-TSO systems in one MS/country are covered by an ITC mechanism

## 3.2.3 CHAPTER III – RESERVE PRICES

### 3.2.3.1 'General provisions' Article 12

For IPs, the reserve price serves as a floor in the relevant capacity auction. The CAM NC foresees five standard capacity products: yearly, quarterly, monthly, daily and within-day. The reserve price for firm yearly capacity is equal to the reference price. The reserve prices for firm non-yearly capacity products involve the application of formulas with multipliers based on the reference price and, optionally, seasonal factors. As set out in Article 12(3) of the TAR NC, reserve prices shall be binding 'for the subsequent gas year or beyond the subsequent gas year in case of fixed payable price, beginning after the annual yearly capacity auction', except if tariff recalculations are made after the start of the tariff period. Specific conditions are required for recalculations.

### Insight 19: Eighteen European TSOs had their tariffs recalculated within tariff periods since 2019

Between 2019 and 2021, 27 European TSOs did not readjust tariffs in the middle of a tariff period. In contrast, **18 TSOs recalculated their charges since 2019, which means that they had to conform with Article 12(3)** quoted above.

Results indicate that, next to TSOs which did not adjust their tariffs midway through a tariff period, the TSOs where such a measure had to be implemented point to various reasons:

- ▲ The most frequent justification for intra-period tariff adjustments is that **14 TSOs replied they were merged into a single entry-exit system**; it corresponds to the German case with the setup

of the new Trading Hub Europe in October 2021, merging the former GASPOOL and NetConnect Germany market areas.

- ▲ A TSO declared they were covered by a **derogation**, which allowed for flexible tariff adjustments within a tariff period.
- ▲ Finally, three TSOs gave **other reasons** to justify an intra-period tariff change: one because of the impact of the leap year in 2020, another because of the need to avoid an excess amount of under-/over-recoveries, and another due to changes in the expected level of capacity bookings.

But overall, in recent years and in most MSs, the tariffs set for a tariff period – either for one year or for several years – were kept unchanged until the next tariff period.

Update to tariffs after start of tariff period since 2019 (No. of TSOs)?

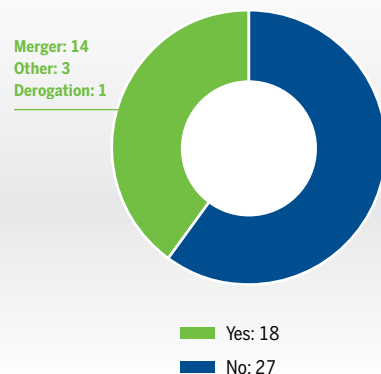


Figure 21: Between 2019 and 2021, 27 European TSOs didn't have to adjust tariffs after the start of their tariff period

### 3.2.3.2 'Level of multipliers and seasonal factors' Article 13

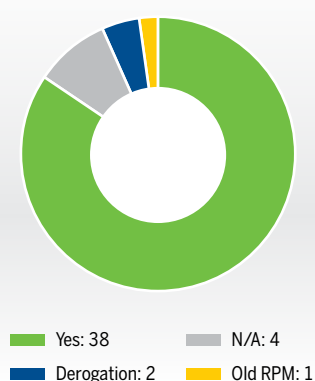
Multipliers aim to incentivise shippers to book long-term capacity, whilst seasonal factors aim to foster efficient system use by allowing higher reserve prices in months with high utilisation rates, and lower reserve prices in low-utilisation months. The TAR NC defines the ranges for the respective multipliers<sup>32</sup>, and a detailed methodology for calculating seasonal factors, if the TSO/NRA takes the option to apply these components.

#### Insight 20: Thirty-eight TSOs comply with quarterly and monthly multiplier rules at IPs

Based on TSOs' feedback, compliance with TAR NC rules for quarterly and monthly multipliers is very high across Europe. **38 TSOs were applying the range from 1.0 to 1.5** for these capacity products as of 1 October 2021. Beside these 38 TSOs, there are also duly justified exceptions:

- ▲ Two TSOs indicated they hold a **derogation**, which enables them to depart from the TAR NC range regarding quarterly and monthly multipliers.
- ▲ Three other TSOs said that they have **no IP** on their network, and one TSO said they use the **implicit allocation mechanism**<sup>33</sup>, which makes this question non-applicable (N/A) for all of them.
- ▲ Finally, another TSO pointed out that, on 1 October 2021, they were still in the **tariff period which prevailed as of 31 May 2019**, which explains why they were not yet bound by the TAR NC range.

**Q and M multipliers in line with TAR NC  
(No. of TSOs)**



**Figure 22:** As of 1 October 2021, 38 European TSOs were applying TAR NC rules for quarterly and monthly multipliers

#### Insight 21: Thirty-eight TSOs comply with daily and within-day multiplier rules at IPs

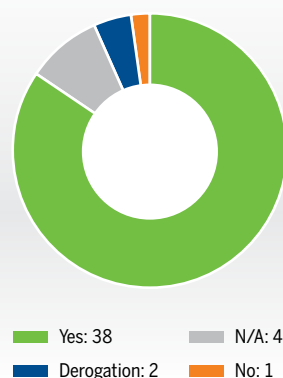
As regards daily and within-day multipliers at IPs, **European TSOs also display high compliance with TAR NC rules**. Compared to quarterly and monthly multipliers, the TAR NC gives more flexibility to apply daily or within-day multipliers outside the default range.

**Thirty-eight TSOs were applying the default range from 1.0 to 3.0** for these capacity products at IPs, as of 1 October 2021. It should be noted that the TSO which still applies their 'old' RPM on 1 October 2021 in accordance with TAR NC rules already follows the TAR NC default range for daily and within-day multipliers.

Compared to quarterly and monthly multipliers, for daily and within-day multipliers the TAR NC allows for **deviations from the default range** 'in duly justified cases:'

- ▲ One TSO was **outside the default range**.
- ▲ Two TSOs stated that they hold a **derogation** from these specific TAR NC provisions (in the same way they hold derogations for quarterly and monthly multipliers).
- ▲ The four other TSOs mentioned that, since they have **no IP** or apply the **implicit allocation mechanism**, this question is irrelevant for them (i.e., N/A).

**D and WD multipliers in line with TAR NC  
(No. of TSOs)**



**Figure 23:** As of 1 October 2021, 38 European TSOs were applying TAR NC rules for daily and within-day multipliers

<sup>32</sup> For quarterly standard capacity products and for monthly standard capacity products, the level of the respective multiplier shall be no less than 1 and no more than 1.5. For daily standard capacity products and for within-day standard capacity products, the level of the respective multiplier shall be no less than 1 and no more than 3. In duly justified cases, the level of the respective multipliers may be less than 1, but higher than 0, or higher than 3.

<sup>33</sup> Article 3(6) of the CAM NC defines the implicit allocation mechanism as follows: "implicit allocation method" means a capacity allocation method where, possibly by means of an auction, both transmission capacity and a corresponding quantity of gas are allocated at the same time. Article 2(5) of the CAM NC also clarifies that the implicit allocation mechanism can be chosen as an alternative to the standardised capacity allocation mechanisms; the latter do not imply the joint allocation of transmission capacity and gas volumes from gas wholesale markets.

**Insight 22: All TSOs using seasonal factors are compliant with TAR NC rules on value ranges**

Based on Article 13(2) of the TAR NC, the arithmetic average of the combination of multipliers and seasonal factors over the gas year and for each standard capacity product shall be within the range defined in the TAR NC for multipliers applicable for each product. In our group of European TSOs, only **eleven TSOs use seasonal factors**, and they stated they were compliant with this rule.

**No TSO using seasonal factors reported non-compliance** with the TAR NC rules for values of the combined multipliers and seasonal factors. **Thirty-four European TSOs replied 'N/A' to this question** for various reasons: because they do not use seasonal factors, or they have a derogation, or they have no IP, or they use the implicit allocation mechanism.

**M and S combination in line with TAR NC  
(No. of TSOs)**



**Figure 24:** Each of the eleven TSOs using seasonal factors stated they follow TAR NC provisions on multipliers and seasonal factors

**3.2.3.3 'Calculation of reserve prices for non-yearly standard capacity products for firm capacity with seasonal factors' Article 15**

As mentioned above in section 3.2.3.2, where a seasonal factor is applied in addition to the multiplier, the same ranges apply to the arithmetic average of the combination of multipliers and seasonal factors over the gas year.

Where seasonal factors are applied, the reserve prices for non-yearly standard capacity products for firm capacity shall be calculated in the same way as the calculation of reserve prices for non-yearly standard capacity products for firm capacity in absence of seasonal factors, which shall then be multiplied by the respective seasonal factor.

Article 15(2) of the TAR NC stipulates that the methodology to calculate monthly seasonal factors, as set out in Article 15(3), should be based by default on the cost driver of forecasted flows. If forecasted flows are null for at least one month, the methodology should be based on the cost driver of forecasted contracted capacity.

**Insight 23: Seven TSOs applying seasonal factors use forecasted flows as their cost driver**

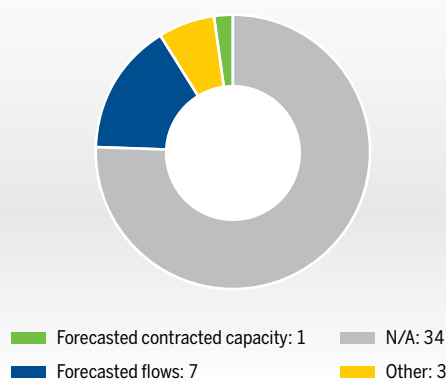
According to information provided by TSOs, **forecasted flows are indeed the driver used to calculate seasonal factors** for about two-thirds of TSOs using seasonal factors.

Data indicates that only four TSOs which use seasonal factors don't apply the default 'forecasted flows' approach of seasonal factors for the cost drivers:

- Three TSOs replied 'Other' and explained that, in agreement with their NRA, their seasonal factors are calculated either by using **flows from the last calendar year** or by using **the same approach used in a neighbouring entry-exit system**.
- Only one TSO mentioned the **forecasted contracted capacity** as their driver for seasonal factors.

However, **34 European TSOs replied that the topic is not applicable to them (N/A)** for the same reasons as for the previous topic on seasonal factors (no use of them, derogation, no IP, or implicit allocation mechanism).

**Driver for seasonal factor methodology  
(No. of TSOs)**



**Figure 25:** Forecasted flows are mentioned by seven European TSOs as a driver for their seasonal factor methodology

### 3.2.3.4 'Calculation of reserve prices for standard capacity products for interruptible capacity' Article 16

Reserve prices for interruptible capacity products get discounts, which can be of two types:

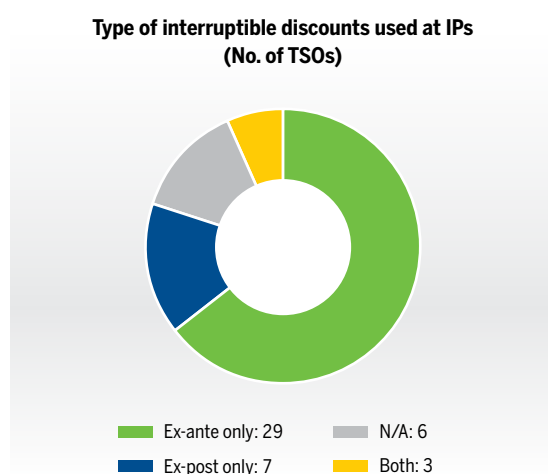
- ▲ An **ex-ante discount** is calculated upfront, based on the formula set out in the TAR NC, using the probability of interruption and the estimated economic value of the product.
- ▲ An alternative to using an ex-ante discount is an **ex-post discount**, which constitutes compensation paid to network users after the actual interruption has occurred. Such a discount is an option which is only available if physical congestion did not prompt any interruption in the preceding gas year.

As a remark, ex-ante and ex-post discounts are not mutually exclusive; the TAR NC doesn't prohibit the use of both types of interruptible discounts by the same TSO (e.g., at different IPs).

#### Insight 24: Ex-ante discounts are the most frequent type of interruptible discounts (almost 75 % of TSOs)

Figure 26 shows that **32 TSOs apply ex-ante interruptible discounts (alone or with ex-post discounts)**, following the standard approach presented in the TAR NC. The alternative approach of ex-post discounts is used by ten TSOs, generally as the only method; only three TSOs apply both types of interruptible discounts depending on the IP considered.

Also, **six TSOs indicated that the question of the type of interruptible discounts is not applicable** for them ('N/A') since they have no IP, or they use the implicit allocation mechanism, or they do not offer interruptible products because there have never experienced capacity constraints.



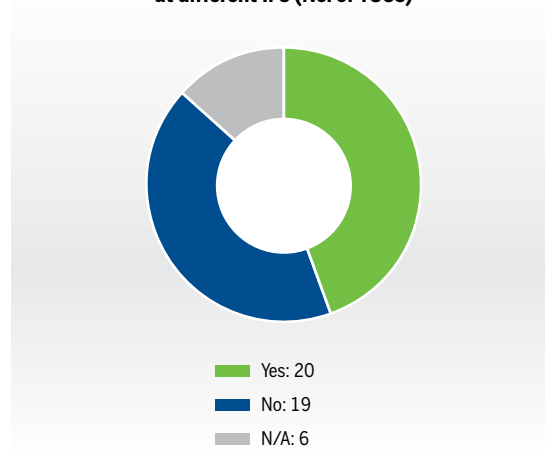
**Figure 26:** Thirty-two European TSOs apply ex-ante interruptible discounts at IPs

#### Insight 25: The value of interruptible discounts is adjusted by 20 European TSOs depending on the IP

Across Europe, there is **no single practice as regards the level of interruptible discounts applied at different IPs** of the same TSO. There are 20 European TSOs which modulate interruptible discounts at different IPs, but 19 TSOs keep the same interruptible discounts at all IPs (or have only one IP on their network), as depicted in Figure 27.

**The remaining six TSOs, which replied 'N/A'**, justified this answer by pointing out they have no IP on their network, or they use the implicit allocation mechanism, or they don't offer interruptible products.

**Different values for interruptible discounts at different IPs (No. of TSOs)**



**Figure 27:** Interruptible discounts are adapted by 20 European TSOs depending on the IP

## 3.2.4 CHAPTER IV – RECONCILIATION OF REVENUE

### 3.2.4.1 'General provisions' Article 17

Price cap and non-price cap are types of regulatory regimes, and the possibility of revenue reconciliation is conditional to the regulatory regime of TSOs.

- ▲ **Under a price cap regime**, the maximum transmission tariff based on revenue is set, and the TSO bears a volume risk since its revenue will not be reconciled, whether high or low volumes and capacity bookings are made by network users. This said, in practice a target revenue is decided by the NRA to mention the expected revenue of the TSO, based on the price cap and the expected volumes and bookings.
- ▲ **Under a non-price cap regime**, such as the revenue cap, rate-of-return, and cost-plus approaches, the allowed revenue for the TSO is set and revenue reconciliation is generally applied<sup>34</sup>.

The questions for this TAR NC article focus on TSOs functioning under a non-price cap regime. These questions are not applicable for TSOs under a price cap regime, since they have no revenue reconciliation.

#### Insight 26: Forty-one European TSOs operate partly or fully under a non-price cap regime

In Europe, there is a clear majority of TSOs (41) operating under a non-price cap regime, mostly with a revenue cap. Sometimes, they show features of mixed regulation, i.e., including traits of price cap regulation as well. This means that most gas TSOs function with an allowed revenue validated by their respective NRA, and benefit from a reconciliation mechanism, where any under-/over-recovery is cleared in the following years.

TSOs which don't display any feature of a non-price cap are scarce; there are only four of them in our report.

- ▲ **Two merchant TSOs** with no allowed or target revenue.
- ▲ **Two TSOs** are only operated under a full price cap regime (they have a target revenue).

TSOs partly/fully under non-price cap  
(No. of TSOs)



Figure 28: Only four European TSOs are operated either as merchant TSOs or under a full price cap regime

#### Insight 27: Revenue reconciliation is performed by 31 European TSOs over a period of one to three years

As for the period over which revenue is reconciled, there is no general approach in Europe. The most frequent answers are one year and three years (15 TSOs each). Periods of two, four, or five years are less frequent but also applied by a few TSOs. For five TSOs, the answer to this question was 'N/A' since they are not concerned by reconciliation mechanisms. These are the four TSOs mentioned in the previous insight (two merchant TSOs and two TSOs under a price cap regime), plus another TSO under a rate-of-return regime where no reconciliation takes place<sup>35</sup>.

Over which time period is revenue reconciled  
(No. of TSOs)

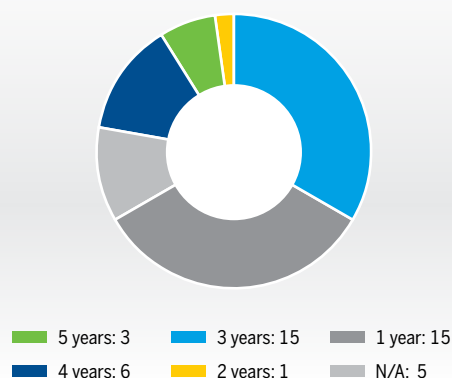


Figure 29: Revenue reconciliation is performed by 31 TSOs over a period of one to three years

<sup>34</sup> However, one European TSO said they are regulated under a rate-of-return regime without revenue reconciliation.

<sup>35</sup> This TSO clarified that the revenue collected through their ex-ante tariff is final. Therefore, tariffs must be adjusted, should the costs change compared to the tariff decision.

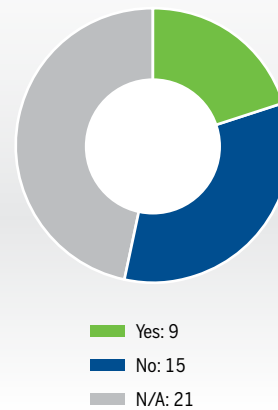
**Insight 28: among TSOs with a revenue reconciliation process and offering Non-Transmission Services, 15 use a separate account for reconciliation of these services**

Not all TSOs apply a revenue reconciliation mechanism, as shown above. In addition, not all TSOs offer Non-Transmission Services, as also seen before. When these two aspects are considered together, i.e., how to reconcile revenue from Non-Transmission Services, 21 European TSOs indicate that this question is not applicable for them since they either have no revenue reconciliation and/or offer no Non-Transmission Services.

For the other TSOs, the pattern is mainly in favour of a separate reconciliation of Non-Transmission Services for 15 TSOs, distinctly from the reconciliation of revenues derived from Transmission Services (TSs). Nine European TSOs reconcile Non-Transmission Services in the same regulatory account as TSs. The underlying idea behind a separate reconciliation is that the TSs revenues are collected from all network users because of the very nature of this transmission activity. In contrast, the

Non-Transmission Services revenues are collected from specific users, since not all network users typically use these services. The objective justifying a separate account is therefore often to limit cross-subsidies between users.

**Are Non-Transmission Services reconciled in same regulatory account as Transmission Services (No. of TSOs)?**



**Figure 30:** Fifteen European TSOs use a separate account to reconcile revenues from Non-Transmission Services

### 3.2.4.2 'Regulatory account' Article 19

For TSOs using a regulatory account, it shall indicate the under-/over-recovery of the transmission services revenue for a given tariff period and may include other information, such as the difference between the anticipated and the actual cost components. Following TAR NC requirements, each TSO using a regulatory account shall use just one.

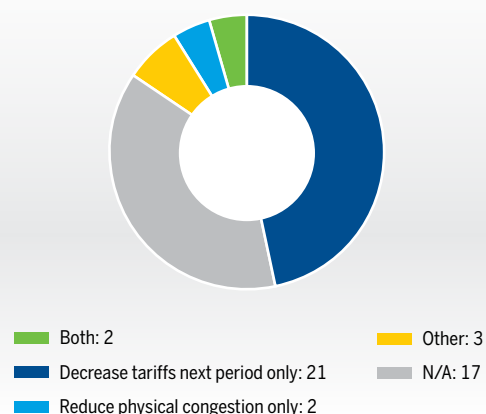
Subject to a decision by the NRA, the earned auction premium, if any, may be attributed to a specific account separate from the regulatory account. According to Article 19(5) of the TAR NC, the NRA may decide to use this auction premium for **reducing physical congestion** or, where the TSO functions under a non-price cap regime, to **decrease the transmission tariffs** for the next tariff period(s).

**Insight 29: Between 2019 and 2021, 23 European TSOs used auction premia to reduce tariffs, while four TSOs used them to reduce physical congestion**

Based on CAM NC principles, if demand is higher than capacity offered at an IP, an auction premium will be added to the reserve price to reach the clearing price where demand equals supply. But when there is little physical or contractual congestion, it is likely there will be no auction premium. Most TSOs (21) indicated that any premium will be only allocated to reduce TSO tariffs in the next period. Two TSOs explained that the premium will be used to reduce physical congestion only. Another

two TSOs clarified that the premium would serve for both purposes, i.e., alleviating physical congestion and reducing TSO tariffs in the next period. Three TSOs mentioned 'other' uses, either because of their merchant nature, or because they redistributed auction premia to network users in proportion to volumes delivered to end customers in past years. The other 17 TSOs responded 'N/A' for various reasons: they had no auction premia since 2019, or they have no IP, or they have a derogation, or they use the implicit allocation mechanism (implicit auction) as an alternative to standard capacity auctions.

