Evaluation Report on the Gas Quality Conversion Mechanism

Gas Year 2024/25

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List of abbreviations

BK7	Ruling Chamber 7
BNetzA	Federal Network Agency
DZK	capacity subject to dynamic transport route restrictions" ("dynamisch zuordenbare Kapazitäten")
FZK	capacity not subject to any transport route restrictions" ("frei zuordenbare Kapazitäten")
MAM	market area manager
NCG	NetConnect Germany GmbH & Co. KG
OGE	Open Grid Europe GmbH
MBG	master balancing group
RLM	end customer with recorded demand measurement
SLP	standard load profile end customer
TG	Thyssengas GmbH
THE	Trading Hub Europe GmbH

Definitions

Virtual Conversion

The term Virtual Conversion refers to the quantity converted and invoiced for each balancing group portfolio under the cross-quality energy balancing mechanism, i.e., where the high-CV and low-CV gas balances determined for a master balancing group (MBG) have opposing signs, the lower of the two quantities (as measured in terms of their absolute values) is billed as the conversion quantity. Where low-CV gas deficits are balanced out by means of high-CV gas inputs, this is referred to as Virtual Conversion taking place in the direction from high-CV to low-CV quality (H to L). The opposite direction is defined as Virtual Conversion from low-CV to high-CV quality (L to H). The term Virtual Conversion may be used both for each (M)BG and for the aggregate Virtual Conversion quantity calculated as the sum of the Virtual Conversion quantities determined for all individual balancing groups.

System-wide Virtual Conversion Quantity

One of the alternative approaches for determining the actual overall conversion quantity: The System-wide Virtual Conversion Quantity is calculated by summing all inputs and offtakes across all balancing group portfolios registered in the market area for which both high-CV and low-CV gas allocations are recorded, with these sums being calculated separately for each gas quality. If the resulting high-CV and low-CV gas balances are in opposite directions (different algebraic signs), then the lower of the two quantities (as measured in terms of their absolute values) represents the System-wide Virtual Conversion Quantity.

In this calculation all balancing group portfolios comprising at least one subordinate balancing group (SBG) for gas of a quality different from the gas quality of the relevant MBG are taken into account. Both the MBG and SBG must be actively used, i.e. both must have been allocated as receiving data for energy balancing purposes.

Commercial Conversion

In order to apply a commercial value to the System-wide Virtual Conversion Quantity the relevant figure is compared with the quantities of gas that were supplied/received as part of the market-based (“external”) balancing actions taken on the day in question. For this purpose, it is assumed that quality-specific balancing sell transactions in the gas quality for which there is an oversupply and the quality-specific or locational balancing buy transactions in the quality for which there is an undersupply have been made for the purpose of Commercial Conversion, with the upper limit being represented by the System-wide Virtual Conversion Quantity.

Physical Conversion Quantity

One of the alternative approaches for determining the Actual Overall Conversion Quantity: Where balancing actions have been taken in opposite directions, i.e. where quality-specific (balancing criterion “Quality”) or locational balancing buy transactions have been made in one gas quality whilst quality-specific or locational balancing sell transactions have been made in the other gas quality, the lower of the two quantities (as measured in terms of their absolute values) represents the actual overall conversion quantity.

Actual Overall Conversion Quantity

Umbrella term for the quantity determined according to either the “system-wide virtual” approach (System-wide Virtual Conversion Quantity) or the “physical” approach (Physical Conversion Quantity).

Technical Conversion

Refers to the process of converting gas quality by means of technical measures, with a distinction being made between Technical Conversion measures that are already included in the relevant network operators’ transportation tariffs and other Technical Conversion measures which are only available to the MAM at extra costs (for example Technical Conversion via Third-party Conversion Facilities or Gas Imports and Exports Carried out for Conversion Purposes). An example of a Technical Conversion measure already included in network operators’ transportation tariffs is the conversion of gas in technical blending plants operated by the gas transmission system operators (TSOs), provided that their use is fully included in the respective transportation tariffs.

Gas Imports and Exports Carried Out for Conversion Purposes

Sub-set of a Technical Conversion measure; In this case, capacities for gas of different qualities are booked at two cross-border interconnection points with the Netherlands, and gas of one quality is shipped into the Dutch network while gas of the other quality is shipped back out form the Netherlands.

1 Introduction

As the operator of a multi-quality market area, Trading Hub Europe GmbH is subject to the rules of the gas quality conversion mechanism resulting from a decision dated 28 March 2012 (ref. BK7-11-002, hereinafter "Konni Gas"), which was amended by decision of 21 December 2016 (ref. BK7-16-050, hereinafter "amended Konni Gas ruling").

For the respective balancing group managers, a multi-quality market area essentially means that inputs and offtakes of different gas qualities can be carried out in a balancing group portfolio and thus have to be balanced across qualities. Physically, however, even in a multi-quality market area, the separate high-CV gas and low-CV gas network areas must continue to be operated separately with the respective gas quality.

THE has an obligation under the original as well as the amended Konni Gas rulings to submit an annual report on the development and evaluation of the conversion mechanism by 1 February of each year. The reports provide a review of the completed gas years. This evaluation report examines the development of the conversion mechanism in the Trading Hub Europe market area and sets out the reasons why we believe it is necessary to continue charging a fee for the conversion of gas quantities from high-CV gas to low-CV gas (H to L). This report is the first to focus exclusively on the conversion periods in the unified German market area THE; figures for the old market areas can be found in previous editions.

The merger of GASPOOL's and NCG's low-CV gas networks in combination with the discontinuation of Russian gas deliveries and the simultaneous increase in liquefied natural gas (LNG) supplies from the Netherlands has significantly changed the flow situation on the network of THE's market area. These developments have also had an effect on the main conversion direction and on the resulting costs, while general gas price developments in the wake of Russia's war against Ukraine have had a major impact on costs and revenues in the conversion mechanism.

Overall, the changed flow situation in THE's market area led to a sharp decline in conversions in the direction from high-CV gas to low-CV gas, which is the direction affected by the incentive-based conversion fee. Almost all costs since 2022 in connection with the conversion mechanism have been incurred for conversions in the opposite direction (from low-CV gas to high-CV gas). For the purposes of determining the fee, we therefore increased the assumed level the system can cope with from 20 % to 50 % as from the 2023/24 gas year (GY). This led to a significant reduction in the incentive-based conversion fee initially to EUR 0.21/MWh for GY 2023/24 and subsequently to EUR 0.00/MWh for GY 2024/25. For the coming GY 2025/26, the conversion fee will remain at EUR 0.00/MWh. Owing to the high costs in GY 2024/25, the conversion neutrality charge had to be set at EUR 0.18/MWh.

This report is structured as described below:

In Chapter 2 we examine the development of the virtual and technical as well as the actual overall conversion quantities in our market area. Chapter 3 describes the above developments using the indicators introduced to determine the incentive-based conversion fee. Chapter 4 outlines the commercial aspects of the conversion mechanism, i.e. the aspects related to the development of the relevant costs and revenues including the current position of our conversion neutrality account, with particular reference to the liquidity buffer. In Chapter 5 we provide an analysis of the reasons why we believe that it is necessary to continue charging the conversion fee. Chapter 6 offers an outlook on the development of the conversion mechanism for the current gas year.

2 Review and evaluation of physical and technical developments

2.1 Development of virtual conversion quantities

Market participants' use of the virtual conversion mechanism has varied greatly since the introduction of the multi-quality market areas on 1 April 2011 (for further information, please also refer to the earlier evaluation reports of THE and the previous market area managers GASPOOL Balancing Services and NetConnect Germany).

As part of the amendment to the Konni Gas ruling, the previous conversion fee was abolished for the direction from low-CV gas to high-CV gas (i.e. the supply of high-CV gas to low-CV gas exit points); this fee is now charged only in the direction from high-CV gas to low-CV gas (the supply of low-CV gas to high-CV gas exit points). With the conversion fee for the direction from low-CV gas to high-CV gas reduced to zero, this direction clearly predominated in the old market areas. THE's Germany-wide market area also saw a consistent net conversion in this direction, albeit with fluctuations of up to a factor of three in terms of quantity. Table 1 shows the conversion fees per gas year for the THE market area along with the net virtual conversion quantities.

Figure 1 provides an overview of the virtual conversion quantities, with dark colours representing the quantities in the direction from high-CV gas to low-CV gas and the light colours representing the opposite direction from low-CV gas to high-CV gas.

Quantity analysis in the direction from high-CV gas to low-CV gas

In GY 2021/22, the figures for the THE market area started at the low level of the old market areas, while the virtual conversion quantities in GY 2021/22 were 11.5 TWh and only 9 TWh each in the following two gas years. In the last gas year, the quantities increased to 16 TWh, which is a new high for the THE market area. However, this conversion direction continues to show much lower quantities compared to the opposite direction.

Conversion period	Conversion fee H→L	Net virtual conversion quantity	Direction of conversion (net)
1.10.2021 - 30.09.2022	EUR 0.45 / MWh	34,983 GWh	L → H
1.10.2022 - 30.09.2023	EUR 0.45 / MWh	89,087 GWh	L → H
1.10.2023 - 30.09.2024	EUR 0.21 / MWh	61,973 GWh	L → H
1.10.2024 - 30.09.2025	EUR 0.00 / MWh	95,956 GWh	L → H

Table 1: Net virtual conversion quantities

Quantity analysis in the direction from low to high-CV gas

In the first year of the new THE market area, the virtual conversion quantities were over 46 TWh (GY 2021/22), almost reaching the very high level initially seen in GY 2018/19 after the conversion fee had been abolished. Following the doubling of conversion quantities to 98 TWh in GY 2022/23, quantities only experienced a slight decline in the subsequent gas year, remaining at a very high level of 71 TWh.

In the last gas year, quantities rose to a new high of 112 TWh, driven mainly by high virtual conversions in the months of May to July of up to 17 TWh per month and a generally high level of approximately 8 TWh per month for the rest of the year. Figure 15 in Chapter 6 shows the distribution of quantities across the individual months. The nomination behaviour of some balancing group managers in the low-CV gas network can be considered unusual, and THE has contacted the relevant BGMs. Furthermore, THE filed a suspicious activity report with the Market Transparency Unit (MTS) and informed Ruling Chamber 7 of the BNetzA (responsible for regulating access and connection to natural gas and hydrogen networks), whereupon the competent authorities launched investigations. These investigations were still ongoing at the time this report went to press.

