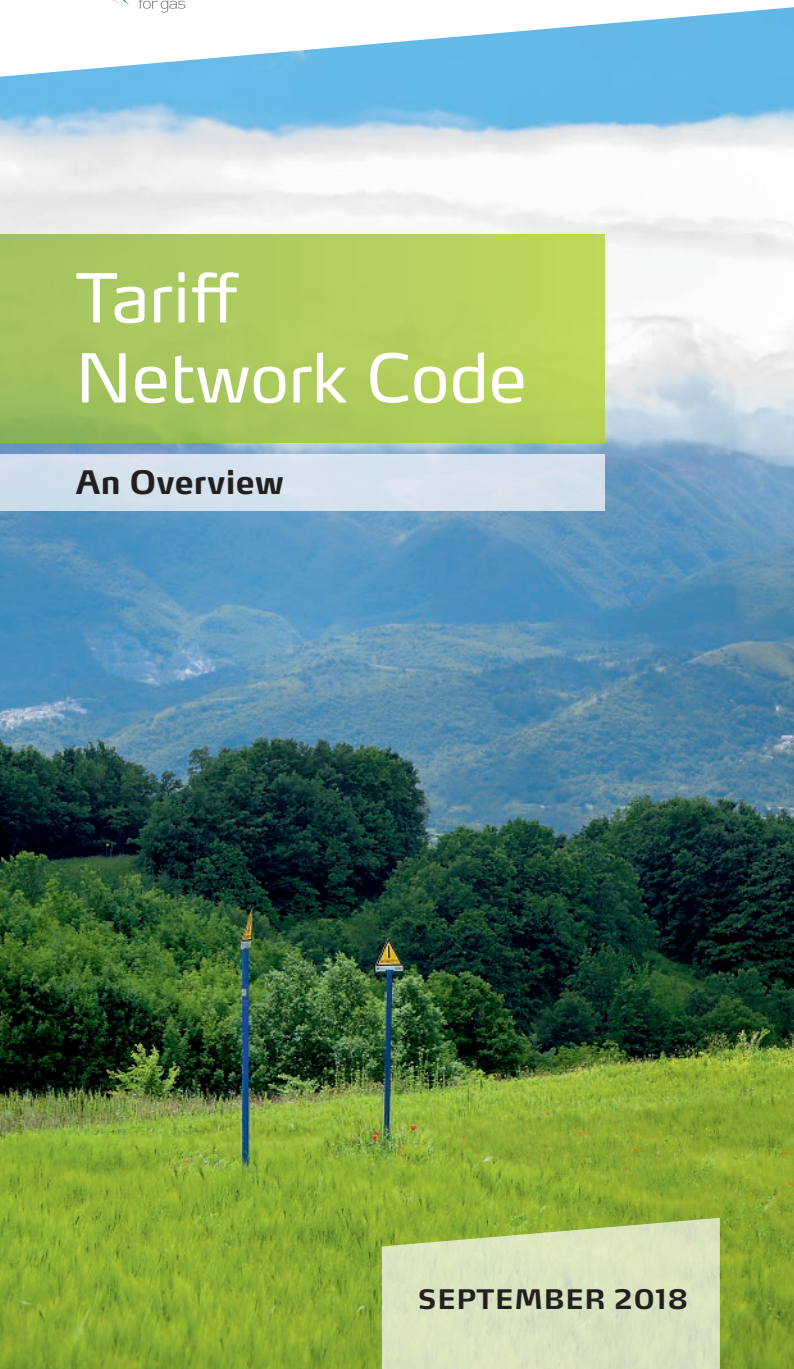
entsog

european network
of transmission system operators
for gas

Tariff Network Code

An Overview



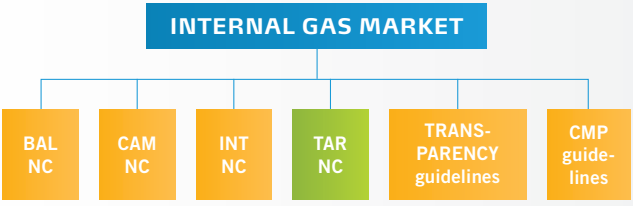
SEPTEMBER 2018

Content

Introduction

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'). This process 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.

There are a number of building blocks to improve the **European internal gas market**, together with other network codes ('NCs') and guidelines, the TAR NC contributes towards this goal.



- BAL NC – Balancing Network Code
- CAM NC – Capacity Allocation Mechanism Network Code
- INT NC – Interoperability Network Code
- CMP – Congestion Management Procedures

Figure 1: Building blocks to improve the internal gas market

This document explains the aim and the key elements of the TAR NC. It is prepared for introduction purposes for new stakeholders of Gas Market Regulation and to set the background for training purposes.

