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Explanation GTS Tariff Proposal 2023

February 28, 2022

Summary: proposed tariffs for 2023

- The total price is **15%** higher compared to 2022.
- Main drivers:
  - High energy prices leading to significant reconciliations;
  - The effect of declining capacity sales.

	Total price (€/kWh/h/y)
Non-storage entry	2.609
Non-storage exit	2.644
Storage entry	1.043
Storage exit	1.058

* Numbers rounded on three decimals.

Note: after the presentation of the tariff proposal two changes have been made:
- The amount of reconciliations for energy costs has been increased leading to a slightly higher tariff (second decimal place adjustment). The average price change of 15% does not change;
- The figure on sheet 26 has been corrected.

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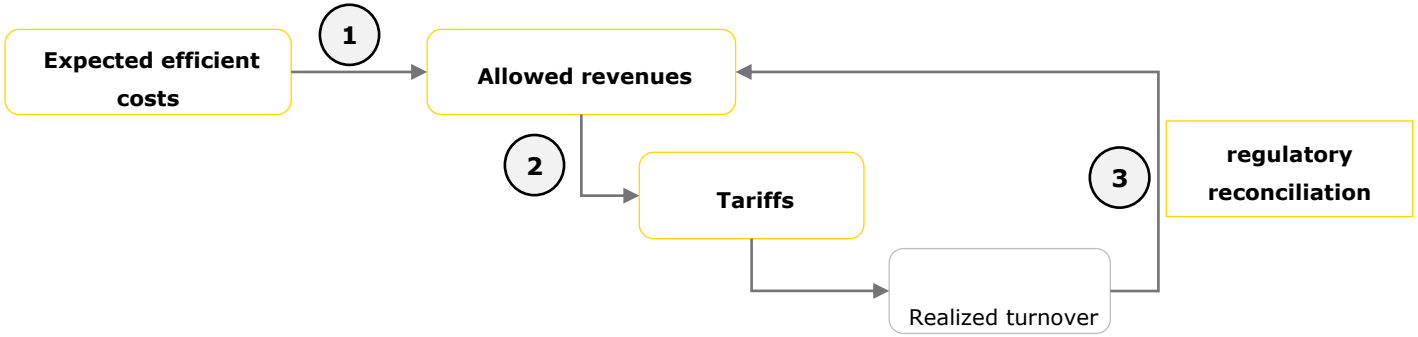
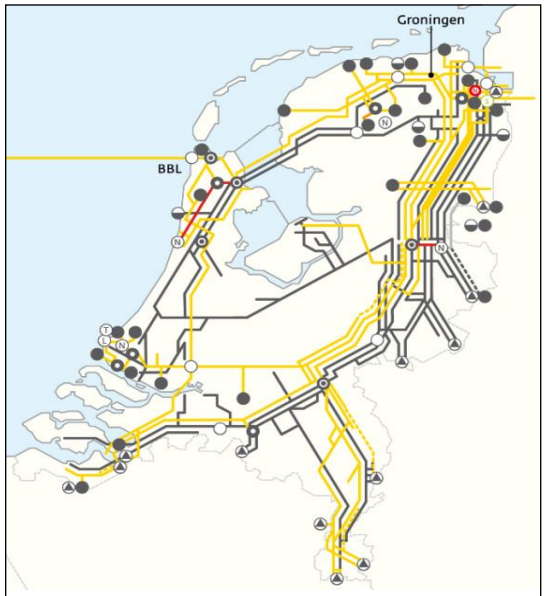
Regulatory framework in a nutshell

Regulatory method should enable GTS to recover its **efficient costs** via tariffs



1. ACM determines expected efficient costs of GTS for the regulatory period, based on historical costs. These equal the allowed revenues (method decision and x-factor decision).
2. The tariffs are derived from the allowed revenues by dividing them by expected sales. This is arranged in the tariff decision by ACM.
3. If the realized turnover exceeds or falls below the allowed revenues, the difference is settled with the market via the subsequent tariff decision(s).

From costs… to allowed revenues…



Total length	12,500 km
Compressor stations	11
N2 facility	1
N2 storage	1
Gas receiving stations	1,300
Transport	935 TWh

Indicative example:

1.	Return on assets (EUR 6,250 mln. x 3.0%)	EUR	185 mln.
2.	Depreciation	EUR	395 mln.
3.	Operational costs	EUR	220 mln.
4.	Energy & Nitrogen	EUR	115 mln. +
5.	Expected costs	EUR	915 mln.
	Allowed revenues 2023	EUR	911 mln.

Current efficiency incentives

- Yearly productivity improvement (frontier shift)
- Cost benchmark to assess static efficiency

…to tariffs.

Example calculation:

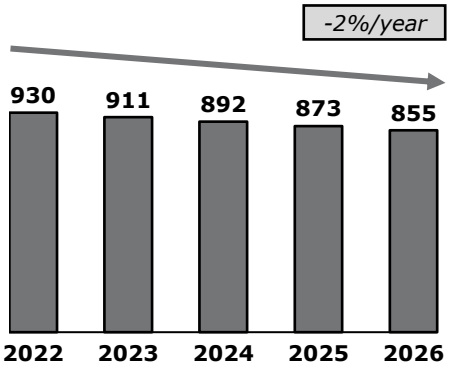
1.	Allowed revenues	911	mln. EUR/year
2.	Expected sales	435	mln. kWh/hour
3.	Average tariff (*excluding regulatory reconciliations & corrections*)	2.09	EUR/kWh/hour/year

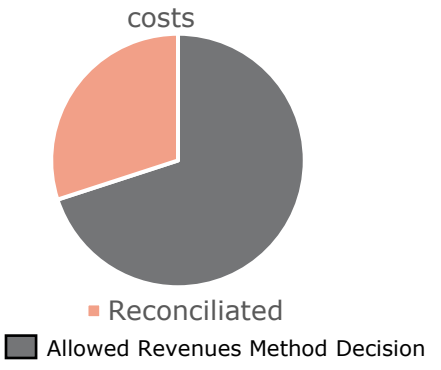
4. Four different tariffs in practice:

Entry non-storage	Exit non-storage
Entry-storage	Exit-storage

High level of new regulatory reconciliations in tariff decisions limits possibility to forecast tariffs

- Allowed revenues form the starting point for tariff calculations
- Tariffs are calculated according to the NC-TAR decision
- For years reconciliations have been allowed for:
  - Energy and nitrogen costs for Quality Conversion
  - Administrative imbalance
  - Oversubscription and buy-back & auction premiums
  - Revenue cap regulation
- and recently also for:
  - Investment costs with a depreciation period > 10y
  - Groningen investments (Zuidbroek, G- -> H-gas industries)
  - Disinvestments and revenues from disinvestments
  - Decrease in OPEX due to disinvestments
  - Correction in the WACC for
    - the risk free rate for the calculation of cost of equity in Capital Asset Pricing Model (CAPM)
    - The interest rate for cost of debt
- Conclusion: Over 30% of GTS's cost base in the period 2022-2026 **and** 1) Groningen investments, 2) disinvestments etc. are subject to regulatory reconciliation in the tariff decisions, making a reliable tariff forecast challenging.