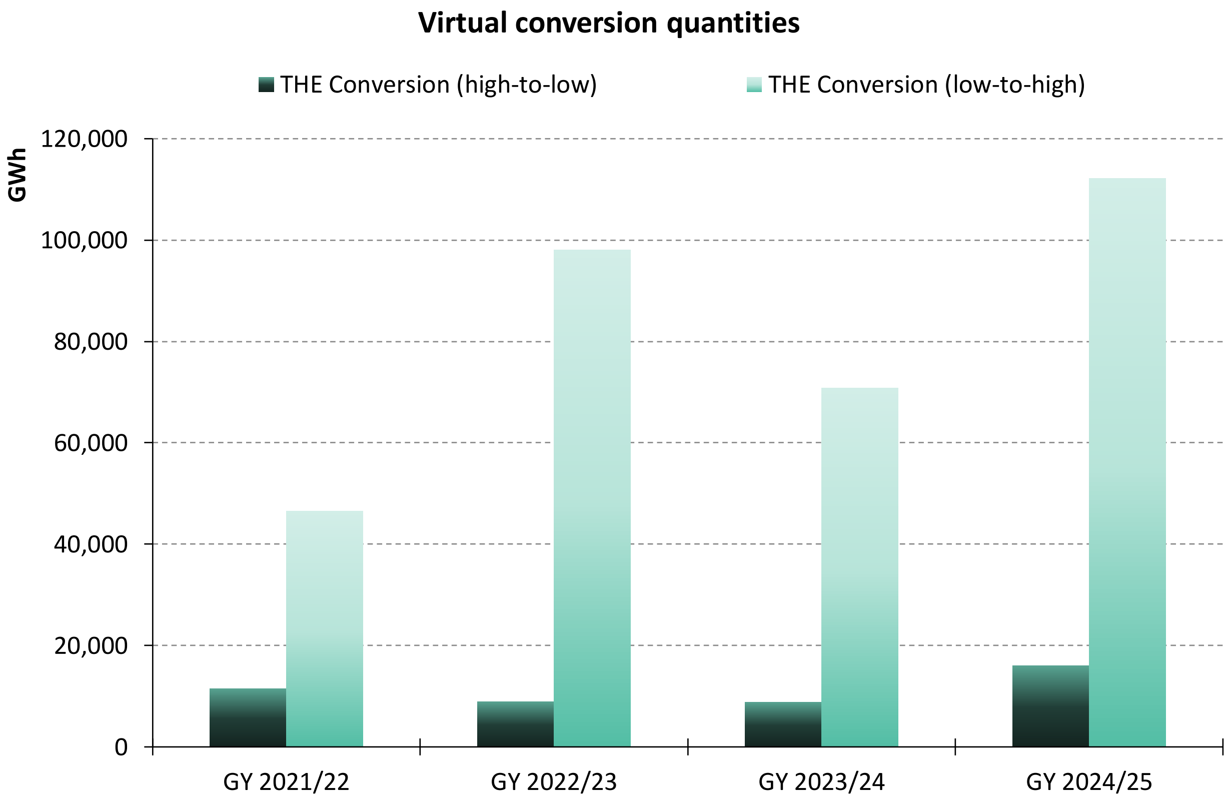

Figure 1: Virtual conversion quantities

System-wide virtual conversion

System-wide virtual conversion follows virtual conversion with somewhat lower quantities due to netting effects. In the last gas years, system-wide virtual conversion quantities were also very high. This is mainly due to significant virtual conversion throughout the year predominantly in the direction from low-CV gas to high-CV gas, which is determined by balancing group affiliation. There are hardly any compensating effects for the system as a whole.

Figure 2 shows the system-wide virtual conversion quantities (actual conversion), with dark colours representing the quantities in the direction from high-CV gas to low-CV gas and the light colours representing the opposite direction from low-CV gas to high-CV gas.

Market shift

A market shift from low-CV to high-CV quality (L to H) refers to a situation where exit points using high-CV gas are supplied via inputs of low-CV gas. The reverse applies where a market shift occurs from high-CV to low-CV quality (H to L). When comparing the related percentages, it should be noted that total gas demand in the high-CV sectors of the network area significantly exceeds total gas demand in the low-CV sectors, among other reasons due to the sheer size of the network area and the transit quantities.

Apart from a slight downward trend due to the market area conversion, the exit quantities in both network areas develop relatively uniformly, and hence the changes in virtual conversion quantities are reflected in the market shift in a similar way. For the parameter in the direction from high-CV gas to low-CV gas, the market shift for the THE market area started in the first two gas years at a significantly lower level of only

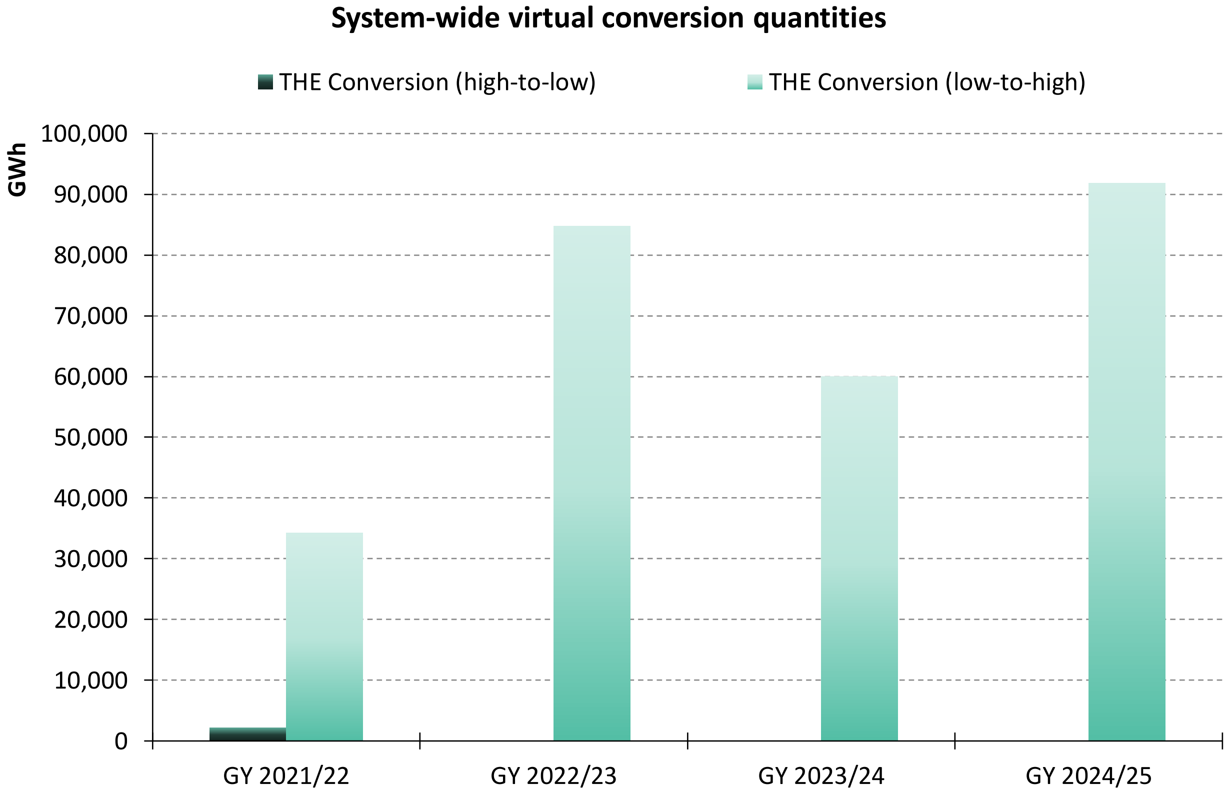

Figure 2: System-wide virtual conversion quantities

approx. 7 % compared to the old market areas. In the following year, this figure rose slightly to 9 %, reaching a level of just under 20 % in GY 2024/25 which was last seen in the old market areas. However, the increase in this figure is also attributable to the shrinking low-CV gas network area, which is due to the market area conversion. The market shift in the opposite direction from low-CV gas to high-CV gas, also increased significantly over the four gas years under review, reaching a high of over 10 % for this direction in GY 2024/25.

Figure 3 shows the development of the market shift, with dark colours representing the quantities in the direction from high-CV gas to low-CV gas and the light colours representing the opposite direction from low-CV gas to high-CV gas.