Aim of the Code

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 account of the need for system integrity and its improvement, reflect the actual cost incurred, are non-discriminatory, facilitate efficient gas trade and competition, avoid cross-subsidies between network users and provide incentives for investment.

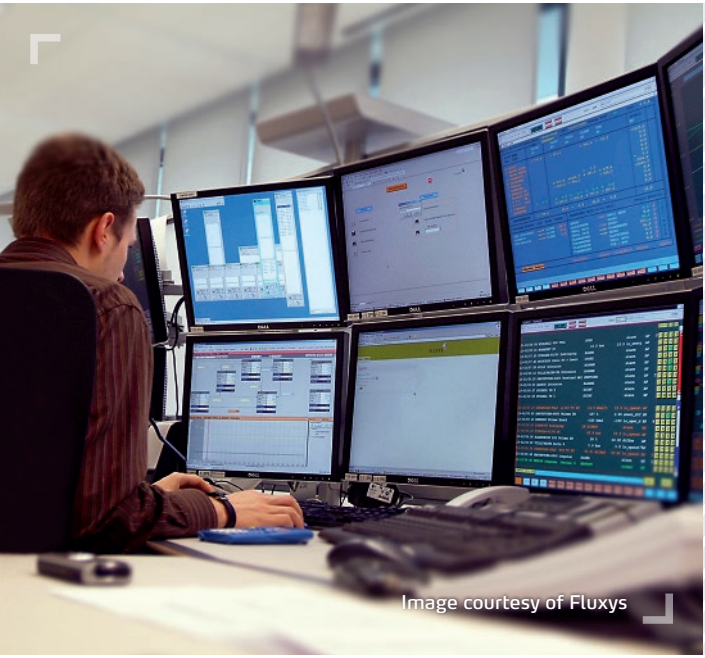


Image courtesy of Fluxys

The TAR NC was published in the Official Journal of the European Union ('EU') on 17 March 2017 and entered into force on 6 April 2017. It has **three different application dates** for its different chapters, please see figure 2 below.

APPLICATION DATE: ENTRY INTO FORCE	
Chapter I	'General provisions'
Chapter V	'Pricing of bundled capacity and capacity at VIPs'
Chapter VII	'Consultation requirements'
Chapter IX	'Incremental capacity'
Chapter X	'Final and transitional provisions'

APPLICATION DATE: 1 OCTOBER 2017	
Chapter VI	'Clearing and payable price'
Chapter VIII	'Publication requirements'

APPLICATION DATE: 31 MAY 2019	
Chapter II	'Reference price methodologies'
Chapter III	'Reserve prices'
Chapter IV	'Reconciliation of revenue'

Figure 2: TAR NC application dates

Description of Key Elements

SCOPE

The scope of the TAR NC is not homogenous, as it differs with respect to different types of points, see figure 3.

An Interconnection Point ('IP') is a physical or virtual point connecting adjacent entry-exit systems within the EU. A non-IP is any point other than an IP.

For non-IPs, there are two categories:

- **non-IPs that are entry-points-from/exit-points-to third countries** – if the National Regulatory Authority ('NRA') takes the decision to apply the NC on CAM NC to these points, then Chapters III, V, VI, IX and Articles 28 and 31(2)-(3) apply to these points by default, in addition to all the other chapters from the TAR NC.
- **for other non-IPs, such as domestic exit points, entry-points-from/exit-points-to storage facilities** – ENTSOG assumes that it is possible to also extend Chapters III, V, VI, IX and Articles 28 and 31(2)-(3) to these points per national decision, in addition to all the other chapters from the TAR NC.

