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GTS Shipper Meeting 2024

Programme

Time	Presentation	Speaker
14:30	Welcome speech	Inge Aardse
14:40	Security of Supply	Sybren de Jong
15:10	Investment plan	Eise Overweg
15:30	Storage discounts	Anne Spijkstra
15:40	Short break	
16:00	Joint presentation of GTS & ICE regarding balancing and balancing product	Sandrie Egberts/Wouter de Klein
16.50	Wrap up	Tico Raaijman

Amsterdam, 7 November 2024

Security of Supply

Required working gas volume to meet cold winter demand

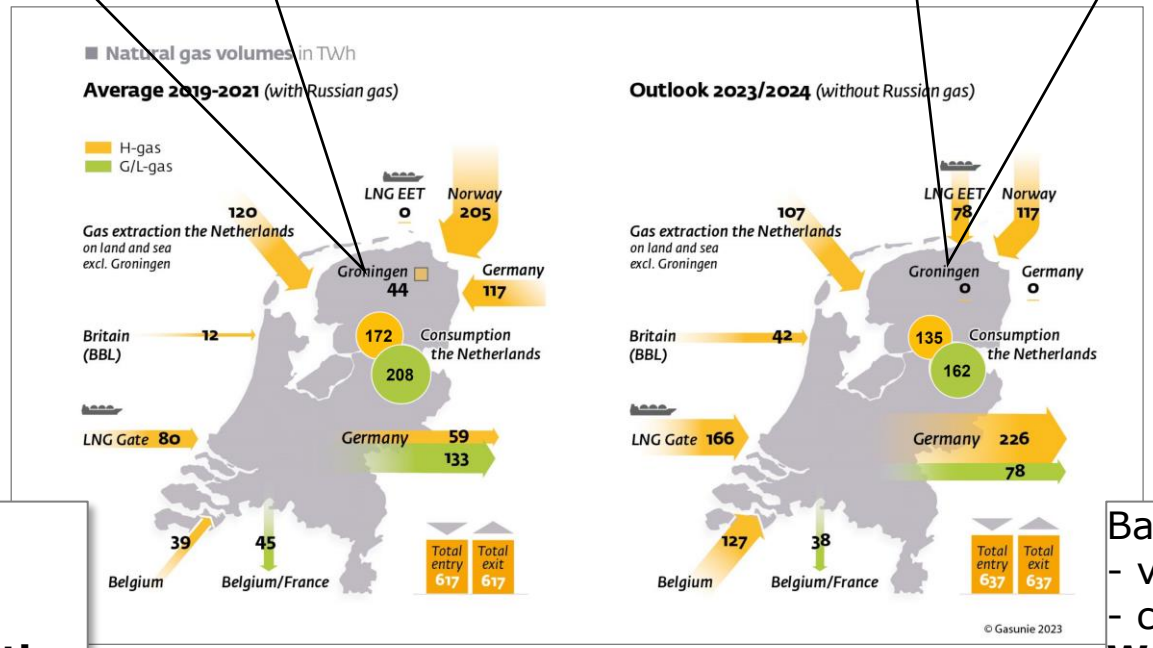
Sybren de Jong | Gasunie Transport Services

Now the Groningen field is closed,

The Gas Act has been changed accordingly, as of May 1, 2024

Until May 1, 2024
Annually, before February 1,
GTS published an advice about the production Groningen field

From May 1, 2024
Annually, before September 15,
GTS publishes an Overview of security of supply, resulting in a minimum required volume in seasonal storages.



Balance for
- volume
- capacity
Groningen production

Balance for
- volume
- capacity
Working gas volume

Legal framework and process

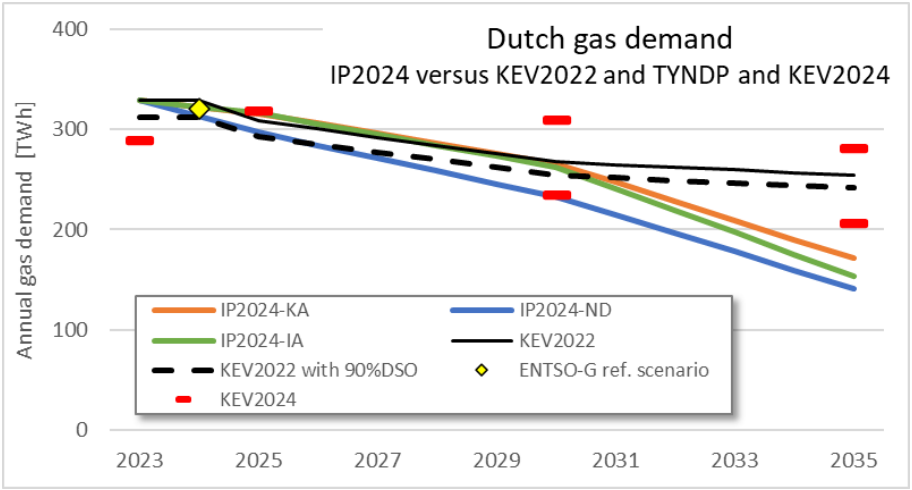
- The Dutch Gas Act has been changed to formalise the closure of the Groningen field.
- This has given GTS the legal task to deliver a yearly overview of security of gas supply in the Netherlands*.
- The overview consists of three main elements:
  - **Capacity balance** at -14 °C, in accordance with the European infrastructure standard.
  - **Volume balance** for the coldest year**, in accordance with the previous analysis of the Groningen volume.
  - **Minimum filling level of seasonal storage** on November 1, 2025 to meet demand in a cold winter.
- Based on the advice, the Ministry of Climate Policy and Green Growth (KGG) can establish a filling obligation. If filling level by market parties is insufficient, a public service operator may intervene.
- An act is in preparation "*Wet bestrijden Energiecrisis*".
- This year's timing and publication of the overview:
  - Ready before September 15, 2024.
  - The overview focuses on winter 2025/26.
  - With an outlook up to 2030.
  - The resulting letter with annexes is available on the GTS website***.