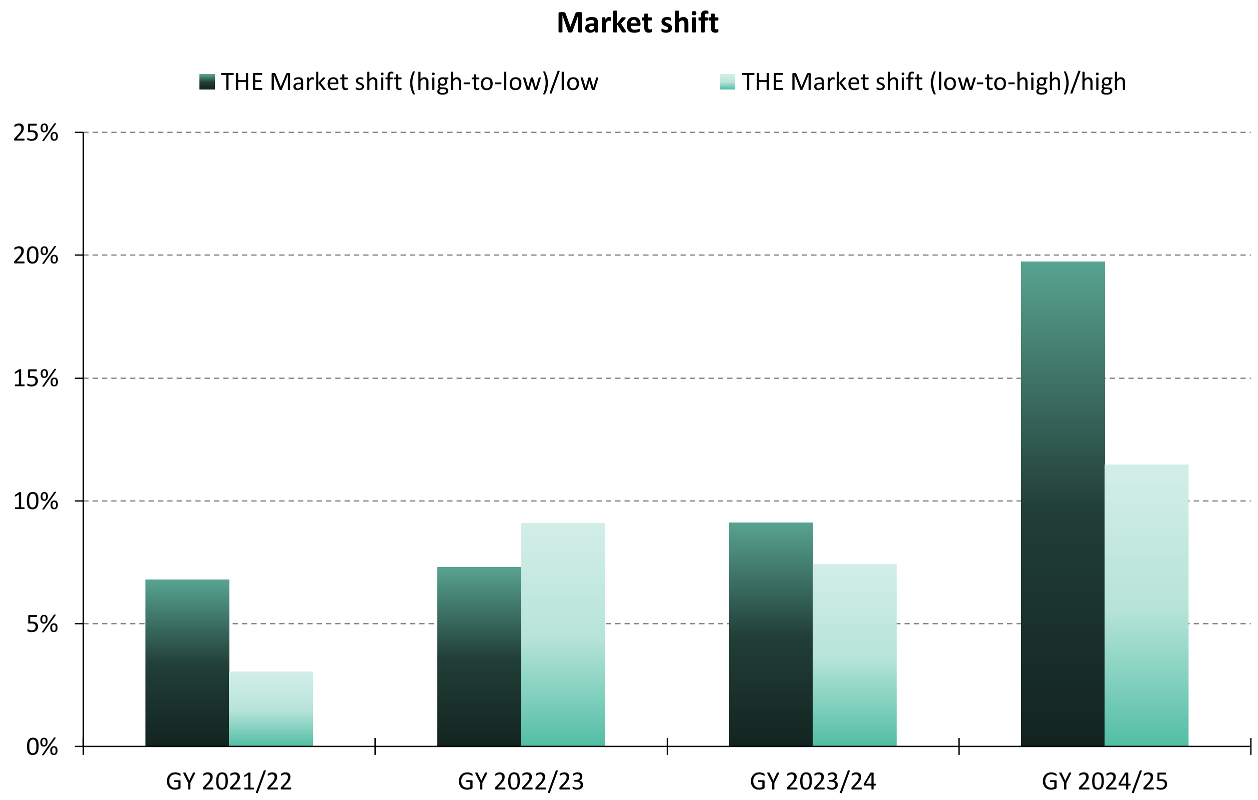

Figure 3: Market shift

2.2 Technical conversion quantities

Technical conversion includes the use of technical conversion facilities, which are already included in the transportation tariffs and facilities which are not included in the transportation tariffs, as well as the booking of reverse capacities to and from the Netherlands. Given that the conversion facilities that are included in network operators' transportation tariffs can be used by THE free of charge, they have to be deployed first, subject to their availability.

The TSOs generally use these conversion facilities for the purpose of maintaining system stability in the high and low-CV network areas. They do not explicitly deploy for virtual conversion activities in the market. We follow a computational approach to determine what proportion of the quantities converted in the available technical conversion facilities can be attributed to the Konni Gas mechanism. To do so, we calculate the difference between the system-wide virtual conversion quantity and the commercial conversion quantity for each day, compare it with the quantity technically converted on the same day and then apply the minimum of these two quantities.

Swaps between TSOs, which can help reduce the market area's technical conversion needs, were not taken into account in projecting the future technical conversion quantities. Such swaps represent capacity-related measures that result in an exchange of gas quantities at certain system interconnection points and that are carried out with a view to ensuring certain gas flows. Swaps can be used to either avoid that technical conversion facilities need to be used in the first place or to reduce the quantities to be converted in these facilities.

2.2.1 Conversion facilities included in the transportation tariffs

In the THE market area, technical conversion facilities are currently provided by Gasunie Deutschland Transport Services GmbH (GUD), Nowega GmbH (Nowega), Open Grid Europe GmbH (OGE) and Thyssengas GmbH (TG). GUD can draw on blending capacity in its own network (both in the direction from high-CV gas to low-CV gas and vice versa) while Nowega has a conditioning plant (in the direction from high-CV gas to low-CV gas gas) linking it to GASCADE Gastransport GmbH. OGE can use its gas blending plant in Werne to add both low-CV gas to the high-CV pipeline system and high-CV gas to the low-CV system. TG has a gas-air blending plant located in Broichweiden. The facility adds air to high-CV gas in order to obtain low-CV gas.

The increased technical conversion activities in the Dutch gas transmission system, where high-CV gas is converted to low-CV gas through the addition of nitrogen as a substitute for the quantities from the Groningen field, have a limiting effect on the technical conversion capacity from high-CV gas to low-CV gas. As nitrogen is added, the Wobbe Index of the low-CV gas received from the Netherlands rises, resulting in a higher gross calorific value and therefore only small quantities of high-CV gas may be added to the low-CV gas. The opposite conversion direction from low-CV to high-CV quality is not affected by this development.

Figure 4 shows the quantities of the technical conversion facilities assigned to the conversion mechanism, which have already been taken into account in the transportation tariffs for the THE market area, with dark colours representing the quantities in the direction from high-CV gas to low-CV gas, while light colours represent the opposite direction from low-CV gas to high-CV gas.

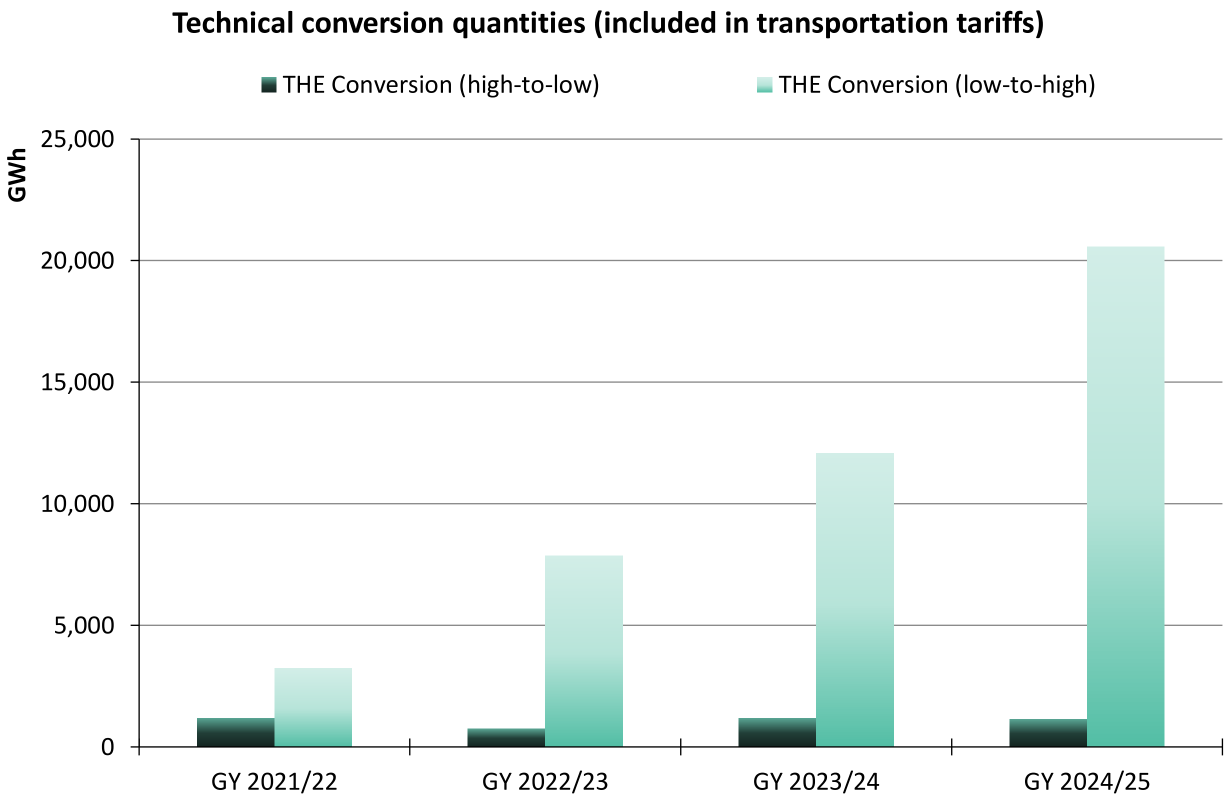

Figure 4: Technical conversion quantities (included in transportation tariffs)

The share of the gas quantity technically converted in the direction from high-CV gas to low-CV gas only accounts for a small proportion of the technically converted quantities in the THE market area. In contrast, the gas quantity technically converted in the direction from low-CV gas to high-CV gas is rising steadily and has increased more than tenfold in the four gas years under review, from less than 2 TWh (GY 2021/22) to approximately 22 TWh (GY 2024/25).

2.2.2 Conversion facilities not included in the transportation tariffs

No arrangements are currently in place between THE and third parties for the THE market area that would permit the use of any technical conversion facilities that are not already included in the network operators' transportation tariffs. THE generally checks whether and to what extent additional technical conversion capacities operated by third parties could be made available to THE and on what contractual terms and conditions.

2.2.3 Gas imports and exports carried out for conversion purposes

One of the examples of technical conversion measures not covered by network operators' transportation tariffs cited by the Federal Network Agency in its Konni Gas ruling is the market area manager's option to export high-CV gas to the Netherlands during the course of a day whilst simultaneously importing the same quantity of low-CV gas from the Netherlands, which is what we mean by "Gas imports and exports carried out for conversion purposes". This conversion method cannot be considered a technical conversion measure in the strictest sense as it does not involve a modification of the physical composition of the gas itself but rather an exchange of gas quantities of different gas qualities between the market areas involved

In order to be able to carry out such gas imports and exports for conversion purposes, THE has to book transportation capacity at interconnection points between the high-CV and low-CV network sectors of the German market area and the Netherlands, with capacity to be booked on a short-term basis where and to the extent possible. In order to be able to decide based on cost considerations whether to export and import gas for conversion purposes or whether to take commercial conversion measures, we have to compare in each case the transportation costs associated with the gas imports and exports we carry out for conversion purposes with the commodity costs we incur at that time for taking the corresponding commercial conversion measures.

Gas imports and exports for conversion purposes as a commercial technical conversion measure are always used when the booking of capacities into and out of the Netherlands results in lower overall costs than the corresponding purchase and sale of balancing gas in opposite directions. This measure has been in use since 2018 and has so far accounted for a very small part of total conversion. This measure has been in place since 2018 and has so far accounted for only a very small proportion of the total conversion. After the highest gas imports and exports carried out for conversion purposes from high-CV gas to low-CV gas to date were recorded in the THE market area in GY 2021/22, at approximately 150 GWh, there were no further imports and exports carried out for conversion purposes in this direction in the following gas years. In GY 2021/22, imports and exports carried out for conversion purposes from low-CV gas to high-CV gas had been recorded for the first time (amounting to approximately 330 GWh). In the following gas year, they dropped significantly to approximately 120 GWh. This trend continued in GY 2023/24, with no conversions in either direction.

