TRADING HUB EUROPE

keep in balance

Customer Event for System energy suppliers

Balancing products

Trading Hub Europe

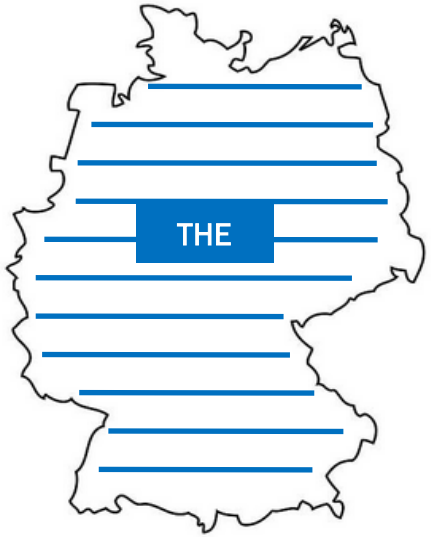
TRADING HUB EUROPE

General

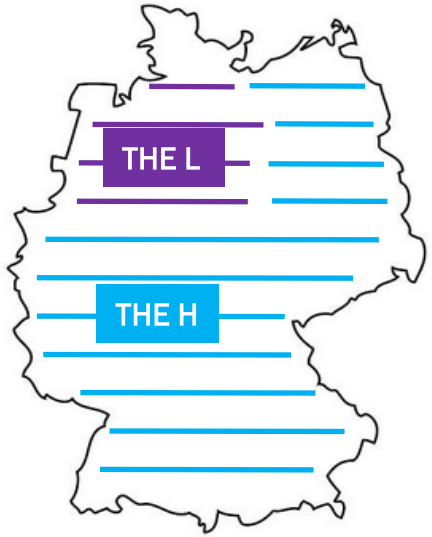
Division of market area into areas and zones

- For balancing gas and market-based instrument (MBI) purposes, the Trading Hub Europe (THE) market area has been divided into areas and zones
- A list showing the physical allocation of all entry and exit points at TSO level is provided on the website

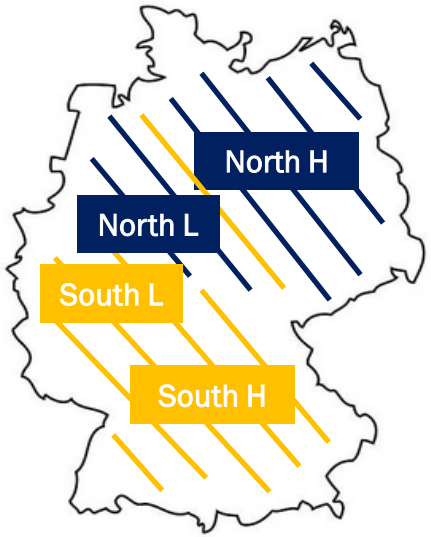
1 market area
(MOL 1)



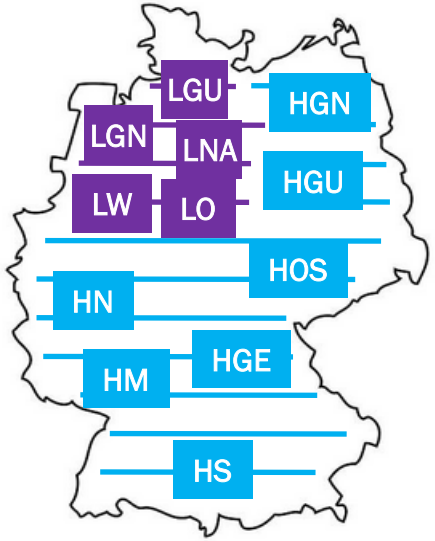
2 gas quality zones
(MOL 2)



4 balancing gas areas
(MOL 2/MBIs)



12 balancing gas zones
(MOL 4*)



* In L-gas partly also MOL 2 → see explanations on hourly products

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Current documents

Balancing gas-related downloads

Current documents:

- List of THE entry and exit points (version 5, March 28,2022)
- Implementation Guide pursuant to section 25 of the Balancing Group Contract
- REQEST Template
- REQEST How-to guide
- REQRES Template
- REQRES How-to guide

https://www.tradinghub.eu/en-gb/Download/Download-center-THE#129896-balancing-gas-related-downloads