* Gas Act, Article 10a, paragraph 1q, 8 en 9
** Based on the coldest year of the past 30 years.
*** https://www.gasunietransportservices.nl/en/gasmarket/market-development/security-of-gas-supply

Scenarios and prognosis

KEV2022 with 10% reduction for DSO turned out to be a pretty good estimate

- **Scenarios** are based a world view or goals, e.g. achieving climate goals.
  Various scenarios are available for the Dutch gas demand, such as
  - The Investment Plan (IP2024), based on 3 scenarios.
    New scenarios are in preparation (*next speaker*).
  - The Integral Infrastructure Exploration 2030-2050 (II3050), based on 4 scenarios.
  - The Ten-Year Network Development Plan (TYNDP), based on 3 scenarios.
    An update of the TYNDP scenarios is in preparation.
- **Prognosis** are based on the current situation and likely developments.
  The Climate and Energy Outlook of the Netherlands 2022 (KEV2022) is a prognosis and is used by GTS as input for the analysis as the most recent.
- For the period up to 2030, scenarios and prognosis show the same development, with corresponding figures.
- **GTS uses KEV2022** as the most recent prognosis with a 10% lower gas demand within distribution, to compensate for lower gas demand since 2022.
- On October 24th KEV2024 was published, showing that the assumption of KEV2022 with 10% less gas demand in distribution is a realistic estimate for Dutch gas demand.



A base case and two cases for sensitivity

Base case - Tight supply - Ample supply

	Base case	**Tight supply**	**Ample supply**
Dutch demand	Capacity and volumes are based on the Climate and Energy Outlook of the Netherlands 2022 (KEV2022), with a 10% lower gas demand in distribution.		
L-gas export to Belgium, France and Germany	According to the Winterbriefing 2024 Taskforce Monitoring L-gas Market Conversion.		
H-gas export to Germany	Export flow is based on actual flows of the last two years from the Netherlands to Germany.		More gas on the Dutch balance. Corresponding to 1/3 less export of H-gas to Germany. Both for capacity and volume.
German H-gas caverns	Capacity based on the Winter Supply Outlook from ENTSOG for the availability of the German H-gas cavernes at peak demand.		
LNG	Maximum availability of Gate is assumed, including fourth tank from 2026/27, and EET until the start of gas year 2027/28.	Less gas on the Dutch balance. Corresponding to 30% less LNG supply compared to the base case. Both for capacity and volume.	

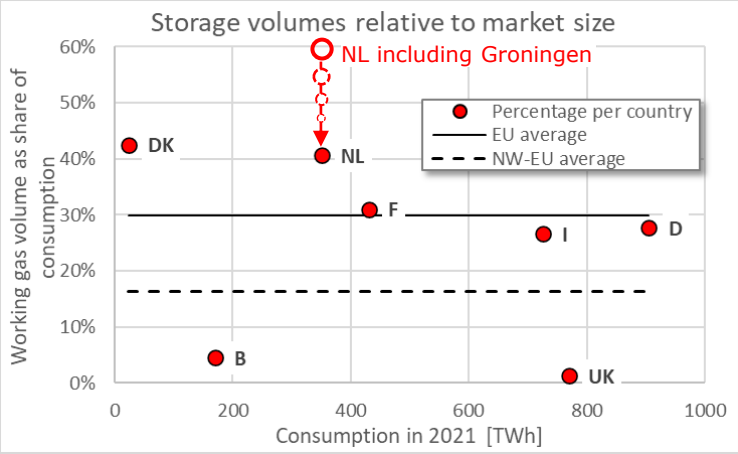
- Tight supply assumes less supply (of LNG): -75 TWh
- Ample supply assumes less export (to Germany):
  - In a normal temperature year: +50 TWh
  - In a cold year: +67 TWh
- The main assumptions were consulted in July 2024, reactions and opinions are on the GTS website.*

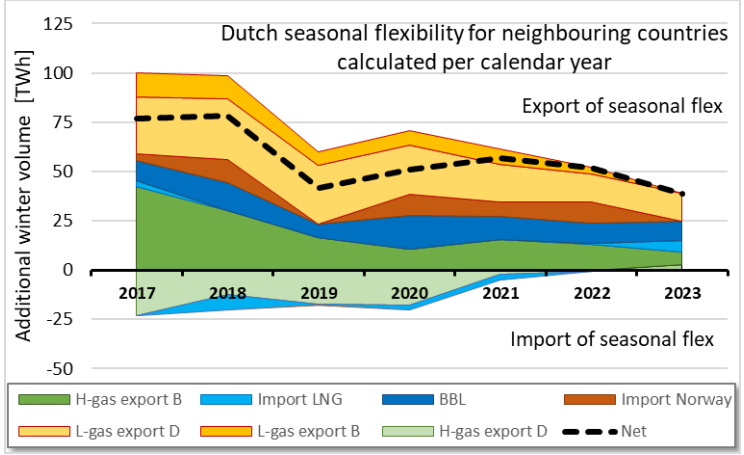
* GTS website: https://www.gasunietransportservices.nl/en/gasmarket/market-development/security-of-gas-supply

Seasonal flexibility is an international play

With less flexibility in production and import recently

- Over the past 5 years, EU supply has become a more baseload character with less seasonal flexibility.
  - Norway: more volume, less flexibility: -25 TWh seasonal flex volume
  - Russia: less volume, less flexibility: -30 TWh seasonal flex volume
  - EU production including Groningen, less flexibility: -55 TWh seasonal flex volume
- There are haves and have nots.
  - NL has ample storage volume: about 40% of annual gas demand.
  - Belgium and the UK have almost none: less than 5% of annual gas demand.
- On a commercial basis, Dutch seasonal flexibility is used for neighboring markets, particularly Belgium and the UK. Recent years show an exchange of seasonal flex of about 25 TWh*.