However, the sharp rise in virtual and, as a result, commercial conversion quantities last summer led to an increase in capacity bookings in the opposite direction being used to stabilise the network during GY 2024/25. With the switch to an increased use of imports and exports for conversion purposes on 1 August 2025, the average virtual conversion quantity in the direction from low-CV gas to high-CV gas for all BGMs dropped from 400 GWh/day in July to 250 – 300 GWh/day in August and September. As a result, commercial conversions by THE were also reduced from 250 GWh/day to less than 150 GWh/day (see the following chapter on the Use of commercial conversion measures). At 30 % and 45 % in August and September 2025, imports and exports carried out for conversion purposes thus accounted for a significant share of THE's total costed conversion volume for the first time.

Figure 5 shows the gas imports and exports carried out for conversion purposes for the THE market area, with dark colours representing the quantities in the direction from high-CV gas to low-CV gas while light colours represent the opposite direction from low-CV gas to high-CV gas. The trend for each individual month can be seen in Figure 17 in Chapter 6.

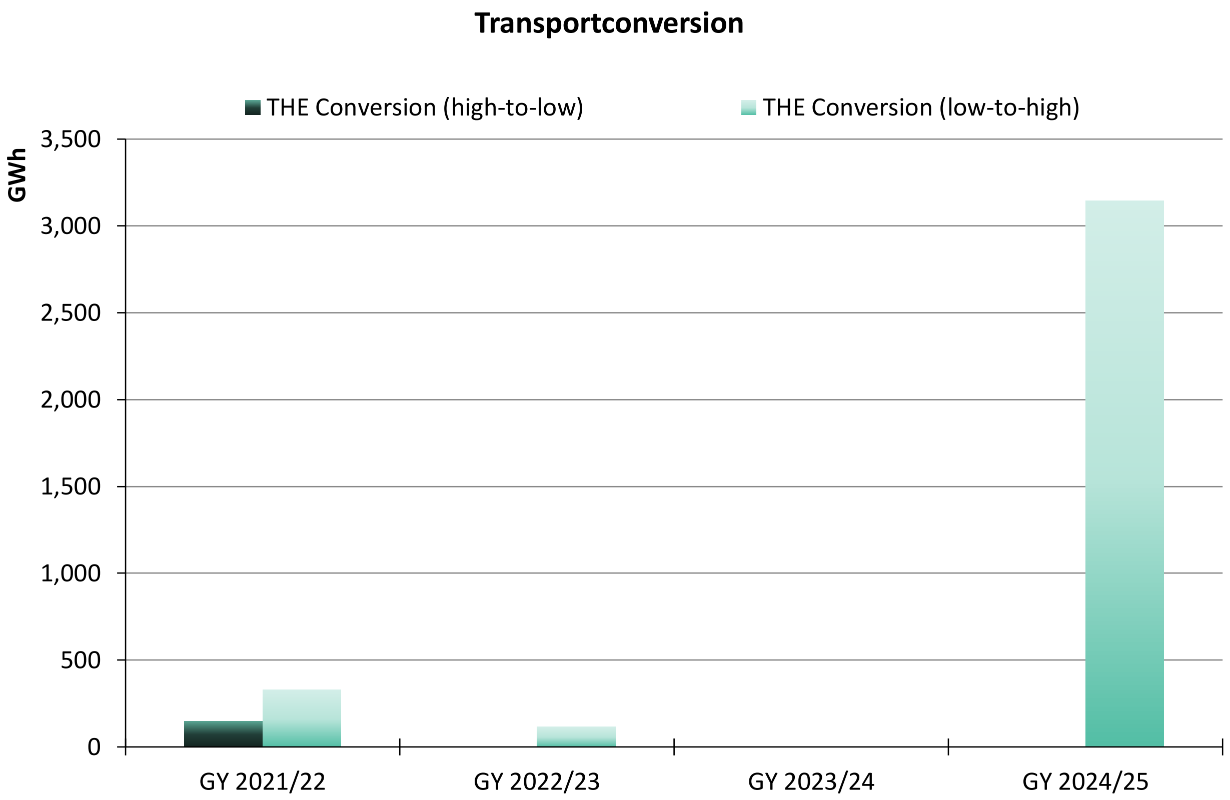

Figure 5: Gas imports and exports carried out for conversion purposes

2.3 Use of commercial conversion measures

Approach for calculating commercial conversion quantities

Commercial conversion measures need to be taken in situations where technical conversion measures are not sufficient to counterbalance market shifts.

The first step in determining the commercial conversion quantity is to calculate the sums of the balancing gas quantities sold in the quality for which there is an oversupply and the balancing gas quantities purchased in the quality for which there is an undersupply, respectively. In view of the fact that for “Global” balancing actions the gas quality is no relevant criterion, only rest-of-the-day (RoD) and day-ahead (DA) buy and sell transactions effected to meet “Quality” or “Local” balancing requirements are taken into account when calculating the overall commercial conversion quantity. Where the above calculations show that balancing actions have been taken in opposite directions in the two different gas qualities (e.g., sales of high-CV gas and purchases of low-CV gas), the relevant figure is compared with the direction of the system-wide virtual conversion quantity previously determined. If the direction of the relevant opposite balancing actions corresponds to the direction in which the system-wide virtual conversion quantity has been converted, then the smaller of the two values (as measured in terms of their absolute values) represents the quantity that was converted by way of commercial conversion measures in each direction.

Where balancing actions have been taken in opposite directions within one gas quality, the actual overall sell/buy figure is used, i.e., where there is an oversupply in the market area and gas has been both sold and purchased on that day, only the gas quantities sold in the relevant gas quality are taken into account, and not offset by the quantities bought in that quality. Any netting between quantities of the same quality would result in reduced sell or buy quantities, which would not reflect the actual balancing actions taken. The corresponding quantity for the other gas quality is determined following the same principles. The balancing quantity deployed in opposite directions is determined as the smaller of the two quantities (as measured in terms of their absolute values).

Given the calculation approach, the quality of the consumption forecasts for intra-day metered (RLM) and standard load profile (SLP) end costumers is another important factor in the delimitation of the use of system balancing actions for GaBi and Konni purposes. The quality of the consumption forecasts can significantly influence the gas quantities physically delivered to the market area by the market participants and therefore has a massive impact on the required balancing actions, and thus indirectly on the actual overall conversion quantities. For example, a general oversupply or undersupply to either or both the low-CV or high-CV systems, as can result from imbalances in network operators’ network balancing accounts due to the mechanisms inherent to the current balancing regime, has an impact on whether and to what extent we have to take balancing actions in opposite directions. Especially from the second half of GY 2021/22 onwards, both sub-networks were essentially over-allocated, as the SLP profiles (consumption forecast for small businesses and households) systematically disregard growing efforts to save gas.

Development of commercial conversion quantities

In the THE market area, virtual conversion in the direction from high-CV gas to low-CV gas is only used to a limited extent, at around 10 TWh per annum, so the instrument of commercial conversion in this direction only had to be used to a very rarely and, since April 2022, not at all.

Virtual conversion in the direction from high-CV gas to low-CV gas, which had fallen sharply in the last gas year with separate market areas (GY 2020/21), is fluctuating in the THE market area, but remains at a consistently very high level of approximately 50 TWh to over 100 TWh per year. This is due, among other things, to the changed flow situation and the effects of the curtailment of high-CV gas imports from Russia as well as the permanent absence of a conversion fee. These circumstances have also resulted in high commercial conversion quantities in this direction.

After reaching a new record high of almost 24 TWh in GY 2022/23 (independent of direction), and a significant decline to approximately 12.5 TWh in the following gas year, commercial conversion quantities in the direction from low-CV gas to high-CV gas rose significantly again to approximately 38 TWh in the last conversion period. This increase is the result of high virtual conversion quantities in conjunction with the nomination behaviour of some balancing group managers in the low-CV gas network from May 2025 onwards (see Chapter 2 for a more detailed description of the reasons).

Figure 6 shows the development of commercial conversion quantities for the market area, with dark colours representing the quantities in the direction from high-CV gas to low-CV gas, while light colours