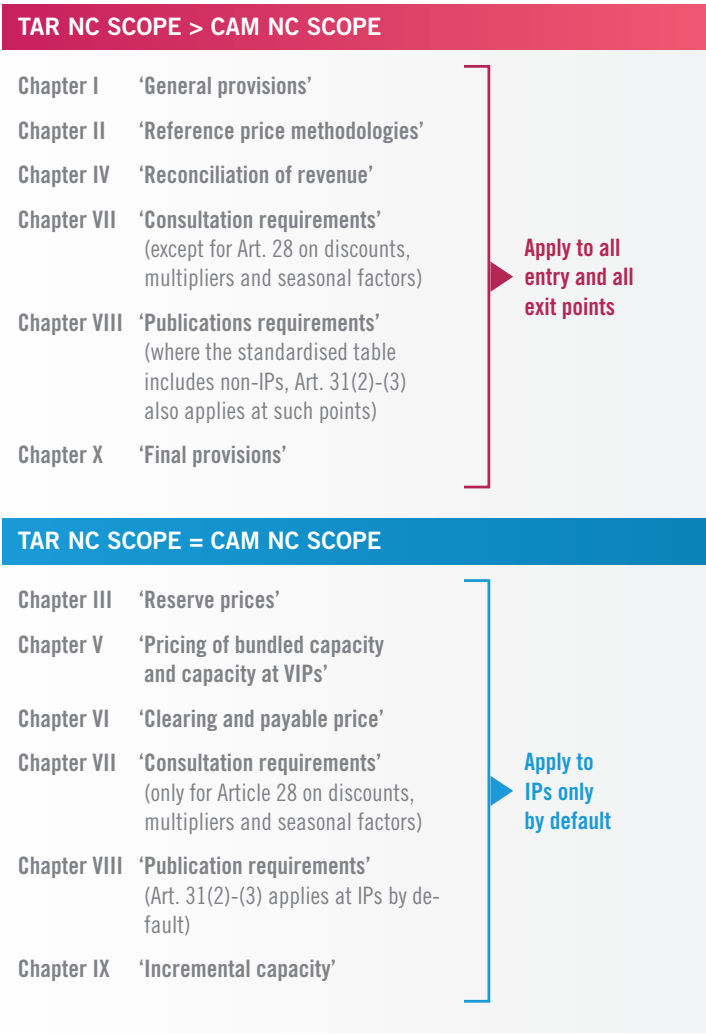


Figure 3: Application of the TAR NC rules at different points on the transmission network

TSO's REVENUE AND TARIFFS

The TAR NC covers the way Transmission System Operators ('TSOs') collect revenues via different tariffs associated with the provision of services at entry and exit points.

Figure 4 illustrates the link between TSO's allowed/target revenue and different applicable tariffs. The transmission services revenue splits into a **'capacity'** part indicated in purple, and a **'commodity'** part in blue.

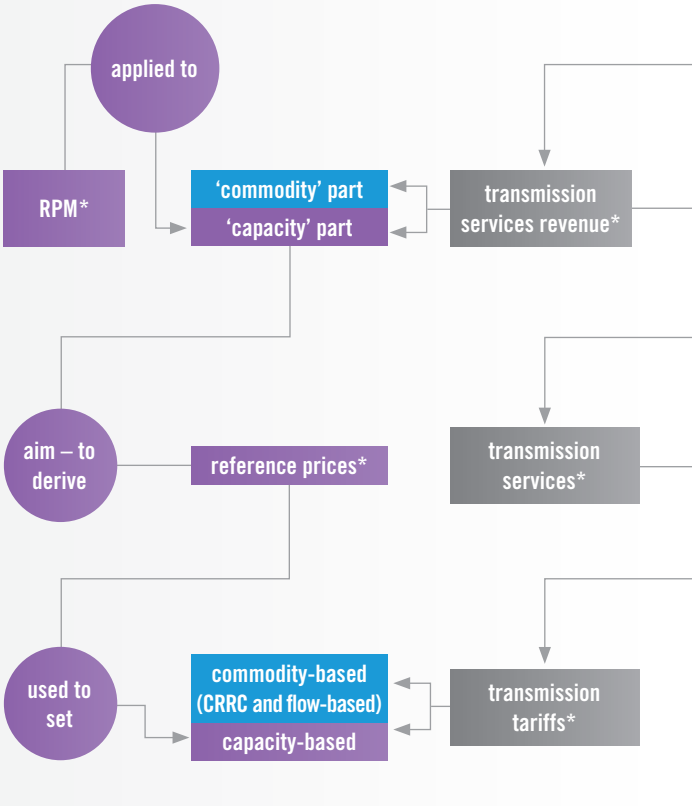
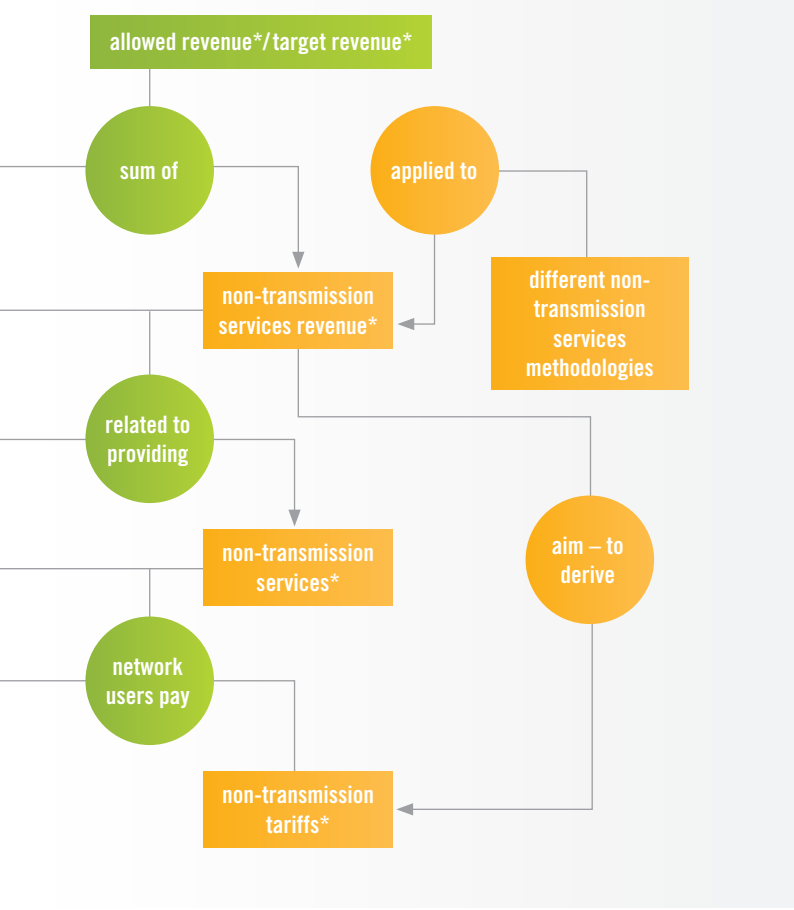