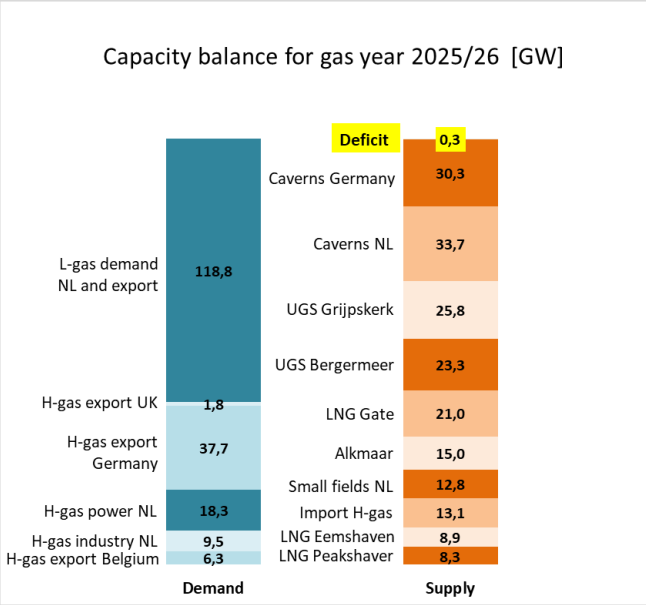


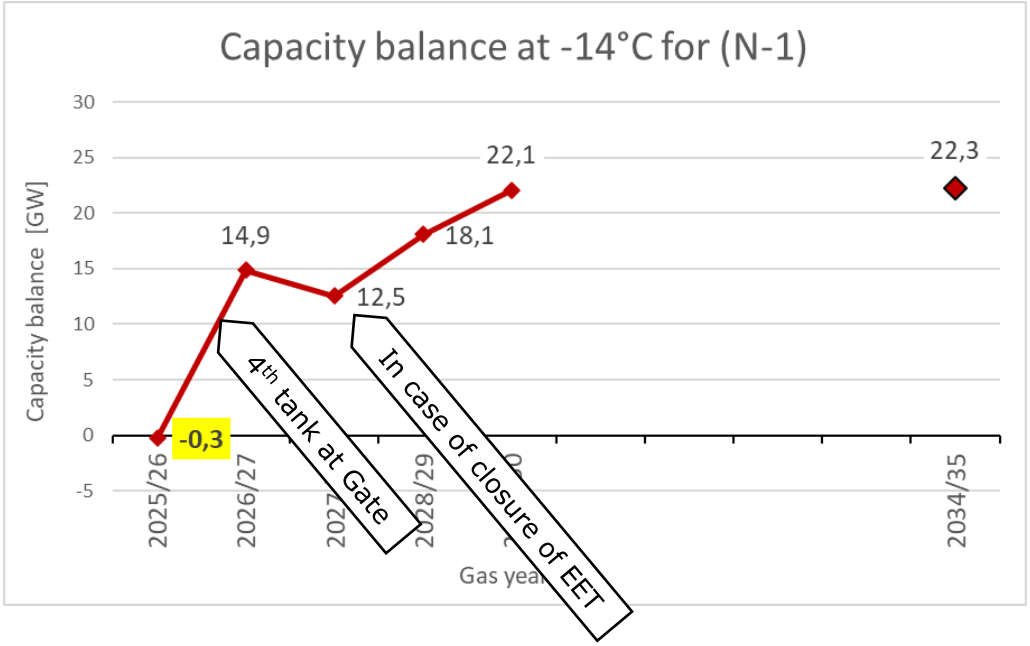
* In the H-gas system. The exchange in the L-gas system decreases to zero in 2030.

Results The capacity balance

Day with peak demand, based on the EU infra norm

- A one in twenty years peak demand has been calculated at a wind corrected temperature of -14°C*, without the availability of the largest supplier: (N-1) = Norg (-33,4 GW).
- In line with previous analyses, the capacity balance for gas year 2025/26 shows a small deficit and is positive thereafter.



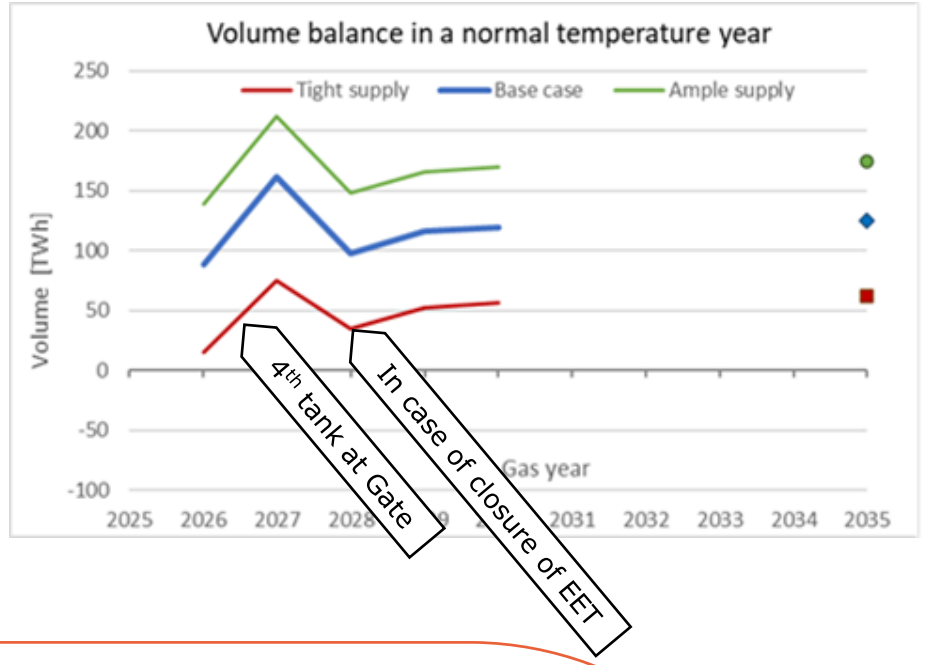


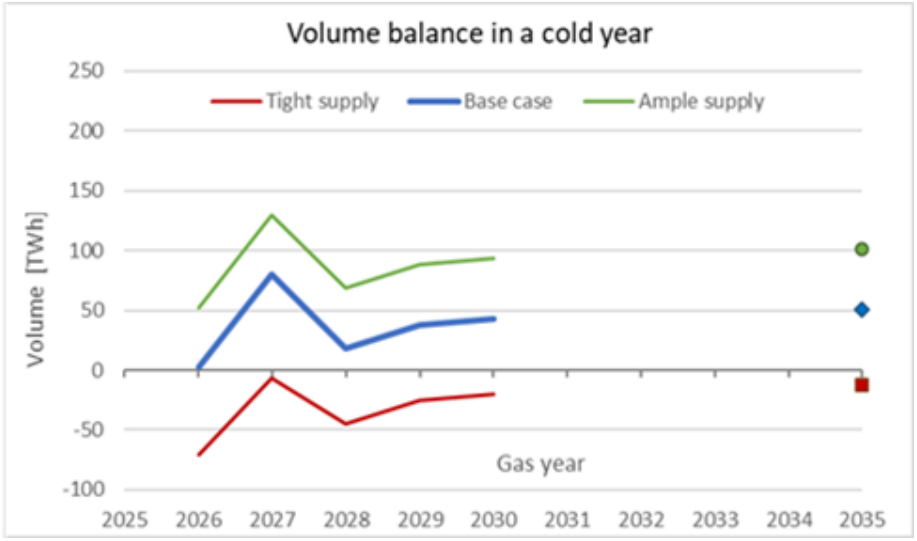
* According to a KNMI analysis and advise

Results The volume balance

Demand and supply in the coldest year

- The Dutch demand is based on KEV2022 with a 10% lower gas demand assumed within distribution.
- Assuming a normal temperature year, there are no shortages.
- In a cold year, a shortage occurs in case of tight supply. Closure of EET perpetuates this shortage.
- Results are in line with the results of ENTSO-G's Winter Outlook 2024/25*.