* *Excluding regulatory reconciliations*
** *Income levels corrected for inflation (proxy: 1,7%)*

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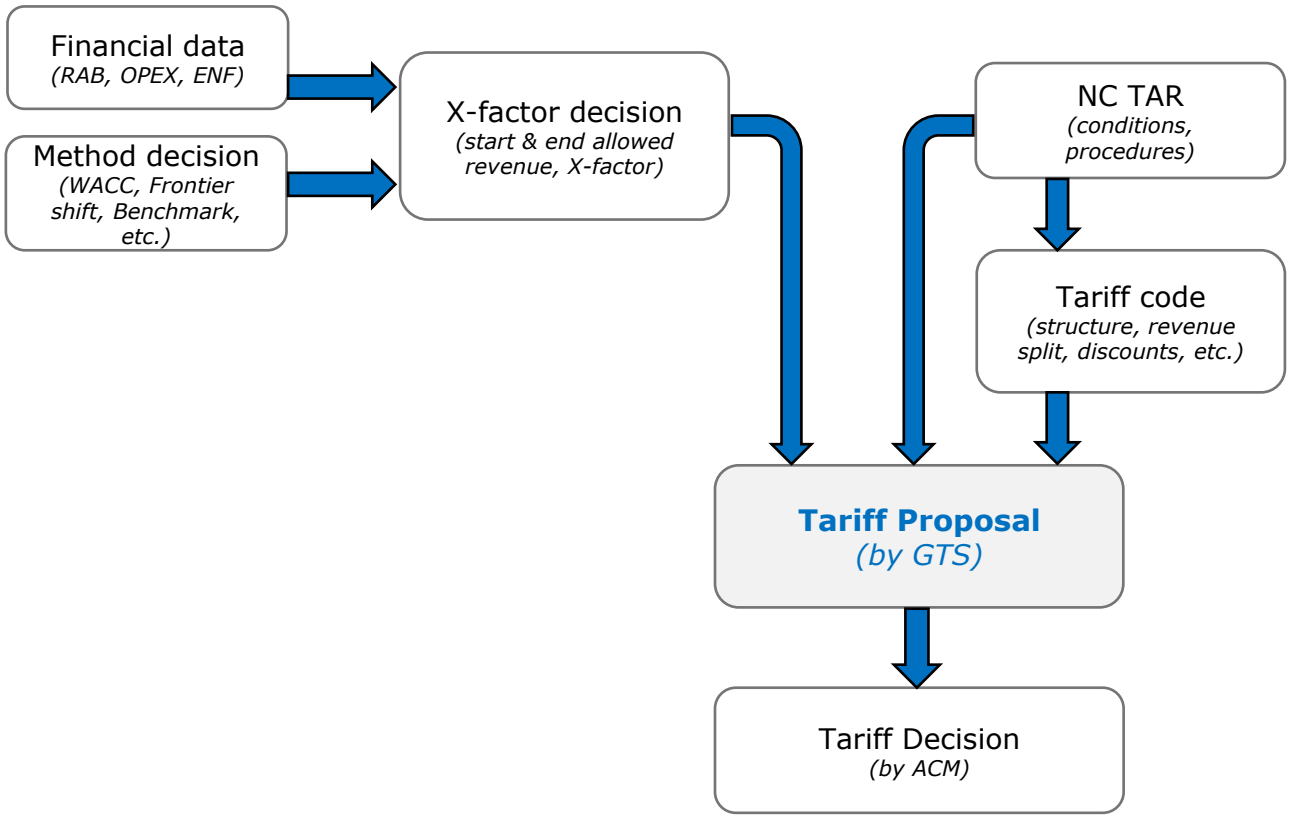
Context of the Tariff proposal



Key elements of NC TAR agreement (in force until 2025)

Key elements	NC TAR decision
Services	All-in Transmission service (no different tariffs anymore for transport, quality conversion, balancing and connection)
Reference price Methodology (RPM)	Postage stamp
Share of allowed revenue received from entry points	40%
Share of allowed revenue received from exit points	60%
Storage discount	60%
LNG discount	0%
Multiplier for daily and within-day product	1,75
Multiplier for monthly product	1,50
Multiplier for quarterly product	1,25
Seasonal factors for non yearly products	Yes
Interruptible capacity discount	Ex ante; discount is 0.43%*
Wheeling capacity discount	94%
Shift of capacity on FCFS exit points	Only under strict conditions
Shorthaul	No longer possible
Backhaul	Replaced by regular firm or interruptible & entry or exit capacity
Diversion, ToC, ToU	Services still available, but no administrative fee anymore

* Yearly adjusted: https://www.acm.nl/nl/publicaties/ontwerp-codebesluit-wijziging-korting-afschakelbare-capaciteit-1

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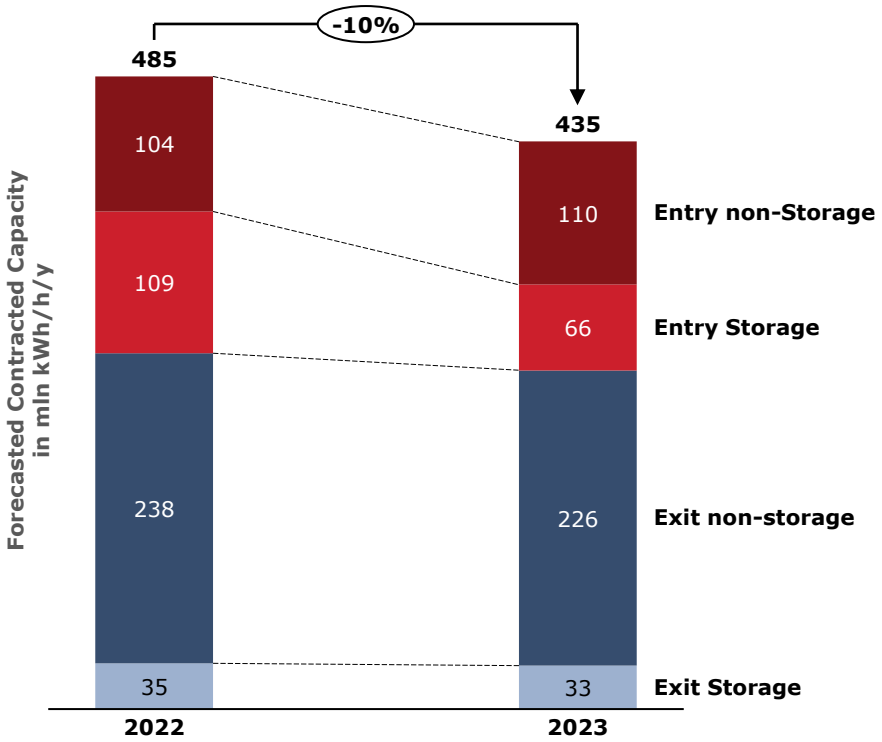
FCC: 2022 versus 2023

- Total FCC decreases by 10%
- Entry capacity declines with 37 mln. kwh/h/year (-21%)
  - Storage: -43 million
  - Non storage: +6 million
- Exit capacity declines with 13 mln. kwh/h/year (-5%)
  - Storage: -2 million
  - Non storage: -11 million



Explanation differences between 2022 and 2023

- Entry non-storage
  - Increase expected of H-gas at border points;
  - Further decrease in segment production points (Groningen, Small Fields);
  - LNG remains constant.
- Entry storage
  - Some LT-contracts will end/decrease in segment storage. Significant additional bookings to existing LT-booking level are not expected.
- Exit non-storage
  - Some LT-contracts decrease in segment border points, H-gas as well as L-gas (converting small-scale consumer markets Germany, Belgium, France)
  - Decrease in segments Industry and DSO
- Exit storage
  - Some LT-contracts will end/decrease in segment storage. Additional bookings to existing LT-booking level not expected