**Use of auction premia at CAM points since 2019 (No. of TSOs)**



**Figure 31:** Auction premia are used to decrease tariffs in the next tariff period according to 23 European TSOs

## 3.2.5 CHAPTER V – PRICING OF BUNDLED CAPACITY AND CAPACITY AT VIPS

### 3.2.5.1 'Pricing of bundled capacity' Article 21

The reserve price for a bundled capacity product shall be equal to the sum of the reserve prices for the capacities contributing to such product. The auction premium is the difference between the clearing price and the reserve price in an auction.

The auction premium originating from the bundled capacity product sales shall be attributed in accordance with the agreement between the respective TSOs and approved by the NRAs, following TAR NC provisions. The approval must be granted no later than three months before the start of the annual yearly capacity auctions. In case there is no agreement or approval, the TSOs must split the auction premium equally (this is what we call here the 'fallback approach').

**Insight 30: Twenty-five European TSOs follow the fallback approach as regards bundled capacity premia, i.e. a 50 % – 50 % split of auction revenues among concerned TSOs**

The rule applied by 25 TSOs in terms of allocating premia from bundled capacity is to use a 50 % – 50 % divide, i.e., each TSO gets half of the revenue from auction premia. Therefore, the fallback approach as defined in the TAR NC is in use in most TSO networks. Figure 32 shows the distribution of the various approaches across Europe. Nine TSOs indicated they have struck up **dedicated agreements** with neighbouring TSOs to set out the

rules for sharing auction premia. Two TSOs pointed out that they use **both approaches** (equal sharing and specific agreement) depending on the considered neighbouring TSO and border.

Also, nine TSOs said that the question is not applicable for them for various reasons: they use the implicit allocation mechanism, or they have no IP, or they don't offer bundled capacity.

Rule for attribution of IP auction premia  
(No. of TSOs)

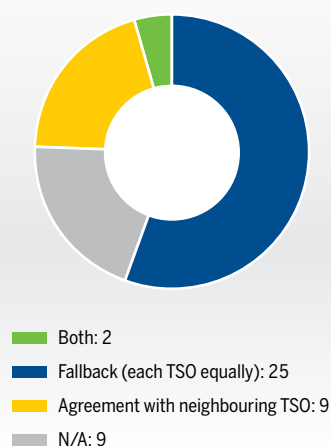


Figure 32: Twenty-five TSOs stated that the revenues collected from IP auction premia is distributed to each TSO equally



Picture courtesy of GAZ-SYSTEM

### 3.2.5.2 'Pricing of capacity at a virtual interconnection point' Article 22

Two approaches can be used to calculate reserve prices for unbundled capacity products offered at a Virtual Interconnection Point (VIP), based on TAR NC requirements:

- ▲ The first approach is based on the **reference price of the VIP**, where the applied RPM allows for considering the established VIP in calculations. The reserve price of the VIP is derived from its own reference price.
- ▲ Under the second approach, where the applied RPM does not allow for considering the VIP in calculations, the reserve price of the VIP is equal to the **capacity-weighted average of the reserve prices for each IP** contributing to the VIP.

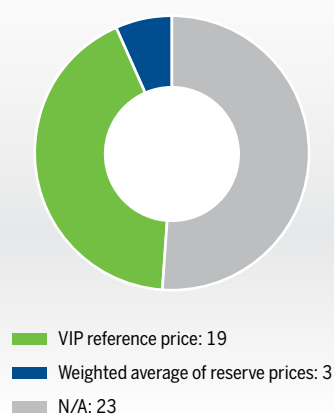
#### Insight 31: In 19 cases, VIP tariffs are defined by using the reference price of the VIP itself

TSO data shows that, where a European TSO offers capacity at a VIP, **in most cases the product is offered with a tariff derived from the reference price of the VIP itself**. The first approach above is therefore the most prevalent among TSOs with VIPs. It means that the RPM used to calculate tariffs for this TSO allows for the calculation of the capacity tariff of this specific VIP, along with other network points. Figure 33 shows aggregated results for European TSOs.

The question of rules for VIP tariffs was simply **not applicable for 23 TSOs**, for the following reasons: they had no VIP, or they used the CAM NC implicit allocation mechanism.

**Only three TSOs said that their VIP tariffs followed the weighted average of reserve prices** of the IPs which made up their VIPs, because their RPM did not consider VIPs directly in calculations.

Rule used to calculate VIP tariffs  
(No. of TSOs)



**Figure 33:** Among concerned TSOs, 19 European TSOs stated that VIP tariffs are directly calculated via VIP reference prices

### 3.2.6 CHAPTER VI – CLEARING PRICE AND PAYABLE PRICE

For payable price at IPs, there are two approaches the TSOs can take: fixed or floating.

- Under the **floating payable price**, the reserve price of the standard capacity product that will be paid may differ from the reserve price valid when the auction takes place, because this reserve price is 'floating'. It can be adjusted, e.g., to adapt to evolutions of the allowed revenue. For yearly products, the reserve price to pay will only be known with certainty before the annual yearly auction that takes place prior to the gas year when the product is valid.
- Under the **fixed payable price approach**, the price of the product at the time of the auction will be adjusted via an index, according to a formula which is known to network users at the time of the auction. The type of index used as a coefficient for the reserve price is also known, however the actual index value for the specific capacity product will be known only when it is published closer to the validity period. A risk premium may be also a component of the price, as it is the cost for guaranteeing that price will not 'float'.

Conditions for using floating or fixed payable prices are set out in Article 25 of the TAR NC. They are closely related to the **type of regulatory regime** – price cap or non-price cap – applicable for each TSO.

#### Insight 32: Floating payable price is the most frequent approach at IPs, in use in 36 TSOs

In 2021, there is a **strong prevalence of the floating payable price at IPs**, with 34 TSOs using only this approach, and two other TSOs using it along with fixed payable price, as depicted in Figure 34. Five TSOs used fixed payable prices only. In addition, four TSOs clarified that the question of payable price at IPs was not applicable for them since they have no IP or because they use the implicit allocation mechanism.

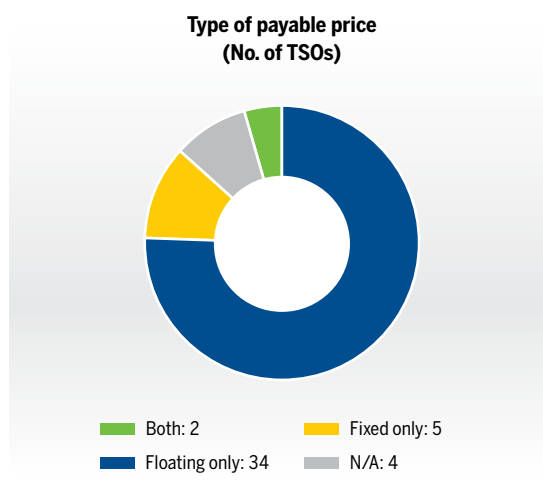


Figure 34: Floating payable price is applied by 36 European TSOs



Picture courtesy of GAZ-SYSTEM



### 3.2.7 CHAPTER VIII – PUBLICATION REQUIREMENTS

The responsibility to publish the information listed in Article 30 of the TAR NC, on 'Information to be published before the tariff period', can lie with either the TSO or the NRA, as decided by the NRA.

Information to be published may be broken down into four blocks:

- (1) **methodology parameters** related to technical characteristics of the transmission system;
- (2) **TSO revenue information**;
- (3) **transmission and non-transmission tariffs** which are not published before the annual yearly capacity auctions; and,
- (4) **additional information related to tariff evolution**. Such information needs to be published for all points on the network.

The aim of Article 30 is to promote transparency and certainty for the network users by allowing them to understand how the tariffs are calculated and enabling them to recreate the calculations themselves.

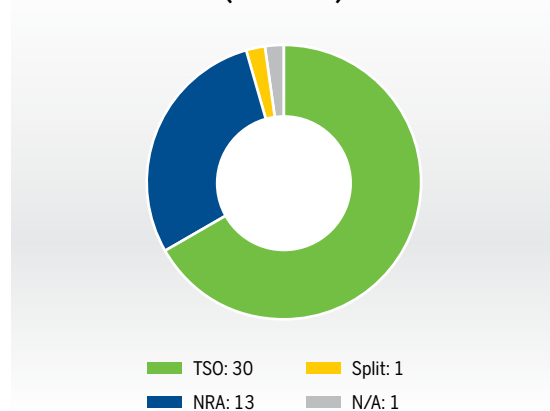
**Annex B** in this report contains links to tariff publications for each TSO (although it should be noted that, for some MSs, the responsibility for such publications can rest with the NRA).

#### Insight 33: Thirty European TSOs were tasked by their NRAs with publishing information before the tariff period

Overall, **30 TSOs were in charge of publishing information prior to the tariff period**. In contrast, for 13 TSOs, their NRAs decided to publish information themselves, as seen in Figure 35.

One TSO clarified that they shared responsibility for tariff period publications with their NRA. Another TSO pointed out they were granted a derogation on this topic, hence this question was not relevant for them.

**Responsibility for tariff period publications  
(No. of TSOs)**



**Figure 35:** Responsibility for tariff period publications is attributed by NRAs to 30 European TSOs

## 3.2.8 CHAPTER X – FINAL AND TRANSITIONAL PROVISIONS

### 3.2.8.1 'Existing contracts' Article 35

Article 35 indicates that the TAR NC implementation should not affect the levels of transmission tariffs resulting from contracts or capacity bookings concluded before 6 April 2017 where such contracts or capacity bookings foresee no change in the levels of the capacity- and/or commodity-based transmission tariffs (fixed tariffs) except for indexation. For this report, TSOs were asked if the TAR NC has impacted these existing contracts or capacity bookings.

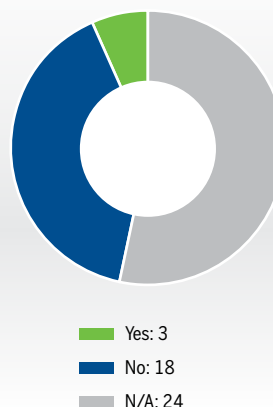
#### Insight 34: Only three TSOs noted that existing contracts were affected by the TAR NC

The TAR NC sets out that existing contracts where capacity or commodity tariffs are fixed and concluded before 6 April 2017 should be protected from possible adverse effects arising from its implementation in MSs. Information received from TSOs clarifies that most TSOs didn't offer such contracts or bookings in practice. For 24 European TSOs, the answer was therefore 'N/A'.

Among the 21 TSOs with existing contracts shielding network users from tariff variations, 18 TSOs said the TAR NC had no impact on these contracts.

However, three TSOs highlighted that the implementation of TAR NC rules had affected existing contracts; one of these TSOs explained that the TAR NC-based joint RPM application in their multi-TSO entry-exit system had justified tariff changes in 2020 for all contracts, which resulted in network

Did the TAR NC impact existing contracts  
(No. of TSOs)



users terminating their existing fixed-tariff capacity contracts<sup>36</sup>.

Figure 36: Only three European TSOs said they were concerned by the TAR NC impact on existing contracts which foresaw fixed tariffs

<sup>36</sup> Indicator TAR.2 presented in the Effect Monitoring section of this report mentions that five European TSOs experienced sharp tariff variations in relation to market mergers into multi-TSO entry-exit systems in 2019–20. The impact that tariff increases had on existing contracts with fixed tariffs is an illustration of connections between the Implementation Monitoring and the Effect Monitoring parts in this report.



### 3.3 CONCLUSIONS

Data that ENTSOG collected from TSOs on Implementation Monitoring (IM) gives a picture of the implementation of TAR NC provisions in 2021, which is about two years after all TAR NC provisions became fully applicable. Compared to the previous edition of this report, which was based on 2019 data, **most TSOs have now applied all TAR NC measures and show high levels of compliance.** More precisely, 45 TSOs had shifted to the 'new RPM' rules as of 1 October 2021.

The trend observed in 2019, that TSOs were already conforming with TAR NC rules even though they were not yet binding, is therefore confirmed. As of 1 October 2021, 'new RPM' rules were applicable for all European TSOs but two:

- ▲ In accordance with the TAR NC rules, **a TSO had already moved to TAR NC 'new RPM' rules, however it was not yet applicable in October 2021**, which is the reference date for this report, because their tariff period as of 31 May 2019 was ongoing until 31 December 2021.
- ▲ Another TSO had also moved to the 'new RPM rules' and was still using the 'old RPM', **because their NRA still didn't make its motivated decision.**

**As regards non-compliance, it is limited to a few very specific configurations.**

**TSOs and NRAs have shown high adaptability to the new tariff rules**, and coordination at the national level and with European instances like ENTSOG proved very satisfactory. It confirmed the efficiency level observed in the last report, regarding compliance with transparency rules on tariff publications.

**New challenges are expected in coming years, with a new wave of periodic consultations that should take place around 2023–24** to meet the requirement of a general review of tariff regulations at least every five years<sup>37</sup>. Changes are likely in the implementation of tariff rules, and, for example regarding multipliers, discounts and seasonal factors in Article 28, the TAR NC already stipulates that '[e]ach national regulatory authority shall consider the positions of national regulatory authorities of directly connected Member States'.

Of course, it will be up to the next edition of this Tariff Monitoring report to document and analyse these trends. How the TAR NC rules will be adjusted will be a central stake in this regard.

### 3.4 MAIN IMPLEMENTATION MONITORING UPDATES COMPARED TO THE PREVIOUS REPORT

It is interesting to highlight a few significant trends and to mark key differences between the present Implementation Monitoring report and the previous IM report published in 2020.

- ▲ **Fewer Member States are now concerned by derogations:** Finland and Estonia no longer hold general derogations to the 2009 Directive. Therefore, Gasgrid Finland and Elering sent data for the current report.
- ▲ **The shift to TAR NC-based rules is now almost finalised in all MSs:** duly following TAR NC rules, Slovakia was still applying the rules prevailing at the entry into force of the TAR NC in 2019; this is because of the multi-year tariff period which applies in this MS. In Bulgaria, the

NRA had not yet formally made a motivated decision about the 'new RPM' rules.

- ▲ **How results evolved between reports depends on the specific TAR NC chapters developed in this IM report<sup>38</sup>:**
  - **Chapter I (General Provisions):** the trends observed in 2022 are similar to those noted in 2020. Limited scope rules are still applied by a minority of European TSOs. Non-Transmission Services are proposed by most TSOs. Most TSOs still don't apply flow-based charges. There is still good compliance with TAR NC rules on Cost Allocation Assessments (CAAs) to keep in check cross-subsidies.

<sup>37</sup> Since 2020, five MSs actually started running the 2<sup>nd</sup> wave of periodic consultations (cf. Annex C).

<sup>38</sup> Chapter VII of the TAR NC was not under the focus of the IM questionnaire, to align the approach followed for the previous Monitoring report, and considering that ACER already performed such monitoring of consultations in 2019. In addition, Chapter IX of the TAR NC was not covered either by the IM questionnaire for this report, since the Demand Assessment Reports for the Incremental capacity process 2021 were already dealing with this activity. Comparison between the new and previous reports is therefore not relevant on these chapters.

- **Chapter II (Reference Price Methodologies):** wider application of the RPM rules can be observed compared to 2020, mainly owing to a change in tariff periods requiring the shift to new rules to be effective. The same RPM is generally used at all network points, except if specific derogations apply to a TSO or if the shift to new rules is not yet done in a MS. In one-MS/country multi-TSO systems, change can be observed in the generalised use of RPMs jointly, while in 2020 there were still cases of separate use. Some trends already identified are still prevailing, for example the widespread use of discounts at most storage points, and less frequently at LNG points. Among tariff adjustments, benchmarking is still less used than rescaling or equalisation by European TSOs. In most MSs, the CWD counterfactual assessment is still performed by the TSOs or NRAs in accordance with TAR NC rules.
- **Chapter III (Reserve Prices):** consistently with the previous report, the level of multipliers for each product duration and in combination with seasonal factors is still compliant with TAR NC rules for most TSOs, except those with a derogation or which have not yet changed tariff periods. Few TSOs also use the flexibility given for daily and within-day multipliers to be outside the default range, as allowed by the TAR NC. Among all European TSOs, the fact that most of them used ex-ante interruptible discounts in 2020 is still valid in 2022.
- **Chapter IV (Reconciliation of revenue):** the picture is quite comparable to observations made in 2020. Price cap regimes are still applied by few TSOs. A separate regulatory account is often used to reconcile Non-Transmission Services, rather than the same regulatory account both for Non-Transmission Services and other services. Auction premia are more often used to reduce TSO tariffs than to alleviate physical congestion.
- **Chapter V (Pricing of bundled capacity and capacity at VIPs):** one trend observed in 2020 is confirmed in 2022; for the distribution of the auction premium, a clear majority of TSOs apply the default rule as per the TAR NC (equal splitting among TSOs). However, it is remarkable that, while in 2020 the TSOs with VIPs often used the weighted average tariff of individual IPs, in 2022 the opposite is true: most TSOs with VIPs use the tariff directly derived for the VIP through their RPM. It certainly illustrates the development of VIPs in recent years, and their growing status in TSO pricing, as they supersede the individual IPs they are made of in booking auctions.
- **Chapter VI (Clearing price and payable price):** this report simply confirms that most European TSOs apply floating payable price instead of fixed payable price. It reflects the conditions set by the TAR NC, with some limitations for the possibility of using fixed payable price. This is further evidence that European TSOs duly apply TAR NC rules.
- **Chapter VIII (Publication requirements):** results are again consistent between the report published in 2020 and this one. Publications prior to the tariff period, as per Article 30 of the TAR NC, are mostly performed by TSOs rather than NRAs.
- **Chapter X (Existing contracts):** while a few TSOs pointed out in 2020 that contracts signed before the entry into force of the TAR NC would be affected by its implementation, in 2022 a clearer picture is visible. The impact of the TAR NC on existing contracts with fixed prices is somewhat limited, with just three European TSOs highlighting this effect. Hence, existing contracts were often protected by TAR NC provisions in practice, based on TSOs' feedback, which is a positive feature.

# 4 EFFECT MONITORING

## 4.1 INTRODUCTION AND PURPOSE

The analysis of the effect of the TAR NC is not only a duty for ENTSG, but also a way to study how the rules set out in this network code affect the harmonisation of transmission tariff structures across the Member States of the European Union and the benefits that its implementation brings to the market.

The first monitoring of the effect of the TAR NC was performed in 2017, becoming the baseline for effect monitoring comparison in future years. The second report was based on 2019 data. This new report is

based on 2021 information, and it can benefit from comparisons with the two previous issues. It is therefore possible to assess to what extent the TAR NC has impacted the gas market.

With little change on topics assessed compared to the 2019 report, in 2021 ENTSG requested information from TSOs on five indicators which analyse the effect of the implementation of the TAR NC. **In total, 47 TSOs provided data for the EM indicators.**

## 4.2 ANALYSIS OF RESPONSES

The data used in this report has been collected through a survey completed by ENTSG Members and Associated Partners, as well as a few other TSOs. A complete list of the participants is enclosed in Annex A, and details about participation and derogations can be found in sections 1.3 and 1.4 above. Information from the **47 TSOs** which provided data was considered. Since two TSOs are represented by a third one in one MS, charts and graphs hereafter only indicate a total of **45 TSOs** for simplicity.

Information about five effect monitoring (EM) indicators was requested to measure the impact of the TAR NC. Indicators used for the 2021 effect monitoring report have been sometimes slightly adapted compared to the previous report and could be further amended in future EM reports, especially regarding the availability of data. Suggestions from ACER in 2021 have also been taken into consideration for this definition of the new EM indicators<sup>39</sup>.

### Description of the five EM indicators and results

The five EM indicators used by ENTSG that will be used for the 2021 effect monitoring of TAR NC are as follows:

#### Indicator TAR.1 on the 'Ratio of under-/over-recoveries to allowed/target revenues' for TSOs.

This indicator was adapted in the previous report on 2019 data to focus on the level of under-/over-recovery compared to the allowed/target revenue, regardless of the existence of a regulatory account. Compared to 2019, in order to further improve transparency, this report now considers whether Non-Transmission Services are included in calculations, and whether a full or partial reconciliation takes place.