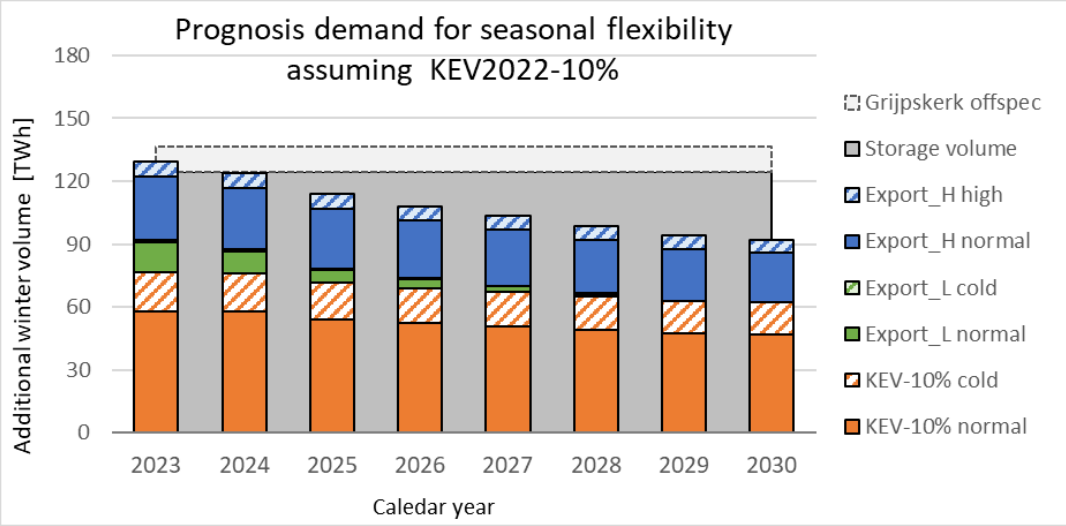




* ENTSOG Winter outlook, 16 Oct 2024

Result Filling level of seasonal storage
on November 1, 2025

- Based on temperature related gas demand and a predominantly base load supply, seasonal storages are indispensable for supplying additional winter volume.
- To serve both the Dutch and the NW European gas market, a volume of at least 110 TWh should be available in seasonal storages at the beginning of winter 2025/26.
- This filling level does not respect a long-term interruption of gas supply.



	Normal temperature year	Cold year
Dutch demand	52,2	69,0
Export L-gas	4,8	5,2
Interaction H-gas system	14,0	35,8
Total	**71 TWh**	**110 TWh**

Summary and outlook

Main results from the overview

- In line with previous analyses, the balance for capacity shows a small deficit for gas year 2025/26 and is positive thereafter.
- The volume balance for volume shows a possible shortage in a cold year, in case of tight supply.
- Dutch seasonal storages should be filled up to 110 TWh at the beginning of winter 2025/26.

The process

- Foreseen for the 2025 edition:
  - Q1 & Q2 Analysis and draft report
  - Q3 Market consultation and completion

Investment Plan 2026

From scenarios to Investment Plan 2026 and a preview of the IP2024 addendum

Eise Overweg | Gasunie Transport Services

Investment Plan

The reason behind it, what it is and when you can expect it

Why an Investment Plan (IP)?

- *Network operators are legally required to present an IP to ensure transparency in energy infrastructure investments*
- *With an IP, network operators offer an overview and justification of their investments in the short and long term*

What does an IP consist of?

- *The IP legally contains the following three elements:*
  1. *Developments in the energy market*
  2. *Bottleneck analysis of the transport network*
  3. *Description of investments in the transport network*

When does GTS make an IP?

- *IPs are established every two years; next Investment Plan will be IP2026*
- *GTS has an obligation to report in the event of a significant change via an addendum to the IP*

Stakeholders

Several stakeholders take part in the IP process

Market parties and representative organisations

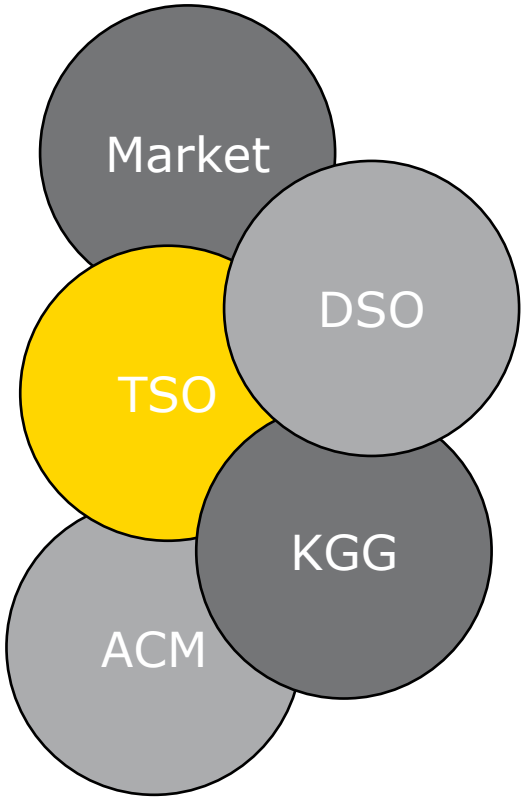
- *Information session: process and scenario development*
- *Scenario stakeholder sessions with Netbeheer Nederland (NBNL)*
- *Consultation of IP 2026*

Dutch TSOs and DSOs

- *Continuous alignment around IP process*
- *Joint scenario development via NBNL*

ACM and The Ministry of Climate Policy and Green Growth (KGG)