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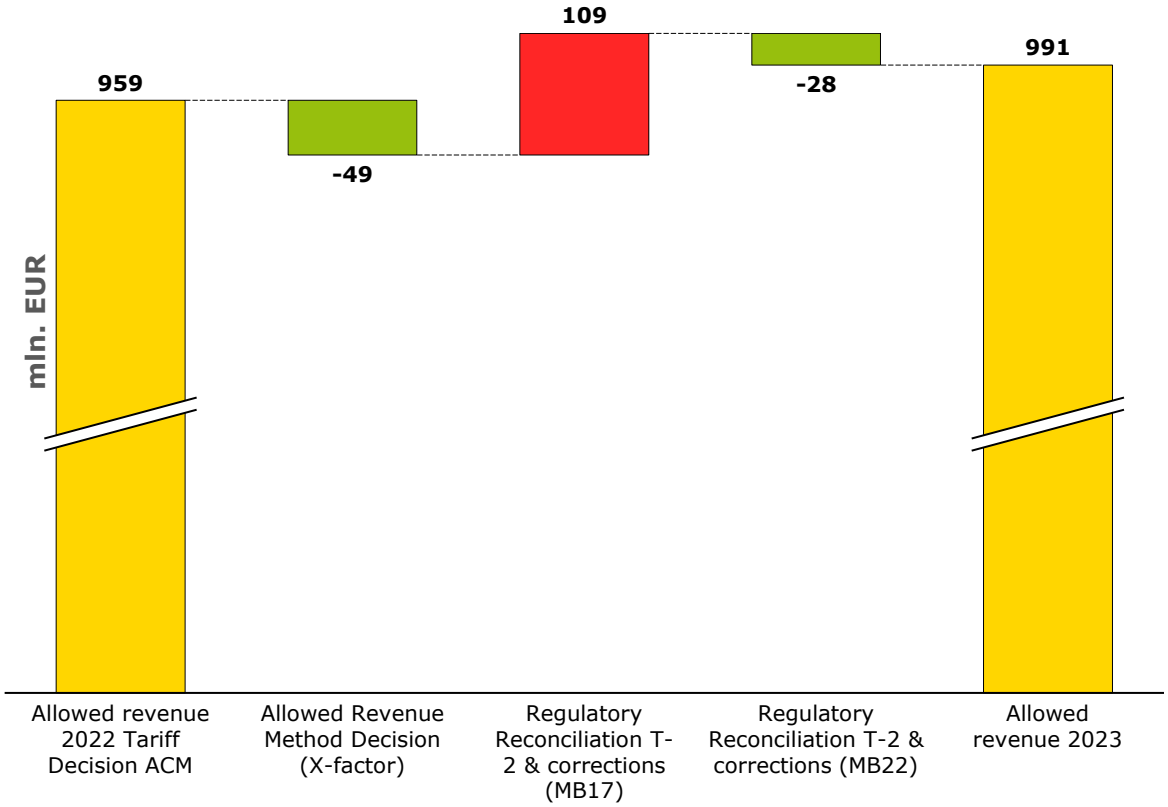
Determination of allowed revenue 2023



*Based on an estimated CPI of 1.7%. The final CPI will be available in April 2022 and will be applied by ACM in the tariff decision.

** See appendix 5 and 6 for a detailed overview of these corrections

Content

Input parameters for Reference Price Methodology (RPM)

Parameter	Value	Remark
Share of allowed revenue received from entry points	40%	NC TAR decision
Share of allowed revenue received from exit points	60%	
Storage discount	60%	
Allowed revenue	991M €	tariff decision by ACM, yearly
Forecasted contracted entry capacity	175M kwh/h/y	
Forecasted contracted exit capacity	260M kwh/h/y	
Forecasted contracted entry Storage capacity	66M kwh/h/y	
Forecasted contracted exit Storage capacity	33M kwh/h/y	

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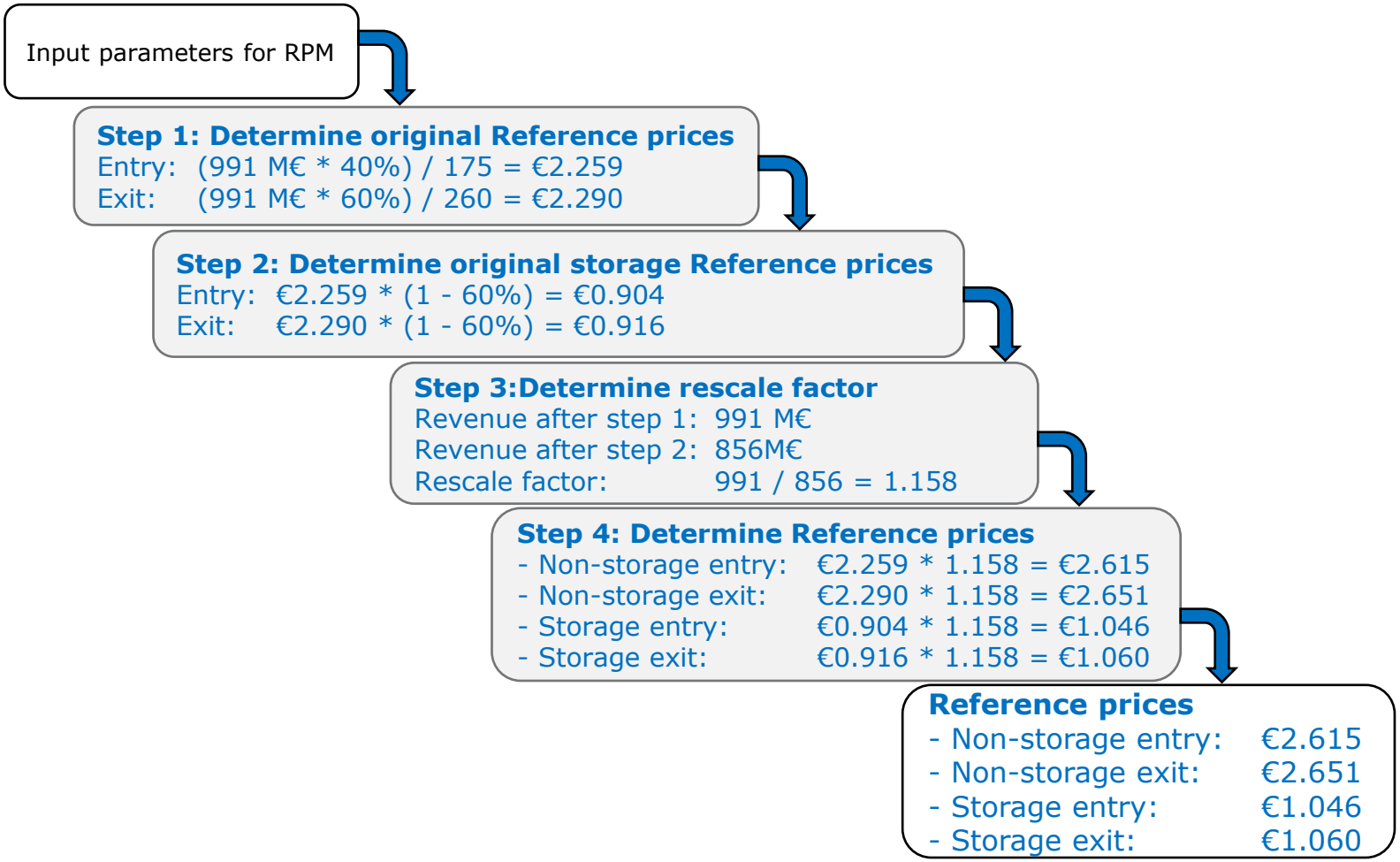
Reference price calculation in four steps



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Proposed total prices 2023 versus 2022

- Total price equals RPM + neutrality charge
- The total price is **15%** higher compared to 2022.
- The Reference price is also 15% higher in 2023 compared to 2022. Main drivers:
    - The increase in energy prices leads to a reconciliation of EUR 95 million;
    - The effect of declining capacity sales (-10%).