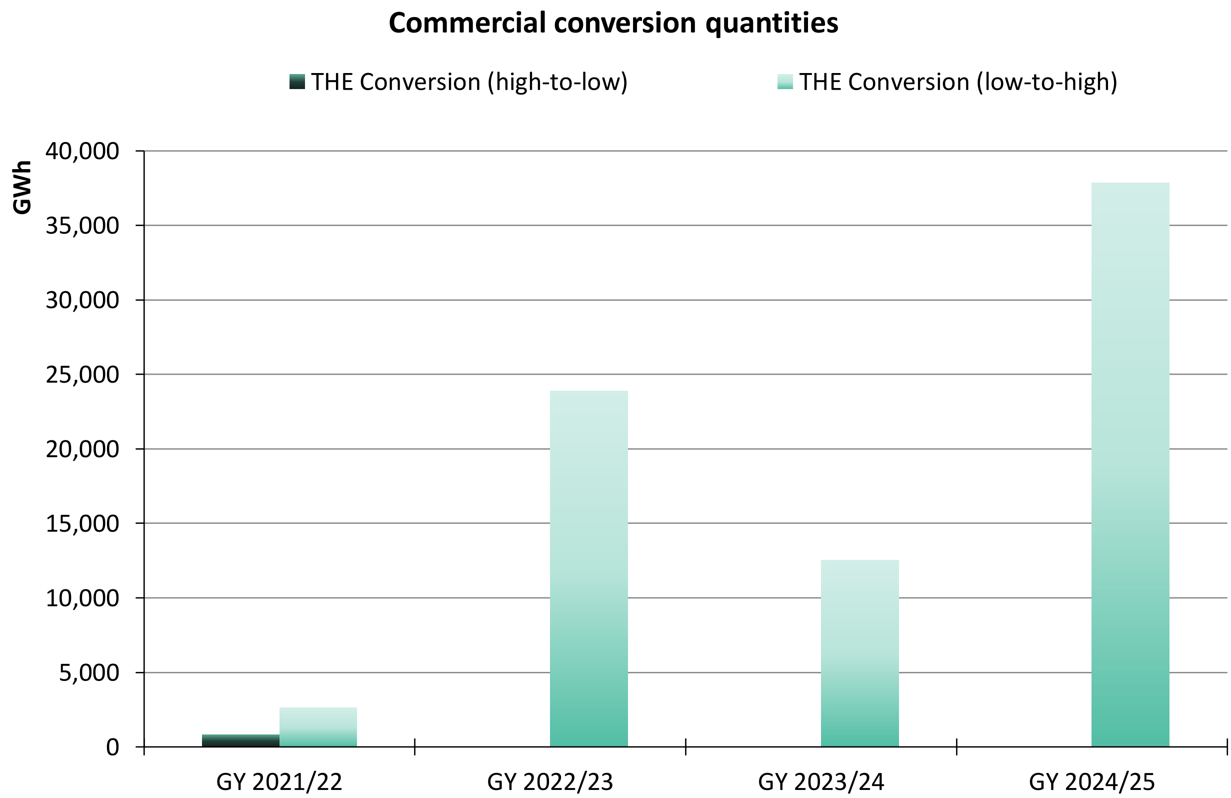

Figure 6: Commercial conversion quantities

represent the opposite direction from low-CV gas to high-CV gas. The trend for each individual month can be seen in Figure 19 in Chapter 6.

2.4 Development of low-CV gas quantities used for balancing purposes

Total expenditure on low-CV gas used for balancing purposes is only in part made up of quantities for the conversion mechanism; however, due to other factors, not all balancing actions are directly allocated to the Konni system (for details, please refer to the description of Indicator 4: Low-CV gas quantities purchased for balancing purposes relative to the total low-CV gas demand in the market area). For this reason, the overall development of low-CV gas quantities is shown here.

The low-CV gas SystemBuy quantity reached a substantial share of over 5 TWh in the THE market area only in the first gas year and was always significantly lower in subsequent periods, at just a few hundred GWh. In the last gas year, only very small quantities (approx. 40 GWh) of low-CV gas were purchased for balancing purposes.

After the SystemSell quantities of low-CV gas for the THE market area had started at 15 TWh in GY 2021/22, which is already four times the previous year's figures (on average across both old market areas), they again tripled to almost 50 TWh in GY 2022/23, the main reason being the systematic over-allocation of SLP quantities whose synthetic forecast formulas do not take gas savings efforts into account or only do so to a small extent, in combination with an increase in low-CV gas imports resulting from the discontinuation in gas imports from Russia. In the following gas years, the SystemSell low-CV gas quantities fell significantly to around 20 TWh, presumably due to the delayed impact of the lower SLP forecasts. Owing to the conversion behaviour in the summer months of 2025 already described in

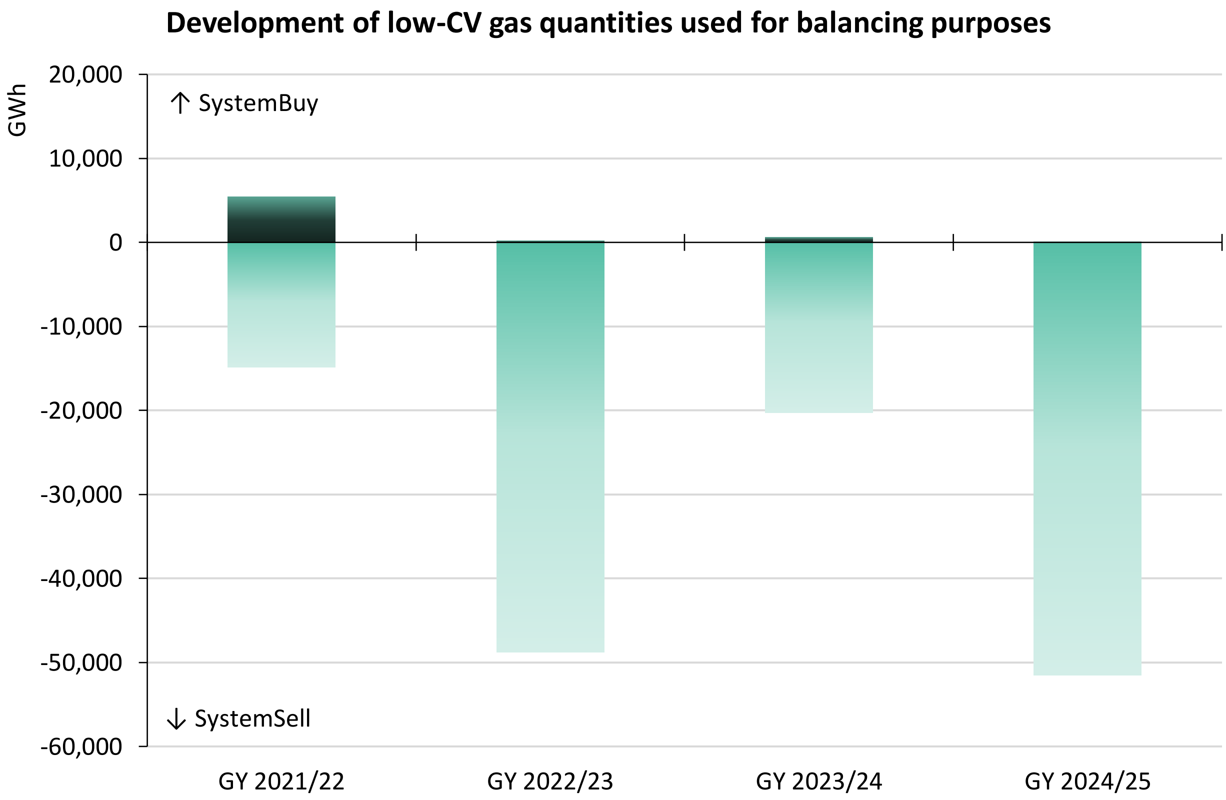

Figure 7: Development of low-CV gas quantities used for balancing purposes

Chapter 2, the SystemSell quantities of low-CV gas reached a new high of approximately 52 TWh in GY 2024/25.

2.5 Development of physical inputs across all balancing groups

According to the Konni Gas ruling, the MAM may levy a conversion neutrality charge on the balancing group manager if the costs of the conversion mechanism cannot be covered by the revenues received through conversion fees. The conversion neutrality charge is levied on all physical input quantities or on the allocations based on them which were included in an FZK balancing group or a DZK balancing group. The only quantities excluded are purely virtual inputs such as trading transactions at the virtual trading point and physical inputs included in a BZK balancing group.

Two factors contributed significantly to a marked decline in physical input quantities: Firstly, import volumes fell due to the drop in consumption caused by gas saving efforts initiated in calendar year 2022. Secondly, the change in the flow distribution of European gas volumes prompted by the Russian supply curtailments led to a sharp drop in transit volumes through Germany. As a result, the physical input quantities in the following gas years fell accordingly to below 65% of the five-year average. In the last gas year, quantities did not fall any further, but rose slightly to 1,150 TWh, up from the lowest level of approx. 1,000 TWh in GY 2023/24.

Figure 8 shows the physical inputs in previous gas years for the THE market area. The data provided is based on the data series types "EntrySo", "EntrySP", "Entry Biogas" and "Entry Wasserstoff". A conversion neutrality charge was levied in the THE market area for GY 2022/23 and will also be levied for the coming GY 2025/26 (see Chapter 4 – Commercial assessment).

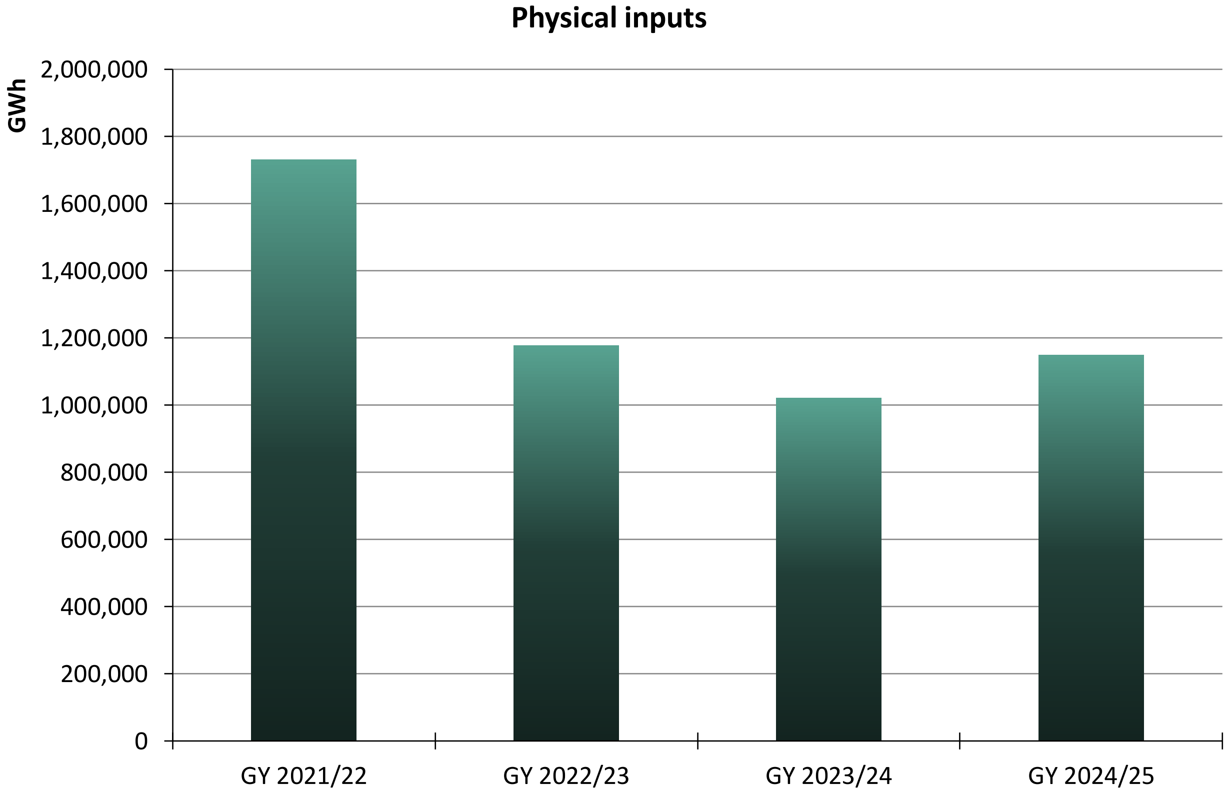

Figure 8: Physical inputs

3 Evaluation of gas quality conversion mechanism based on the indicators used for determining the applicable incentive-based conversion fee

According to the amended Konni Gas ruling we have to determine and show our incentive-based conversion fee based on a set of suitable indicators that duly reflect the conversion fee's intended purpose of influencing market participants' behaviour.