- Imbalance quantities: Calculation methodology for transportation markups / markdowns
- FAQ balancing gas market-based instruments and capacity buy-back
- Compendium for future balancing gas provider

Archive:

- List of THE entry and exit points (version 4, February 22,2022)
- List of THE entry and exit points (version 3, December 13,2021)
- List of THE entry and exit points (version 2, June 14, 2021)
- List of THE entry and exit points (version 1, May 10, 2021)

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Exchange product portfolio

Overview of daily products

The following daily products (DA/RoD delivery) have been traded on the exchange in the THE market area since 1 October 2021:

		Within Day/Day Ahead/Saturday/Sunday/Bank Holiday
Balancing gas		Global
		Quality H
		Quality L
		TTF
		L-gas areas (North L, South L)
	MBIs	H-gas areas (North H, South H)
		VIPs H-gas (North H NL, North H BE, South H NL, South H BE)
		H-gas area clusters (North H Cluster, South H Cluster)

Local products

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Contract terms & conditions for balancing gas providers

Contractual terms & conditions for balancing gas providers

Terms and conditions valid as of June 1, 2021:

- Prequalification Rules for Balancing Market

Terms and conditions as of contract periods as of October 1, 2021:

- Terms and Conditions for System Balancing Actions
- Appendix 1 - LTO product description
- Appendix 2 - STB product description
- Appendix 3 - SCB product description
- Appendix 4 - FLEX product description
-

https://www.tradinghub.eu/en-gb/Download/Download-center-THE#129889-contractual-terms--conditions-for-balancing-gas-providers

Terms and conditions as of contract periods as of April 1, 2022:

- Terms and Conditions for System Balancing Actions (clean version); (compare version)
- LTO product description (clean version); (compare version)
- STB product description (clean version); (compare version)

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Overview of daily products (May 2022):

Product[1)]	Product type by location	Product type by delivery duration
THE H	Gas quality-specific product	daily product
THE North H	Local H-gas product ("area product")	daily product
THE North H Cluster	Cluster product[1)]	daily product
THE North H VIP BE	VIP product[1)]	daily product
THE North H VIP NL	VIP product[1)]	daily product
THE South H	Local H-gas product ("area product")	daily product
THE South H Cluster	Cluster product[1)]	daily product
THE South VIP BE	VIP product[1)]	daily product
THE South VIP NL	VIP product1)	daily product
THE L	Gas quality-specific product	daily product[2)]
THE North L	Local L-gas product (balancing gas area)	daily product
THE South L	Local L-gas product (balancing gas area)	daily product

1) A local product is any product that includes (apart from the gas quality) another restriction regarding the place of fulfilment. Cluster and VIP products are therefore also considered local products.

2) THE L can also be traded as an hourly product on the exchange in the relevant order books..

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Overview of daily hourly products (May 2022):

Product	Product type by location	Product type by delivery duration
THE L	Gas quality-specific product	daily product[1)]
THE L East (hour)	Local product (balancing zone)	hourly product
THE L West (hour)	Local product (balancing zone)	hourly product

1) THE L may also be traded on the exchange in the relevant order books as an hourly product

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Exchange product portfolio

Explanation on daily products (1/2)

- There are no quality-specific exchange products at rank 1 of the merit order list (MOL)
- There are two quality-specific exchange products at rank 2 of the merit order list (MOL)
- The TTF order book is used for the procurement of balancing gas across the adjacent market area
- For the local products, there are "area order books"
  - In addition, there are so-called "VIP products" and "cluster products"
- For the quality-specific and local products, additional physical fulfilment restrictions apply in addition to the product rules of the exchange
  - These are governed by section 25 of the Balancing Group Contract (Annex 4 to KoV XII), which has been amended accordingly with effect from 1 April 2022

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Exchange product portfolio

Explanation on daily products (2/2)

- The local products have been aligned with the requirements of MBI use
- The exchange order books introduced for the use of MBIs (spread product) can, however, also be used to meet local balancing gas requirements
- External balancing actions in accordance with GaBi Gas 2.0 and MBI use on behalf of the TSOs always occur separately
- The MAM publishes on its website the purpose for which trading transactions were carried out in each case
- In the local order books, trading between third parties is not possible → The contracting party is always the MAM
  - In cases of MBI demand and local balancing gas demand, the market is informed accordingly so that the providers can enter offers in the appropriate order books