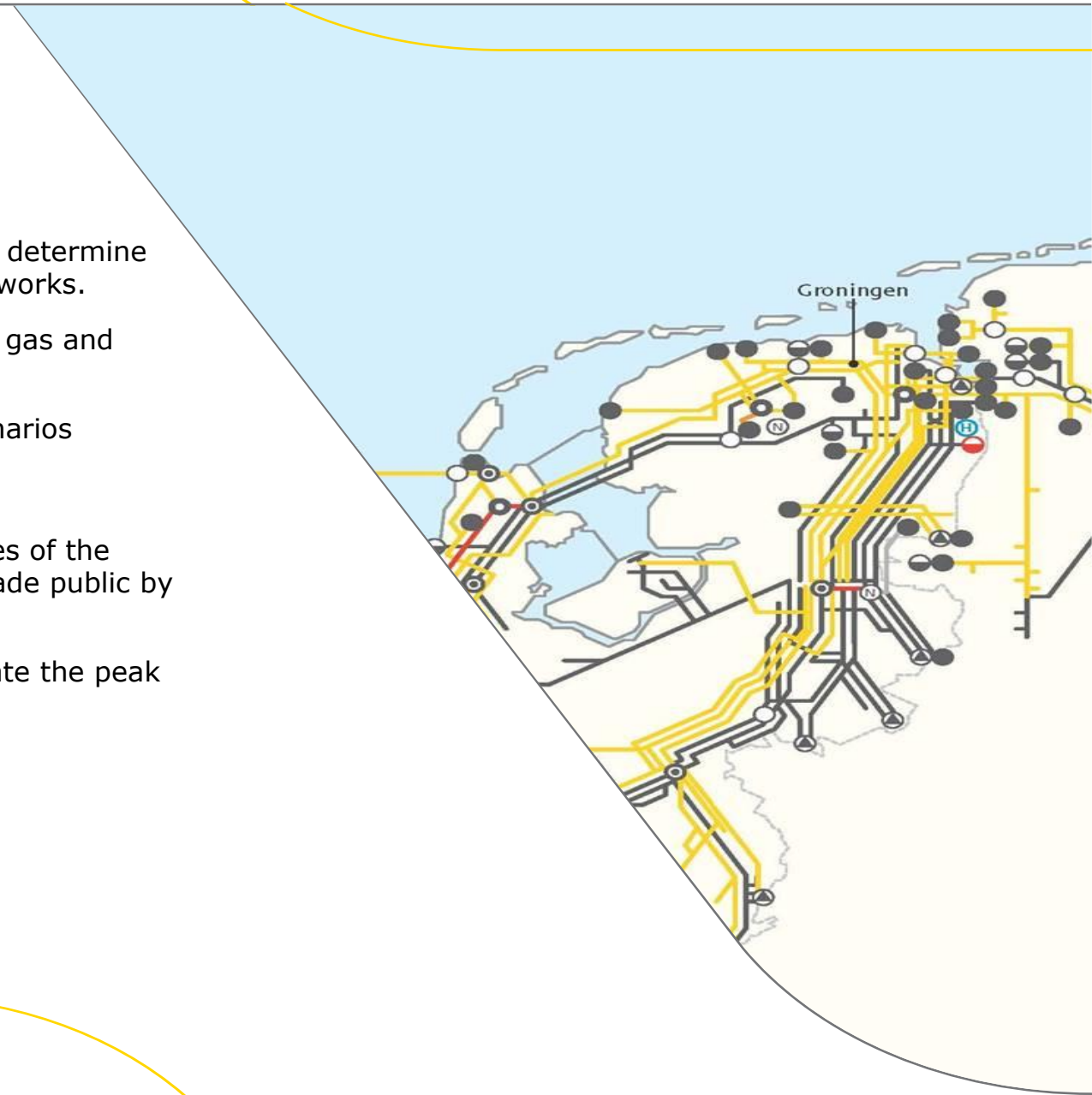
- *Continuous alignment*



Scenario development

All scenarios are drafted with stakeholder collaboration

- Investment Plans require input data in the form of scenarios to determine the size and functionality of the future gas (and electricity) networks.
- These scenarios are drafted in a joint effort between the Dutch gas and electricity TSOs and DSOs.
- Stakeholders are again involved in the development of the scenarios through three stakeholder sessions in the period June – November 2024 hosted by NBNL.
- By the end of this year, it is expected that year-on-year volumes of the scenarios are quantified. The results of the scenarios will be made public by NBNL in the beginning of 2025.
- Following this, the year-on-year volumes will be used to calculate the peak capacity to be used in an infrastructure assessment.



IP2026 scenario storylines

All scenarios below predict a decline in required peak capacity compared to current levels

Scenario "**Joint Balance**" (GB26): this scenario has a relatively big impact on the gas infrastructure compared to the other scenarios. This scenario further builds on the "International Ambition" (IA24) scenario from IP2024 and the European Integration scenario from II3050v2.

Scenario "**Horizon Supply**" (HA26): this scenario has a big impact on the hydrogen infrastructure compared to the other scenarios. This scenario further builds on the "International Ambition" (IA24) scenario from IP2024 and the International Trade scenario from II3050v2.

Scenario "**Steady Middle Path**" (KM26): scenario bases on existing and proposed energy and climate policies, supplemented by the policy direction of the governments National Plan Energy system (NPE).

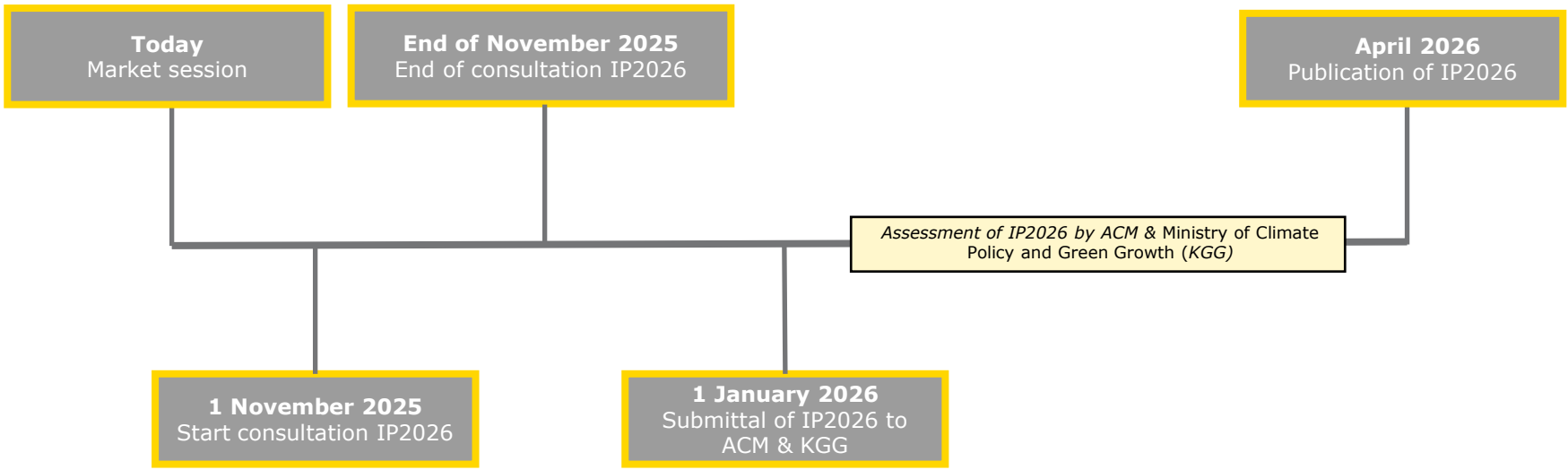
Scenario "**Own Power**" (EV26): this scenario has a big impact on the electricity infrastructure compared to the other scenarios. This scenario further builds on the "National Drivers" (ND24) scenario from IP2024 and the National Leadership scenario from II3050v2.