In its Konni Gas ruling the Federal Network Agency proposes the following three possible indicators:

- the quantities of gas that are virtually converted from high-CV to low-CV quality as measured relative to the total low-CV gas demand in the market area (Indicator 1)
- the balancing quantities that are supplied/received for the purpose of converting gas from high-CV to low-CV quality as measured relative to the total balancing quantities supplied/received (Indicator 2)
- the balancing quantities that are supplied/received for the purpose of converting gas from high-CV to low-CV quality as measured relative to the total low-CV gas demand in the market area (Indicator 3)

THE has to assess these indicators as to their suitability for the determination of an incentive-based conversion fee. THE further has an obligation to determine, assess and apply such additional indicators as it deems suitable for determining its conversion fee. The data base used to determine these indicators is to cover a period of at least 12 months so as to ensure that it provides a sound basis for drawing reliable conclusions as to the required level of an incentive-based conversion fee.

THE has identified one additional indicator other than the three proposed by the Federal Network Agency that we believe are a suitable reference for setting an incentive-based conversion fee:

- the quantities of low-CV gas that are purchased for balancing purposes as measured relative to the total low-CV gas demand in the market area (Indicator 4)

In general, it should be noted that the indicators serve exclusively to analyse the utilisation of the conversion mechanism in the direction from low-CV to high-CV gas. From June 2022, however, the conversion mechanism is dominated by conversions in the opposite direction. All costs incurred through commercial conversion totalling over EUR 280 million were incurred as a result of measures in the direction from low-CV to high-CV gas.

3.1 Indicator 1: Virtual conversion quantities converted from high-CV to low-CV quality relative to the total low-CV gas demand in the market area

In order to calculate this indicator, we examined the relationship between the conversion fee level and the proportion of total low-CV gas demand that was virtually converted by balancing group managers (BGMs) in each of the previous conversion periods. Figure 9 shows the maximum daily proportion in the respective month for the THE market area from October 2021. The chart also shows the conversion fee applicable in the respective month.

Already in GY 2021/22 – when the conversion fee was at EUR 0.45/MWh – significant levels of virtual conversion in low-CV gas sales were only recorded in a few months in the THE market area. With the conversion fee remaining unchanged, this share fell to 0 % in all months of GY 2022/23, as there was no virtual system-wide conversion in the direction from high-CV gas to low-CV gas, the main reason being the Russian gas curtailments, which changed the direction of flow in the European gas market from east-west to west-east. The conversion fee reductions in the last two gas years to EUR 0.21/MWh (GY 2023/24) and EUR 0.00/MWh (GY 2024/25) also did not result in any network-wide virtual conversion in the direction from high-CV to low-CV gas.

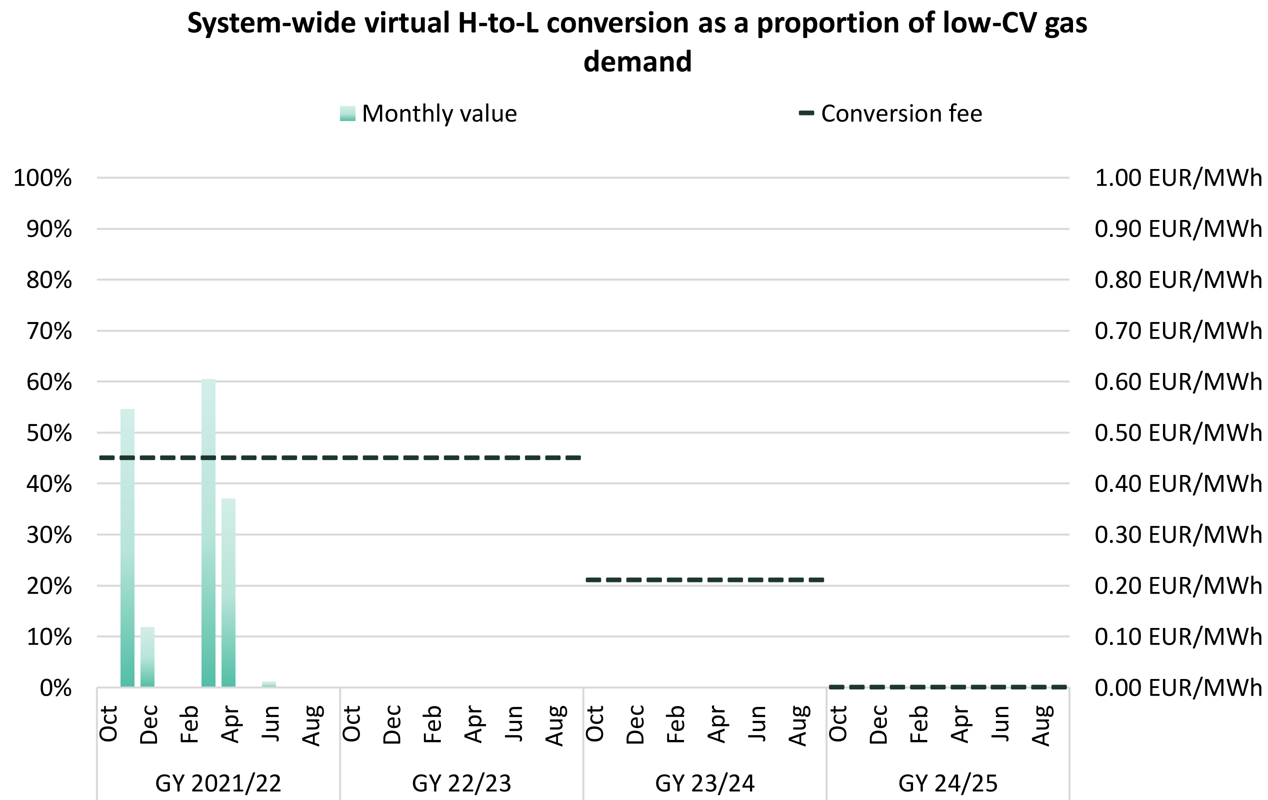

Figure 9: System-wide virtual H-to-L conversion as a proportion of low-CV gas demand

3.2 Indicator 2: Balancing quantities supplied/received for high-CV gas to low-CV gas conversion purposes relative to the total balancing gas quantities supplied/received

In order to calculate this indicator, we examined the relationship between the conversion fee level and the proportion of our total balancing quantities (SystemBuy and SystemSell) that was used for the purpose of taking commercial H-to-L conversion measures in each of the previous conversion periods. Figure 10 shows arithmetic mean of all daily proportions in the respective month for the THE market area from October 2021. The chart also shows the conversion fee applicable in the respective month.

THE considers that this indicator is only of limited value as a reference, given that ultimately the results it provides depend strongly on the magnitude of the balancing actions we have to take. In situations where we have to balance very large system imbalances primarily driven by other effects, even comparably high levels of conversion activities and corresponding commercial conversion measures would represent a relatively small proportion of our total balancing actions. Nevertheless, Indicator 2 shows a development similar to the other indicators: In GY 2021/22, the levels in the THE market area already fell significantly. As there was no system-wide conversion from high-CV gas to low-CV gas since GY 2022/23 and consequently no commercial conversion from high-CV gas to low-CV gas, the share of commercial conversion quantities in the balancing quantities supplied/received was 0 % in all months.

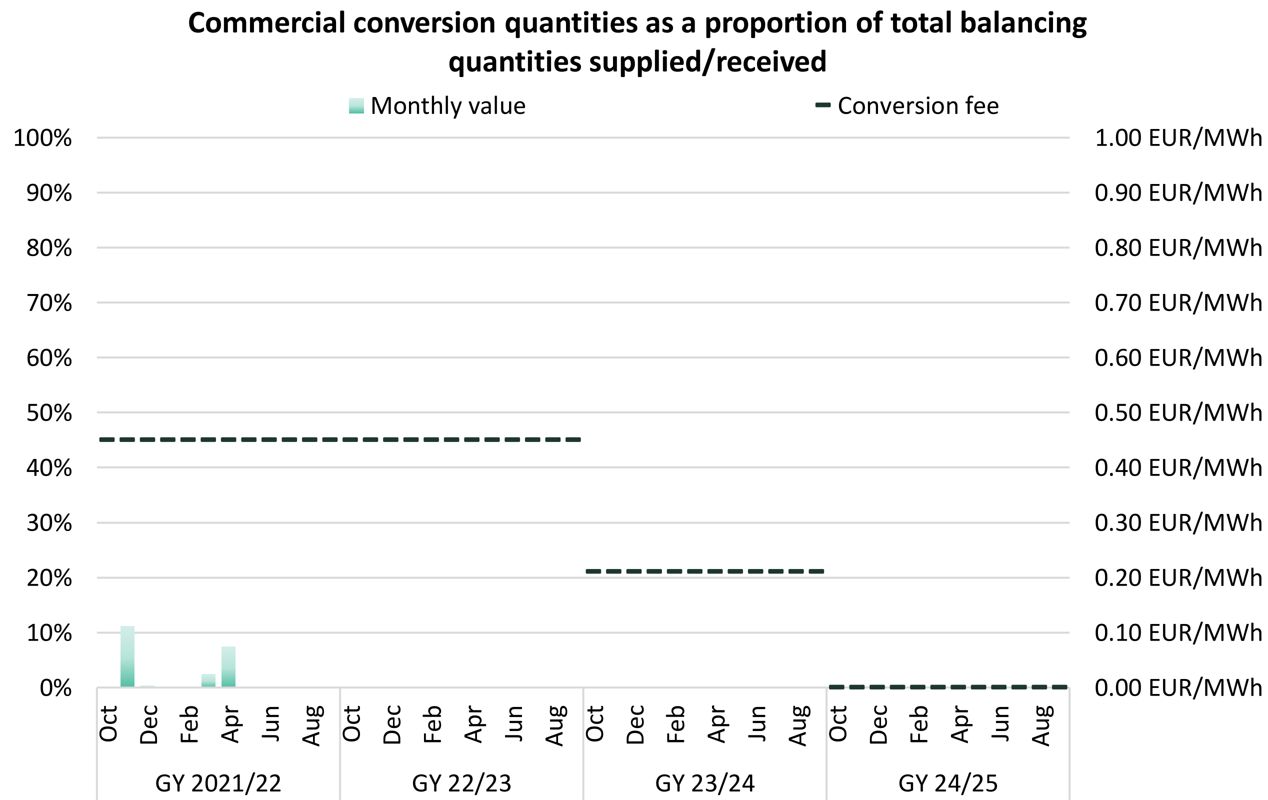

Figure 10: Commercial conversion quantities as a proportion of total balancing quantities supplied/received