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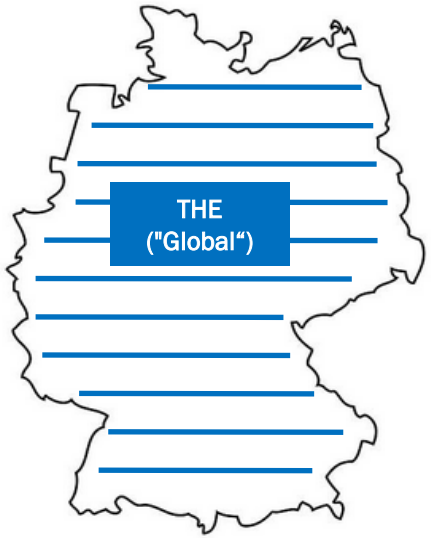
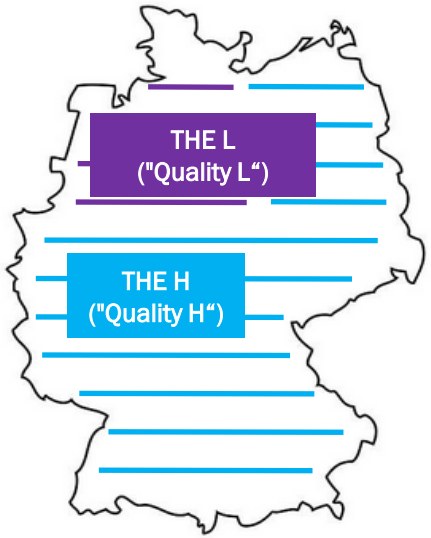
Exchange product portfolio

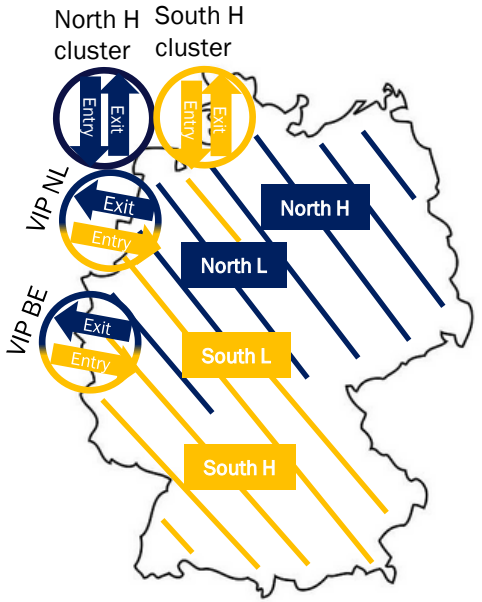
Overview of fulfilment restrictions for daily products



"General trading product" without physical fulfilment restrictions



"Physical trading products" with point-specific fulfilment restrictions



"Physical MAM products" with strict fulfilment restrictions (balance view)

MBIs and bal. gas

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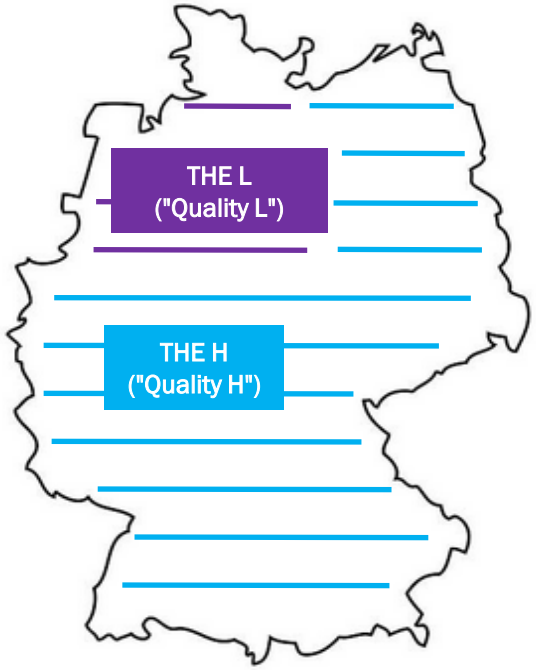
Exchange product portfolio