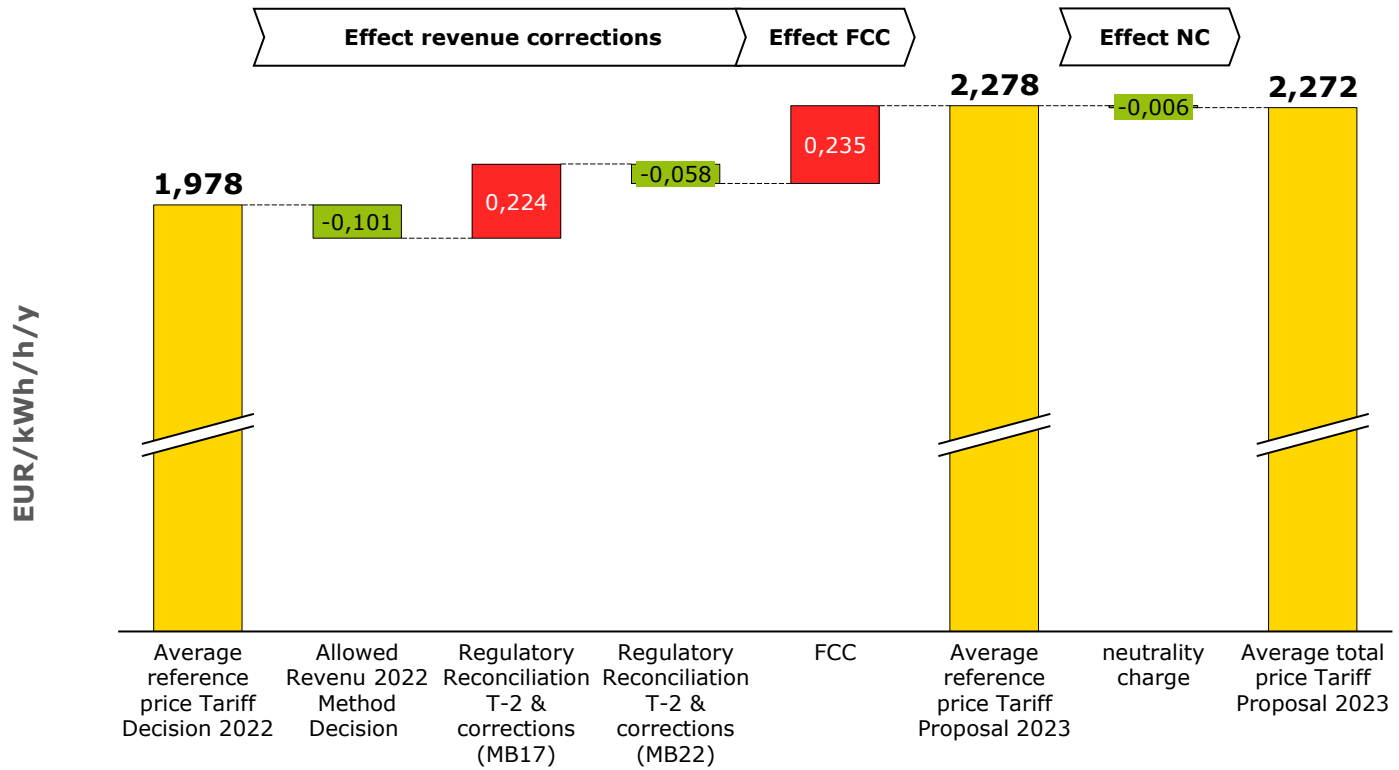
The neutrality charge leads to no significant change of total price. The neutrality charge equals EUR **-2.6 mln** in 2023, slightly offsetting the RPM increase.

total price*	2022[2]	2023	Delta 2023-2022
Average[1]	1.977	2.272	15%
Non-storage entry	2.175	2.609	20%
Non-storage exit	2.540	2.644	4%
Storage entry	0.870	1.043	20%
Storage exit	1.016	1.058	4%

* Prices in €/kWh/h/year

1. weighted average of the four prices, prices in €/kWh/h/year
2. Based on ACM Tariff Decision 2022, including Neutrality Charge

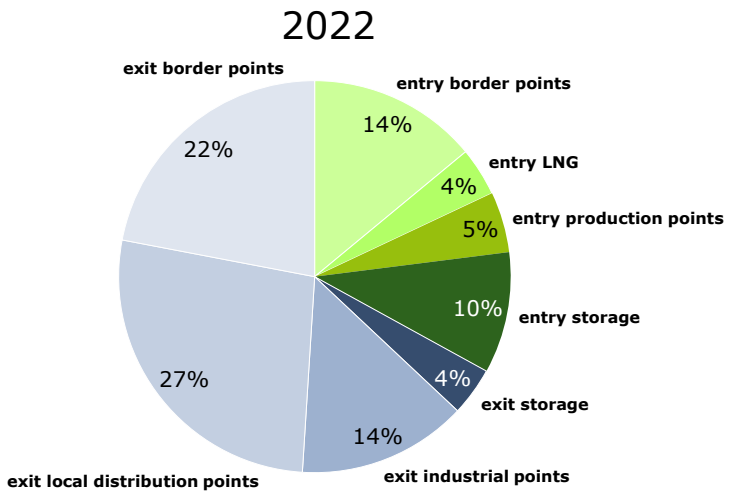
Explanation average total price increase



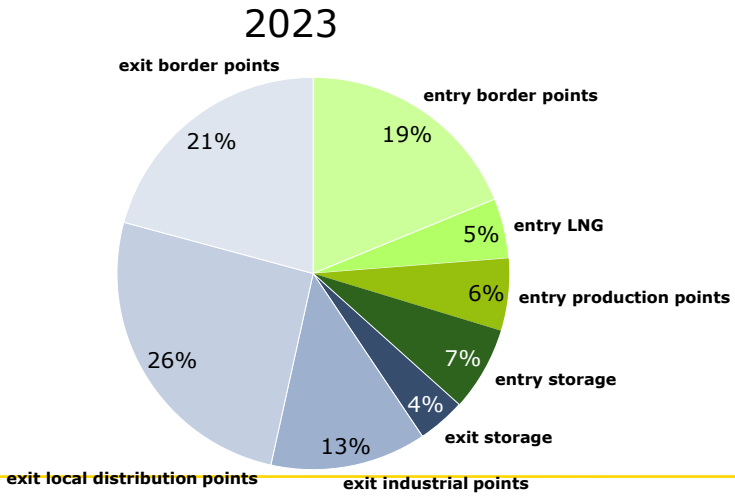
*Based on an estimated CPI of 1.7%. The final CPI will be available in April 2022 and will be applied by ACM in the tariff decision.