Figure 4: Revenue and tariffs

- The reference price methodology ('RPM') only applies to the 'capacity' part of the transmission services revenue which must be the major part. RPM is based on specific cost drivers, such as capacity and distance, and is used to derive reference prices at entry and exit points. Capacity-based transmission tariffs are set using reference prices.
- The TAR NC does not detail any specific methodologies that apply to the 'commodity' or non-transmission part of the transmission services revenue but does have some specific requirements for commodity and non-transmission tariffs.



For the transmission services revenue, figure 5 explains the cycle of: applying the RPM; deriving reference prices; setting capacity-based transmission tariffs; charging such tariffs for the transmission services; and providing such services to recover the revenue. A similar cycle also applies to non-transmission services revenue.

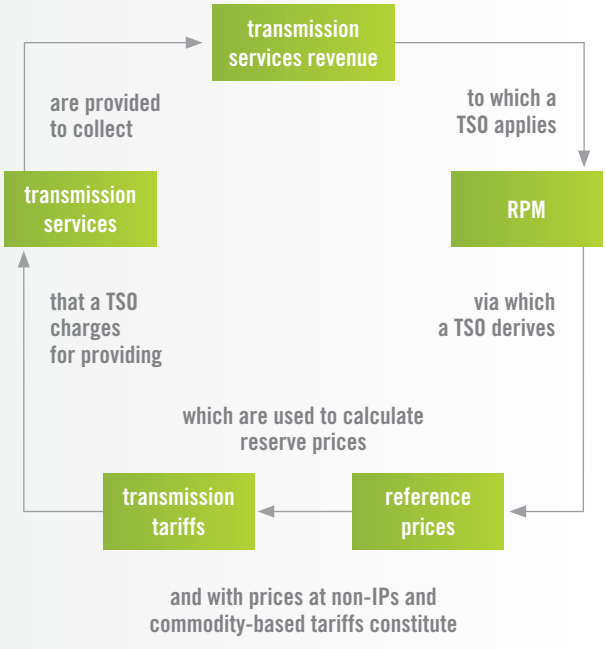


Figure 5: Definitions: cycle of transmission services revenue, tariffs and services

REFERENCE PRICE METHODOLOGIES

The choice of RPM is a key decision for the NRA, who will need to set or approve it. 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, as set out in figure 6 below, and possible adjustments to the application of the RPM.