3.3 Indicator 3: Balancing gas quantities supplied/received for high-CV to low-CV gas conversion purposes relative to the total low-CV gas demand in the market area

In order to calculate this indicator, we examined the relationship between the conversion fee level and the proportion of low-CV gas demand that was provided via commercial H-to-L conversion measures for each of the previous conversion periods. Figure 11 shows the maximum daily proportion in the respective month for the THE market area from October 2021. The chart also shows the conversion fee applicable in the respective month.

We believe that this indicator is suitable for helping us assess whether market participants' conversion behaviour might result in THE becoming the main buyer of low-CV gas. The trends observed for the indicators listed above can also be found in Indicator 3.

Since GY 2021/22, the trend in the THE market area has been towards ever smaller shares of commercial conversions from high-CV gas to low-CV gas in low-CV gas sales. As there has been no virtual system-wide conversion in the direction from high-CV gas to low-CV gas since GY 2022/23 and, as a result, no commercial conversion from high-CV gas to low-CV gas, the share of commercial conversion in the use of gas for balancing purposes has been zero in all months.

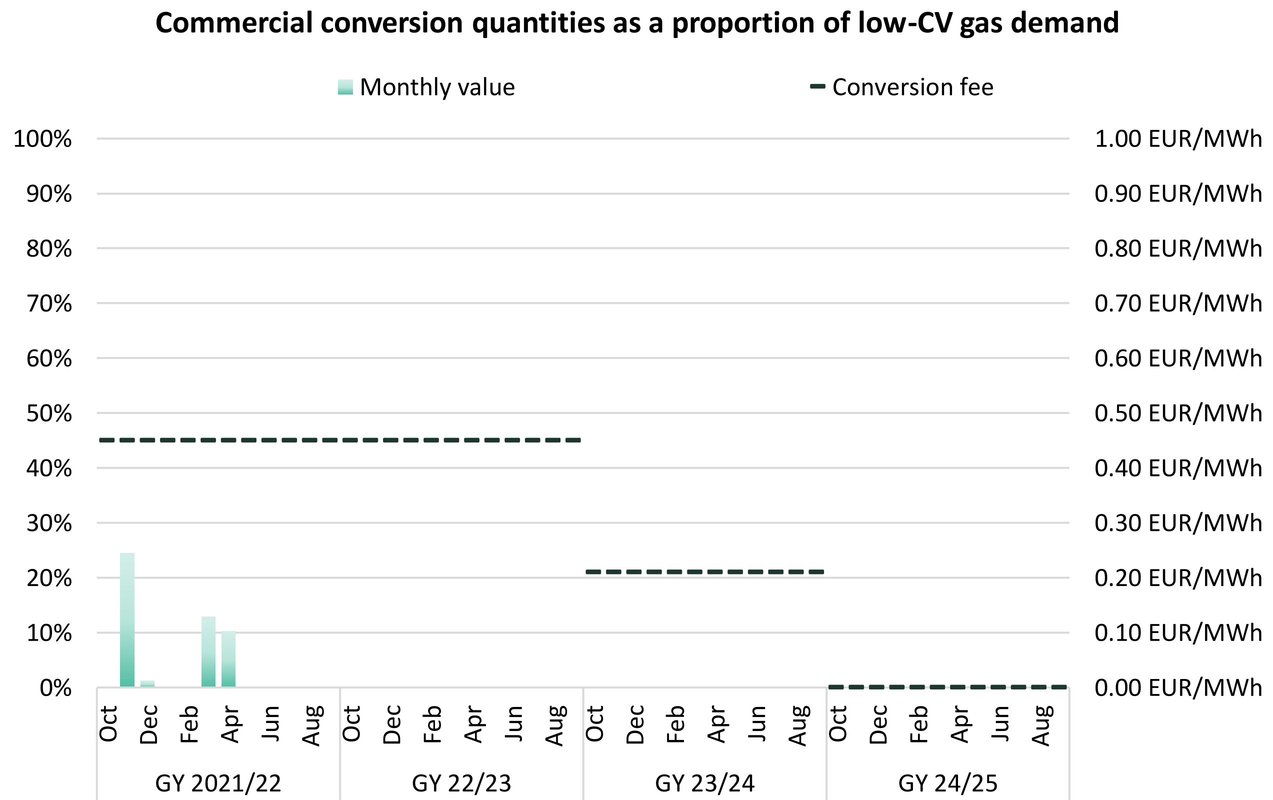

Figure 11: Commercial conversion quantities as a proportion of low-CV gas demand

3.4 Indicator 4: Low-CV gas quantities purchased for balancing purposes relative to the total low-CV gas demand in the market area

In order to calculate this indicator, we examined the relationship between the conversion fee level and the proportion of total low-CV gas demand that corresponds to the low-CV gas quantities we purchased for balancing purposes for each of the previous conversion periods. Figure 12 shows the maximum daily proportion in the respective month for the THE market area from October 2021. The chart also shows the conversion fee applicable in the respective month.

This indicator shows to what extent we procure gas for the supply low-CV gas customers as part of our system balancing activities, even where this does not result in balancing actions in opposite directions and so is not considered a commercial conversion measure. Measuring the quantities of low-CV gas we purchase as part of our balancing actions as a proportion of total low-CV gas demand shows directly to what degree THE is becoming a buyer of low-CV gas.

Indicator 4, too, clearly reflects the development that can also be seen in the other indicators: the proportion of gas for low-CV gas customers continued to decline significantly in the THE market area during the last gas years. While levels of less than 30 % were only recorded in a few months in the old market areas, and even significantly higher levels in some of the months, they have been falling steadily on an annual average for the THE market area since GY 2021/22. In the last gas year, no levels above 10 % were reached in any month, and in June and August, no low-CV gas quantities had to be procured.

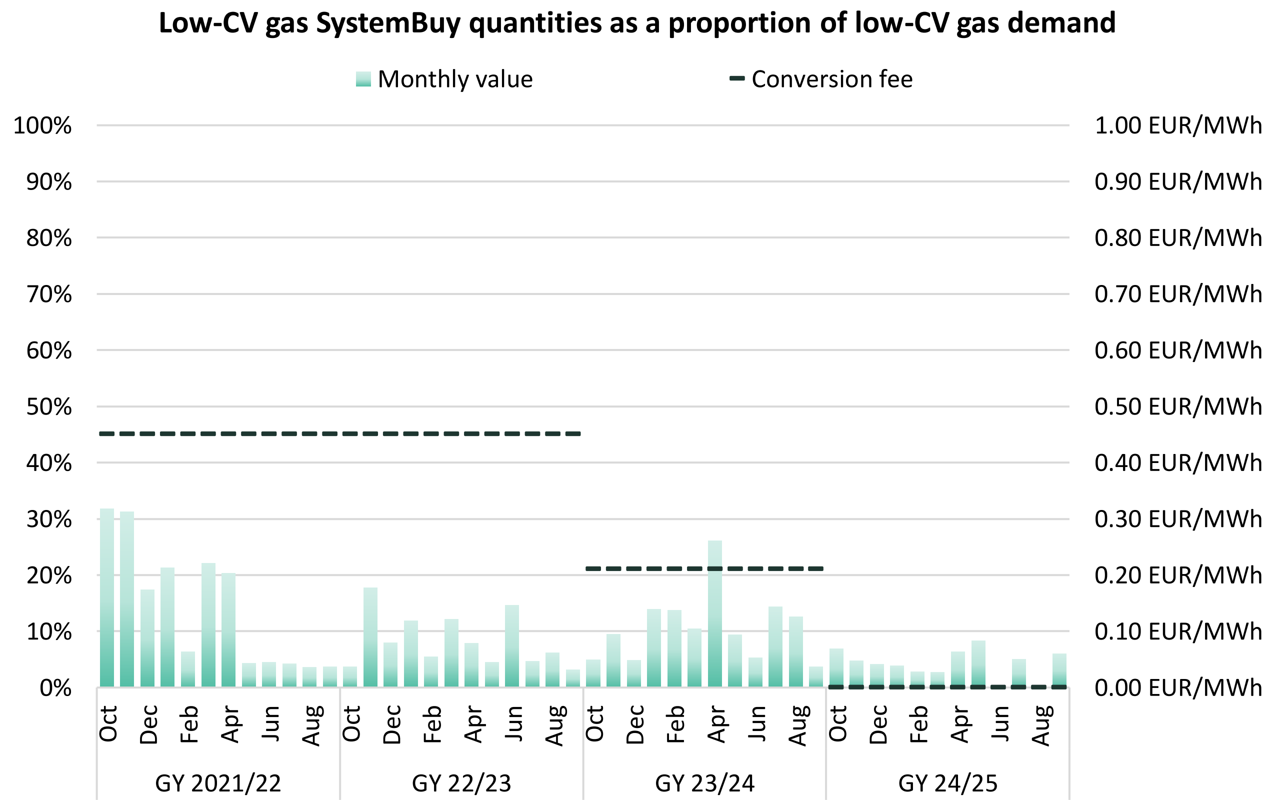

Figure 12: Low-CV gas SystemBuy quantities as a proportion of low-CV gas demand

4 Commercial assessment

4.1 Revenues and costs under the conversion mechanism

Approach for calculating revenue and cost items

The level of the revenues earned under the conversion mechanism is determined by the conversion fees charged to BGMs for their individual virtual conversion quantities as well as by the conversion neutrality charges levied on BGMs' inputs. In the assessed periods revenues were only occasionally generated from commercial conversion measures. Such revenues result from positive price differences between simultaneous balancing sales and purchases (SystemSell commodity price less SystemBuy commodity price).