#### Indicator TAR.2 on 'Changes in capacity-based tariffs' at all TSO points for yearly products.

Compared to the 2019 report, in 2021 TAR.2 was adapted to focus on an aggregated approach of changes in capacity-based tariffs only, and to highlight the evolution of tariffs after changes in the RPM. The applicable commodity tariffs in some MSs were not considered anymore in tariff calculations, as they could have blurred results when mixed with capacity tariffs (this is to avoid calculating averages for different tariffs expressed in different units, which would be meaningless). No tariff index was calculated for commodity tariffs because such tariffs are applied by a minority of TSOs and represent

<sup>39</sup> In 2021, suggestions were taken from ACER that the EM report should keep the existing indicators on revenue recovery (TAR.1), on tariff changes to measure the impact of TAR NC (TAR.2), on seasonal factors (TAR.3), on publication in English to check the impact of the TAR NC (TAR.4), and on multipliers (TAR.5). ACER also proposed amendments to some indicators. For TAR.1, it is now clarified if Non-Transmission Services are considered in TSO revenue and to what extent revenue reconciliation takes place. For TAR.2, the indicator now focuses on capacity tariffs and it is now indicated whether a change in RPM was implemented between 2019 and 2021. For TAR.4, where applicable, it is now specified if it is the NRA or the Ministry which is responsible for information publication (in the 2019 report, there was no distinction).



a low share of TSO revenues. Also, TAR.2 mentions whether a change in RPM took place between 2019 and 2021.

**Indicator TAR.3 on 'Seasonal factors for IPs'**

This indicator covers the specificity of those TSOs which use these parameters. In practice, only a relatively small number of TSOs use seasonal factors (11 TSOs). No change was made in the definition of TAR.3 compared to the 2019 edition.

**Indicator TAR.4 on 'Publication of information in English'**

TAR.4 was updated in 2019 to indicate any evolution on publication in English compared to the previous report. In 2019, there was a category named 'NRA or Ministry' when either the NRA or the Ministry was tasked with publishing the relevant information. In the 2021 report, this category has now been split into two categories: 'NRA' and 'Ministry'.

**Indicator TAR.5 on 'Multipliers for products with quarterly, monthly, daily and within-day durations' at IPs.**

TAR.5 on multipliers shows the values of multipliers and whether the same multiplier was used for all IPs for a given product duration. No change was made in the definition of TAR.5 compared to the 2019 edition.

The detailed description of each indicator, as well as the results obtained, are provided in the following sections.

For each indicator the TSOs have been randomly attributed a reference code, such as 'TSO 1'. This is to ensure anonymity of TSOs and preserve commercially sensitive information.

In addition, each TSO has different references across indicators, i.e., for one specific TSO, the reference code differs from one indicator to other. However, for TAR.4 and TAR.5, which also comprise sub-indicators, each TSO keeps the same reference code across all sub-indicators of TAR.4 and all sub-indicators of TAR.5.

## 4.2.1 TAR.1: RATIO OF UNDER-/OVER-RECOVERIES TO ALLOWED/TARGET REVENUES

### Description of TAR.1

This indicator has been slightly amended compared to the TAR.1 indicator in the previous report. It still considers under-/over-recoveries as an indicator of the relative level of actual revenues compared to allowed/target revenues. However it now mentions whether Non-Transmission Services revenues are also considered in revenue calculations for TAR.1, in addition to Transmission Services revenues. Besides, TAR.1 now also explains if revenue reconciliation applies to revenues in a full or partial manner, or not at all.

### Goal of TAR.1

The objective of this indicator is to provide an assessment of the ratio of TSOs' revenue imbalance compared to the allowed/target revenues.

- ▲ If TAR.1 shows a negative value for the under-/over-recoveries to allowed/target revenues ratio, this will imply that the level of transmission tariffs did not ensure the recovery of revenues of the TSO for the transmission services offered.
- ▲ Conversely, if the ratio has a positive value, this will indicate that there is an over-recovery of the allowed/target revenues.

It is important to note that any over-recovery of the allowed revenues collected by a TSO is returned to customers via a corresponding reduction in allowed revenues in the subsequent year (or such other period agreed with the relevant NRA). Conversely, any under-recovery of allowed revenues is made up through a corresponding increase in allowed revenues in the following year(s). The under-/over-recovery represents the annual difference between the actual and the allowed/target revenue. In most non-price cap regimes, it will be evened out in the following years. However, for TSOs fully under a price cap regime, which represent only two TSOs in Europe<sup>40</sup>, by definition there is no future reconciliation. Hence, any under-/over-recovery is for the TSO to bear/benefit.

The TAR.1 indicator also considers just the difference between actual revenue and allowed/target revenue for a given year. It does not consider the TSO-specific arrangements to clear the regulatory account over a specific number of years. This is to facilitate comparisons among TSOs and avoid local specificities.

The implementation of the TAR NC may not be the only influence on the evolution of TAR.1. This indicator is also dependent on changes in capacity bookings and flows.

### Assumptions for TAR.1

TAR.1 applies in both non-price cap regimes and price cap regimes, since the indicator checks relative under-/over-recovery, not the regulatory account and actual reconciliation of the revenue imbalance. Non-regulated TSOs are allowed not to provide data, since they have neither an allowed, nor a target revenue, and since revenue is even more a commercially sensitive parameter in their case.

This report considers the period comprised between 2013–2020 even though the TAR NC sets no requirement for information publication for years prior to 2017 (i.e., before the TAR NC's entry into force). As far as the values provided by the TSOs are consistent throughout the period 2013–2020 and reflect the under-/over-recovery, the data collected can be calculated for each calendar year or following a regulatory year, i.e., the one-year period for which the allowed revenue is defined within a regulatory period.

### Calculations for TAR.1

TAR.1 should help to check if the TAR NC implementation contributes to increasing stability in yearly revenue recovery for TSOs. For each year, the TSO should indicate the ratio of under-recoveries (with a minus sign) or over-recoveries (with a plus sign) to the allowed/target revenue of the TSO. TAR.1 provides an aggregation of TSO results for each year of the 2013–20 period.

With this new 2021 edition, TAR.1 now also clarifies if Non-Transmission Services revenues are included in the revenue imbalance, and if revenue reconciliation is performed fully, partly, or not at all.

### Example for TAR.1

Table 1 describes the over-recoveries (plus sign) and under-recoveries (minus sign) collected each year in the 2013–2020 period, compared to the assumed Allowed Revenue (set out in the first row (1)), with the corresponding TAR.1 ratio<sup>41</sup>. Depending on specific rules in each MS, revenue recovery may or may not include Non-Transmission Services under-/over-recoveries in calculations of the TAR.1 ratio. And under-/over-recovery may be partly, fully, or not at all reconciled.

<sup>40</sup> Cf. Insight 26 in the Implementation Monitoring section.

<sup>41</sup> This example considers the case where Non-Transmission Services revenues are included in calculations.

In Million EUR	2013	2014	2015	2016	2017	2018	2019	2020
Allowed revenue (1)	100	101	103	102	105	103	102	104
Transmission services (TS) revenue under-/over-recovery (2)	-4	-3	4	0	1	-7	8	4
Non-Transmission Services revenue under-/over-recovery (3)	1	0	-1	2	0	0	1	-1
Total TS + Non-Transmission Services under-/over-recovery (4) = (2)+(3)	-3	-3	3	2	1	-7	9	3
<b>TAR.1 Ratio (5) = (4)/(1)</b>	-3.0 %	-3.0 %	2.9 %	2.0 %	1.0 %	-6.8 %	8.8 %	2.9 %

**Table 1:** An example of calculations for TAR.1

In the IM questionnaire, TSOs were requested to indicate if the Non-Transmission Services revenue is considered in their calculations for revenue recovery. They were also asked to clarify if reconciliation of revenues is made on a full or partial basis, or not at all. In the example here, for year 2013 where the total revenue under-recovery is -3 Million EUR (MEUR), there will be:

- ▲ **Full reconciliation:** if the TSO is entitled by the NRA to recover the 3 MEUR in future years;
- ▲ **Partial reconciliation:** if the TSO is entitled to recover less than 3 MEUR in future years;
- ▲ **No reconciliation:** if the TSO will not be entitled to recover the 3 MEUR in future years.

## Results for TAR.1

Out of 47 TSOs who responded to the EM questionnaire, 38 TSOs sent data for indicator TAR.1 regarding at least one year, and 16 TSOs sent data for each of the years 2013 to 2020<sup>42</sup>.

One of the main reasons for not sending an answer was that the data covered corresponds to the period prior to the TAR NC's entry into force and the publication was not obligatory back then. The level of under-/over-recoveries may influence the stability of TSO tariffs, and it may be necessary to make significant adjustments to tariffs in case the mismatch between allowed/target revenue and actual revenue is also significant.

42 However, data from two TSOs from one Member State was not included, since regulation in this Member State follows rules for revenue recovery which are significantly different from rules in the other Member States. Therefore, the EM database contains data from 45 TSOs.



Picture courtesy of Fluxys

Figure 37 shows the average of under-/over-recoveries across TSOs in Europe for TSOs which provided some data. Two approaches are depicted, based on whether TSO allowed/target revenues are used as weightings for under-/over-recovery or not<sup>43</sup>.

- ▲ For the 2013–20 period and for all TSOs, there is an average yearly over-recovery of **+1.7 %** using the simple average approach, and **+0.9 %** if using a revenue-weighted average<sup>44</sup>.
- ▲ This level is largely dependent on estimation uncertainties in revenue forecasts, e.g., in terms of weather conditions<sup>45</sup>.

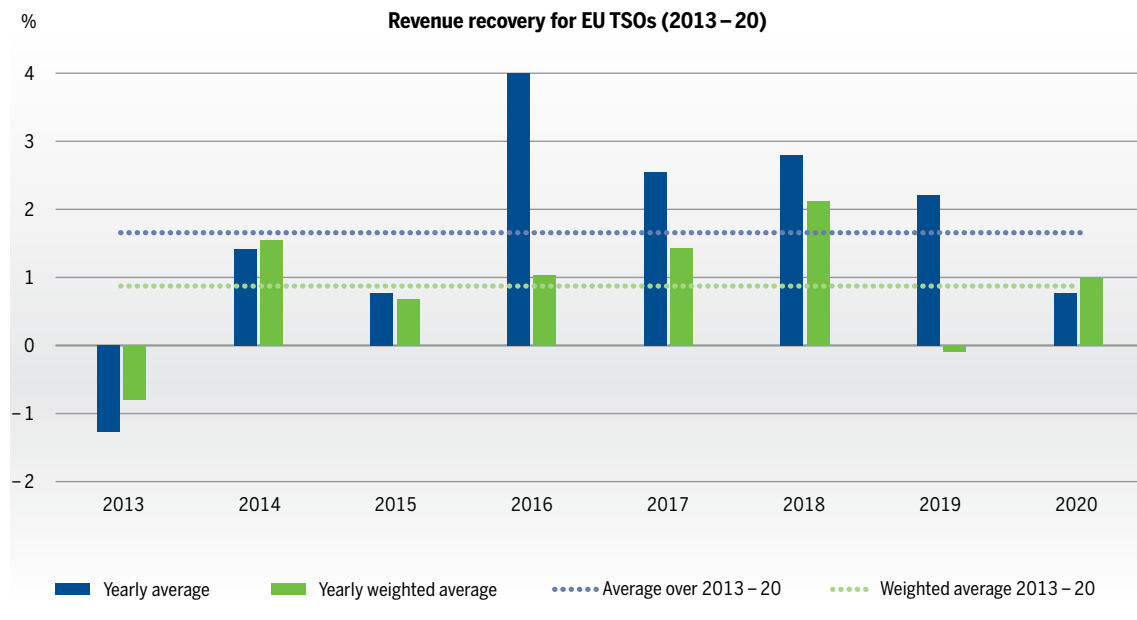


Figure 37: Results for TAR.1 on revenue recovery

As previously mentioned, any **over-recovery** of the allowed revenues collected by a TSO is returned to customers via a corresponding reduction in allowed revenues in the subsequent year (or such other period agreed with the relevant NRA).

Conversely, **any under-recovery** of revenues is made up through a corresponding increase in allowed revenues in the following year(s). The under-/over-recovery represents the annual difference between the allowed/target revenue and the actual revenue. In most non-price cap regimes, it will be evened out in the following years. However, as already mentioned, **for TSOs fully under a price cap regime, which represent only two TSOs in Europe, by definition there is no future reconciliation**. Hence, any under-/over-recovery is for the TSO to bear/benefit.

**Data has been slightly adjusted by some TSOs** following the previous TAR Monitoring report. Recent data tends to show that, based on simple averages, there were under-recoveries for the average European TSO in 2013. Since 2014 there has been on average an over-recovery. Noting that 2019 was the implementation date for the TAR NC, it is however too early to conclude about a causal link between TAR NC implementation and the evolution of revenue recoveries.

Over the whole period, and using simple averages, the **average European TSO experienced under-/over-recoveries comprised between –1.3 % and +4.0 %** depending on the years.

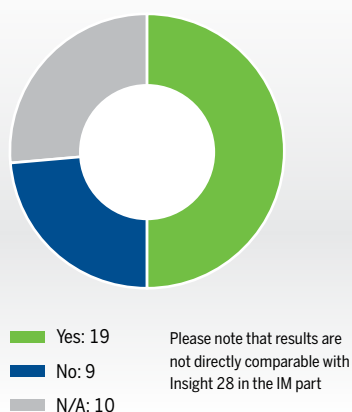
As mentioned above, this report on 2021 data considers **whether Non-Transmission Services are reconciled together with Transmission Services (TSs)**.

43 Compared to the previous TAR Monitoring report, a few TSOs significantly revised some of the data they provided to ENTSOG. It explains the different pattern shown on the chart, especially for early years in this period. It significantly modifies the results in terms of non-weighted EU average under-/over-recovery, much less in terms of weighted average.

44 Regarding weightings, the revenue used for each TSO is generally the revenue for 2020 published in accordance with Art. 30 of the TAR NC.

45 The yearly simple European average is comprised between an **under-recovery** of –1.3 % (in 2013) and an **over-recovery** of +4.0 % (in 2016) over the 2013–20 period. The yearly revenue-weighted European average is comprised between an **under-recovery** of –0.8 % (in 2013) and an **over-recovery** of +2.1 % (in 2018) over the 2013–20 period. These values are slightly adjusted when compared with the results shown in our last TAR Monitoring report published in 2020, due to some TSOs correcting their data.

#### No. of TSOs where Non-Transmission Services are included in these revenue recovery calculations

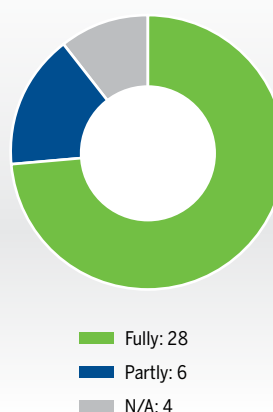


**Figure 38:** Only 19 European TSOs include Non-Transmission Services in revenue recovery calculations (TAR.1)

The chart indicates responses from the 38 TSOs which provided data on TAR.1. Beside ten TSOs which mentioned this question as N/A (either because they don't reconcile revenues, or they don't offer Non-Transmission Services), **most European TSOs (19) clarified they do include Non-Transmission Services in revenue recovery calculations**<sup>46</sup>.

It is also interesting to review whether revenue is fully, partly, or not at all reconciled for each TSO. Data provided by 38 European TSOs on TAR.1 shows that, apart from TSOs where the question is not applicable because of a different regulatory regime (i.e. the price cap regime), **revenue is fully reconciled for 28 TSOs** (see figure 39)<sup>47</sup>. So, under-/over-recoveries are generally fully cleared via reduced tariffs (if over-recovery) or increased tariffs (if under-recovery) in future tariff periods.

#### Reconciliation of revenue (No. of TSOs)



**Figure 39:** Full reconciliation of revenue is performed by 28 European TSOs (TAR.1)

## 4.2.2 TAR.2: CHANGES IN CAPACITY TARIFFS AT ALL TSO POINTS FOR YEARLY PRODUCTS

### Description of TAR.2

TAR.2 has been slightly modified compared to the 2019 report since **it focuses now on capacity-based tariffs only**, and it now indicates **if a change in RPM took place between 2019 and 2021**. Due to the upholding of the prevailing tariff methodology on 31 May 2019 until the end of the tariff period for each TSO, the impact of the TAR NC may have been postponed to 2020 and later. For this 2021 report, it should be noted that most TSOs have now shifted to the new RPM rules.

### Goal of TAR.2 (tariff changes)

The objective of TAR.2 is to **consider whether the TAR NC may have an impact on the evolution of average tariffs**.

TAR.2 covers tariffs for **yearly firm capacity products only**. In the 2021 report, commodity charges, where applicable, are no longer included in calculations, to avoid issues with averaging together capacity and commodity tariffs expressed in different units. The choice of keeping yearly products is justified because, for many TSOs, yearly bookings still represent the most representative share of total bookings. Therefore, the evolution of yearly tariffs is taken as a proxy for the evolution of all tariffs.

The objective of this indicator is **to measure if the TAR NC implies any significant consequence regarding tariff variability at all TSO points**. There-

<sup>46</sup> This chart is not directly comparable with the topic of Non-Transmission Services reconciliation in the IM part (cf. Insight 28) because the question is different. For TAR.1, the question is less restrictive, since it asks TSOs whether they include Non-Transmission Services in their calculations for revenue reconciliation. For Insight 28 in the IM part, the question was whether TSOs use a separate account to reconcile Non-Transmission Services under-/over-recoveries. Also, seven TSOs preferred not to share data on TAR.1 and are not shown on the pie chart, while they replied to Insight 28, which further reduces comparability between the two questions.

<sup>47</sup> Seven TSOs preferred not to share data on TAR.1 and are not shown on the pie chart.

fore, indicator TAR.2 is mainly relevant once the TAR NC is fully applicable (which is the case for most TSOs in 2021; only one TSO was not applying the new RPM after 1 January 2022)<sup>48</sup>.

### Assumptions for TAR.2 (tariff changes)

#### Data collection

Tariff changes are considered **for all TSO points**, by differentiating between entries and exits.

Due to confidentiality requirements, **TSOs are responsible for their own calculations of the average tariff index** for each year and for all the points of the TSO network. This index is an average of tariffs for yearly capacity products, as calculated by the TSOs<sup>49</sup>. The index should be ideally calculated by weighting each yearly capacity tariff with the corresponding share of revenues generated by the capacity product. ENTSOG collected data sent by TSOs. Then, year-on-year changes were calculated.

#### Capacity products

For this 2021 report, TAR.2 only covers the **standard yearly firm capacity products**.

#### Time periods to consider

TAR.2 only focuses on **previous tariffs**. The period considered in this indicator covers the years **2013–20**, where ‘years’ refers to the calendar year from January to December, or the gas year from October

to September, or another period which generally corresponds to the tariff period of the TSO. It was assumed that, as the reference periods are slightly different among TSOs (e.g., calendar year 2015 for TSO A, gas year 2014–15 for TSO B, etc.), this does not significantly undermine the comparability of data among TSOs. Data is also compared to inflation numbers collected from **Eurostat**<sup>50</sup> for calendar years 2013 to 2020.

#### Calculations

As mentioned in the data collection section, to evaluate the tariffs changes along the studied period, the **TSOs were requested to provide a tariff index** based on the yearly capacity tariffs prices. For each TSO, the tariff index collected for 2013 has been considered as a basis for the calculations of tariff changes for the following years.

#### Example

**Table 2** gives an illustration of possible calculations by TSOs, based on revenue weights. However, the tariff index provided to ENTSOG by TSOs may not follow this example, as several definitions of an average are possible. ENTSOG relies on TSOs’ expertise to assess the average.

A fictional TSO has the following points to consider and the associated tariffs and share in revenues for the period to be assessed.

Reference prices (TSO yearly products, e.g. in EUR/(kWh/d)/y)	2013	2014	2015	2016	2017	2018	2019	2020
Point A Entry cap	12	10	11	5	4	8	4	5
Point B Entry cap	8	9	10	13	14	11	12	13
Point B Exit cap	6	9	10	11	13	15	14	13
Point C Entry cap	4	4	2	2	5	8	5	8
Point C Exit cap	6	5	4	7	8	9	4	6
Share in revenues collected from yearly products (in %)	2013	2014	2015	2016	2017	2018	2019	2020
Point A Entry cap	40 %	36 %	31 %	24 %	21 %	17 %	20 %	21 %
Point B Entry cap	21 %	22 %	23 %	27 %	28 %	29 %	28 %	25 %
Point B Exit cap	11 %	11 %	12 %	12 %	13 %	15 %	16 %	17 %
Point C Entry cap	9 %	9 %	9 %	9 %	7 %	5 %	6 %	4 %
Point C Exit cap	19 %	22 %	25 %	28 %	31 %	34 %	30 %	33 %
Total share of revenues collected from yearly products	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Tariff index TSO 1	8.64	8.03	8.09	8.17	9.28	10.26	7.9	8.81
Tariff index TSO 1 (base 100: 2013)	100.0	92.9	93.6	94.6	107.4	118.8	91.4	102.0

**Table 2:** An example of reference prices and revenues for TAR.2

48 This is especially true regarding provisions in Article 27(5) of the TAR NC, which stipulates that the methodology which prevails on 31 May 2019 will still be applied until the end of the tariff period which prevails at that date.

49 Because of the change in the TAR.2 methodology in this 2021 report compared to the 2019 edition, TSOs which apply a commodity charge were requested to recalculate averages for past years, to remove the influence of commodity tariffs on tariff averages and to keep consistency with the average for the later years. This explains why results are not directly comparable for some TSOs in the two reports.