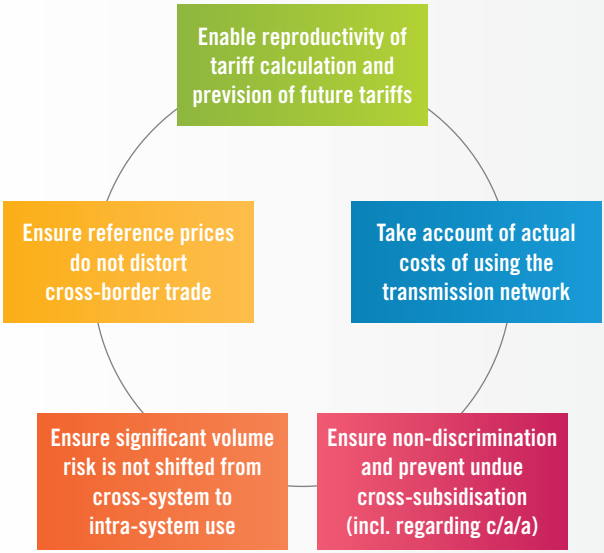


Figure 6: Principles for the choice of a RPM

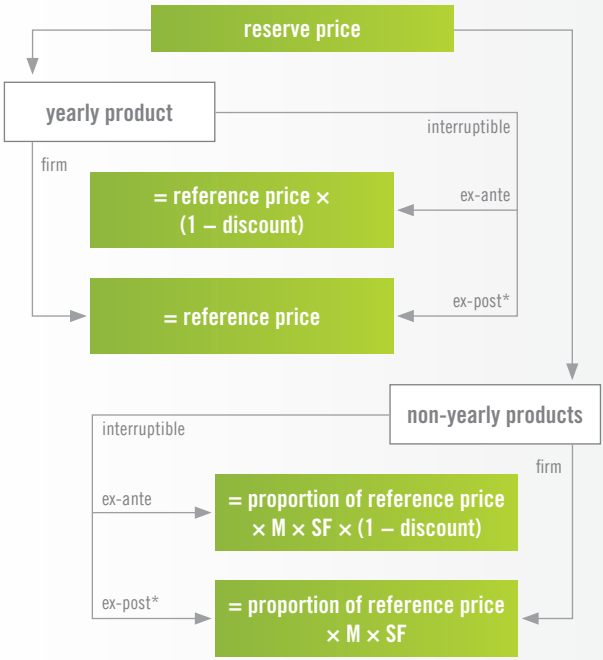
The TAR NC requires a comparison of the resulting indicative reference prices to those derived from the only RPM set out in the TAR NC, the **Capacity Weighted Distance ('CWD') counterfactual**. This comparison is to be included in the tariff methodology consultation, as set out in Article 26(1). The CWD methodology is used as the counterfactual as it is not too complex and incorporates the main cost drivers of capacity and distance.

The TAR NC permits **discounts** for entry-points-from/exit–points-to storage facilities. The discounts apply to reference prices, and by default must be no less than 50 %, but can be less than 50 % in specific cases. Discounts are also possible at entry-points-from Liquefied Natural Gas facilities, and at entry-points-from/exit-points-to infrastructure ending the isolation of gas transmission systems of Member States. **Other adjustments** to the application of the RPM may be made as a result of benchmarking, equalisation or rescaling.

RESERVE PRICES

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**. (see figure 7)

Multipliers aim to incentivise shippers to book long-term; 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, and a detailed methodology for calculating seasonal factors, if the TSO/NRA takes the option to apply these components.



M – multiplier for a non-yearly product

SF – optional seasonal factor for a non-yearly product

* ex-post discount: interruptible reserve price equals firm reserve price; compensation is calculated per Article 16(4) in case of interruption

Figure 7: Reserve price

Where a seasonal factor is applied in addition to the multiplier, the same ranges apply to the arithmetic mean of both multiplier and seasonal factor, combined, over the gas year. Figure 8 shows the different ranges.

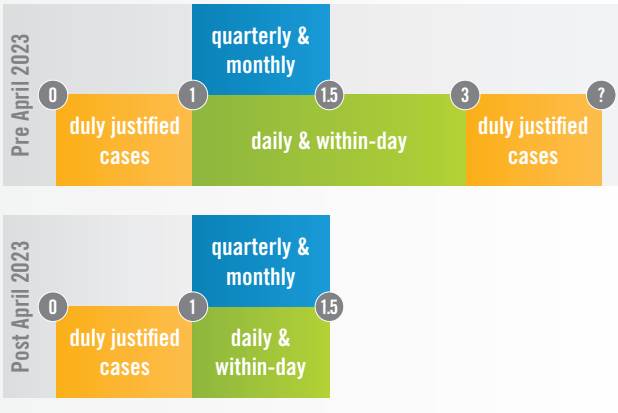


Figure 8: Level of multipliers and seasonal factors

The reserve prices for interruptible capacity products involve discounts to the reserve prices for the corresponding firm capacity products:

- 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.

CLEARING AND PAYABLE PRICE

The TAR NC sets out the calculation of the clearing price: the price when the capacity auction is closed, calculated as the reserve price plus any auction premium.

For payable price calculation, there are two approaches:

- **Floating payable price** based on the reserve price applicable at the time when a capacity product becomes usable; and
- **Fixed payable price** based on the reserve price published at the time of an auction, subject to indexation and a risk premium.

The TAR NC also sets out the specific conditions for offering these approaches, depending on the applicable regulatory regime and on the nature of the capacity as existing or incremental.

Image courtesy of Terega

PRICING OF BUNDLED CAPACITY AND CAPACITY AT VIPs

A **bundled reserve price** is the sum of entry and exit reserve prices of bundled capacity products, which consists of corresponding entry and exit capacity at both sides of every IP. Bundled capacity puts together or 'bundles' the two standard capacity products of the same duration at either side of an IP.