Expected revenue distribution per segment

	(mln kWh/h/y)	**revenue 2022** (M€)
Entry border points	63	137
Entry production points	23	50
Entry LNG	18	39
Entry storage	109	95
Total Entry	**213**	**321**
Exit border points	84	213
Exit industrial points	51	130
Exit local distribution points	102	259
Exit storage	35	36
Total Exit	**272**	**638**
Total Entry + Exit	**485**	**959**



	(mln kWh/h/y)	**revenue 2023** (M€)
Entry border points	71	186
Entry production points	21	55
Entry LNG	18	46
Entry storage	66	69
Total Entry	**175**	**356**
Exit border points	79	210
Exit industrial points	49	130
Exit local distribution points	98	260
Exit storage	33	35
Total Exit	**260**	**635**
Total Entry + Exit	**435**	**991**



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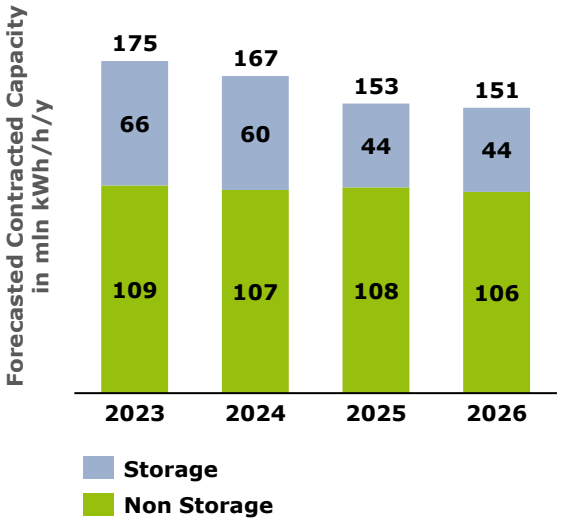
FCC development 2023-2026: storage bookings and exit via border points decline sharply

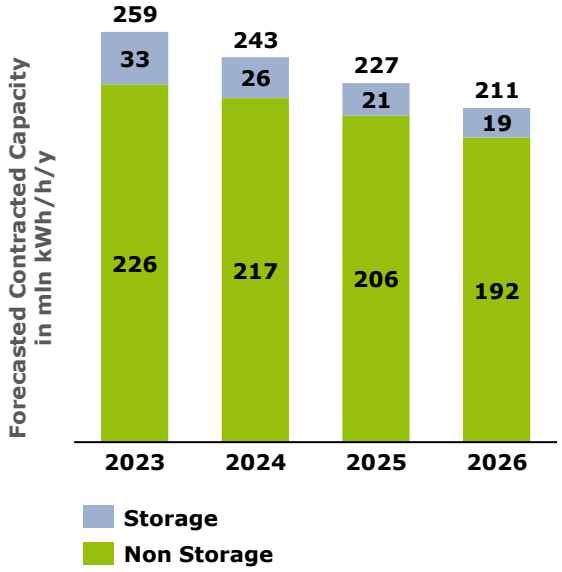
Entry
FCC decreases due to:

- Declines in storage in 2023 and 2024;
- Production shows a slight decrease;
- Border points show a stable trend;
- LNG remains stable.

Exit
FCC decreases due to:

- Storage declines;
- Decrease of exit at border points;
- DSO slightly decreases;
- Industry offtake remains stable.





Tariff development 2022–2026: regulatory reconciliations do not allow for a reliable forecast

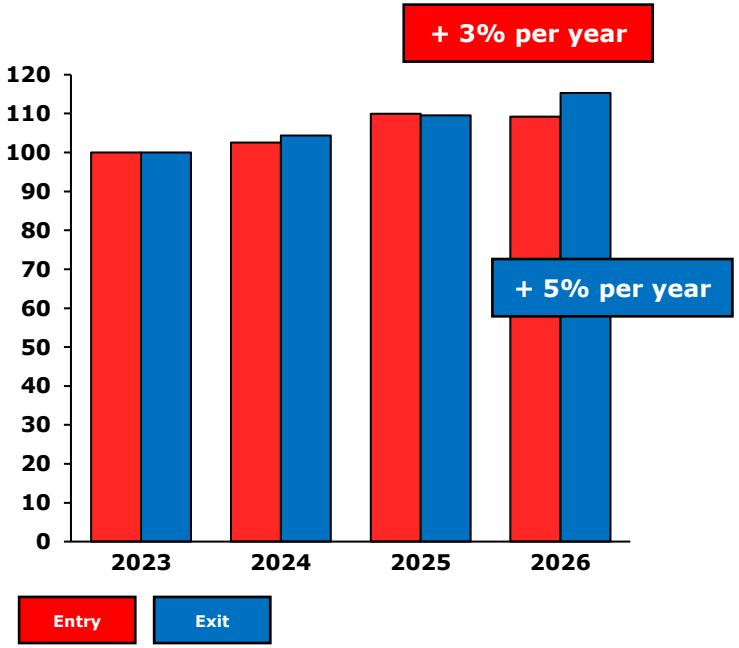
Two levers determine tariffs:
1. Allowed revenues
2. FCC

For the remaining period up to 2026:
- Allowed revenues decrease by 2% per year (compounded)

- FCC declines on average by 6% per year
  - Entry tariff increases by 3% per year
  - Exit tariff increases by 5% per year

Disclaimer:
Excluding all regulatory reconciliations; The high level of regulatory reconciliation in the new method decision substantially complicates tariff outlooks.

The tariff increase due to Zuidbroek nitrogen facility is expected to be 16% in 2024, 5% in 2025 and 5% in 2026.



Note: We assume the current RPM methodology under the NC TAR agreement.

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Next steps

Early March 2022

- GTS will send tariff proposal 2023 to ACM (1 March)
- ACM will publish GTS' proposal on ACM website
- GTS will publish this presentation on GTS website
- Market parties can send their written view to ACM within two weeks after publication on ACM website
- GTS publishes proposed neutrality charge on GTS website

Mid-end May 2022:

- ACM determines final reservation prices in tariff decision 2023 and publishes this on ACM website
- GTS publishes final neutrality charge in parallel with tariff decision
- GTS will process tariffs 2023 in GTS ICT systems
- GTS will determine entry/exit network points and publishes this in TSC at GTS website

1 Jan 2023:

- Start of 2023 tariffs

Thank you for your attention!