50 European Commission, **HICP – inflation rate**, viewed on 18 March 2022.

Therefore, the tariff average will be for example 8.64 for 2013, which is the sum of the products of the tariffs for each point and the revenue share for that point, over all points. Considering that the value for 2013 is the basis (100) for the following years, the tariff index will be 92.9 for 2014<sup>51</sup>, 93.6 for 2015, etc., and 102.0 for 2020. Then, year-on-year tariff changes are calculated.

## Results for TAR.2

The results shown in the Figure 40 indicate that **the evolution of average tariffs is moderate for many TSOs**<sup>52</sup>. This result is consistent with the assessment in the previous report in 2019. In 2021, 45 TSOs<sup>53</sup> sent in data for at least one year in the period 2014–20 regarding indicator TAR.2. A few TSOs could not provide data for every year, which is often explainable by changes in the scope of activities of the TSO, or a late opening of their gas market (after 2014).

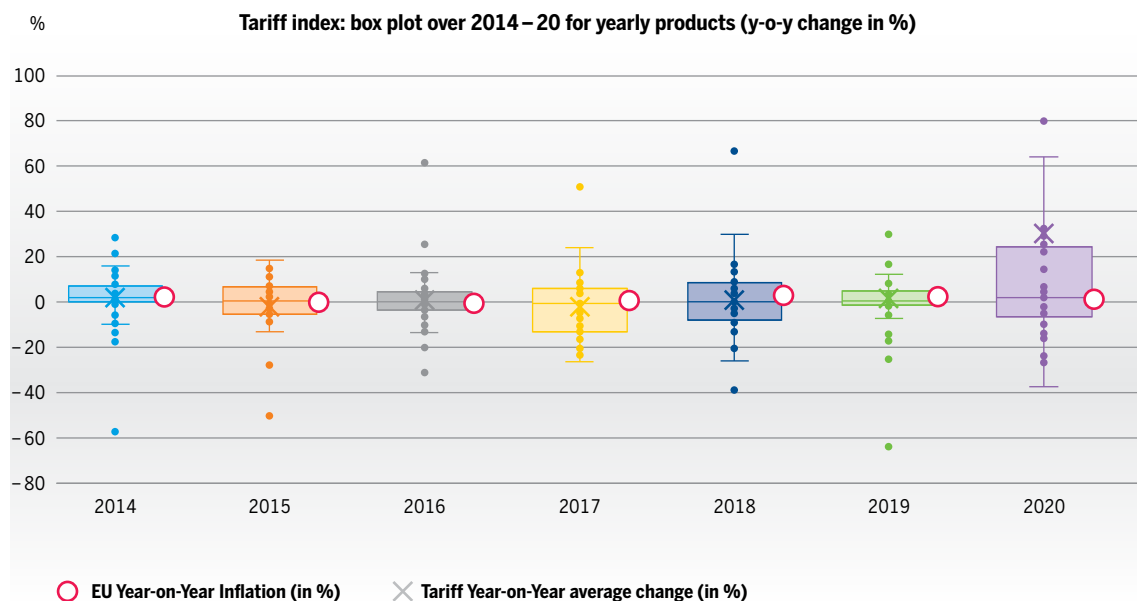


Figure 40: Results for TAR.2 on tariff changes

**A new fact is now visible in 2021 which was not there in 2019:** The TAR NC implementation set off some sharp tariff adjustments up or down, **especially in MSs where market mergers took place**. The need to comply with TAR NC provisions, especially in terms of a joint RPM application for multi-TSO entry-exit systems, resulted in strong tariff increases in just a couple of cases, which greatly impacted the European average tariff change.

**Until 2018**, TSOs with the most extreme average tariff changes year-on-year displayed evolutions up to about  $\pm 50\%$  on their yearly tariffs. However, the

average European TSO had a yearly tariff change in line with or below inflation levels, i.e., within a range of about  $\pm 2\%$  a year, depending on the considered year. On the graph, it is shown by the arithmetic mean (with an 'x') not far from the yellow and red inflation spot every year<sup>54</sup>.

**Data for 2019 and 2020** shows wider ranges than before for yearly average tariff variations. For a few TSOs, tariffs were doubled or even rose sixfold because of market mergers, in accordance with rules in the TAR NC. There are only five TSOs from two MSs with tariff increases beyond 70% in either

51 Taking account of rounding, this is calculated as  $(10 \times 36\% + 9 \times 22\% + \dots + 5 \times 22\%) / (12 \times 40\% + 8 \times 21\% + \dots + 6 \times 19\%) \times 100$

52 For a given year, this box plot gives information on the year-on-year tariff percentage change (the graph arbitrarily indicates 0 for 2013 as it is the first year considered), about its minimum value among TSOs, the lower quartile of the distribution (the TSO whose value is above 25% of all TSOs' values), the arithmetic mean of the distribution (depicted as an 'x'), the median (the TSO whose value is exactly at the centre of the distribution, depicted as a horizontal line in the box), the upper quartile of the distribution (the TSO whose value is above 75% of all TSOs' values) and the maximum value. The box is the rectangle covering the middle half of the distribution, whose limits are the upper and lower quartiles. The so-called 'Interquartile range' (IQR) is delimited by these two quartiles, it is represented by the height of the box, and it contains 50% of TSOs. The so-called 'whiskers' are the vertical lines limited by short horizontal bars that connect to each box, and any TSO outside the whiskers is considered as a 'statistical outlier' because its values are significantly different from other TSOs' (beyond 1.5 times the IQR from each quartile, as a convention).

53 This includes two TSOs represented by a third one.

54 For the average tariff change of the European TSO every year until 2018, it was comprised between  $-2.1\%$  in 2017 and  $+1.8\%$  in 2014.

2019 (for one TSO) or 2020 (for four TSOs). These exceptional conditions for a small number of TSOs distort the average tariff increase in Europe. Excluding these five TSOs, the average European TSO had a year-on-year tariff change of  $-0.8\%$  in 2019 and  $+2.9\%$  in 2020.

When including the five TSOs with such marginal and exceptional circumstances in 2019 and 2020, between 2014 and 2020 the average yearly tariff change was comprised between  $-2.1\%$  (in 2017) and  $+30.1\%$  (in 2020), with an overall average of  $+4.5\%$  over 2014–20. If one removes the five exceptional years of the five TSOs above, **the overall average falls to  $+0.3\%$  over 2014–20.**

The **median tariff change was  $+0.7\%$  over the period 2014–20, including these five TSOs**; this is very close to average inflation levels ( $+1.0\%$  in 2014–20, based on inflation data from Eurostat on calendar years<sup>55</sup>).

Based on inflation data from Eurostat, and assuming the data provided by TSOs is for comparable time periods, this means that for several TSOs, recent tariff changes are under the level of inflation<sup>56</sup>. However, most of the changes in TSO tariffs were not under inflation. This is shown in the previous figure, by comparing the boxes and the yellow dots: these dots are generally within the box<sup>57</sup>. Although the median tariff change,  $+0.7\%$ , is close to the pace of inflation, **a number of TSO tariffs followed patterns which deviated from inflation.** On average, most of the significant increases were offset by significant decreases.

The so-called 'Interquartile Range'<sup>58</sup>, with the 50 % of the TSOs displaying the changes around the median value, is for example between  $-1.1\%$  and  $+4.3\%$  for 2019 compared to 2018. It means that half of the European TSOs experienced tariff evolutions in a range of  $-1.1\%$  to  $+4.3\%$  in 2019 compared to 2018.

### 4.2.3 TAR.3: SEASONAL FACTORS

#### Description of TAR.3

TAR.3 is an indicator based on the values of **seasonal factors at IPs for quarterly, monthly, daily and within-day standard capacity products**, in case they are applied by a TSO. This indicator was introduced in the 2019 edition of the report. As seen in the Implementation Monitoring section of this report, only eleven TSOs apply seasonal factors.

**Article 3(21) of the TAR NC defines a seasonal factor** as 'the factor reflecting the variation of demand within the year which may be applied in combination with the relevant multiplier'. This topic is mostly addressed in Chapter III 'Reserve prices', Chapter VII 'Consultation requirements', and Chapter VIII 'Publication requirements' of the TAR NC, whose respective application dates are 31 May 2019, 6 April 2017, and 1 October 2017.

#### Goal of TAR.3

The aim of TAR.3 is **to provide transparency on seasonal factors** applied to short-term products.

#### Assumptions for TAR.3

TAR.3 considers a range of values for **seasonal factors used by each TSO.**

TAR.3 collects information as to whether the TSOs are using seasonal factors for quarterly, monthly, daily, and within-day standard capacity products. In case seasonal factors are applied, this indicator focuses on the minimum, maximum and average values of seasonal factors at IPs for each product as allowed by Article 12.1 of the TAR NC. Values considered were valid on **1 October 2021.**

#### Results for TAR.3 (seasonal factors) in 2021

In total, **only eleven European TSOs indicated that they have used seasonal factors** for quarterly, monthly, daily and within-day standard capacity products. Nine of these eleven TSOs also indicated that the same seasonal factors for each capacity

55 European Commission, [HICP – inflation rate](#), viewed on 18 March 2022.

56 According to data provided by the 39 TSOs which sent data for 2013 – i.e., the first year in the period considered for TAR.2 – there are 21 TSOs for which the capacity tariff has increased less than the Eurostat index between 2013 and 2020. The Eurostat index started at 100.0 in our base year in 2013 and reached 106.9 in 2020. The 21 TSOs, which also started at 100.0 in 2013, had therefore an index lower than 106.9 in 2020. However, for some of these 21 TSOs, it happened that tariffs were increasing faster than inflation at some point within the period.

57 A more sophisticated analysis would check the specific inflation level in the MS of each TSO. Nevertheless, using the EU average inflation level as a general reference for all TSOs already gives a first indication that tariff changes for TSOs in Europe are, on average, in line with EU inflation levels, or even under these levels.

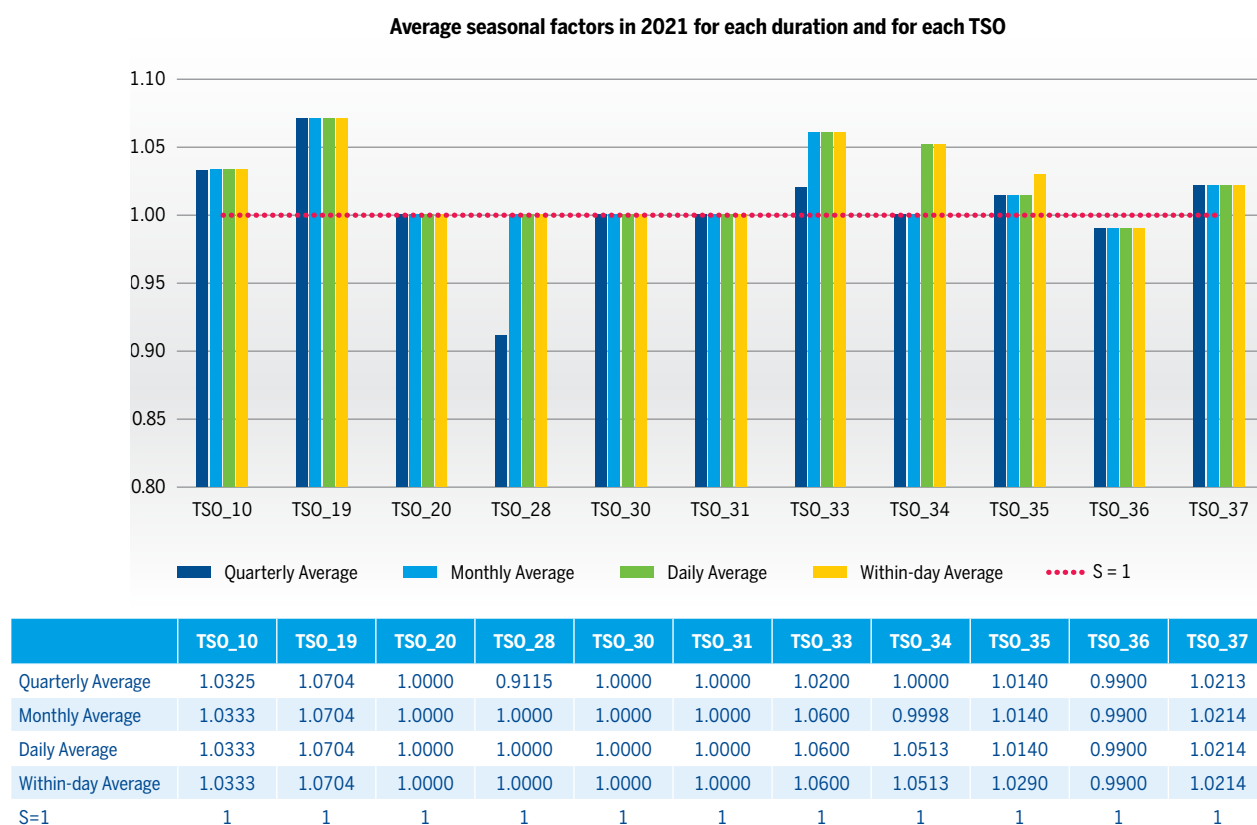
58 The Interquartile Range (IQR) is a statistical indicator measuring the distance between the upper and the lower quartile of the statistical distribution, i.e., the difference in values taken by the TSO whose value is higher than the value of 75 % of all TSOs, and the TSO whose value is higher than the value of 25 % of all TSOs. It is therefore a measurement of the proximity of values taken for the half of all TSOs which are closest to the 'median' TSO.

product applied for all their IPs, the two other TSOs said that different seasonal factors were used across their IPs<sup>59</sup>. The value of seasonal factors for each standard capacity product varies from TSO to TSO.

**The aim of seasonal factors is to foster efficient system use and to improve the cost-reflectivity of reserve prices**, for example by allowing higher reserve prices in months with high utilisation rates, and lower reserve prices in low utilisation months. As seasonal factors are coefficients used to cal-

culate the reserve price, it is possible to increase (respectively, decrease) the reserve price by increasing (respectively, decreasing) the value of the seasonal factor.

Figure 41 shows the average value of the minimum and maximum seasonal factors used by the TSOs for each of the non-yearly capacity products. TSOs without seasonal factors are not on this figure. The line (S=1) represents a value of 1 for seasonal factors (i.e., such seasonal factors wouldn't adjust the incentives already provided by multipliers).



**Figure 41:** Average values of seasonal factors used by TSOs in Europe (TAR.3)

Most TSOs used seasonal factors with an average value close to one across the year for each of the capacity products. This indicates that the seasonal factors have an effect by modulating the reserve prices over the year, but they do not significantly alter the average reserve price over the year. Seasonal factors have a significant impact, since they make some products cheaper in some seasons and more expensive in others.

The figure above indicates that seasonal factors are used only by eleven European TSOs, but these TSOs apply them in a diverse way, with various effects on reserve prices.

It is also possible to consider seasonal factors by focusing on the **TSO-specific range of seasonal factors for each product duration**. By observing Figures 42, 43, 44 and 45, where the minimum and maximum values of the seasonal factors for each product duration and for each TSO are compared, a different image is available.

<sup>59</sup> One TSO out of the eleven with seasonal factors clarified that seasonal factors are only applied at entry IPs of their network, not at exit IPs.

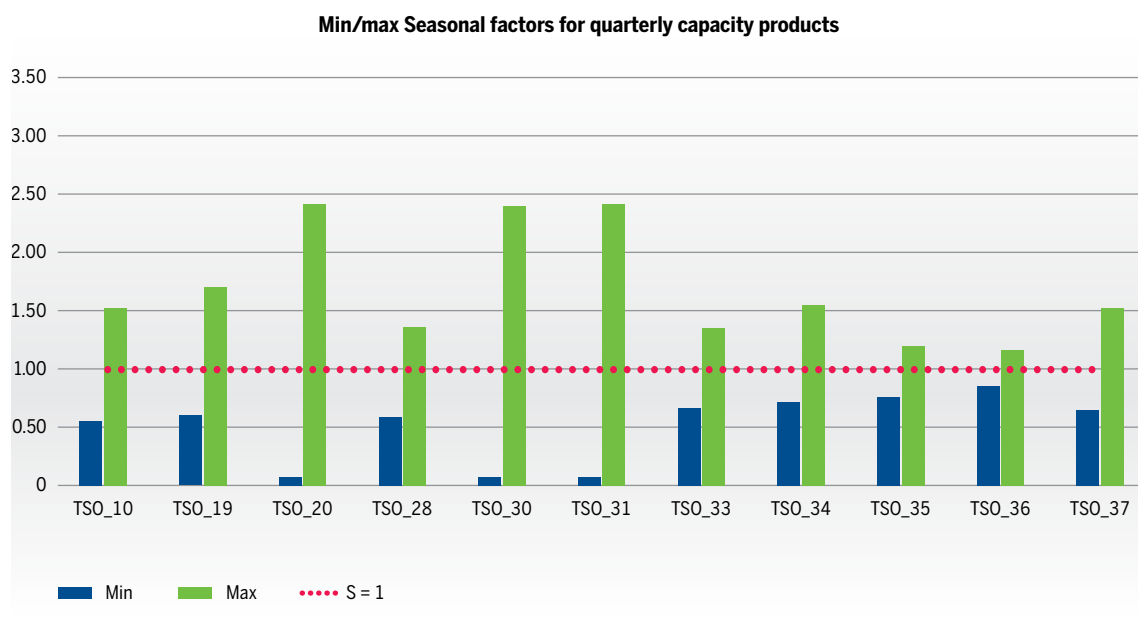


Figure 42: Minimum and maximum values of seasonal factors used by TSOs for quarterly products

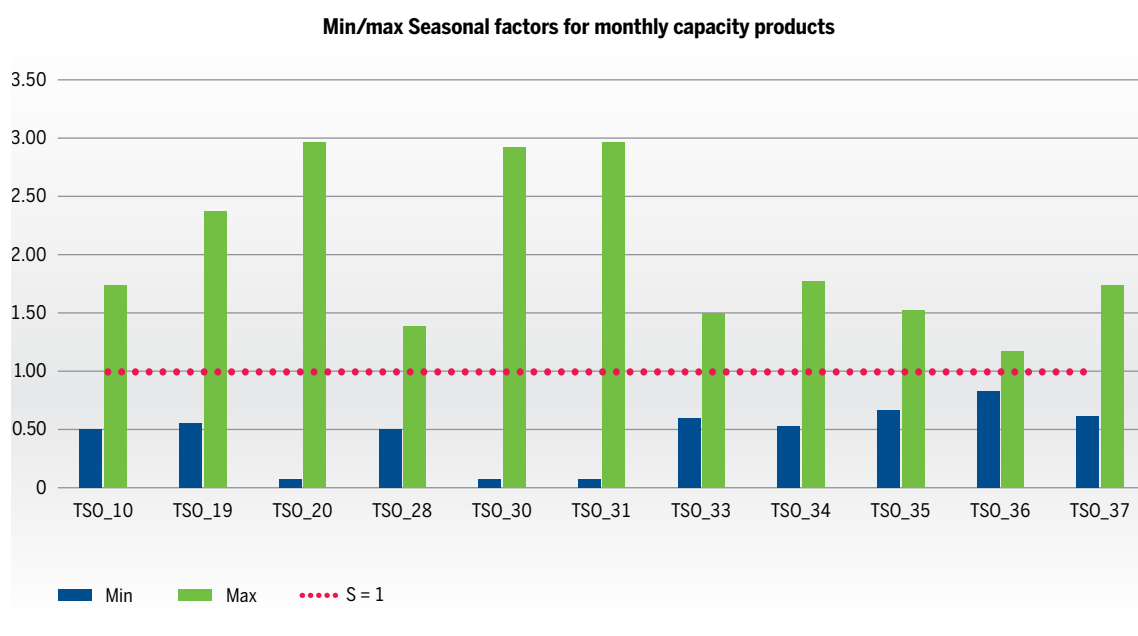


Figure 43: Minimum and maximum values of seasonal factors used by TSOs for monthly products

- ▲ For three TSOs (TSO\_20, TSO\_30, and TSO\_31), the range of values for seasonal factors is very wide: the maximum seasonal factor for a given capacity product duration is at least 30 times the minimum seasonal factor. For these TSOs, seasonal factors considerably incentivise the booking of a specific product at specific seasons.
- ▲ At the other end of the spectrum, one TSO (TSO\_36) uses a narrow range of seasonal factors, since the maximum seasonal factor for a given capacity product duration is always less than one and a half times the minimum seasonal factor. Here, seasonal factors give a smaller incentive to adjust bookings at specific times. However, this incentive is still higher than for TSOs without seasonal factors, all things being equal.