The TAR NC also addresses the calculation of reserve prices at a **Virtual Interconnection Point** ('VIP'). A VIP is an entry and/or exit point that results from the aggregation of two or more IPs that connect the same two adjacent entry-exit systems for the purpose of providing a single capacity service.

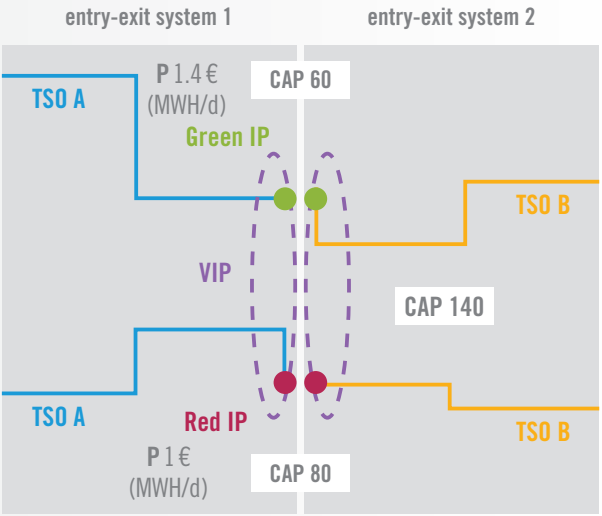


Figure 9: A concept of a VIP

RECONCILIATION OF REVENUE

To promote stability of transmission tariffs for network users, to foster financial stability and to avoid detrimental effects on the revenue and cash flow positions of TSOs, principles for revenue reconciliation are set out in the TAR NC.

Most of the rules in the TAR NC related to the reconciliation of revenue only apply to non-price cap regimes. The only rule that also applies to a price cap regime involves the use of the auction premium to invest in reducing physical congestion.[1)]

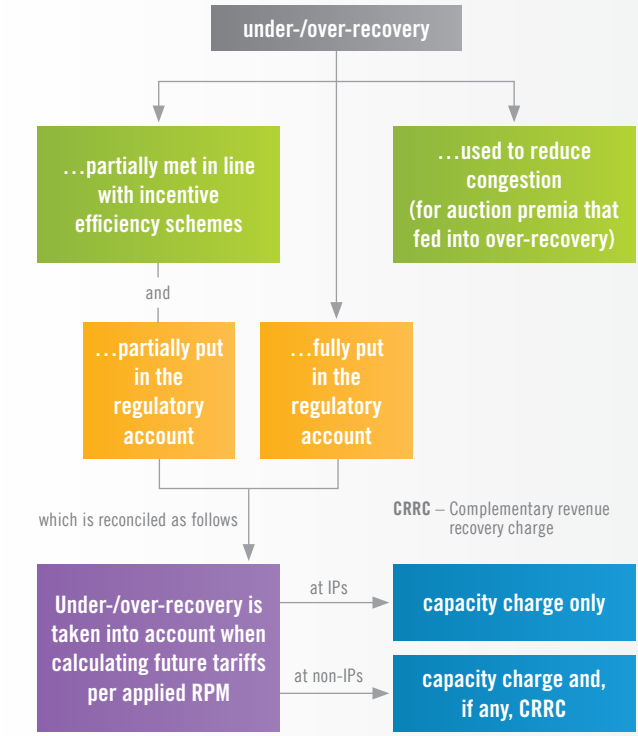


Figure 10: Process of revenue reconciliation

1) Price cap and non-price cap are types of regulatory regimes. Under a price cap regime, the maximum transmission tariff based on revenue is set. Under a non-price cap regime, such as the revenue cap, rate of return and cost plus regime, the allowed revenue for the TSO is set.

CONSULTATION REQUIREMENTS

The consultation requirements are a core part of the TAR NC since the rules in almost all its Articles refer to it. Consultations allow stakeholders to provide their feedback and input and contribute to a more **transparent tariff setting process**. The TAR NC details the scope of two consultations:

1. For the Article 26(1) **'periodic consultation'** done by the TSO/NRA at least every five years, the consultation scope includes:

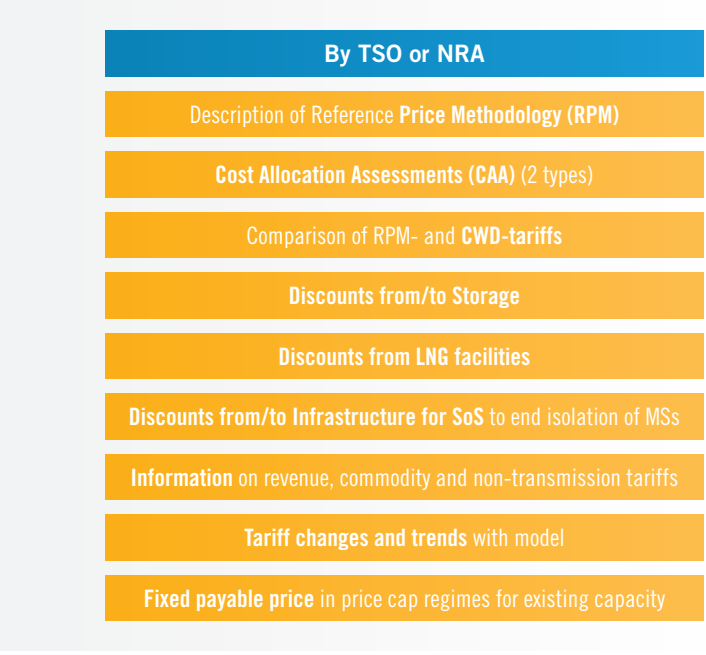


Figure 11: Content of the consultation document per Article 26(1)

Figure 12 sets out an ENTSOG **estimated timeline** for completing the first 'periodic consultation' for 31 May 2019.

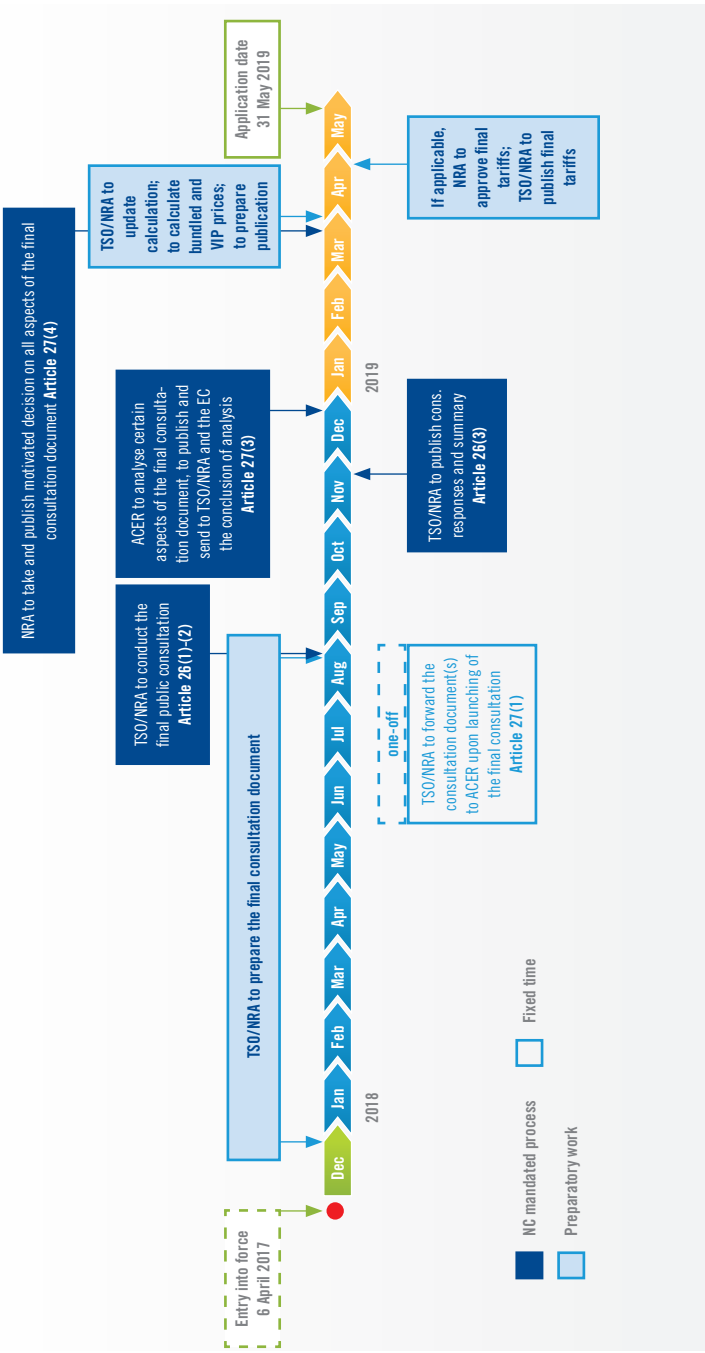


Figure 12: Article 26(1) Final consultation timeline

2. For the **Article 28(1) consultation, carried out every tariff period** and undertaken by the NRA, the consultation scope includes:

By NRA
Value of **multipliers and seasonal factors**
Discounts from LNG facilities
Discounts from/to Infrastructure for SoS to end isolation of MSs
Discounts for **interruptible products**

Figure 13: Content of the consultation document per Article 28(1)

PUBLICATION REQUIREMENTS

A crucial objective of the TAR NC is to increase the transparency when setting transmission tariffs. The TSO or NRA must publish information enabling network users to better understand tariffs set for transmission services, as well as how such tariffs have changed, are set and might change. Additionally, network users should be able to understand the costs underlying transmission tariffs and to forecast transmission tariffs to a reasonable extent.