Relative more prominent role for gas

Relative less prominent role for gas

Milestones IP2026

The IP2026 will adhere to a set timeline up to approval



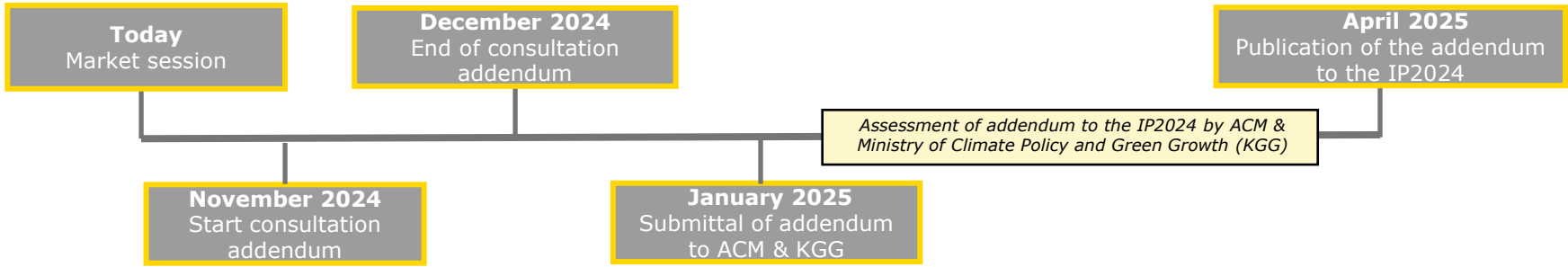
The IP will be assessed by KGG and ACM on:

- KGG: has GTS taken sufficient account of developments in the energy market?
- ACM: could GTS reasonably have come to the draft investment plan and are the investments necessary?

Developments IP2024: Addendum

GTS will submit a concept addendum to the IP2024 for review to the market, KGG and the ACM

- The concept addendum to the IP2024 includes five investments which are considered as significant changes within the scope of the IP2024. These are:
  - Large-scale replacement of heating systems at gas receiving stations
  - Measures to reduce methane emissions from vent stacks at compressor stations
  - Peakshaver: lifetime extension program
  - Replacement of the Zoeterwoude metering and regulating station
  - Replacement of odorant injection control and monitoring units and station computers with station control panels at metering and regulating stations
- Total expected investments amounts to ~€300 million



- Responses to the addendum are welcome and can be sent to: gasmarket@gastransport.nl

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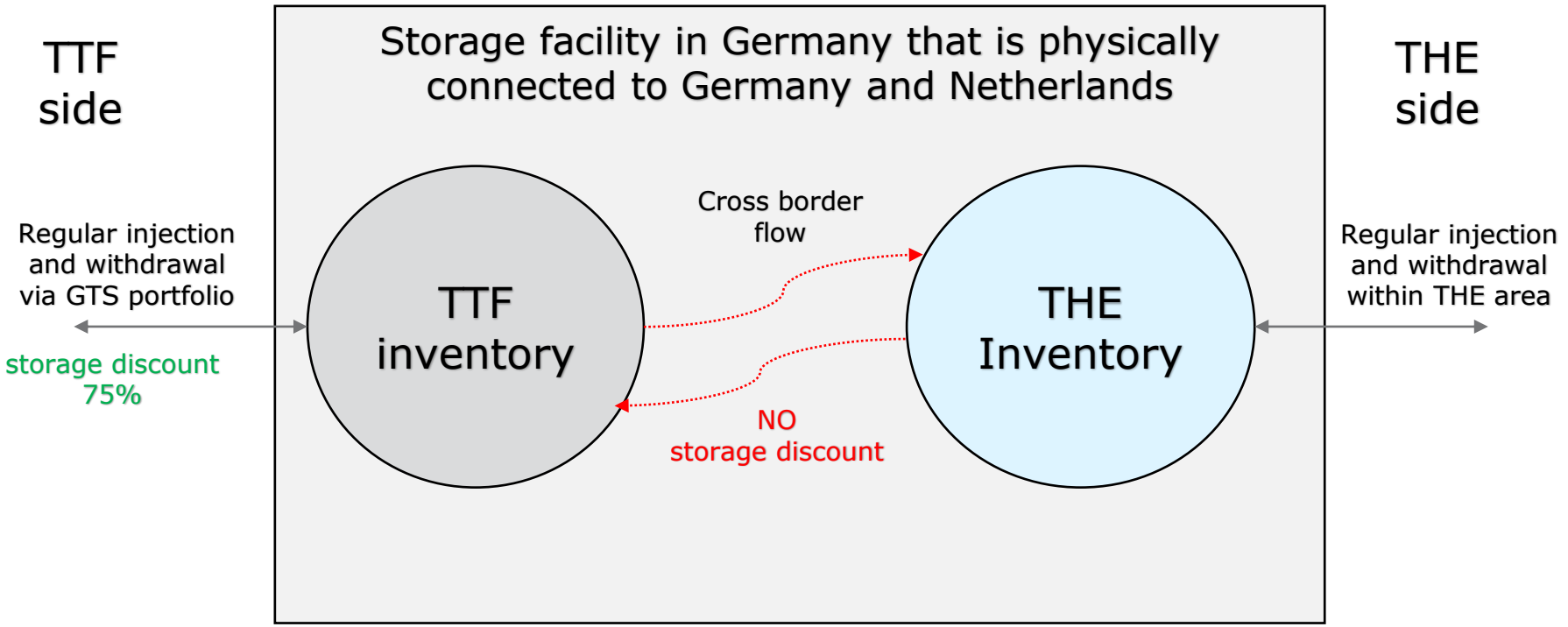
Discount for storages that are physically connected to the Dutch and German grid

Anne Spijkstra | Gasunie Transport Services

Discount for storages that are physically connected to the Dutch **and** German grid

- Scope: Storage facilities located in Germany, physically connected to the German and the Dutch market area.
- Agreement signed between SSO and GTS: GTS shall grant the gas storage discount of 75% and will do this on an ex-ante basis.
- Cross-border flow between both market areas can occur via the storage facility and is allowed: **no right** of storage discount (storage acts as an IP)
- In case of cross-border flow on day X: ex-post invoice correction for day X
- See Dutch Tariff Code article 3.5 paragraph 4 and 5 (1-1-2025), see new article 5.1.4 TSC 2025 and Template Agreement in new appendix 11 of our TSC 2025.
- The agreement contains the necessary arrangements for fulfilling the Tariff Code and guarantees that the storage discount is only granted in case there is no cross-border flow: Every month SSO sends hourly information to GTS