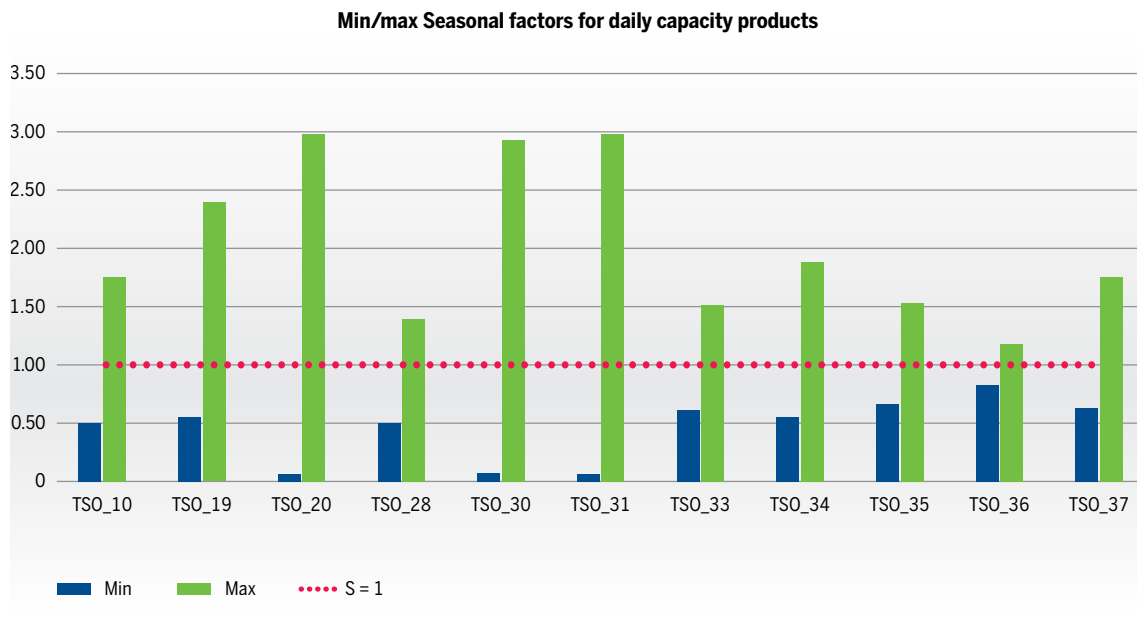


Figure 44: Minimum and maximum values of seasonal factors used by TSOs for daily products

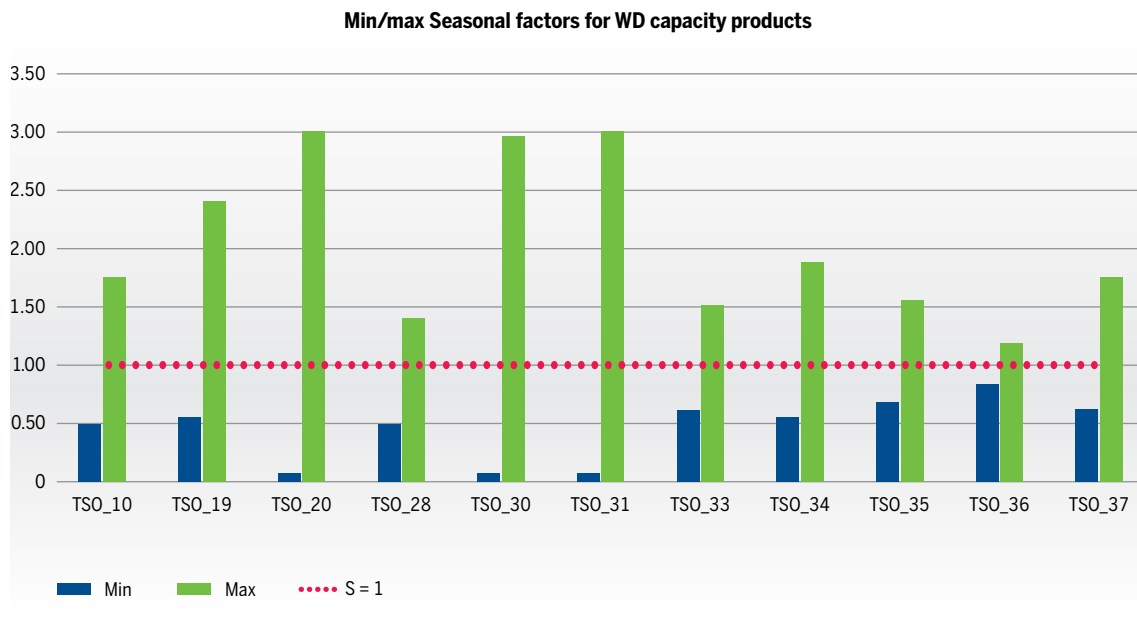


Figure 45: Minimum and maximum values of seasonal factors used by TSOs for within-day products

- ▲ All eleven TSOs with seasonal factors apply a minimum value under 1 and a maximum value above 1 for each product duration, which somewhat amplifies the cycle of demand when calculating tariffs, but often without very strong variations.
- ▲ All TSOs with seasonal factors except three (TSO\_20, TSO\_31, and TSO\_35) apply exactly the same values for seasonal factors for daily and within-day products. It means that for most TSOs, the pricing incentive for within-day is not modified by seasonal factors compared to daily products. However, for the three other TSOs, the difference in values between daily and within-day seasonal factors is minor.

## 4.2.4 TAR.4: PUBLICATION OF INFORMATION IN ENGLISH

### Description of TAR.4

TAR.4 indicates whether information is available in English for some specific TAR NC items which are described below and are covered in Chapter VII 'Consultation requirements', and Chapter VIII 'Publication requirements' of the TAR NC. This indicator is an updated version of the one in previous editions in 2017 and 2019. It comprises five sub-indicators, each covering an information item, **to assess whether this information item is published in English**:

**1. Information for the periodic consultation:** Article 26 of the TAR NC establishes that the periodic consultation shall be performed by the NRA or TSO, as decided by the NRA, at least every five years. The indicator checks if information on this consultation is published in English.

**2. Information on the responses to the periodic consultation:** Article 26(3) of the TAR NC establishes that the responses received for the consultation and their summary shall be published by the TSO or NRA, depending on who published the consultation documents.

**3. Information for the consultation on some discounts, multipliers, and seasonal factors:** Article 28 of the TAR NC sets that the consultation on discounts, multipliers and seasonal factors shall be carried out by the NRA. The indicator clarifies if publication of information itself is in English.

**4. Information for the yearly capacity auction:** information specified in Article 29 of the TAR NC shall be published before the annual yearly capacity auction by the NRA or TSO, as decided by the NRA.

**5. Information to be published before the tariff period:** Article 30 of the TAR NC establishes that some information shall be published before the tariff period in accordance with the requirements set out in Articles 31 and 32 by the NRA or TSO, as decided by the NRA.

TAR NC requirements involving the availability of information in English are described in Chapter VII 'Consultation requirements', and Chapter VIII 'Publication requirements' of the TAR NC, whose application dates were respectively on 6 April 2017 and 1 October 2017.

- ▲ **Article 26(1) of the TAR NC** mentions that one or more consultations shall be conducted, and that the corresponding consultation documents should be published, to the extent possible, in English.
- ▲ Additionally, **Article 31 of the TAR NC** states that information relevant for Article 29 on annual yearly capacity auctions and for Article 30 on the upcoming tariff period should be

available to the public in one or more official languages of the Member State and, to the extent possible, in English.

### Goal of TAR.4

Indicator TAR.4 aims to **check if information required to be published per the TAR NC is available in English**, which is supposed to facilitate access to markets for all network users in a non-discriminatory way and improve effectiveness in the consultation process. It contributes to transparency and tariff comparability across Europe. Documents in English enhance market integration by facilitating such access to information.

### Assumption for TAR.4

For each sub-indicator mentioned above, in this 2021 report, TSOs were requested to reply one of the following answers:

- ▲ **Yes**, if the information item is published in English.
- ▲ **No**, if the information item is not published in English.
- ▲ **NRA**, if the TSO is not responsible for data publication because the publication of information for a specific topic is the responsibility of the NRA.
- ▲ **Ministry**, if the TSO is not responsible for data publication because the publication of information for a specific topic is the responsibility of the Ministry.
- ▲ **Derogation-related** if the TSO holds a derogation.
- ▲ **Undecided/not relevant:**
  - 'Undecided' applies to those cases in which no decision has been made regarding the publication responsibility because a periodic consultation following Article 26 of the TAR NC was in process on 1 October 2021.
  - On the other hand, TSOs could answer 'Not relevant' when the question was not relevant for them. This may apply to those TSOs that do not have IPs and therefore did not hold auctions and publish related information, or to those TSOs which, instead of holding auctions, applied an implicit allocation mechanism (i.e., implicit auctions) pursuant to Article 30 of the CAM NC.

**In cases where the TSO reported that the NRA or the Ministry is responsible** for the information publication in English, there has been no follow-up by ENTSOG regarding whether this information item was published in this language in practice. This is because it is not the TSOs' responsibility and TAR.4

is mainly focused on the responsibilities of the TSOs for Chapters VII and VIII of the TAR NC. For each TSO, the codename used for indicator TAR.4 remains the same for each sub-indicator of TAR.4. For example, TSO\_1 refers to the same TSO across all sub-indicators of TAR.4.

## Results for TAR.4 in 2021

Table 3 below shows the answers provided by the **47 TSOs which sent answers** for at least one of the five sub-indicators following the abovementioned assumptions<sup>60</sup>.

TSO number	Periodic Information	Periodic Responses	D, M, and SF	Yearly Capacity Auction	Tariff Period
TSO_01	Yes	Yes	Yes	Yes	Yes
TSO_02	NRA	NRA	NRA	NRA	NRA
TSO_03	NRA	NRA	Yes	Yes	Yes
TSO_04	Yes	Yes	Yes	Yes	Yes
TSO_05	NRA	NRA	Yes	Yes	Yes
TSO_06	Yes	Yes	Yes	Yes	Yes
TSO_07	NRA	NRA	Yes	Yes	Yes
TSO_08	NRA	NRA	Yes	Yes	Yes
TSO_09	Yes	Yes	Yes	NRA	NRA
TSO_10	Yes	Yes	Yes	Yes	Derogation-related
TSO_11	Yes	Yes	Yes	Yes	Yes
TSO_12	NRA	NRA	NRA	NRA	NRA
TSO_13	NRA	NRA	NRA	Yes	NRA
TSO_14	NRA	NRA	Yes	Yes	Yes
TSO_15	Yes	Yes	Yes	Yes	Yes
TSO_16	NRA	NRA	Yes	Yes	Yes
TSO_17	NRA	NRA	NRA	NRA	NRA
TSO_18	Yes	Yes	NRA	Yes	Yes
TSO_19	Yes	Yes	NRA	Yes	Yes
TSO_20	NRA	NRA	NRA	Yes	Yes
TSO_21	Yes	Yes	Yes	Yes	Yes
TSO_22	NRA	NRA	Yes	Undecided/not relevant	Yes
TSO_23	Yes	Yes	Undecided/not relevant	Undecided/not relevant	No
TSO_24	NRA	NRA	Yes	Yes	Yes
TSO_25	Yes	Yes	Yes	Yes	Yes
TSO_26	NRA	NRA	Yes	Yes	Yes
TSO_27	NRA	NRA	NRA	Undecided/not relevant	NRA
TSO_28	NRA	NRA	Yes	Yes	Yes
TSO_29	NRA	NRA	Yes	Yes	Yes
TSO_30	Yes	Yes	Yes	Yes	Yes
TSO_31	NRA	NRA	NRA	NRA	NRA
TSO_32	NRA	NRA	Yes	Yes	Yes
TSO_33	NRA	NRA	NRA	NRA	NRA
TSO_34	Derogation-related	Yes	Yes	Yes	Derogation-related
TSO_35	NRA	NRA	Yes	Yes	Yes
TSO_36	NRA	NRA	NRA	NRA	NRA
TSO_37	NRA	NRA	Yes	Yes	Yes
TSO_38	NRA	NRA	Yes	Yes	Yes
TSO_39	NRA	NRA	Yes	Yes	Yes
TSO_40	NRA	NRA	NRA	Yes	Yes
TSO_41	NRA	NRA	NRA	NRA	NRA
TSO_42	NRA	NRA	NRA	NRA	NRA
TSO_43	NRA	NRA	NRA	Undecided/not relevant	NRA
TSO_44	NRA	NRA	Yes	Undecided/not relevant	Yes
TSO_45	Yes	Yes	Yes	Undecided/not relevant	Yes

**Table 3:** Status of publication in English of each sub-indicator of TAR.4 for each TSO

60 Including two TSOs represented by a third one. Hence, only 45 TSOs are listed in the table.

Based on the results shown in table 3, for each sub-indicator the following observations can be extracted (cf. figure 46<sup>61</sup>).

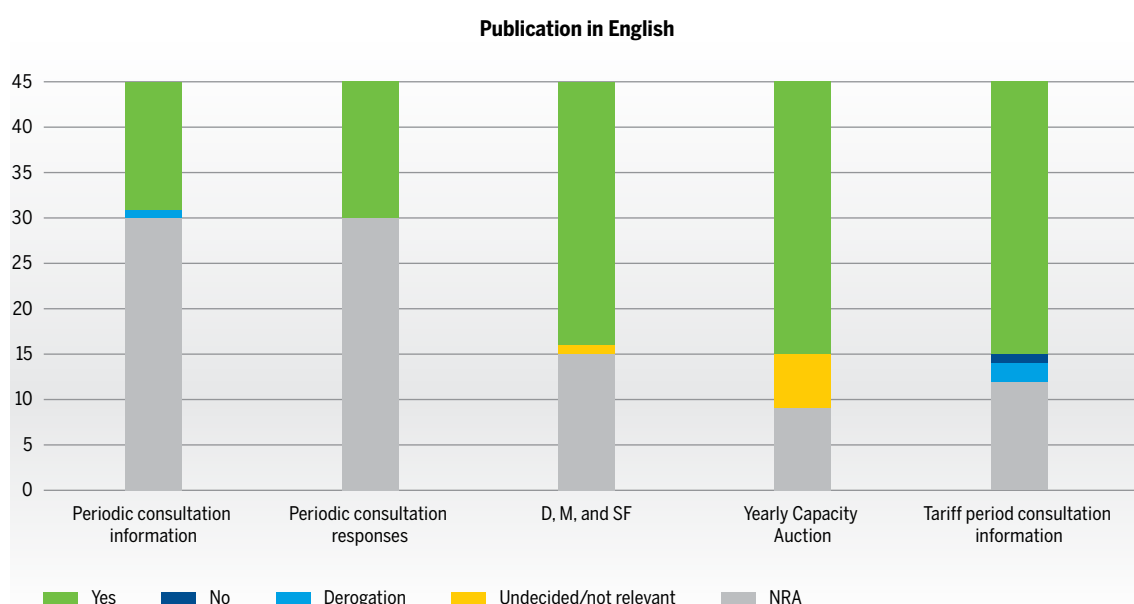


Figure 46: TAR.4 results for TSOs in Europe

**1. Information published on the periodic consultation:** TSOs' feedback shows that the NRA is responsible for data publication in most cases (30 TSOs). One TSO mentioned that they hold a derogation relevant for this item. 14 TSOs (four of which from an English-speaking MS) indicated that they published the information in English.

**2. Published responses to the periodic consultation:** this sub-indicator reflects responses received for the previous information item. Most TSOs said that the publication of consultation responses is made by the NRA (30 TSOs). 15 TSOs (including four from an English-speaking MS) reported that they published consultation responses in English.

**3. Information published on the consultation for some discounts, multipliers, and seasonal factors:** 15 TSOs reported that it is the NRA who manages the publication in English while 29 TSOs informed that they published the information in English (including four from an English-speaking MS) and one TSO indicated that this has not been decided or is not relevant for their network.

**4. Information published about the annual yearly capacity auction:** 30 TSOs (including three from an English-speaking MS) reported that they published the information in English. Nine TSOs said that it is the responsibility of the NRA, while six TSOs answered 'undecided/not relevant'.

**5. Information published before the tariff period:** most TSOs (a total of 30, including three from English-speaking MSs) indicated that information was published in English. In the case of twelve TSOs, it was reported that the responsibility of the information publication lies with the NRA. Two TSOs reported that they are under a derogation which is of relevance for this item. One TSO said that such information was partly but not fully available in English (this TSO was counted as replying 'No').

Compared to the previous report published in 2020, in 2021 there was no TSO for which the Ministry was responsible for publication anymore. In all cases, when the TSO was not tasked to publish, it was the NRA which took responsibility for publication.

It is therefore possible to make the following conclusions on TAR.4:

- ▲ If data for the five information items on publications is analysed as a whole (five data items for 45 TSOs, i.e. 225 data items overall), for about 52 % of the items (i.e., 99 % of items for which they were responsible for publication), the TSOs reported that they published them in English. For about 43 % of the items, publication was an NRA responsibility. For about 3 % of the items, the question was 'undecided/not relevant'. For about 1 % of the items, the TSOs had a derogation.

61 The following chart includes the two TSOs represented by a third one. Hence, only 45 TSOs are mentioned.

- One can reasonably conclude that **accessibility of information in English is very high**. It facilitates the involvement of market participants on an equal footing, whether they are national or foreign participants.

- The main conclusion is that **table 3 shows that just one information item for all European TSOs was not published in full in English** when TSOs were in charge of this publication item.

#### 4.2.5 TAR.5: MULTIPLIERS APPLIED BY TSOs

##### Description of TAR.5

This indicator covers the **multipliers currently applied at IPs** by TSOs for each non-yearly standard capacity product.

- It provides information on quarterly, monthly, daily, and within-day standard capacity products, and it allows to know if the multipliers are **within the range** stipulated by the TAR NC.
- TAR.5 also checks **whether the same multiplier is used at all IPs** for a given product duration, or if multipliers are different depending on the IP.

The TAR NC defines a **multiplier** as ‘the factor applied to the respective proportion of the reference price in order to calculate the reserve price for a non-yearly standard capacity product’ (Article 3(16) of the TAR NC). The topic of multipliers is mostly addressed in Chapter III ‘Reserve prices’, Chapter VII ‘Consultation requirements’, and Chapter VIII ‘Publication requirements’ of the TAR NC, whose application dates were 31 May 2019 for Chapter III, 6 April 2017 for Chapter VII, and 1 October 2017 for Chapter VIII.

Article 13(1) of the TAR NC sets out the level of multipliers for the capacity products.

- Multipliers must be **between 1 and 1.5** (both included) for quarterly and monthly standard capacity products;
- Multipliers must be **between 1 and 3** (both included) for daily and within-day standard capacity products, unless ‘duly justified cases’ apply<sup>62</sup>.

##### Goal of TAR.5

The objective of TAR.5 is to give transparency on multipliers applied to short-term products **at IPs only**.

##### Assumption for TAR.5

TAR.5 considers the range of values for **multipliers in use by each TSO on 1 October 2021**, and it verifies if some TSOs apply multipliers with values outside the ranges indicated in the TAR NC.

This indicator focuses on the minimum, maximum and average values of multipliers to cover the cases where, for a given duration of a capacity product, specific IPs benefit from specific multipliers, as allowed by Article 12.1 of the TAR NC.

- Some TSOs may apply different multipliers depending on the IP:** for example, a quarterly multiplier of 1.3 at IP 1, and 1.4 at IP 2.
- In contrast, for other TSOs, multipliers will be the same for a given duration of a capacity product at all IPs:** for example, 1.5 for all quarterly products at all IPs.

For each category of capacity products, the **arithmetic mean over all IPs** has been calculated by the TSO before sending their data to ENTSG. Since the 2019 report, TSOs are requested to notify whether the same multiplier applies at all IPs in each category. In addition, for each TSO the codename used remains the same for each sub-indicator of TAR.5. For example, TSO\_01 refers to the same TSO across all sub-indicators of TAR.5.

**For all short-term product durations, the application date of Chapter II ‘Reference price methodology’ of TAR NC was 31 May 2019.**

- If multipliers were out of the range in 2021, this might be a consequence of Article 27(5) upholding tariffs prevailing on 31 May 2019 until the end of the tariff period running on that date. However, multipliers may also be outside the daily and within-day ranges ‘in duly justified cases’.
- On 1 October 2021, only two European TSOs had not yet changed tariff periods since 31 May 2019<sup>63</sup>; therefore, this rule on values for multipliers is not yet required to be applied by these TSOs.

<sup>62</sup> Article 13(1)(b) of the TAR NC sets out that: ‘In duly justified cases, the level of the respective multipliers may be less than 1, but higher than 0, or higher than 3.’

<sup>63</sup> Cf. section 1.2 of this report for more information.

## Results for TAR.5 in 2021

From 47 TSOs which responded to the TAR EM survey, the replies from 41 TSOs were considered<sup>64</sup> for the TAR.5 indicator.

Figures 47, 48, 49 and 50 below show the minimum and maximum values of multipliers applied by each TSO and for each capacity product duration on 1 October 2021, as well as the minimum and maximum values stipulated by the TAR NC for each capacity product duration. These figures also

display the European arithmetic average of the average value of multipliers for each TSO and each capacity product duration<sup>65</sup>.

▲ **Multipliers for quarterly and monthly products:** Article 13(1)(a) of the TAR NC mentions that 'for quarterly standard capacity products and for monthly standard capacity products, the level of the respective multiplier shall be no less than 1 and no more than 1.5'.