Quality-specific products (1/2)

- Quality-specific products: Products traded in a specific gas quality (H-gas or L-gas)
- Physical fulfilment is subject to the following fulfilment restrictions:
  - The point used must have been assigned to the respective gas quality but can be freely selected by the trading participant (even several points may be selected)
    - Products used may not subsequently be changed during the course of the day
  - Physical fulfilment of the trading transaction can be achieved both by a flow increase and by a flow reduction:
    - Sale by trading participant: increase in entry quantities (Entryso) or reduction in exit quantities (Exitso)
    - Purchase by trading participant: increase in exit quantities (Exitso) or reduction in entry quantities (Entryso)



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Exchange product portfolio

Quality-specific products (2/2)

- The physical effect is deemed to have been duly achieved if the total changes in physical entry/exit quantities of the trading participant in the individual delivery hours of the delivery period in the direction of fulfilment at least reach the total quantity traded via the quality-specific product
  - The decisive factor here is whether the physical effect owed is provided in total over the agreed delivery period → Fulfilment with a constant hourly flow rate is not necessarily required
- The decisive factor for the assessment of the physical effect are the flows at the entry/exit points used by the provider ("implementation points")
  - The reference value for assessing physical fulfilment is the most recent nomination status for the delivery period at the time of the call-off, confirmed by the responsible network operator
- The physical effect can also be achieved by adjusting consumption at RLM exit points ("DSM")

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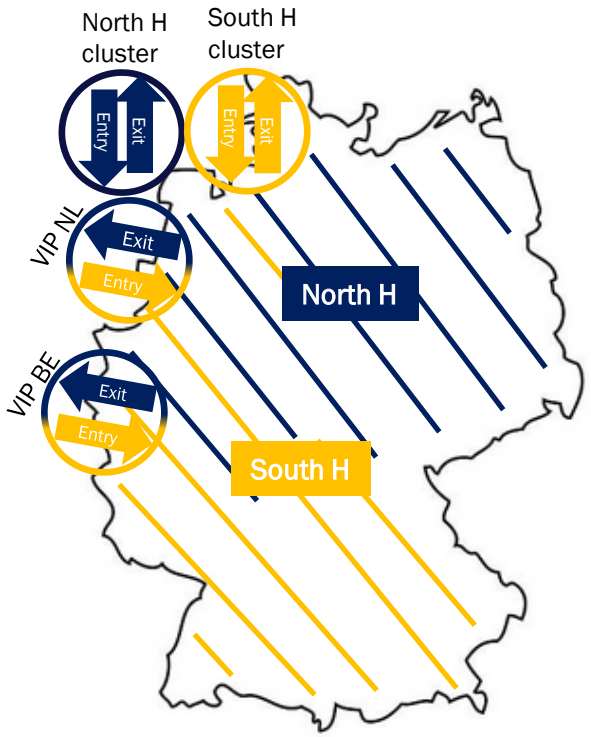
Exchange product portfolio

Local H-gas products

- The local H-gas products were developed for MBI purposes (spread product)
- Some entry and exit points in the market area are connected to both former market areas and cannot therefore be used for MBI purposes indefinitely
- For this reason, a potential-based logic with separate order books was developed for the call-off by the MAM
- For H-gas there are thus three different types of local products:
  - VIP products
  - Cluster products
  - Area products
- In principle, the call-off is cost-optimised across all three product types, but at most in the amount of the potential



Simplified representation of north-south congestion
(North H = Upstream, South H = Downstream)

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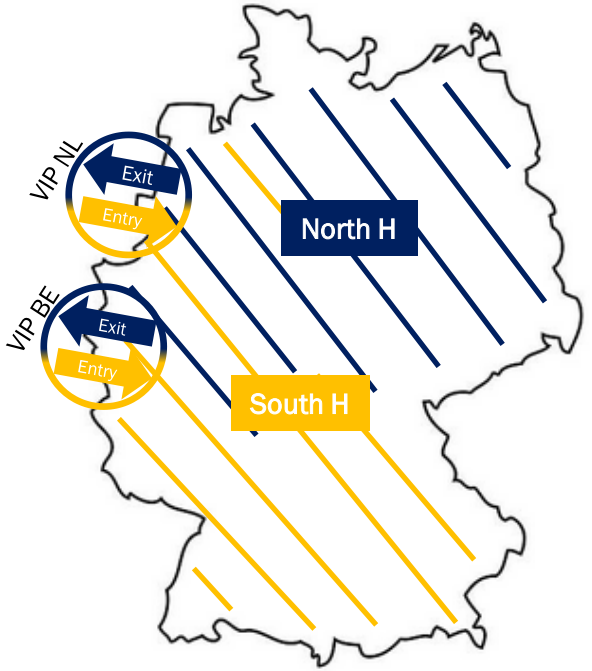
Exchange product portfolio