Example of cross-border flow



1. TTF inventory contains 2500, THE inventory contains 5000
2. GTS shipper wants to withdraw 3000 from its TTF inventory into its GTS portfolio: via regular nomination procedures
3. Now the following will happen automatically
    1. 2500 will be added to its GTS portfolio from the TTF inventory; TTF inventory is now empty
    2. 500 will be moved from the THE inventory and via the TTF inventory added to the GTS portfolio;
    3. cross-border entry flow is 500;
4. GTS sends ex-post correction invoice for 500; 25% was already paid, 75% has to be paid

SSO’s have agreed with the Agreement

All storage facilities that are physically connected to the Dutch and German grid have agreed with the Agreement. Signing is in process

Network point id	Network point description	SSO
301198	ENSCHEDE (INNOGY-UGS EPE)	RWE
301309	ENSCHEDE (NUON-UGS EPE)	Vattenfall
301360	OUDE STATENZIJL (ETZEL-EKB-H)	EKB
301361	OUDE STATENZIJL (EWE-H)	EWE
301391	OUDE STATENZIJL (ASTORA JEMGUM)	SEFE/ Astora
301391	OUDE STATENZIJL (ASTORA JEMGUM)	VNG Gasspeicher
301400	OUDE STATENZIJL (ETZEL-CRYSTAL-H)	Edison
301400	OUDE STATENZIJL (ETZEL-CRYSTAL-H)	EDF
301400	OUDE STATENZIJL (ETZEL-CRYSTAL-H)	EnBW
301401	OUDE STATENZIJL (ETZEL-FREYA-H)	OMV
301401	OUDE STATENZIJL (ETZEL-FREYA-H)	Uniper
301453	OUDE STATENZIJL (EWE JEMGUM)	EWE

Discount for storages that are **only** connected to the Dutch grid

- No agreement necessary
- Entry and exit side: storage discount of 75%

Short break

Amsterdam, 7 November 2024

GTS & ICE regarding balancing and balancing products

Wouter de Klein	ICE	Senior Director, Utility Markets
Sandrie Egberts	GTS	Senior Sales Specialist

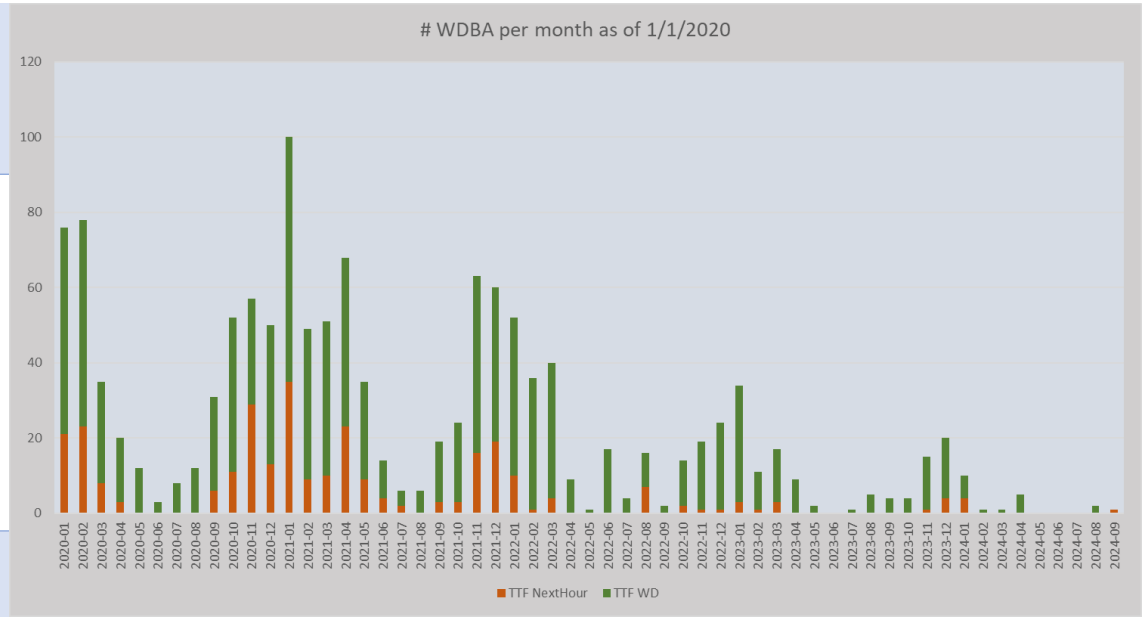
Evaluation of undesirable balancing behaviour (UBB)

- Since 1 January 2024, regulation to prevent UBB is part of the Dutch Transmission Code Gas
- Transmission Code Gas requires mandatory review of regulation (Art. 4.1.4.9)
- Today marks the start of this review process
- Discussion in GEN (with Representative Organizations) scheduled for 12 December 2024
- Results/recommendations should be submitted to ACM in December 2024 or January 2025

Observations: regulation to prevent UBB is successful

- Regulation focuses on preventing that a portfolio imbalance is being increased on purpose
- 10 shippers have received a warning as described in Art. 4.1.4.7. sub 2b, no charges applied
- 1 shipper has been charged a 30% fee as described in Art. 4.1.4.7. sub 2a

Count of WDBA				
Year	TTF NextHour	TTF WD	Total	Possible reasons
2020	114	320	434	
2021	133	362	495	
2022	26	208	234	Higher prices on balancing market
2023	12	110	122	Higher prices and start of discussions on UBB
2024	5	15	20	UBB regulation part of Transmission Code Gas
Grand Total	**290**	**1015**	**1305**	



TTF balancing by Wouter de Klein (ICE)