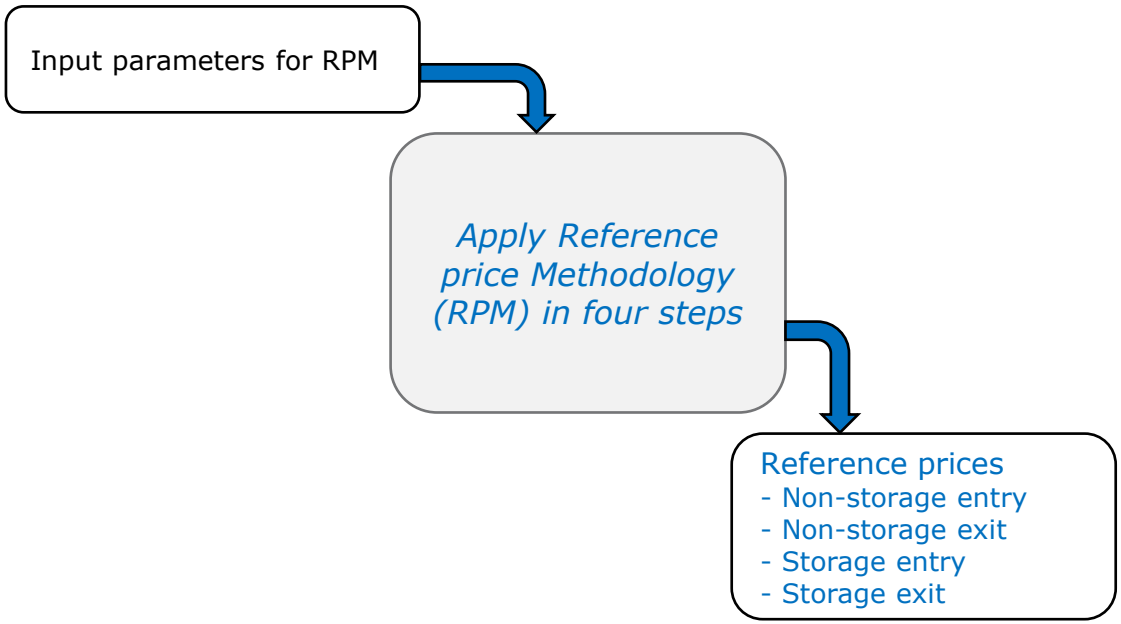
Content

Appendix

1. How to determine Reference prices
2. How to determine reserve prices
3. Overview of proposed reserve prices
4. NC-TAR agreement: Traceability of entry and exit tariffs
5. Details of regulatory reconciliation T-2 and corrections
6. Neutrality charge for balancing

1. How to determine Reference prices

'Reference price' means the price for the yearly firm standard capacity product



1. Input parameters for RPM

Parameter	Value	Remark
Share of allowed revenue received from entry points	40%	NC TAR decision
Share of allowed revenue received from exit points	60%	
Storage discount	60%	
Allowed revenue		tariff decision by ACM, yearly
Forecasted contracted entry capacity		
Forecasted contracted exit capacity		
Forecasted contracted entry Storage capacity		
Forecasted contracted exit Storage capacity		

Forecasted Contracted Capacity 2023

What is forecasted contracted capacity (FCC)?

- We forecast the sale of our 5 standard capacity products: within-day, day, month, quarter, year
- We translate each forecasted capacity of a non-yearly product to a capacity value of the yearly product
  - using the multiplier, the seasonal factor and the year fraction for each non-yearly product (M * Sf * Yf)
- The sum of all these "yearly" capacities is the 'forecasted contracted capacity'

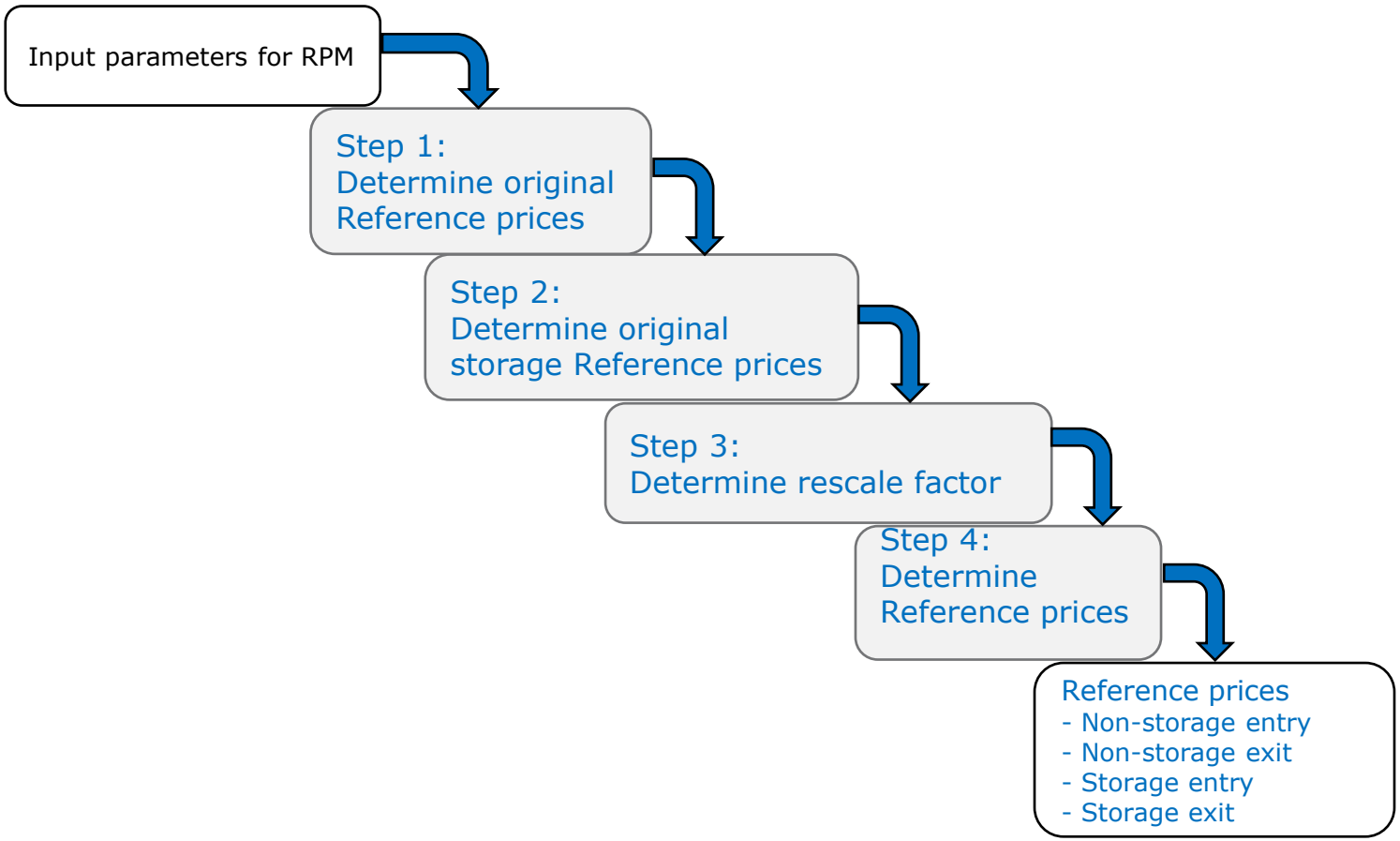
How do we forecast the FCC?

- We forecast the FCC per segment: Storage, Border points, Production points, LNG, Local distribution points, Industry
- Two types per segment: already contracted capacity + expected capacity sales
- Expected capacity sales are based on historical analysis and expectation from shippers, operators etc.

What if the realised capacity sales differ from the FCC?