VIP products H-gas (1/2)

- The separate VIP order books serve to limit the MAM's trading activities to the scope of the available potential
- In order to ensure the physical effectiveness of the call-offs made, the VIPs continue to be allocated to the balancing gas areas in a directionally accurate way when the VIP flow is split:
  - VIP entry = undersupplied balancing gas area ("downstream")
  - VIP exit = oversupplied balancing gas area ("upstream")
- As of 1 April 2022:
  - THE North H VIP BE
  - THE North H VIP NL
  - THE South H VIP BE
  - THE South H VIP NL



Simplified representation of north-south congestion
(North H = Upstream, South H = Downstream)

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Exchange product portfolio

H-gas VIP products (2/2)

- For this reason, the following fulfilment restrictions apply when a VIP product is traded:
  - It is imperative that fulfilment takes place at the corresponding VIP (or one of the IPs of the VIP)
    - Sale in VIP order book: Increased entry flows (Entryso) at the VIP (or IP).
    - Purchase in VIP order book: Increased exit flows (Exitso) at the VIP (or IP)).
  - It is not permitted to execute the trade by reducing the flow
- There is a renomination restriction which applies on balance across all entry and exit points allocated to the respective balancing gas area
  - The affiliation of the VIP is determined by the congestion direction as published by the MAM when the MBI demand is announced
- If MBIs are used, a take-back obligation also applies

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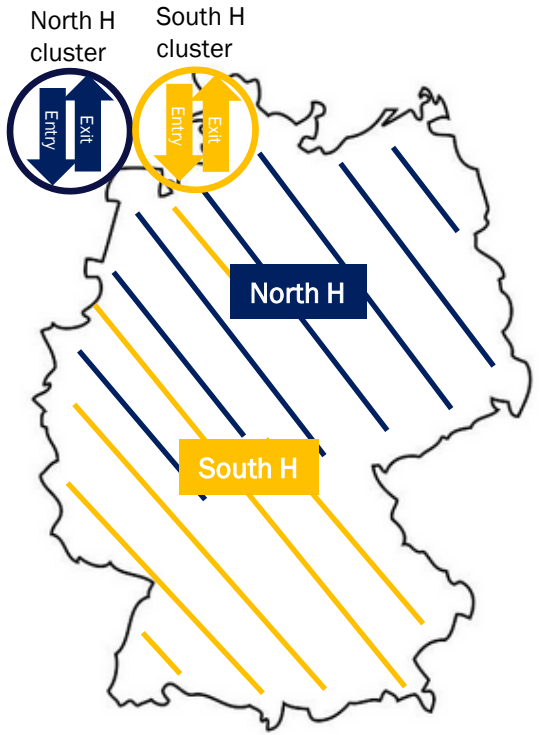
Exchange product portfolio

H-gas cluster products (1/2)

- Unlike the dynamically assigned area-straddling VIPs, the cluster points are in each case permanently assigned to a balancing gas area
- In order to take into account the physical connection between these points, the potentials limit the call-offs made by the MAM to what actually serves the grid
  - Separate order books have been created for these points
  - The MAM only uses the maximum amount of available potential



Simplified representation of north-south congestion
(North H = Upstream, South H = Downstream)

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Exchange product portfolio

H-gas cluster products (2/2)

- Physical fulfilment is governed by the following fulfilment restrictions:
  - The point used must have been assigned to the respective cluster, but within the cluster the trading participant can choose freely (several points may be selected)
  - Physical fulfilment of the trade can be achieved both by a flow increase and a flow reduction:
    - Sale: increase in entry quantities (Entryso) or reduction in exit quantities (Exitso).
    - Purchase: increase of the exit quantities (Exitso) or reduction of the entry quantities (Entryso)
- There is a renomination restriction which applies on balance across all entry and exit points allocated to the associated balancing gas area
  - The affiliation of the cluster is determined by the fixed allocation to the respective North H or South H balancing gas area
- If MBIs are used, a take-back obligation also applies