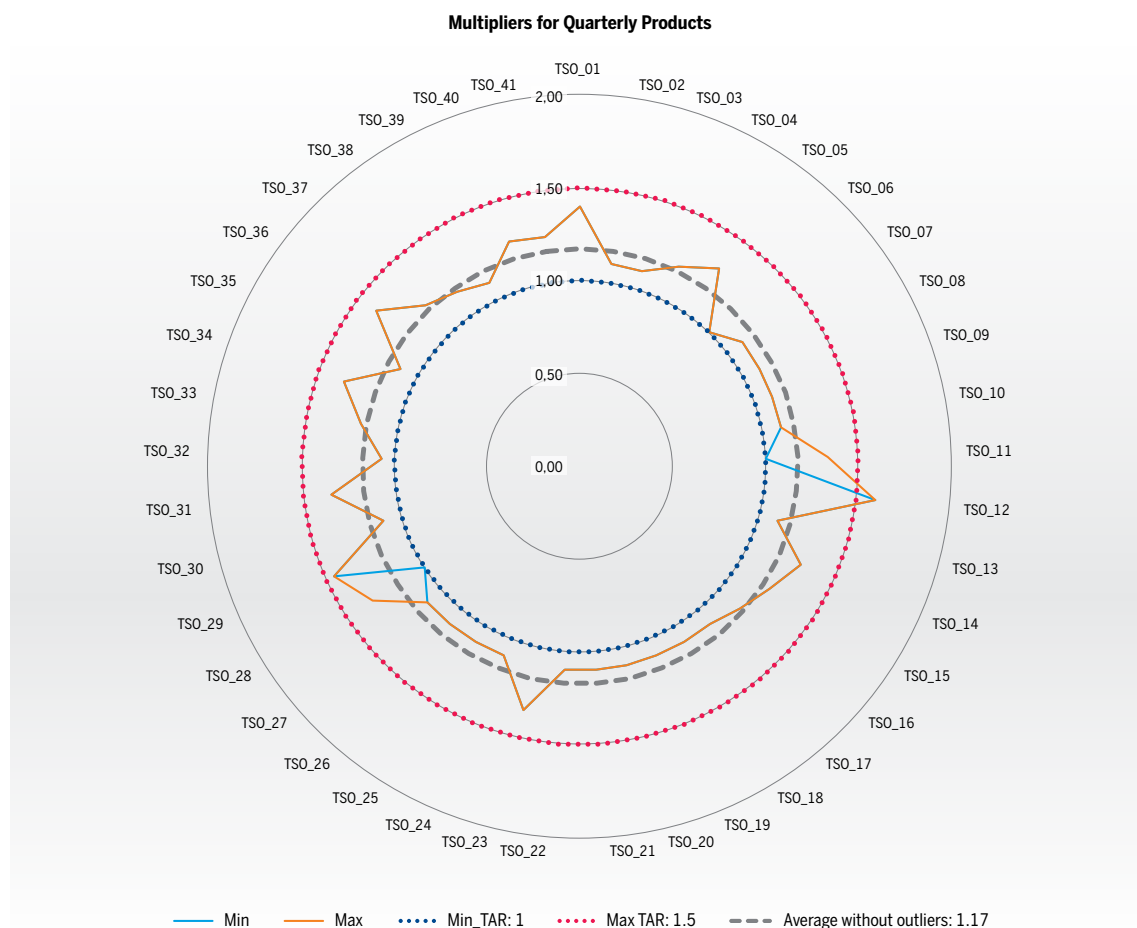


Figure 47: TAR.5 sub-indicator on quarterly multipliers for TSOs in Europe

In 2021, the average for quarterly multipliers among non-outlier TSOs is 1.17. This represents a slight increase in averages when compared to averages in 2019 from the previous report. It also confirms results identified by ENTSG for its response

to ACER's consultation on multipliers in 2020, that multipliers converged across Europe since ENTSG's first Tariff Monitoring report on 2017 data, with a small increase in overall averages.

64 For two TSOs, the data received was not considered since they do not have separate multipliers from another TSO. For two other TSOs, data on multipliers was not received because they have no IP. Finally, two other TSOs mentioned they have a derogation on multiplier values because they are merchant TSOs, which implies they don't have to follow TAR NC ranges and frequently adjust their multipliers during the gas year. No data was therefore required from these six TSOs.

65 Only TSOs with values within the TAR NC ranges are considered in the calculation of the European arithmetic average; the others, called 'outliers' here, are not counted in this calculation, in particular because being an outlier may result from the 'new RPM' not being applicable yet for a TSO. To calculate the European arithmetic average, it is first necessary to calculate the average value of multipliers for each TSO. Once the average is available for each TSO regarding each product duration, it is possible to calculate a European average across all TSOs (it is the European arithmetic average); this is done through the simple average of the individual value for each TSO.

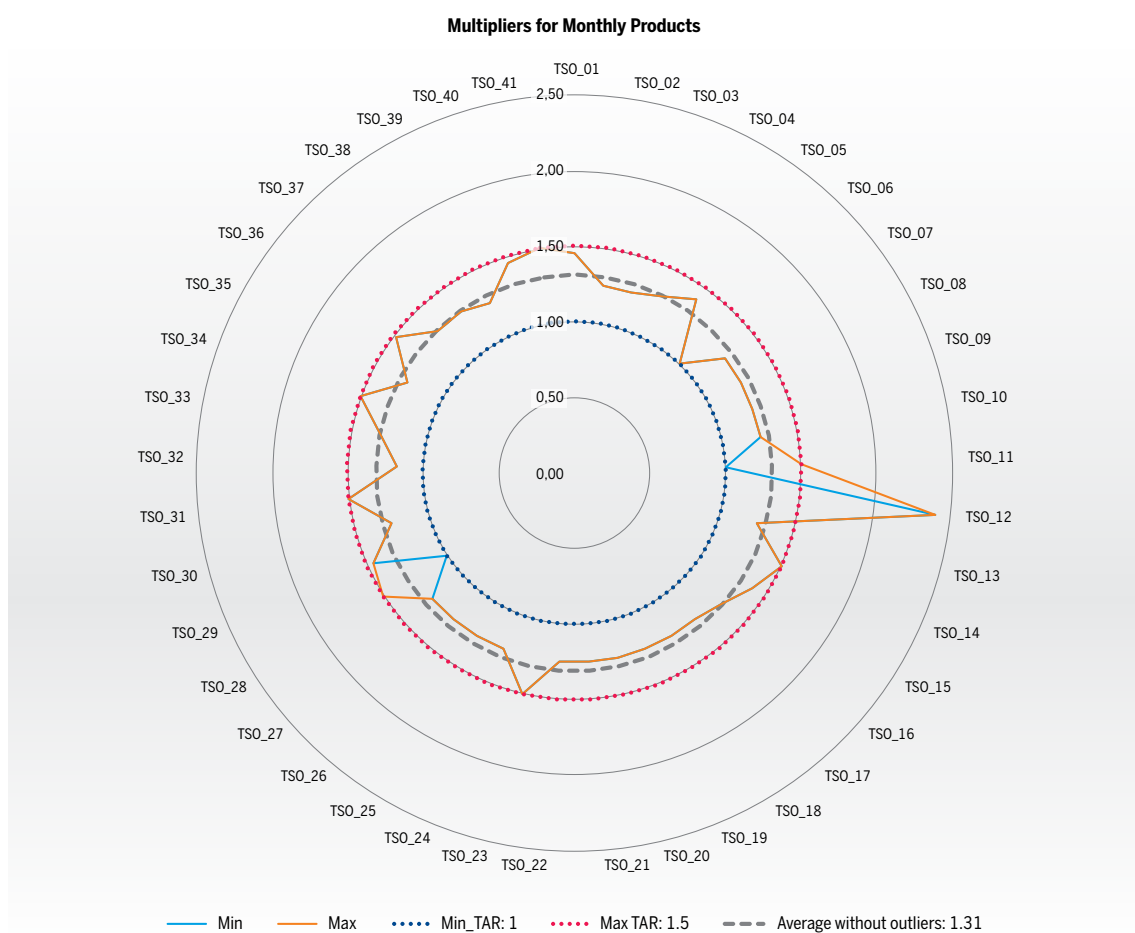


Figure 48: TAR.5 sub-indicator on monthly multipliers for TSOs in Europe

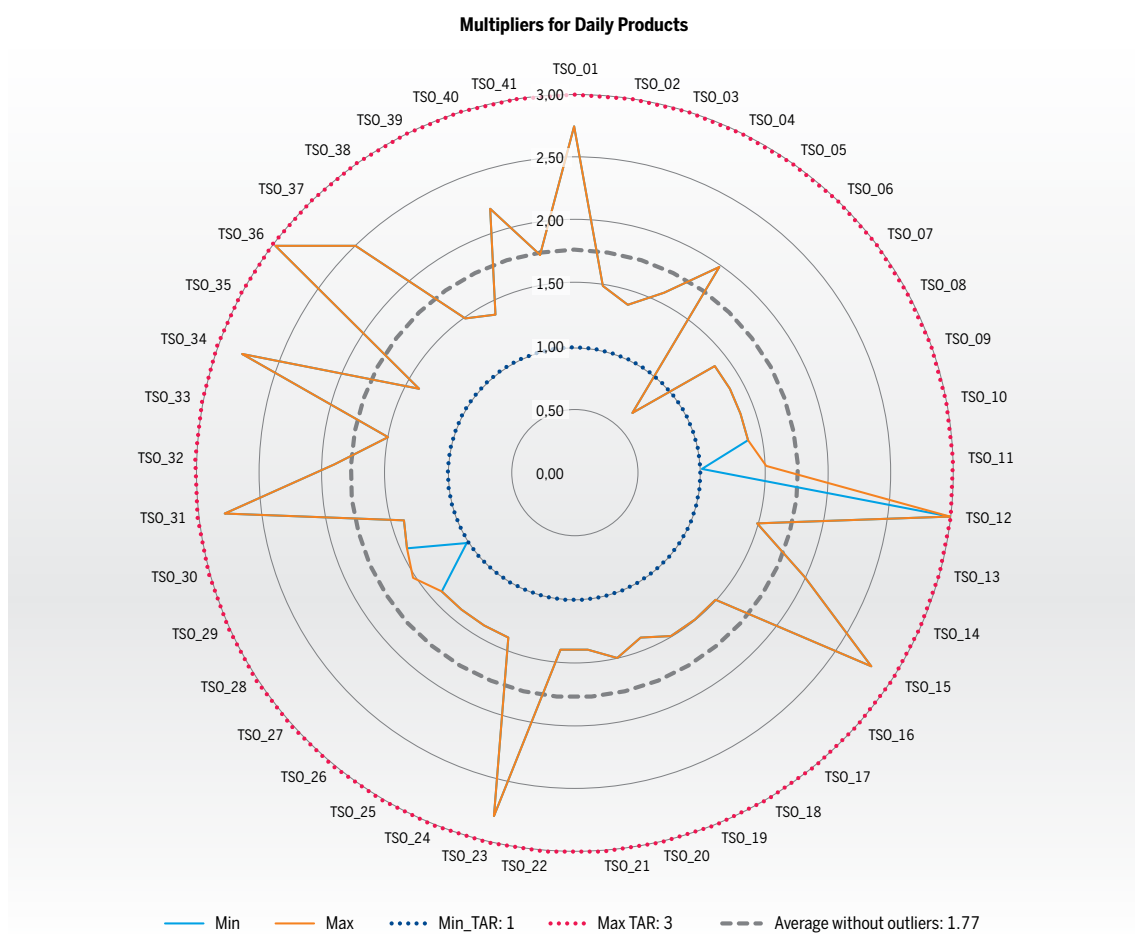


Figure 49: TAR.5 sub-indicator on daily multipliers for TSOs in Europe

In 2021, the average for monthly multipliers is 1.31, among non-outlier TSOs. Here as well, it shows a slight increase in averages when compared to averages in 2019 from the previous report, and it confirms results identified by ENTSOG's response to ACER's consultation.

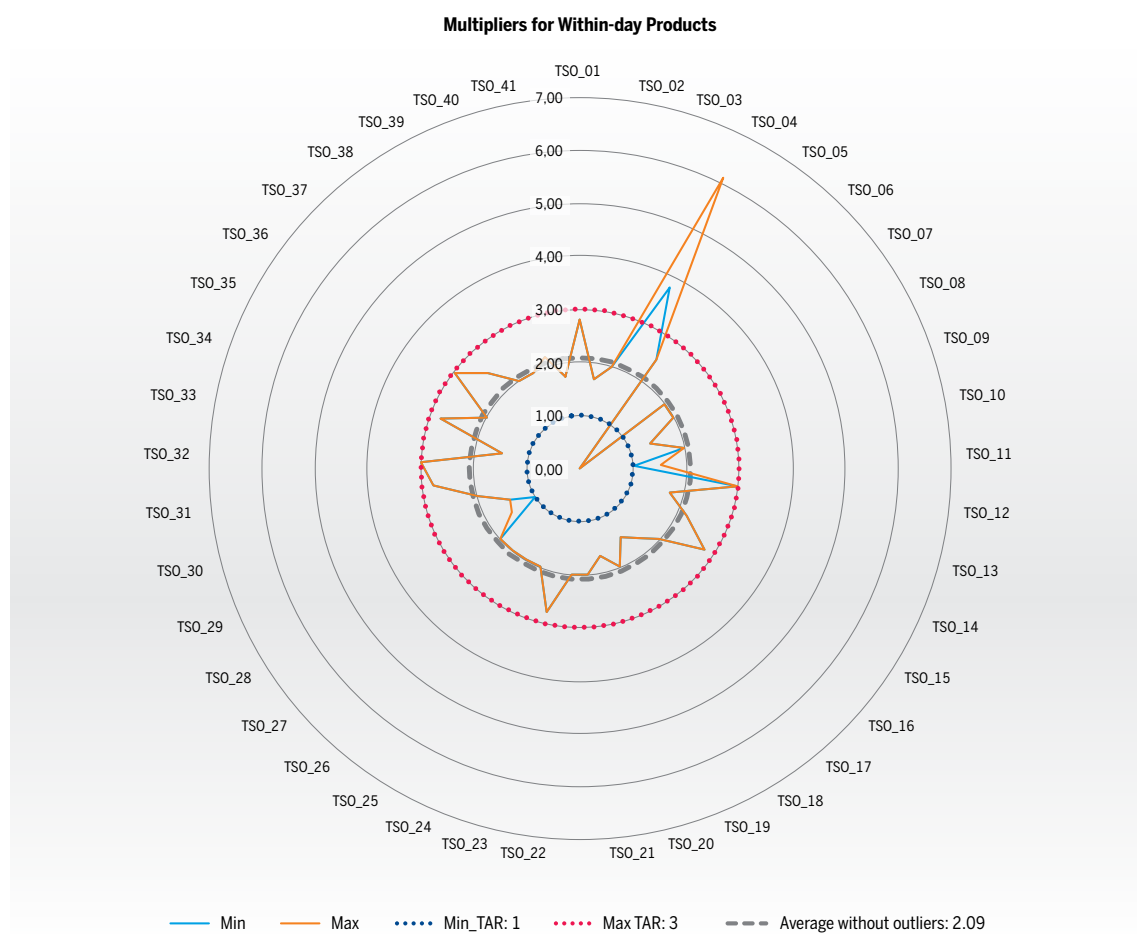
For quarterly and monthly capacity products, only one TSO used multipliers out of the TAR NC ranges. TSO\_12 applied quarterly and monthly multipliers above 1.5 as of 1 October 2021, because it was still using the 'old' RPM on that date and was not bound by this TAR NC rule.

**Multipliers for daily and within-day products:** Article 13(1)(b) of the TAR NC states that 'for

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

For daily products, only one TSO applied multipliers outside the TAR NC ranges by default in 2021. TSO\_06 used daily multipliers under 1. However, it should be recalled that the TAR NC allows for being outside the ranges 'in duly justified cases.'

The average daily multiplier among non-outlier TSOs is 1.77 in 2021, which means a slight increase compared to 2019 data.



**Figure 50:** TAR.5 sub-indicator on within-day multipliers for TSOs in Europe

For within-day products, just two TSOs were outside TAR NC limits by default in 2021. However, as for daily products, 'in duly justified cases' it is possible for TSOs to use multipliers above 3 or under 1. As for daily products, TSO\_06 used within-day multipliers under 1. In addition, TSO\_04 applied within-day multipliers above 3<sup>66</sup>.

The average within-day multiplier among non-outlier TSOs was 2.09, which confirms again the trend observed for other durations, i.e., a slight increase in average multipliers in return for increased convergence of multipliers across European TSOs.

66 The NRA provided justification for within-day multipliers outside the TAR NC range for TSO\_04.

## 4.3 CONCLUSIONS

Regarding the five EM indicators used in this EM report 2021, the following conclusions can be drawn:

### TAR.1 (RATIO OF UNDER-/OVER-RECOVERIES TO ALLOWED/TARGET REVENUES)

Results for TAR.1 show that on average the revenue recovery reaches a level which is close to the allowed/target revenue. In most non-price cap regimes, any over-recovery is given back to TSO customers and any under-recovery is recouped through tariff increases in future years. There are only two TSOs with full price cap regimes in Europe, for which no reconciliation will take place.

Compared to the two previous reports, this report shows a change in patterns, especially due to some corrections provided by a few TSOs: in 2013, the TSOs indicated on average a small under-recovery, while since 2014 they displayed on average a small over-recovery. It is however unclear if the TAR NC is a causal factor. On revenue reconciliation, Non-Transmission Services are often included in revenue reconciliation, and revenue under-/over-recovery is often fully recovered.

### TAR.2 (CHANGES IN CAPACITY-BASED TARIFFS)

The evolution in tariffs for the median EU TSO over the 2013–20 period indicates relative stability of tariffs, once inflation is taken into account. For several TSOs, yearly tariff changes follow a trend which seems correlated to inflation levels, or even under these levels. A few TSOs display more accentuated spikes and troughs in their tariff evolution.

A novelty in the present report is that the application of TAR NC rules for TSOs taking part in market mergers sometimes prompted one-off large tariff increases, to align with other TSOs in the same merged entry-exit system. Although the median tariff change, +0.7 %, is close to the pace of inflation, a number of TSO tariffs followed patterns which deviated from inflation. However, on average, most of the significant increases were offset by the huge decreases.

### TAR.3 (SEASONAL FACTORS FOR IPs)

Although seasonal factors may be useful for reflecting the variation of demand within the year, it has been observed that only eleven European TSOs apply these factors to their non-yearly capacity

products. Nine of these TSOs keep seasonal factors the same for all their IPs. Analysis shows no significant change compared to the 2020 report.

### TAR.4 (PUBLICATION OF INFORMATION IN ENGLISH)

Consistently with results underscored in the 2020 report, feedback received from TSOs shows that NRAs often keep responsibility for publications on the periodic consultation, while TSOs are often in charge of publications for the tariff periods.

When TSOs are in charge of publications, in all cases but one – where tariff period information is only partly translated into English – is tariff information available in English. Hence, TSOs significantly contributed to enhance the access of foreign network users to national markets, tariff comparability and transparency.

### TAR.5 (MULTIPLIERS FOR PRODUCTS WITH QUARTERLY, MONTHLY, DAILY AND WITHIN-DAY DURATIONS)

In 2021, most TSOs are in line with the ranges of multipliers defined in the TAR NC. Depending on capacity products, a few TSOs out of the 41 TSOs considered for this indicator have multipliers outside the TAR NC ranges: one TSO for quarterly, monthly, and daily products; two TSOs for

within-day products. Other than derogations, this comes from a TSO not having shifted yet to their new tariff period or from the flexibility allowed in the TAR NC for multiplier values for daily and within-day products.



Picture courtesy of National Grid

## 4.4 MAIN EFFECT MONITORING UPDATES COMPARED TO THE PREVIOUS REPORT

To mirror the comparison made for the Implementation Monitoring section in this report, here is an equivalent summary of trends and similarities or differences between this Effect Monitoring report

and the previous report published in 2020, considering that the definitions of the EM indicators were largely unchanged between the reports.

### TAR.1 (RATIO OF UNDER-/OVER-RECOVERIES TO ALLOWED/TARGET REVENUES)

Following some data corrections made by TSOs in 2022, it appears that the average European TSO gets every year a ratio of under- or over-recovery roughly comprised within a range from  $-1.3\%$  to  $+4.0\%$ . This report shows that the average TSO actually slightly under-recovered revenues in 2013, and slightly over-recovered revenues since 2014.

It should be observed that these differences with allowed or target revenues stay limited on average, and that, in the case of most non-price cap regimes, they will be given back or recouped by the TSOs anyway (only two European TSOs use a full price cap regime, with no reconciliation by definition).