- With an accurate forecast, shippers will pay the correct tariff for the capacity products
- Realised revenue > Allowed revenue: Shippers paid too much
- Realised revenue < Allowed revenue: Shippers paid too little
- Because of revenue cap regulation differences will be reconciliated two years later
- With an accurate forecast, regulatory reconciliation in T+2 will be minimised

1. Reference price methodology (RPM) in four steps



1. Step 1: Determine Original Reference prices

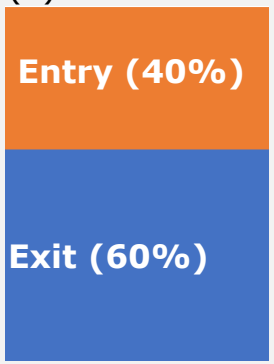
Allowed revenue,
Share of allowed revenue received from entry points,
Share of allowed revenue received from exit points,
Forecasted contracted entry capacity,
Forecasted contracted exit capacity

Step 1: Determine Original Reference prices

RPM is postage stamp methodology

- All entry points have the same original Reference price
- All exit points have the same original Reference price

Allowed revenue (€)



Divided by

Forecasted contracted Capacity (kWh/h)

Original Reference price

1. Step 2: Determine original storage Reference price

Original reference price

Storage discount (60%)

Step 2:
Determine original storage Reference price

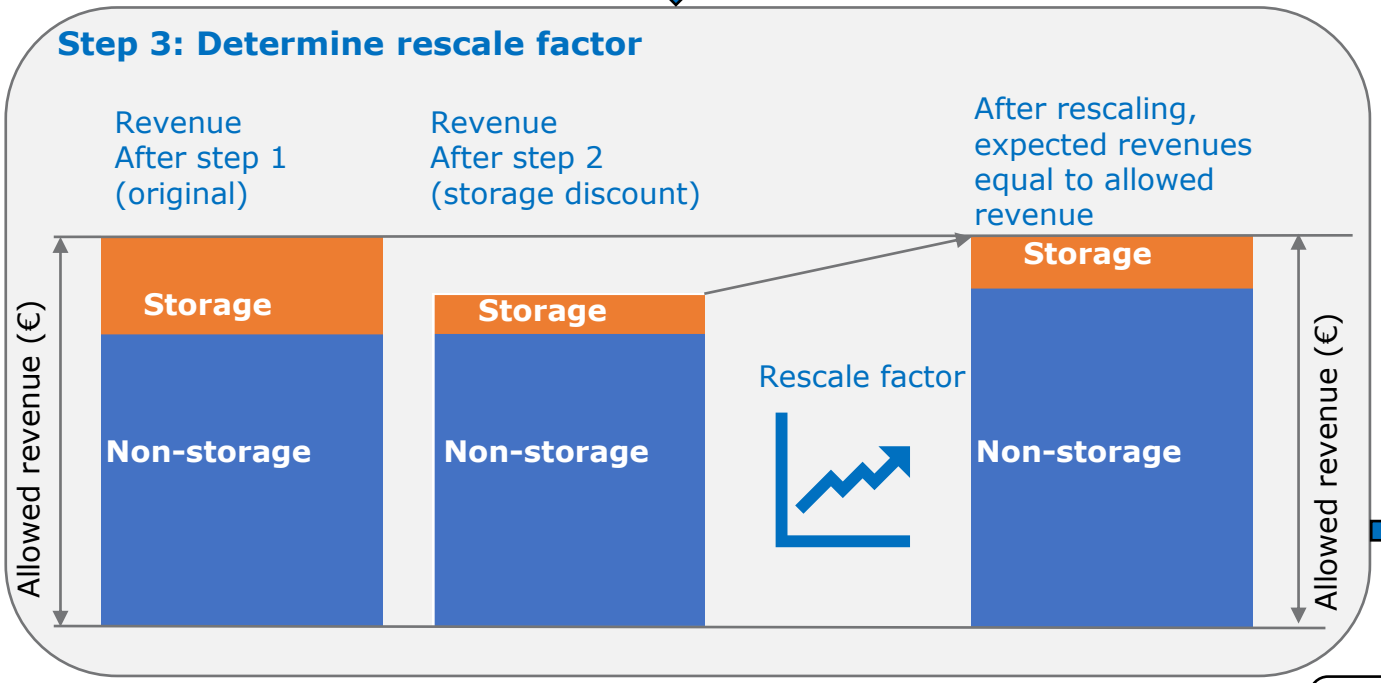
Apply storage discount to original Reference price

& Storage discount (60%)

Original storage Reference price

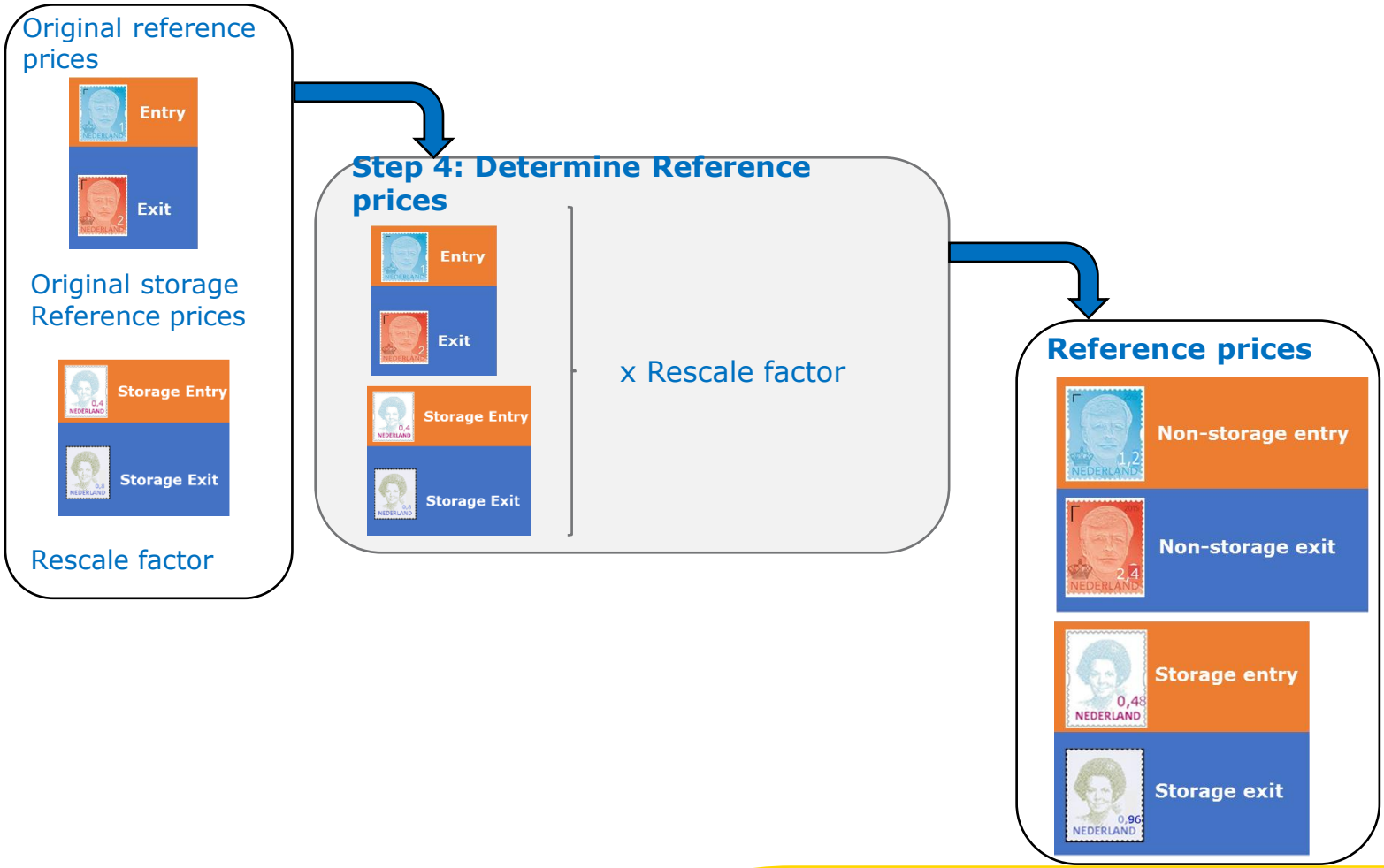
1. Step 3: Determine rescale factor

Original Reference prices
Original storage Reference prices
Forecasted contracted entry storage capacity
Forecasted contracted exit storage capacity
Allowed revenue