The TAR NC lists tariff publication requirements, their manner and timing: what, how and when. The entity responsible for publication is either the TSO or the NRA, as decided by the NRA.

The 'what' covers two sets of information:

- Information to be published before the annual yearly capacity auctions; and
- Information to be published before the tariff period.

The first set of information includes binding reserve prices for firm and interruptible capacity at IPs, with information concerning their calculation. The second set of information is more detailed, and includes the following:

- Technical parameters used in the RPM;
- Information on the allowed/target revenue of a TSO;
- Transmission and non-transmission tariffs not published within the first set of information;
- Information on tariff changes and trends;
- At least a simplified model enabling an estimation of possible tariff evolution.

FORM OF PUBLICATION OF INFORMATION ON TSO/NRA WEBSITE AND ENTSOG'S TP

Where	Similarities		Differences			
	When	How	What	For which points	Language	Additional
On the website of TSO/NRA	◢ At least 30 days before auctions ◢ At least 30 days before the tariff period	◢ In a user-friendly manner ◢ Clear, easily accessible way ◢ On a non-discriminatory basis ◢ Downloadable format	All tariff information	All points on the system	In official language(s) of MS + in English, to the extent possible	Plus a link on ENTSOG's TP
Directly on ENTSOG's TP			Some tariff information: ◢ Reserve prices ◢ Flow-based charge ◢ Simulation of all costs for flowing 1 GWh/day/year	IPs by default*	In English only	In a standardised table

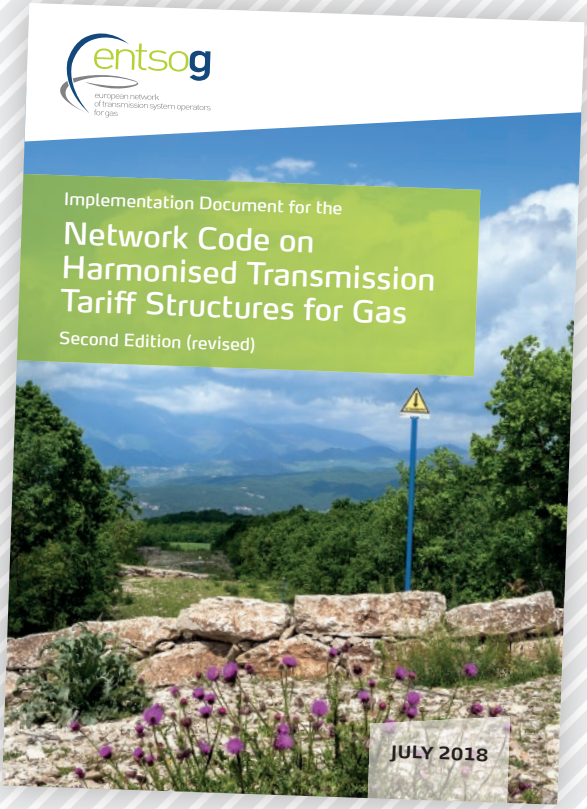
* The standardised table may capture also non-IPs

Figure 14: Form of publication of information on TSO/NRA website and ENTSOG's Transparency Platform

TAR NC IMPLEMENTATION DOCUMENT

For a more detailed overview of TAR NC requirements, indicative timelines for the implementation of the TAR NC, examples and calculations related to some substantive points from the TAR NC, please consult the

TAR NC Implementation Document ('IDoc')



Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
BAL NC	Balancing Network Code
CAA	Cost Allocation Assessments
CAM NC	Capacity Allocation Mechanism Network Code
CMP	Congestion Management Procedures
CRRC	Complementary Revenue Recovery Charge
CWD	Capacity Weighted Distance
EC	European Commission
ENTSOG	European Network of Transmission System Operators for Gas
EU	European Union
Gas Regulation	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
IDoc	TAR NC Implementation Document
INT NC	Interoperability Network Code
IP	Interconnection Point
NC	Network Code
NRA	National Regulatory Authority
RPM	Reference Price Methodology
TAR NC	Tariff Network Code
TSO	Transmission System Operator
VIP	Virtual Interconnection Point

Disclaimer

This document is non-binding, prepared for information and illustrative purposes, and offers a brief overview of the TAR NC illustrated with generic examples without any purpose of interpreting it. If in any respect the present document is not consistent with the TAR NC, then the TAR NC prevails.

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If you have any comments and for further information please contact us:

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