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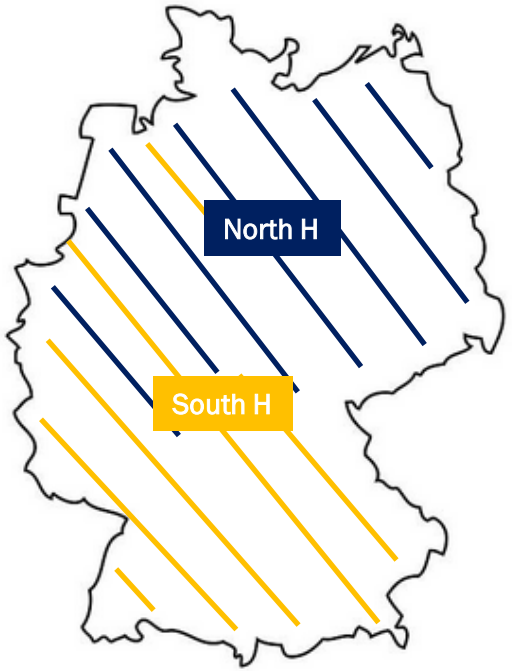
Exchange product portfolio

H-gas area products (1/2)

H-gas area products

- The H-gas area products each include all entry and exit points that are not already allocated to the VIP or cluster order books:
  - North H order book = North H balancing gas area without VIP NL/BE and without North H cluster
  - South H order book = South H balancing gas area without VIP NL/BE and without South H cluster



Physical fulfilment restrictions

- Physical fulfilment is subject to the following restrictions:
  - The point used must have been assigned to the respective balancing gas area, but within the balancing gas area the trading participant can generally choose freely (several points may be selected)
  - Exception: Points assigned to the VIP or cluster order books may not be used

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Exchange product portfolio

H-gas area products (2/2)

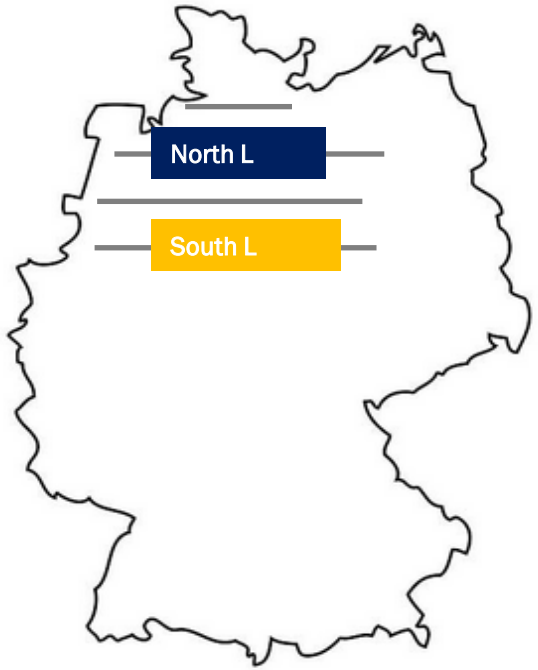
Physical fulfilment restrictions (cont.):

- Physical fulfilment of the trade can be achieved both by a flow increase and a flow reduction:
  - Sale: increase in entry quantities (Entryso) or reduction in exit quantities (Exitso)
  - Purchase: increase in exit quantities (Exitso) or reduction in entry quantities (Entryso)
- There is a renomination restriction which applies on balance across all entry and exit points allocated to the respective balancing gas area
  - i.e. including the area-straddling VIPs (which are allocated directionally) and including the cluster points of the respective balancing gas area
- In the case of area products, the physical effect can also be achieved by adjusting consumption at RLM exit points ("DSM")
- If MBIs are used, a take-back obligation also applies

Exchange product portfolio

L-gas area products (1/2)