Rescale factor

1. Step 4: Determine Reference prices



2. How to determine reserve prices

'reserve price' means the price for a **non**-yearly firm standard capacity product

Reference prices

Multiplier
Seasonal Factors
Year fraction

Determine reserve prices for non-yearly firm standard products

*Reserve price = Multiplier * Seasonal Factor * Year fraction * Reference price*

For each product (Within-day, Day, Month, Quarter) there is a specific multiplier and a set of seasonal factors

Reserve prices for non-yearly firm standard products

3. Overview of proposed all-in reserve prices (1/4)

Non-storage Entry

	Year	Quarter	Month	Day	Within-day
January			0,59473972	0,02353629	0,00098068
February		1,25187148	0,50167292	0,02198142	0,00091590
March			0,40215733	0,01591239	0,00066302
April			0,27697556	0,01132300	0,00047180
May		0,58031951	0,22523476	0,00891545	0,00037148
June	2,61534287		0,19346372	0,00791231	0,00032968
July			0,18491907	0,00731042	0,00030461
August		0,45485470	0,17592301	0,00695932	0,00028998
September			0,18508029	0,00757375	0,00031558
August			0,24822470	0,00983082	0,00040962
November		0,97480636	0,38918452	0,01591239	0,00066302
December			0,53143409	0,02102843	0,00087619

3. Overview of proposed all-in reserve prices (2/4)

Non-storage Exit

	Year	Quarter	Month	Day	Within-day
January			0,60288031	0,02385845	0,00099411
February		1,26900666	0,50853964	0,02228229	0,00092843
March			0,40766192	0,01613019	0,00067210
April			0,2807667	0,01147799	0,00047825
May		0,58826272	0,2283177	0,00903748	0,00037657
June	2,65114077		0,19611178	0,00802061	0,00033420
July			0,18745018	0,00741048	0,00030878
August		0,46108059	0,17833098	0,00705458	0,00029395
September			0,18761361	0,00767741	0,00031990
August			0,25162231	0,00996538	0,00041523
November		0,98814917	0,39451154	0,01613019	0,00067210
December			0,53870817	0,02131626	0,00088818

3. Overview of proposed all-in reserve prices (3/4)

Storage Entry

	Year	Quarter	Month	Day	Within-day
January			0,23789589	0,00941452	0,00039228
February		0,50074859	0,20066917	0,00879257	0,00036636
March			0,16086293	0,00636496	0,00026521
April			0,11079022	0,00452920	0,00018872
May		0,23212780	0,09009390	0,00356618	0,00014860
June	1,04613715		0,07738549	0,00316492	0,00013188
July			0,07396763	0,00292417	0,00012185
August		0,18194188	0,07036920	0,00278373	0,00011599
September			0,07403212	0,00302950	0,00012623
August			0,09928988	0,00393233	0,00016385
November		0,38992254	0,15567381	0,00636496	0,00026521
December			0,21257364	0,00841137	0,00035048

3. Overview of proposed all-in reserve prices (4/4)

Storage Exit

	Year	Quarter	Month	Day	Within-day
January			0,24115212	0,00954338	0,00039765
February		0,50760267	0,20341586	0,00891292	0,00037138
March			0,16306477	0,00645208	0,00026884
April			0,11230668	0,00459119	0,00019130
May		0,23530509	0,09132708	0,00361499	0,00015063
June	1,06045631		0,07844471	0,00320824	0,00013368
July			0,07498007	0,00296419	0,00012351
August		0,18443224	0,07133239	0,00282183	0,00011758
September			0,07504544	0,00307097	0,00012796
August			0,10064893	0,00398615	0,00016609
November		0,39525967	0,15780461	0,00645208	0,00026884
December			0,21548327	0,00852650	0,00035528

4. NC-TAR agreement: Traceability of entry and exit tariffs

Obligation from NC TAR agreement	Remark
To improve the traceability of the entry and exit tariffs, GTS will, before submitting its tariff proposal to ACM, verbally explain its proposal to market parties	this session
GTS explains how it has applied the Tariff Code	slide 10, 11 & 33-41
GTS shows which Reference prices will be proposed	slide 2
GTS makes a comparison with the prices for the previous year	slide 21
GTS explains how she determines the proposed forecasted contracted capacity	slide 13, 14
GTS explains which regulatory reconciliation and corrections it wishes to propose	slide 47
GTS shows the distribution of revenues per segment, whereby at least a distinction is made between interconnection points, production points, storages, LNG, local distribution points and industry and between entry and exit	slide 23
GTS will publish the oral explanation (this presentation) on its website	March 2022

5. Details of regulatory reconciliation T-2 and corrections

regulatory reconciliation and corrections	Total *€ mln.*	Link to Method Decision 2017-2021
Purchase costs energy (only QC)	95	Chapter 9.2.1
Revenue-cap regulation	-1	Chapter 9.3
Administrative imbalance	23	Chapter 9.2.4
Over subscription and buy back	-7	Chapter 9.4.3
Auction premium	-1	Chapter 9.4.2
Other corrections	0	
TOTAL (rounded)	**109**	

regulatory reconciliation and corrections	Total *€ mln.*	Link to Method Decision 2022-2026
Investment costs with a depreciation period > 10y	-27	Chapter 8.3.6
Decrease in OPEX due to disinvestments	-1	Chapter 7.3.3
Other corrections	0	
TOTAL (rounded)	-28	

6. Neutrality charge for Balancing

- The neutrality charge for balancing activities is an NC BAL obligation
- NC BAL states that a TSO shall not gain or lose by the payment and receipt of any of its balancing activities (article 29)
- A code change was implemented by ACM in 2020 in order to approve the methodology for the calculation of the neutrality charges for balancing activities
- The charge consists of the Linepack Flexibility Service fee (regular) and incidental balancing costs (like defaults)
- The methodology for the calculation of the neutrality charges for balancing activities is equal to the calculation method for the Reference price and the reserve prices for transmission services as set out in the NC TAR decision by ACM
- As a consequence, each capacity product (except wheeling) will have a tariff set by ACM and a neutrality charge determined by GTS
- For 2023 the neutrality charge amounts to approximately EUR -2,6 mln.

Neutrality charge calculation (using RPM method)

Input parameters for RPM

Step 1: Determine original Reference prices
Entry: (EUR -2.6 M€ * 40%) / 175 = - €0.006
Exit: (EUR -2.6 M€ * 60%) / 260 = - €0.006

Step 2: Determine original storage Reference prices
Entry: - €0.0059 * (1 - 60%) = - €0.002
Exit: - €0.0060 * (1 - 60%) = - €0.002

Step 3:Determine rescale factor
Revenue after step 1: - 2.6 M€
Revenue after step 2: - 2.2 M€
Rescale factor: -2.6 / -2.2 = 1.158

Step 4: Determine Reference prices
- Non-storage entry: - €0.0059 * 1.158 = - €0.007
- Non-storage exit: - €0.0060 * 1.158 = - €0.007
- Storage entry: - €0.0023 * 1.158 = - €0.003
- Storage exit: - €0.0024 * 1.158 = - €0.003

Neutrality charges
- Non-storage entry: - €0.007
- Non-storage exit: - €0.007
- Storage entry: - €0.003
- Storage exit: - €0.003