- Placeholder… ICE slides have been inserted here only during the shippermeeting

GTS' view on the responsibilities in the NL balancing regime

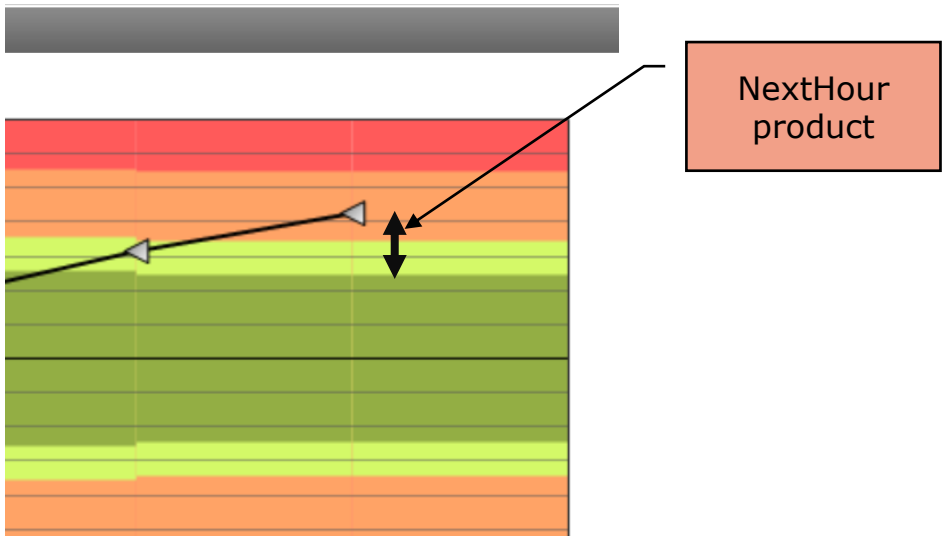
- During the period 2007-2011, the current balancing regime was designed in close cooperation between ACM, GTS and representative organisations (and shippers)
- To minimize the cost for market participants of balancing the network, the design principle chosen at the time was to make shippers responsible for balancing the GTS network
- The balancing responsibility goes hand in hand with the responsibility to indeed offer these products on the exchange at prices reflective for the market
- Based on the availability of offers during and pricing of balancing actions, it can be concluded that this principle has worked quite well until 2021
- Since 2022, we have seen a number of instances of pricing that raise the question of what is actually a market reflective price
- GTS therefore calls upon market participants to reconsider their role and/or responsibility in offering balancing products and the pricing of these offers
- If there are barriers for market participants to do so, we urge shippers to share them, at least with GTS and/or ICE

Potential solutions suggested by GTS

1. Reduce the volume to call for NextHour product, using boundary of light green zone
2. Increase the number of market participants
    1. Remove potential barriers for shippers to participate
    2. But what are these? (Aspect of evaluation process)
3. Adjust 25% re-nomination rule
    1. When POS opposite of SBS: nomination of larger percentage (50%, 75%, 100%, t.b.d.) allowed
4. Adjust parameters of the NextHour product
    1. E.g. lead time to 1.5 or 2.5 hours, spread delivery over multiple hours

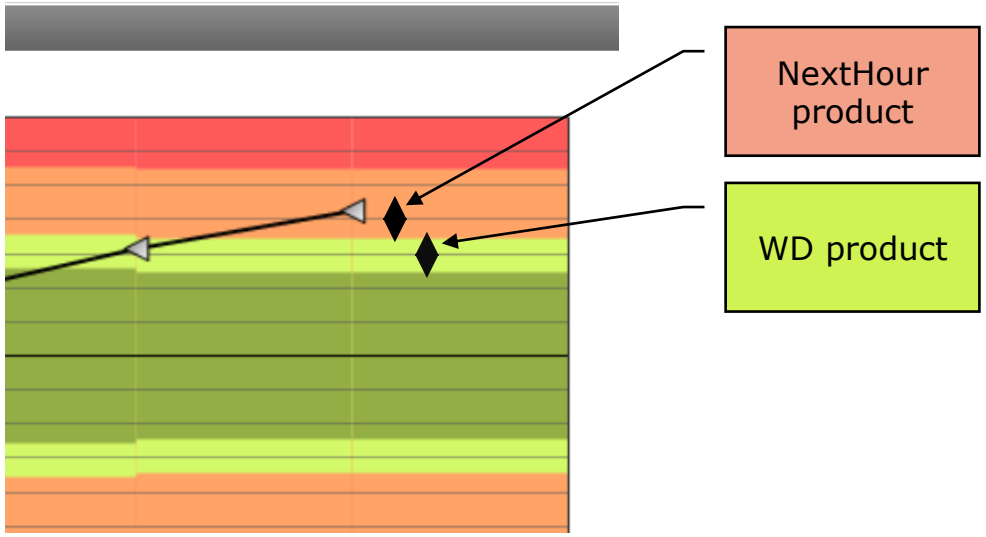
Potential 1: Lower volume to call for NextHour product

Current call volume



Volume: Predicted SBS -/- border dark green zone
Large volume for market to deliver within 1 hour

Suggestion



Next hour call: Volume: Predicted SBS -/- border light green zone
WD call: Volume: border light green zone -/- border dark green zone

Smaller volume for market to deliver within 1 hour
Remaining volume can be delivered until end of gas day

More potential participants -> Better price forming
Lower impact on market if 'remarkable' prices occur

Potential 2: Increase the number of market participants questions by GTS

- What do shippers see as barriers to participating in the NextHour product?
  - During the hours of delivery for the NextHour product, there is only a small impact on storage allocations. How can this be explained?
  - Is there anything in energy legislation, national codes or TSC that is preventing potential interested parties from participating?

Call for feedback

- Do you have any comments regarding the implementation of Undesirable Balancing Behaviour?
- Is there anything you would like to add to the analysis of the NextHour product as shown above?
- Would you like to share your thoughts on how we can improve the pricing of the NextHour product?
- Would you like to share your thoughts on the suggestions GTS made above, especially the idea of lowering the volume by only calling the volume up to the limit of the light green zone?
- Please share your thoughts on how to increase the number of participants in the NextHour product.
- To take your suggestions into account for the discussion with representative organisations on 12 December 2024, we would like to receive these **before 25 November 2024**
- Please send any considerations, suggestions, hints to: customerdesk@gastransport.nl

Do you still have questions or remarks?
Please contact our Customerdesk


Cora Verheij - de Waard


Justin Riches

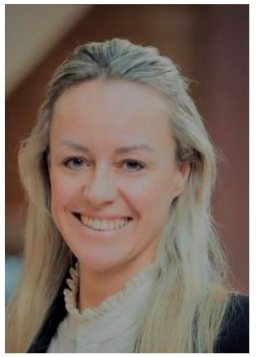

Marion Bergsma - Staal


Sanchez Titarsole


Sander Alberts


Johan Vries


Boudewijn van der Molen


Lianne Luinge


Henk Koorenhof


Gerald Plein


Karen Bakker -Smid


Jan Kazemier


Marja Rixten


Sandrie Egberts


Alie Nieuwold


Melissa Jorritsma

gasunie
crossing borders in energy

Thank you for your attention