- The L-gas area products replace the previous zone products for each balancing gas zone or network operator area
  - North L = L-gas network area of the former GPL market area
  - South L = L-gas network area of the former NCG market area
- In contrast to H-gas, no potential-based logic is required for L-gas, which is why there is no further subdivision of the products into VIP, cluster and area products
  - The Germany-Netherlands VIP (L-gas) is assigned to both balancing gas areas



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Exchange product portfolio

L-gas area products (2/2)

Physical fulfilment is subject to the following restrictions:

- The point that is used must have been assigned to the respective balancing gas area but within the balancing gas area the trading participant can generally choose freely (several points may be selected)
- Fulfilment can be achieved both by a flow increase and a flow reduction
  - Sale: increase of entry quantities (Entryso) or reduction of exit quantities (Exitso)
  - Purchase: increase of exit quantities (Exitso) or reduction of entry quantities (Entryso)
- The decisive factor for the assessment of the physical effect is the provider's physical entry/exit quantity balance (Entryso total minus Exitso total) at all entry and exit points which are allocated to the respective balancing gas area
  - For the rest of the day, a renomination restriction applies on balance across all entry and exit points allocated to the respective balancing gas area
- In the case of area products, the physical effect can also be achieved by adjusting consumption at RLM exit points ("DSM")

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Exchange product portfolio

Local products – Further requirements

General fulfilment restrictions applying to all local daily products (H-gas and L-gas):

- Physical fulfilment must always be achieved with a constant hourly flow rate from the very first delivery hour of the agreed delivery period
- The (re-)nominations required for physical fulfilment must be made for all hours of the delivery period immediately after the call by the MAM
  - The reference value for assessing physical fulfilment is the most recent nomination status for the delivery period at the time of the call, confirmed by the responsible network operator

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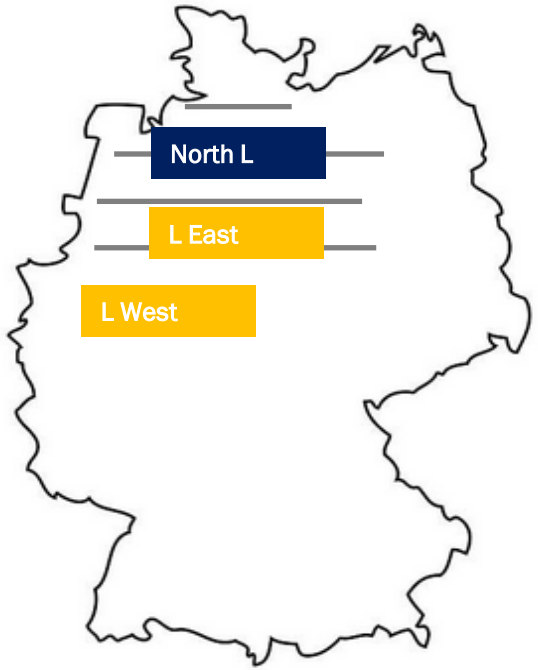
Exchange product portfolio

Overview of hourly products

- There are two hourly products used to cover external L-gas structuring requirements
- In addition to the daily products shown so far, THE uses the following hourly products* on the exchange:
  - North L (hour) is traded for the North L balancing gas area
  - L East (hour) is traded for the LO balancing gas zone
  - L West (hour) is traded for the LW balancing gas zone



* In addition to the hourly products shown on this page, there will also be hourly order books for the global product THE as well as the quality-specific product THE-L. The hourly products that may be available in these order books are shown and traded in the THE system as a band product, i.e. they are not used for structuring purposes.

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Exchange product portfolio

Hourly products (1/2)

The following physical fulfilment restrictions apply to the hourly products:

- Physical fulfilment must take place exactly in the traded delivery hour
- The point that is used must have been assigned to the respective balancing gas area or balancing gas zone but within the balancing gas area or balancing gas zone the trading participant can generally choose freely (several points may be selected)
- Physical fulfilment of the trade can be achieved both by a flow increase and a flow reduction:
  - Sale: increase in entry quantities (Entryso) or reduction in exit quantities (Exitso).
  - Purchase: increase in exit quantities (Exitso) or reduction in entry quantities (Entryso)

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Exchange product portfolio
Hourly products (2/2)

Fulfilment restrictions (cont.):