### TAR.2 (CHANGES IN CAPACITY-BASED TARIFFS)

There is a noteworthy conceptual difference with the 2020 report, which considered capacity charges but also encompassed flow-based charges. In 2022, using capacity and commodity units in a composite index was considered as triggering the risk of setting up spurious comparisons between TSO tariffs, hence the decision to exclude flow-based charges. It was therefore decided to focus on capacity tariffs only and to correct, where needed, the indices provided in 2020 for early years in the period. While the 2020 report insisted that, notwithstanding a few exceptions, tariff changes were closely following European inflation levels, this report indicates that

the average and median European TSO show tariff changes close to inflation.

However, a number of TSOs display tariff patterns significantly deviating from inflation. More specifically, there are five TSOs for which TAR NC market merger rules have justified one-off tariff adjustments in 2019 or 2020. It does not change the global picture, but it pushes up the European average, with a risk of wrongfully concluding there is a general sharp tariff increase, while it is in fact limited to a few cases due to a regional or national reform of entry-exit systems.

### TAR.3 (SEASONAL FACTORS FOR IPs)

Comparison between the 2020 and 2022 reports provides some clarifications on seasonal factors. They are still used by a minority of European TSOs, eleven of them as of 2021. TSOs always apply minimum seasonal factors with a value under 1 and maximum seasonal factors with a value over 1, which is a condition for the combination between multipliers and seasonal factors to follow TAR NC rules. One change noted in this report is that it became clear that some MSs publish the combination of seasonal factors with multipliers, which

requires to isolate them from each other for this report. When this is done, seasonal factors look quite homogeneous across Europe. However, when comparing the practices of European TSOs on seasonal factors, the ratio of the maximum to minimum seasonal factor is comprised between about 1.5 and 30, which reflects the different role given to seasonal factors as an incentive to book – or avoid – some capacity products at specific times in the year. But overall, seasonal factors are a tool which about three-quarters of European TSOs do not use.

### TAR.4 (PUBLICATION OF INFORMATION IN ENGLISH)

The main message is unchanged between the 2020 and 2022 reports, regarding availability of an English translation of tariff-relevant information. In two-thirds of cases, NRAs are in charge of publications for the periodic consultations or the responses they received, and this report only aims at assessing TSOs' activities. In 99 % of cases where TSOs pub-

lish tariff information, they make an English version of tariff information available for non-native speakers to facilitate a wider market access. It is only on one rare occasion that a TSO did not provide a full English version of tariff period information, according to TSOs' feedback.

### TAR.5 (MULTIPLIERS FOR PRODUCTS WITH QUARTERLY, MONTHLY, DAILY AND WITHIN-DAY DURATIONS)

This 2022 report makes it possible to verify that the implementation of TAR NC rules on multipliers, which was already generally consistent with the provisions in the legal text in 2020, is now confirmed. This is important because it shows that the transition of most TSOs to new RPM rules between 2020 and 2022 came along with a respect for TAR NC-prescribed ranges for multipliers. Today, other than derogations, the rare cases where multipliers are outside the ranges in the TAR NC (one or two TSOs out of 41, depending on the capacity product)

are for a TSO which was still using in October 2021 the rules it applied in 2019, or for TSOs which duly take advantage of the flexibility given to them to adjust daily and within-day multipliers beyond the range which is set by default. Also, the 2022 report confirms that the trend observed by ENTSG in 2020 in our response to ACER's consultation on multipliers is still valid: multipliers tend to converge across Europe, and the European averages are slightly going up along this process.



# 5 ANNEXES

## ANNEX A

### LIST OF PARTICIPATING EUROPEAN TSOs

	European TSOs covered in the implementation monitoring part of the report	European TSOs covered in the effect monitoring part of the report
Austria	Gas Connect Austria GmbH Trans Austria Gasleitung GmbH	Gas Connect Austria GmbH Trans Austria Gasleitung GmbH
Belgium <sup>67</sup>	Fluxys Belgium S.A. Interconnector Limited	Fluxys Belgium S.A. Interconnector Limited
Bulgaria	Bulgartransgaz EAD	Bulgartransgaz EAD
Croatia	Plinacro d.o.o.	Plinacro d.o.o.
Czech Republic	NET4GAS, s.r.o.	NET4GAS, s.r.o.
Denmark	Energinet	Energinet
Estonia <sup>68</sup>	Elering AS	Elering AS
Finland <sup>69</sup>	Gasgrid Finland Oy	Gasgrid Finland Oy
France	GRTgaz Teréga SAS	GRTgaz Teréga SAS
Germany	bayernets GmbH Fluxys Deutschland GmbH Fluxys TENP GmbH GASCADE Gastransport GmbH Gastransport Nord GmbH Gasunie Deutschland Transport Services GmbH GRTgaz Deutschland GmbH Lubmin-Brandov Gastransport GmbH NEL Gastransport GmbH Nowega GmbH ONTRAS Gastransport GmbH Open Grid Europe GmbH terranets bw GmbH Thyssengas GmbH	bayernets GmbH Fluxys Deutschland GmbH Fluxys TENP GmbH GASCADE Gastransport GmbH Gastransport Nord GmbH Gasunie Deutschland Transport Services GmbH GRTgaz Deutschland GmbH Lubmin-Brandov Gastransport GmbH NEL Gastransport GmbH Nowega GmbH ONTRAS Gastransport GmbH Open Grid Europe GmbH terranets bw GmbH Thyssengas GmbH
Greece	DESFA S.A.	DESFA S.A.
Hungary	FGSZ Ltd	FGSZ Ltd

67 Interconnector Limited (formerly Interconnector UK Ltd.) is now a TSO registered as a Member from Belgium, while it was a United Kingdom TSO in our previous report published in 2020.

68 Elering AS, the Estonian TSO, benefitted from a general derogation in our previous report in 2020. This is no longer the case and Elering therefore sent data for this report.

69 Gasgrid Finland Oy is the Finnish TSO since 1 January 2020. It was unbundled from Gasum Oy due to the opening for competition of the gas market in Finland at that date. In our previous report published in 2020 and based on 2019 data, the Finnish TSO was Gasum Oy and it held a derogation which was terminated at the end of 2019.

	European TSOs covered in the implementation monitoring part of the report	European TSOs covered in the effect monitoring part of the report
Ireland	Gas Networks Ireland	Gas Networks Ireland
Italy <sup>70</sup>	Infrastrutture Trasporto Gas S.p.A.	Infrastrutture Trasporto Gas S.p.A.
	Snam Rete Gas S.p.A.	Snam Rete Gas S.p.A.
	Società Gasdotti Italia S.p.A.	Società Gasdotti Italia S.p.A.
Latvia	Conexus Baltic Grid	Conexus Baltic Grid
Lithuania	AB Amber Grid	AB Amber Grid
Luxembourg <sup>71</sup>	Creos Luxembourg S.A. (derogation)	Creos Luxembourg S.A. (derogation)
Malta <sup>72</sup>	InterConnect Malta Ltd (derogation)	InterConnect Malta Ltd (derogation)
Netherlands	BBL Company V.O.F.	BBL Company V.O.F.
	Gasunie Transport Services B.V.	Gasunie Transport Services B.V.
Poland	GAZ-SYSTEM S.A.	GAZ-SYSTEM S.A.
Portugal	REN - Gasodutos, S.A.	REN – Gasodutos, S.A.
Romania	Transgaz S.A.	Transgaz S.A.
Slovakia	eustream, a.s.	eustream, a.s.
Slovenia	Plinovodi d.o.o.	Plinovodi d.o.o.
Spain	Enagás Transporte S.A.U.	Enagás Transporte S.A.U.
	Regasificadora del Noroeste S.A.	Regasificadora del Noroeste S.A.
Sweden	Nordion Energi	Nordion Energi
Switzerland <sup>73</sup>	Trans Adriatic Pipeline AG (exemption)	Trans Adriatic Pipeline AG (exemption)
United Kingdom <sup>74</sup>	GNI (UK) Ltd.	GNI (UK) Ltd.
	National Grid Gas plc	National Grid Gas plc
	Premier Transmission Ltd.	Premier Transmission Ltd.

70 According to the Italian regulation ([Resolution 114/2019/R/gas of 28 March 2019](#)) which establishes tariff regulatory criteria for the period 2020-2023 in accordance with TAR NC requirements, the main TSO (Snam Rete Gas S.p.A.) is responsible for the calculation of the transmission tariffs with reference to the entire Italian transmission network, therefore also for the portion of the network managed by ENTSG members Società Gasdotti Italia S.p.A. and Infrastrutture Trasporto Gas S.p.A.

71 Luxembourg benefits from a derogation set out in Directive 2009/73/EC. Therefore, as for previous editions of this report, data from TSO Creos Luxembourg S.A. was not requested for this report.

72 Malta is derogated, and the future network of the prospective TSO InterConnect Malta Ltd is not yet commissioned.

73 Trans Adriatic Pipeline AG (TAP) received an [exemption](#) from the Italian, Albanian, and Greek NRAs pursuant to Directive 2009/73/EC. Therefore, data from TAP was not requested for this report. TAP, which is an ENTSG Associated Partner, is headquartered in Switzerland.

74 Considering the Brexit process, the United Kingdom TSOs participated in this report and contributed with data for the IM and EM parts of the survey. This is because, as the reference date for this report was 1 October 2021, United Kingdom TSOs were still ENTSG Members on that date (up to 31 December 2021).

## ANNEX B

### LINKS TO THE ARTICLE 29 AND 30 INFORMATION PUBLISHED ON THE TSO/NRA WEBSITE AND A GUIDE TO THE INFORMATION PUBLISHED ON ENTSOG'S TRANSPARENCY PLATFORM

European TSOs covered in the implementation monitoring report		Link to the Article 29 and 30 information published on the TSO/NRA website, viewed on 18 March 2022
Austria	Gas Connect Austria GmbH	E-Control, Tariff network code
	Trans Austria Gasleitung GmbH	
Belgium	Fluxys Belgium S.A.	Fluxys, Tariffs
	Interconnector Limited <sup>75</sup>	Fluxys, Interconnector
Bulgaria	Bulgartransgaz EAD	Bulgartransgaz EAD, Publication in accordance with Article 29 and 30
Croatia	Plinacro d.o.o.	Plinacro d.o.o., Publications according to Chapter VIII
Czech Republic	NET4GAS, s.r.o.	Energy Regulatory Office, TAR NC Information
Denmark	Energinet	Energinet, Tariffs and fees
Estonia <sup>76</sup>	Elering AS	Elering AS, Network service
Finland <sup>77</sup>	Gasgrid Finland Oy	Gasgrid Finland Oy, Transmission tariffs and service prices
France	GRTgaz	CRE, Deliberation of 23 January 2020 (cf. Annex 4 on page 105/114)
	Teréga	
Germany	bayernets GmbH	bayernets GmbH, Tariffs
	Fluxys Deutschland GmbH	Fluxys, Tariffs
	Fluxys TENP GmbH	Fluxys, Tariffs
	GASCADE Gastransport GmbH	GASCADE Gastransport GmbH, Tariff
	Gastransport Nord GmbH	Gastransport Nord GmbH, Tariff information
	Gasunie Deutschland Transport Services GmbH	Gasunie Deutschland Transport Services GmbH, Tariff
	GRTgaz Deutschland GmbH	GRTgaz Deutschland GmbH, Publication according to NC TAR
	Lubmin-Brandov Gastransport GmbH	Lubmin-Brandov Gastransport GmbH, Transparency requirements
	NEL Gastransport GmbH	NEL Gastransport GmbH, Tariff
	Nowega GmbH	Nowega GmbH, Network transparency
	ONTRAS Gastransport GmbH	ONTRAS Gastransport GmbH, Publication according to Art. 29 and 30 Regulation (EU) 2017/460 (NC Tariffs)
	Open Grid Europe GmbH	Open Grid Europe GmbH, Information to be published
	terraneis bw GmbH	terraneis bw GmbH, Gas grid information
	Thyssengas GmbH	Thyssengas GmbH, Publication of information
Greece	DESFA S.A.	DESFA S.A., Regulated services
Hungary	FGSZ Ltd	Hungarian Energy and Public Utility Regulatory Authority, Prices
Ireland	Gas Networks Ireland	Gas Network Ireland, Transmission tariffs
Italy	Snam Rete Gas S.p.A.	Snam Rete Gas S.p.A., Gas transmission tariffs
	Infrastrutture Trasporto Gas S.p.A.	
	Società Gasdotti Italia S.p.A.	

<sup>75</sup> The link given for Interconnector Limited gives information hosted on Fluxys's website, which co-owns Interconnector Limited along with Snam. The derogation received by Interconnector Limited implies that publications listed in Article 29 and Article 30 of the TAR NC are not requested from this TSO. Interconnector Limited (formerly 'Interconnector UK') is now listed as a Belgian Member of ENTSOG, no longer as a United Kingdom TSO, following the Brexit process.

<sup>76</sup> Elering AS uses the implicit allocation mechanism instead of auctions, as allowed by the CAM Network Code. Therefore, the publication of information prior to annual yearly capacity auctions, as per Art. 29 of the TAR NC, is not applicable to Estonia. In addition, according to national legislation, there is no specific tariff period for Elering. An amendment to tariffs can be initiated by either the NRA or the TSO, in accordance with the definition for 'tariff period' in Art. 3(23) of the TAR NC which mandates a duration of at least one year for a tariff period.

<sup>77</sup> Gasgrid Finland Oy uses the implicit allocation mechanism instead of auctions, as allowed by the CAM Network Code. Therefore, the publication of information prior to annual yearly capacity auctions, as per Art. 29 of the TAR NC, is not applicable to Finland.

European TSOs covered in the implementation monitoring report		Link to the Article 29 and 30 information published on the TSO/NRA website, viewed on 18 March 2022
Latvia	Conexus Baltic Grid	Conexus Baltic Grid, Publication according NC TAR
Lithuania	AB Amber Grid	AB Amber Grid, Tariffs effective from 1 January 2021
Luxembourg	Creos Luxembourg S.A. (derogation)	N/A (derogation)
The Netherlands	BBL Company V.O.F. <sup>78</sup>	BBL Company V.O.F., Actual tariffs
	Gasunie Transport Services B.V.	Authority for Consumers and Markets, Information document tariffs NC TAR
Poland	GAZ-SYSTEM S.A.	GAZ-SYSTEM S.A., TAR NC publication
Portugal	REN - Gasodutos, S.A.	ERSE, Transmission tariffs transparency
Romania	Transgaz S.A.	Transgaz S.A., Transmission tariffs
Slovakia	eustream a.s.	eustream a.s., TAR NC requirements
Slovenia	Plinovodi d.o.o.	Plinovodi d.o.o., Information on establishing a network code on harmonised transmission tariff structures for gas
Spain	Enagás S.A.	CNMC, Circular 6/2020
	Regasificadora del Noroeste S.A.	
Sweden	Nordion Energi	Nordion Energi, Tariff regulatory information
United Kingdom	GNI (UK) Ltd.	Gas Market Operator for Northern Ireland, Standardised table
	National Grid Gas plc	National Grid Gas plc, Gas transparency requirements
	Premier Transmission Ltd.	Gas Market Operator for Northern Ireland, Standardised table

### ENTSOG's Transparency Platform – link to published information on TSO's or NRA's website

ENTSOG's Transparency Platform has [a link for all TSOs to the information published on their website](#), or their NRAs website, depending on who has publication responsibility. This link can be accessed by going into ENTSOG's Transparency Platform

using this [link](#). Click 'Operators' on the top toolbar – click on the panel for the TSO you are looking for information on – under 'Links' click 'Tariff information page' – this will bring you directly to the TSO's or NRA's website.

### ENTSOG's Transparency Platform – standardised table

ENTSOG's Transparency Platform has [a standardised table](#) which publishes the information for all TSOs on the reserve prices for standard capacity products for firm capacity and for standard capacity products for interruptible capacity, and the flow-based charge where applied.

Data can be accessed per TSO or IP directly from ENTSOG's Transparency Platform using this [link](#). Click the 'Tariff Data' tab, enter the relevant TSO or IP name into the search box, and fill in the relevant date range on the right-hand side.

<sup>78</sup> The derogation received by BBL implies that publications listed in Article 29 and Article 30 of the TAR NC are not requested from this TSO.

## ANNEX C

### FINAL CONSULTATION (ARTICLE 26) AND NRA MOTIVATED DECISION (ARTICLE 27(4)) – TIMELINES AND RESPONSIBILITY PER MS<sup>79</sup>

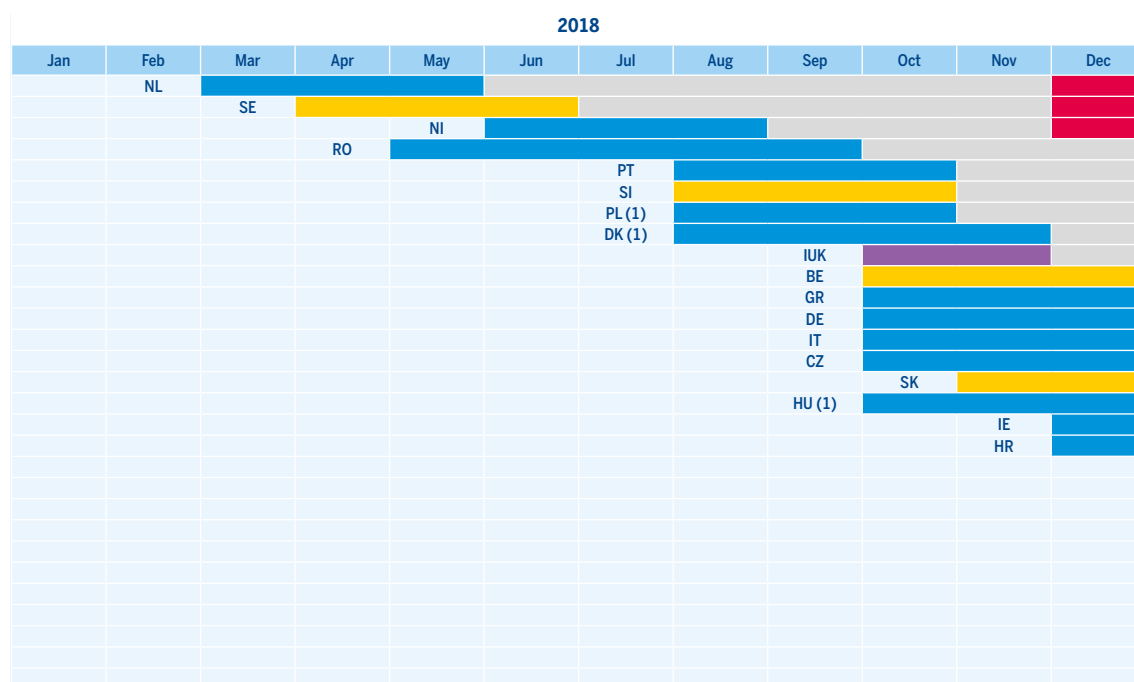


Figure 51: Timeline of TAR NC periodic consultation processes in 2018

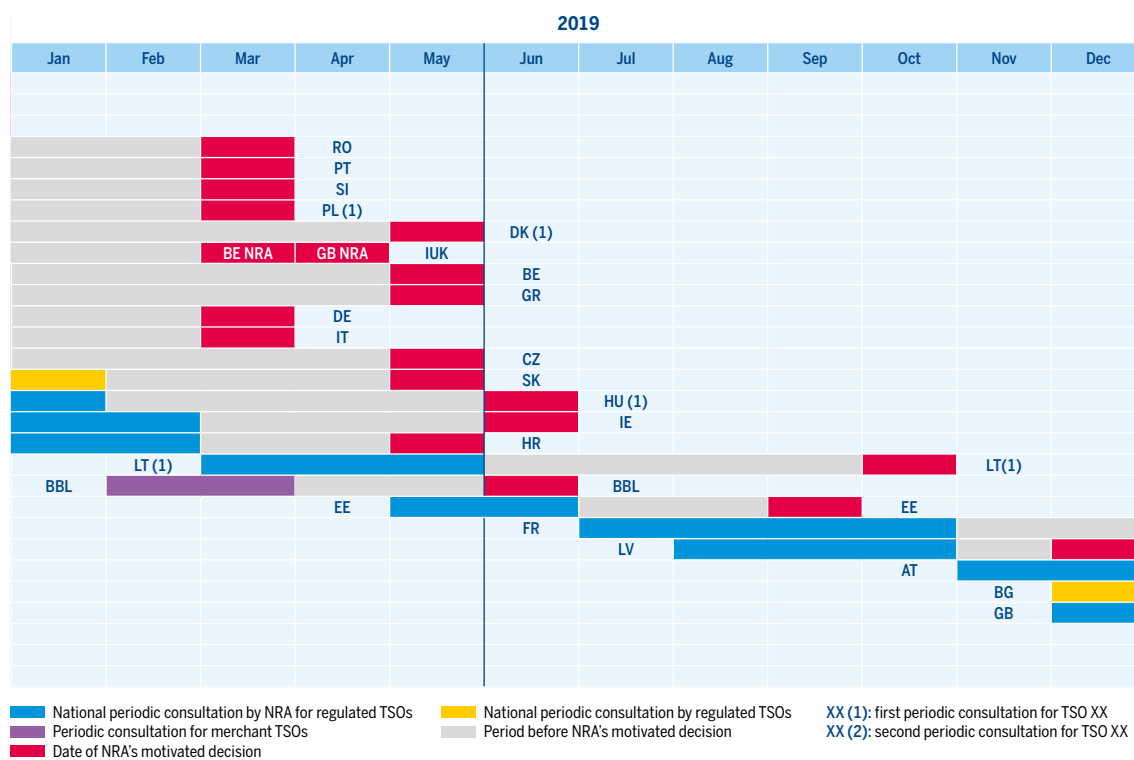
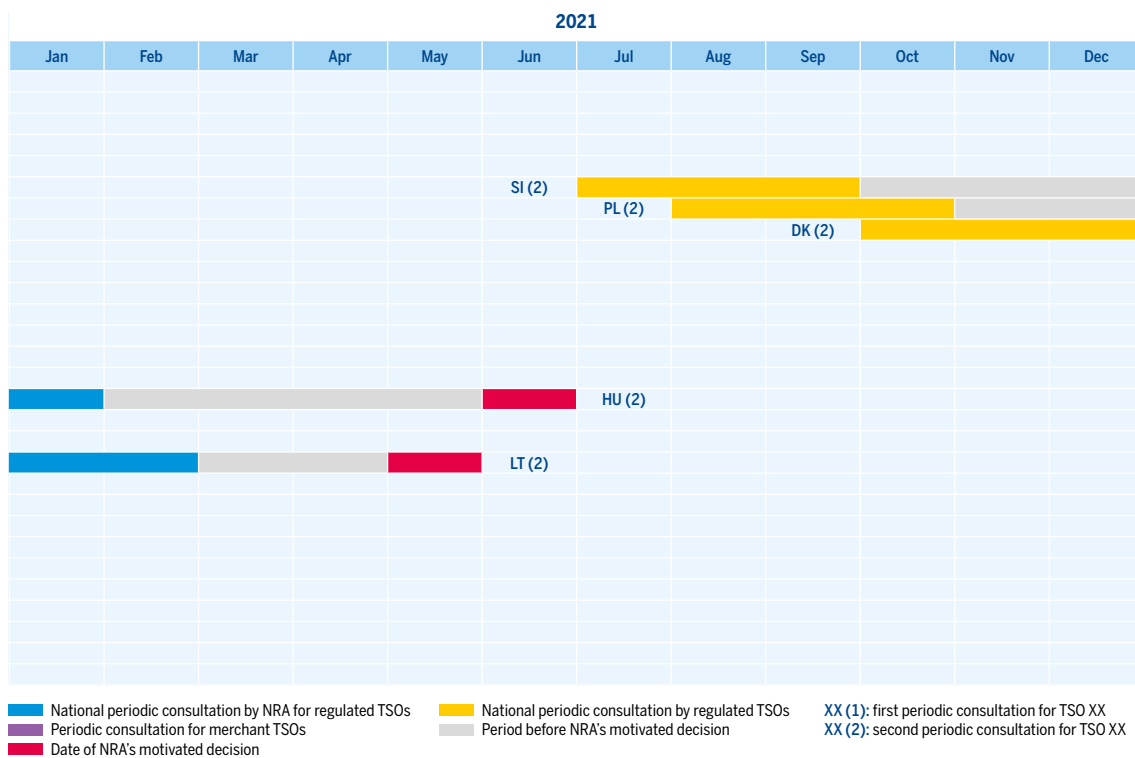
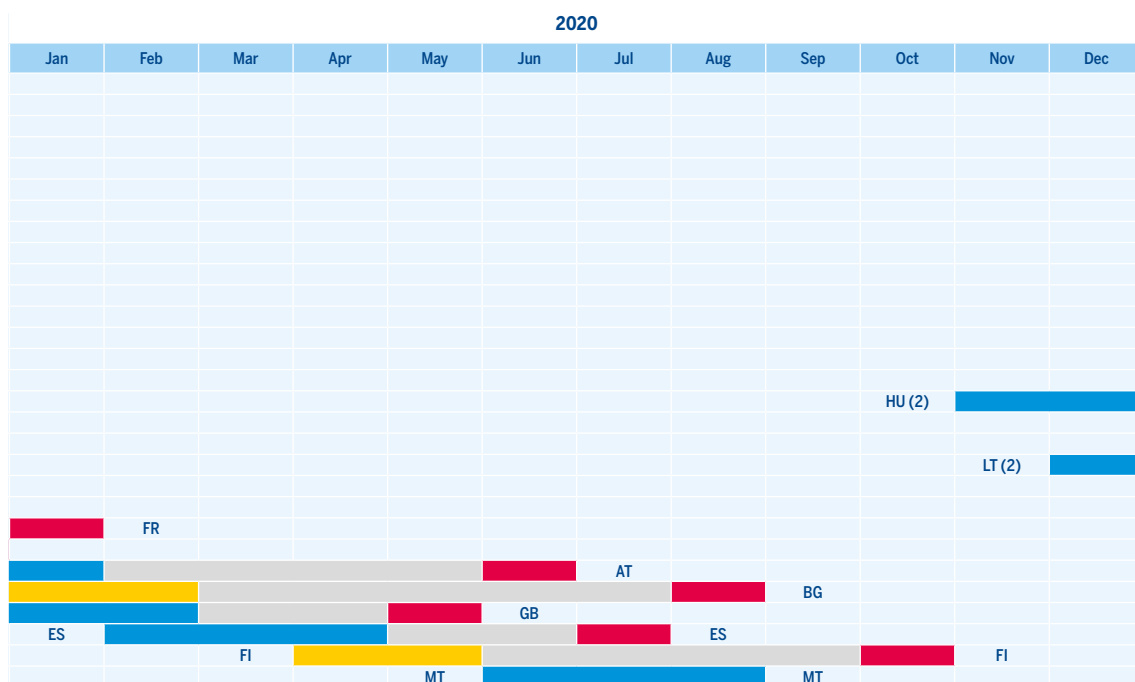


Figure 52: Timeline of TAR NC periodic consultation processes in 2019

<sup>79</sup> This is an overview of the timelines for each consultation. For exact dates, additional information on the final consultations and NRAs' motivated decisions, the Agency's website compiles [valuable information](#).



## ANNEX D

### OVERVIEW OF EUROPEAN TSOs (DATA PREVAILING ON 1 OCTOBER 2021)

Member State	TSO	Type of payable price	Prevailing Tariff period	Prevailing Regulatory period	RPM
Austria	Gas Connect Austria GmbH Trans Austria Gasleitung GmbH	Floating	1 Jan 2021–31 Dec 2024	1 Jan 2021–31 Dec 2024	Virtual Point
Belgium	Fluxys Belgium S.A. Interconnector Limited ( <i>merchant TSO</i> )	Floating Fixed	1 Jan 2020–31 Dec 2023 1 Oct 2021–30 Sep 2022	1 Jan 2020–31 Dec 2023 N/A	CWD (or variant) N/A
Bulgaria	Bulgartransgaz EAD	Floating	1 Oct 2021–30 Sep 2022	1 Oct 2020–30 Sep 2025	Matrix
Croatia	Plinacro d.o.o.	Floating	1 Jan 2021–31 Dec 2025	1 Jan 2021–31 Dec 2025	Postage Stamp
Czech Republic	NET4GAS s.r.o.	Floating + Fixed	1 Jan 2021–31 Dec 2021	1 Jan 2021–31 Dec 2025	CWD (or variant)
Denmark	Energinet	Fixed	1 Oct 2021–30 Sep 2022	1 Jan 2021–31 Dec 2022	Postage Stamp
Estonia	Elering AS	N/A	1 Oct 2020–Ongoing	1 Oct 2020–Ongoing	Postage Stamp
Finland	Gasgrid Finland Oy ( <i>ex-Gasum Oy</i> )	N/A	1 Jan 2021–31 Dec 2021	1 Jan 2021–31 Dec 2021	Postage Stamp
France	GRTgaz Teréga SAS	Floating	1 Apr 2021–31 Mar 2022	1 Apr 2020–31 Mar 2024	CWD (or variant)
Germany	bayernets GmbH Fluxys Deutschland GmbH Fluxys Tenp GmbH GASCADE Gastransport GmbH Gastransport Nord GmbH Gasunie Deutschland Transport Services GmbH GRTgaz Deutschland GmbH Lubmin-Brandov Gastransport GmbH NEL Gastransport GmbH Nowega GmbH ONTRAS Gastransport GmbH Open Grid Europe GmbH terranets bw GmbH Thyssengas GmbH	Floating	1 Jan 2021–31 Dec 2021	1 Jan 2018–31 Dec 2022	Postage Stamp
Greece	DESFA S.A.	Floating	1 Jan 2021–31 Dec 2021	1 Jan 2019–31 Dec 2022	CWD (or variant)
Hungary	FGSZ Ltd	Floating	1 Oct 2021–30 Sep 2022	1 Oct 2021–30 Sep 2025	Postage Stamp
Ireland	Gas Networks Ireland	Floating	1 Oct 2021–30 Sep 2022	1 Oct 2017–30 Sep 2022	Matrix
Italy	Snam Rete Gas S.p.A. Infrastrutture Trasporto Gas S.p.A. Società Gasdotti Italia S.p.A.	Floating	1 Jan 2021–31 Dec 2021	1 Jan 2020–31 Dec 2023	CWD (or variant)
Latvia	Conexus Baltic Grid	Fixed	1 Jan 2020–30 Sep 2022	1 Jan 2020–30 Sep 2022	Postage Stamp
Lithuania	AB Amber Grid	Floating	1 Jan 2021–31 Dec 2021	1 Jan 2019–31 Dec 2023	Postage Stamp
Luxembourg	Creos Luxembourg S.A. ( <i>derogation</i> )	N/A	N/A	N/A	N/A
The Netherlands	BBL Company V.O.F. ( <i>merchant TSO</i> ) Gasunie Transport Services B.V.	Fixed Floating	1 Oct 2021–30 Sep 2022 1 Jan 2021–31 Dec 2021	N/A 1 Jan 2017–31 Dec 2021	N/A Postage Stamp
Poland	GAZ-SYSTEM S.A.	Floating	1 Jan 2021–31 Dec 2021	1 Jan 2021–31 Dec 2021	Postage Stamp
Portugal	REN–Gasodutos, S.A.	Floating	1 Oct 2021–30 Sep 2022	1 Jan 2020–31 Dec 2023	CWD (or variant)
Romania	Transgaz S.A.	Floating	1 Oct 2021–30 Sep 2022	1 Oct 2019–30 Sep 2024	Postage Stamp
Slovakia	eustream, a.s.	Fixed	1 Jan 2017–31 Dec 2021	1 Jan 2017–31 Dec 2022	Postage Stamp
Slovenia	Plinovodi d.o.o.	Floating	1 Jan 2021–31 Dec 2021	1 Jan 2020–31 Dec 2021	Matrix
Spain	Enagás S.A. Regasificadora del Noroeste S.A.	Floating <sup>††</sup>	1 Oct 2021–30 Sep 2022	1 Jan 2021–31 Dec 2026	CWD (or variant)
Sweden	Nordion Energi	N/A	1 Oct 2021–30 Sep 2022	1 Jan 2019–31 Dec 2022	Postage Stamp
United Kingdom	GNI (UK) Ltd. National Grid Gas plc Premier Transmission Ltd.	Floating Floating + Fixed Floating	1 Oct 2021–30 Sep 2022	1 Oct 2017–30 Sep 2022 1 Apr 2021–31 Mar 2026 1 Oct 2017–30 Sep 2022	Postage Stamp

\* Source: ACER (2020)

\*\* The benchmarking adjustment according to Article 6(4)(a) of the TAR NC is applied by one TSO only in Germany (bayernets GmbH), following a decision of the German NRA.

† ACER notes that no discount is applied at storage facilities in Slovakia which, duly following TAR NC rules, still applied the 'old' RPM on 1 October 2021. Source: ACER (2019). Moreover, in accordance with the TAR NC, no storage discount applies in Slovakia due to the use of storage facilities to compete with IPs.

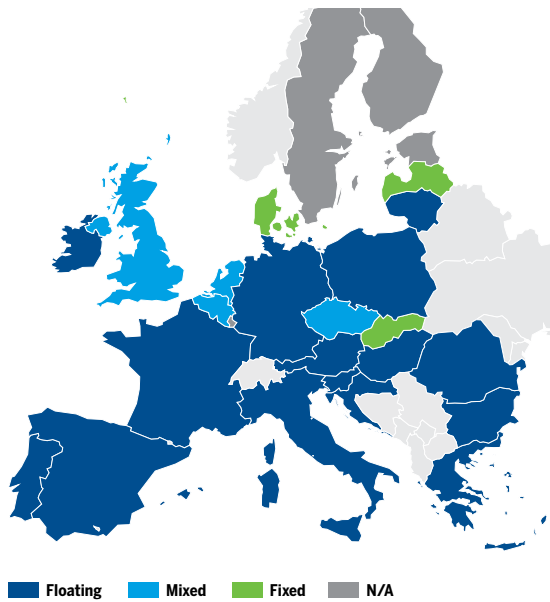
†† Only applies to Enagás S.A. For Regasificadora del Noroeste S.A., the answer is 'N/A' (there is no IP).

‡ The NRA in Great Britain, Ofgem, introduced an 80 % discount as from 1 October 2021. Source.

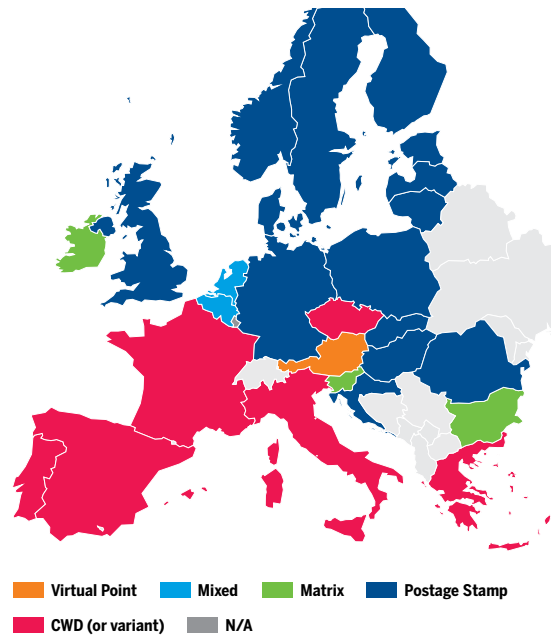
Adjustments: Benchmarking (B), Equalisation (E), Rescaling (R), None, or Not Available (N/A)	Entry capacity split	Exit capacity split	Discounts: storage	Discounts: LNG	Discounts: interruptible
B, E, R	19.11 %	80.89 %	50 %	No LNG terminal	Ex-ante + Ex-post
E	33 %	67 %	75 % (average entry and exit)	0 %	Ex-ante
B	N/A	N/A	No storage	No LNG terminal	Ex-ante
E, R	50 %	50 %	80 %	No LNG terminal	Ex-post
E	60 %	40 %	95 % (average entry and exit)	15 %	Ex-post
E	18.8 %	81.2 %	70 %	No LNG terminal	Ex-post
None	50 %*	50 %	100 %	No LNG terminal	Ex-ante
B	9 %	91 %	No storage	No LNG terminal	No discount
None	13 %	87 %	No storage	No LNG terminal	No discount
E	34 %	66 %	80 %	0 %	Ex-ante
B**, R	34.4 %	65.6 %	75 %	No LNG terminal	Ex-ante
E, R	50 %	50 %	No storage	30 %	Ex-ante
R	40 %	60 %	95 % (average entry and exit)	No LNG terminal	Ex-ante
E, R	33 %	67 %	No storage	No LNG terminal	Ex-ante
E, R	28 %	72 %	50 %	0 %	Ex-ante
None	17 %	83 %	100 %	No LNG terminal	Ex-ante
E, R	73.3 %	26.7 %	No storage	75 %	Ex-post
N/A	N/A	N/A	No storage	No LNG terminal	N/A
N/A	N/A	N/A	No storage	No LNG terminal	Ex-ante
R	40 %	60 %	60 %	0 %	Ex-ante
None	45 %	55 %	80 %	100 %	Ex-ante
E, R	28 %	72 %	100 %	0 %	Ex-ante
None	50 %	50 %	50 %	No LNG terminal	Ex-ante + ex-post
B	38 %	62 %	0 % <sup>†</sup>	No LNG terminal	Ex-post
B, R	16 %	84 %	No storage	No LNG terminal	Ex-post
E	50 %	50 %	100 %	13.9 %	Ex-ante + Ex-post
None	0 %	100 %	100 %	No LNG terminal	No discount
None	50 %	50 %	No storage 80 % <sup>†</sup> No storage	No LNG terminal 0 % No LNG terminal	No discount Ex-ante No discount

## ANNEX E

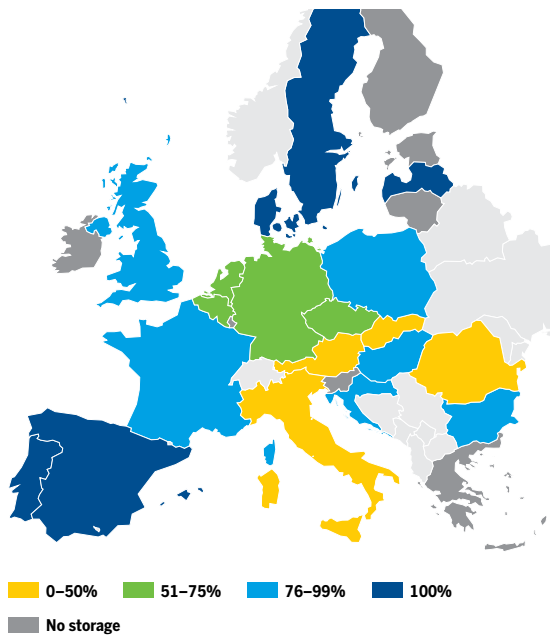
### AN OVERVIEW OF KEY TARIFF FEATURES IN EUROPE (DATA PREVAILING ON 1 OCTOBER 2021)<sup>80</sup>



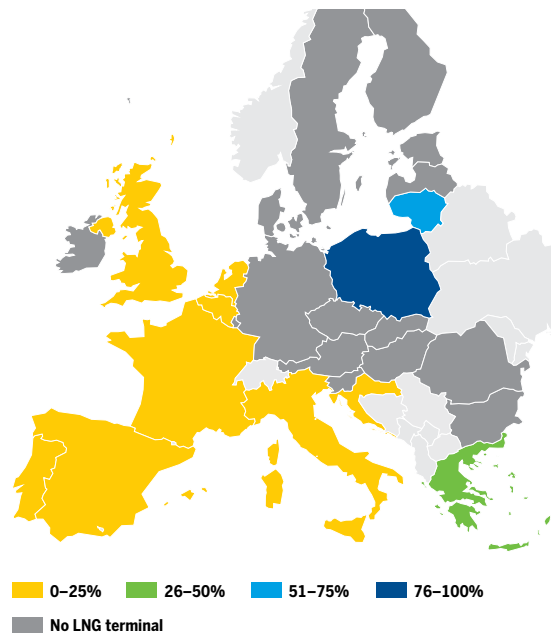
Map 1: Type of payable price



Map 2: Reference Price Methodology



Map 3: Storage discounts



Map 4: LNG discounts

<sup>80</sup> For several MSs/countries, mixed approaches exist regarding payable price or RPM, in case several TSOs operate under different regimes or regulations (e.g., price cap and non-price cap; or regulated and merchant). These cases exist in the United Kingdom, Belgium, the Netherlands, and the Czech Republic.

# ABBREVIATIONS

<b>ACER</b>	Agency for the Cooperation of Energy Regulators established by Regulation (EC) No 713/2009
<b>AD</b>	Application Date
<b>CAA</b>	Cost Allocation Assessment
<b>CAM NC</b>	Commission Regulation (EU) 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) No 984/2013 (OJ L 72, 17.3.2017, p. 1)
<b>CWD</b>	Capacity-Weighted Distance
<b>EC</b>	European Commission
<b>EM</b>	Effect Monitoring
<b>ENTSOG</b>	European Network of Transmission System Operators for Gas
<b>EU</b>	European Union
<b>Gas Directive</b>	Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC (OJ L 211, 14.8.2009, p. 94)
<b>Gas Regulation</b>	Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005 (OJ L 211, 14.8.2009, p. 36)
<b>IDoc</b>	Implementation Document for the Network Code on Harmonised Transmission Tariff Structures for Gas
<b>IM</b>	Implementation Monitoring
<b>IP</b>	Interconnection Point, as defined by Article 3(2) of the CAM NC
<b>ITC</b>	Inter-transmission system operator compensation
<b>LSO</b>	LNG System Operator
<b>MS(s)</b>	Member State(s)
<b>NRA</b>	National Regulatory Authority
<b>RPM</b>	Reference Price Methodology
<b>SSO</b>	Storage System Operator
<b>TAR NC</b>	Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas (OJ L 72, 17.3.2017, p. 29)
<b>TP</b>	Transparency Platform
<b>TS</b>	Transmission Services
<b>TSO</b>	Transmission System Operator

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