- The decisive factor for assessing the physical effect is the provider’s physical entry/exit quantity balance (Entryso total minus Exitso total) at all entry and exit points which are allocated to the respective balancing gas area or balancing gas zone
- The owed flow change must take place in each case compared to the previous hour ("H-1") at the traded delivery hour ("H")
  - The decisive factors are the final nominated quantities according to the allocation
- If an hourly product is traded in several directly consecutive delivery hours, the trading participant shall only owe an additional flow change from hour to hour in the amount of the difference between the traded quantities of the respective two individual delivery hours to be considered

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LTO

Bilateral product portfolio

Product overview

In the THE market area, the following products at rank 4 in the MOL have been used in the Balancing Services Portal since 1 October 2021:

Bilateral products
Long Term Options (LTO) RoD
Long Term Options (LTO) Hourly
Short Term Balancing Services (STB)
Short Call Balancing Services (SCB)
Flexibility Services (FLEX)

Tenders are issued for the defined balancing zones or balancing sectors. The tenders are published in advance on the website.

Product adjustments
Balancing products

Adjustments effective from 1 April 2022:

- Terms and Conditions for System Balancing Actions:
  - Editorial clarifications
    - e.g. on tender acceptance by the MAM -> where several lots are awarded, one contract is made for each specific tender
  - Billing changed in case of (partial) non-performance -> Extension of the billing period for call fees

- LTO and STB product descriptions:
  - Editorial changes to the terms of the tender
    - Entry and exit quantities to be credited in full for points allocated to several balancing energy sub-zones
    - Balancing sectors can only be defined by the MAM and not by the provider
  - Users receive warning / are blocked in the event of multiple breaches of obligations
  - Contract penalty: the two previous penalty components have been merged into one adjusted overall contract penalty

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Bilateral tenders

Long-term tenders in 2022

Bilateral product	Direction	Offer period	Contract period
Flex	Parking and borrowing	Jun / Jul 2022	Oct 2022 to Mar 2023
SCB	System Buy / System Sell	May / Jun 2022	Jul 2022
	System Buy / System Sell	Jun / Jul 2022	Aug 2022
	System Buy / System Sell	Jul / Aug 2022	Dec 2022
	System Buy / System Sell	Aug / Dec 2022	Oct 2022
	System Buy / System Sell	Dec / Oct 2022	Nov 2022
	System Buy / System Sell	Oct / Nov 2022	Dez 2022
	System Buy / System Sell	Nov / Dez 2022	Jan 2023
LTO, Hourly	System Buy / System Sell	Aug / Dec 2022	Q4 2022
LTO, RoD	System Buy	Oct / Nov 2022	Jan to Mar 2023
LTO, Hourly	System Buy / System Sell	Nov / Dez 2022	Q1 2023

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LTO
Special tenders

	Bidding period	Contract period (gas day)	Zone	Premium	Total capacity charge
Special tender 1	13.12.21 - 17.12.21	1.2.22 - 28.2.22	Balancing sector in H-gas South	5,000 MWh/h	approx. € 50 million
Special tender 2	17.1.22 - 21.1.22	1.2.22 - 28.2.22	Balancing sector in H-gas South	5,000 MWh/h	approx. € 38 million
Special tender 3	17.1.22 - 21.1.22	1.3.22 - 15.3.22	Balancing sector in H-gas South	7,000 MWh/h	approx. € 44 million
Special tender 4	31.1.22 - 4.2.22	14.2.22 - 15.3.22	Balancing sector in HGE and HOS	6,000 MWh/h	approx. € 25 million
Special tender 5	7.2.22 – 11.2.22	15.2.22 – 28.2.22	Balancing sector in HGE, HOS, HGN, HGU, HN, HM and HS	12,000 MWh/h	approx. € 35 million
Special tender 6	7.2.22 – 11.2.22	1.3.22 – 31.3.22	Balancing sector in HGE, HOS, HGN, HGU, HN, HM and HS	11,720 MWh/h	approx. € 92 million

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LTO
Special tenders

Background:

- Given the low storage levels, these special tenders served in particular to ensure the availability of gas quantities to cover any local balancing requirements in the respective zones.
- The special tenders were carried out in coordination with the Federal Ministry for Economic Affairs and Climate Action (BMWK) and BNetzA.
- The services put out to tender as part of the special tenders were covered. In this respect, the tenders were successful for THE.
- However, the prices were rather high.

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