Conversion costs generally comprise the commodity costs incurred as a result of the relevant balancing buy and sell transactions effected in the two directions where balancing actions have been taken in opposite directions, plus a proportion of the costs incurred for transportation capacity contracts and availability contracts for long-term balancing products. In addition, there are technical conversion costs for transportation conversion (service costs of the booked capacities) and for the use of third-party blending plants (currently not available in the THE market area).

In order to calculate the commodity costs, the commercial conversion quantities are first determined for each day. Subsequently, the weighted average prices paid/received in connection with the associated balancing buy and sell transactions are calculated for the relevant direction of conversion. In order to do so the price difference between quality-specific balancing sell transactions (SystemSell) and balancing buy transactions (SystemBuy) is multiplied by the net commercial conversion quantity determined to have been converted on the day in question (amount of the commercial conversion quantity calculated for one direction pursuant to Chapter 2.3).

The next step is to calculate the allocation key which is used to apportion the costs incurred for availability contracts for long-term balancing products as well as the costs incurred for transportation capacity contracted to procure low-CV gas on the Dutch TTF. In order to allocate the relevant cost items the proportion of the balancing quantities supplied/received for conversion purposes (commercial conversion quantity) is first determined in relation to the total balancing requirements on the day in question. This gives the allocation key. Then the availability contract costs for keeping balancing services available (per quarter, month or weekly booking) are distributed proportionally over all days within the period. Costs for capacity bookings, less the capacity costs directly assigned to the conversion system from transportation conversion, are also calculated on a daily basis. Following this, the allocation key is applied to the daily costs thus determined for the purpose of allocating the relevant proportional costs to the conversion mechanism.

Table 2 shows the fees and charges levied in the THE market area. Our conversion costs and conversion revenues are shown by gas year in Figure 13.

Total costs in GY 2021/22 amounted to over EUR 560 million, coinciding with a sharp rise in revenues to over EUR 525 million, which mainly resulted from commodity sales. Both figures represented new highs

Conversion period	Conversion fee	Conversion neutrality charge
1.10.2021 - 30.09.2022	EUR 0.45/MWh	EUR 0.00/MWh
1.10.2022 - 30.09.2023	EUR 0.45/MWh	EUR 0.38/MWh
1.10.2023 - 30.09.2024	EUR 0.21/MWh	EUR 0.00/MWh
1.10.2024 - 30.09.2025	EUR 0.00/MWh	EUR 0.00/MWh

Table 2: Development of conversion fees and conversion neutrality charges

at the time and were primarily due to the rapid increase in gas prices, which peaked at over EUR 300/MWh in August 2022. This trend continued with even greater intensity during the subsequent gas year. The combination of record virtual conversion quantities, resulting in high commercial conversion quantities, and the continuation of high gas prices (both for quantities procured on a short-term basis as well as for long-term contracts) led to total costs of over EUR 1.7 billion, which were, however, also offset by a sharp increase in revenues of over EUR 1.8 billion. GY 2023/24 saw a return to the level of GY 2021/22 with costs totalling EUR 439 million and revenues of EUR 460 million. This decline is attributable to the quantities falling by almost half as well as the continued decline in gas prices overall.

The increase in virtual conversion quantities described in the previous chapters and the resulting measures in terms of gas imports and exports carried out for conversion purposes and commercial conversions led to a further increase in total costs and revenues of the conversion mechanism to EUR 1.45 billion (costs) and EUR 1.35 billion (revenues), respectively.

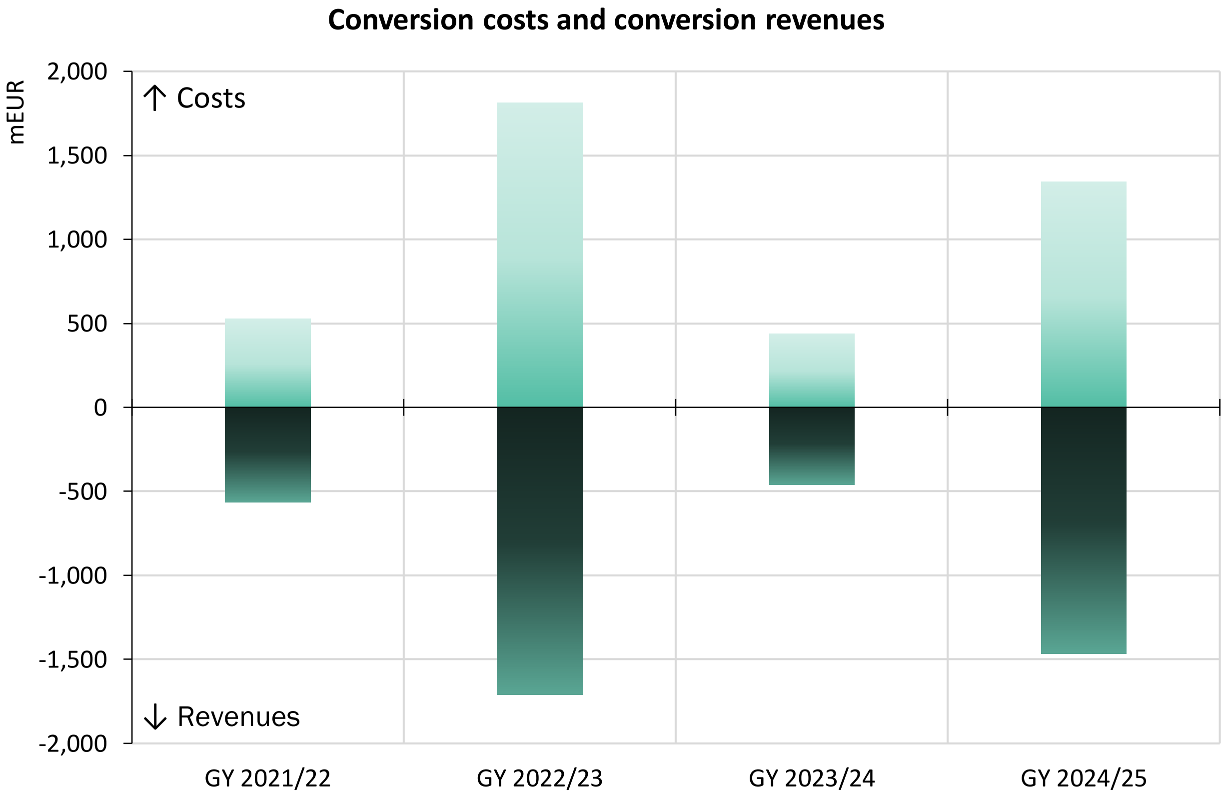

Figure 13: Conversion costs and conversion revenues

4.2 Position of conversion neutrality account and liquidity buffer

Under the amended Konni Gas ruling of 21 December 2016, the market area manager has the right to allow for a liquidity buffer when setting their conversion fees and conversion neutrality charges. The intended function of this liquidity buffer is primarily to mitigate the liquidity risks that may arise due to the uncertainty inherent to projections or as a consequence of high conversion costs.

As required under the Konni Gas ruling, the MAM publishes the current position of their conversion neutrality accounts on a monthly basis (see Figure 14), with the preliminary account balances for each month being published by the 5th business day of the following month. The account data provided for a month is updated once all final data required for publication purposes is available for that month, which is usually the case 10 business days after the end of the second month following the relevant month.

The actual costs caused by conversion activities vary significantly, even though the general conditions shown in the model are almost the same. The net costs in the THE market area amounted to approx. EUR 550 million, of which EUR 125 million was incurred in the last gas year. These costs were offset by approx. EUR 460 million of income from the conversion fee (effective until GY 2023/24) and the conversion neutrality charge (in GY 2022/23), making it necessary to levy a conversion neutrality charge of EUR 0.18/MWh for GY 2025/26. Overall, conversion mechanism costs have risen significantly as a result of the war in Ukraine and the associated market uncertainties. The risks arising from price developments must be recognised accordingly in the liquidity buffer.

In addition, there are periods in which very high costs were incurred for the procurement of gas within a short space of time. Even if these costs can only be attributed to the conversion mechanism on a pro-rata basis, there are high margining requirements at the exchange, which must be taken into account as per the GaBi/Konni distribution.

The final balance determined for the combined conversion neutrality account in the THE market area for GY 2024/25 was EUR 100.5 million at the end of September 2025. In the previous gas year, a significantly higher balance of EUR 231.7 million had been recorded at the end of September 2024.

The liquidity buffer is determined as part of internal THE risk assessments. In accordance with the ruling, this liquidity buffer serves to limit our risk exposure in the event of payment defaults and cases of insolvency, to pre-finance commercial conversion measures (incl. funds required for the pro-rata inclusion of costs for the contracting of long-term options and increased margining requirements of the clearing houses) and especially to manage the uncertainty associated with volume and price trends. An increase in market prices or large conversion quantities can lead to a widening of the spread between purchase and sale prices. Despite the continuing market conversion, the termination of production of low-CV gas from the Groningen field in the Netherlands poses a particular price risk, which is, however, mitigated by the prevailing conversion direction (sale of low-CV gas and purchase of high-CV gas).

Due to the significant increase in conversion quantities in the direction from low-CV gas to high-CV gas and the associated risks, a higher liquidity buffer than in the previous year is being applied for GY 2025/26.

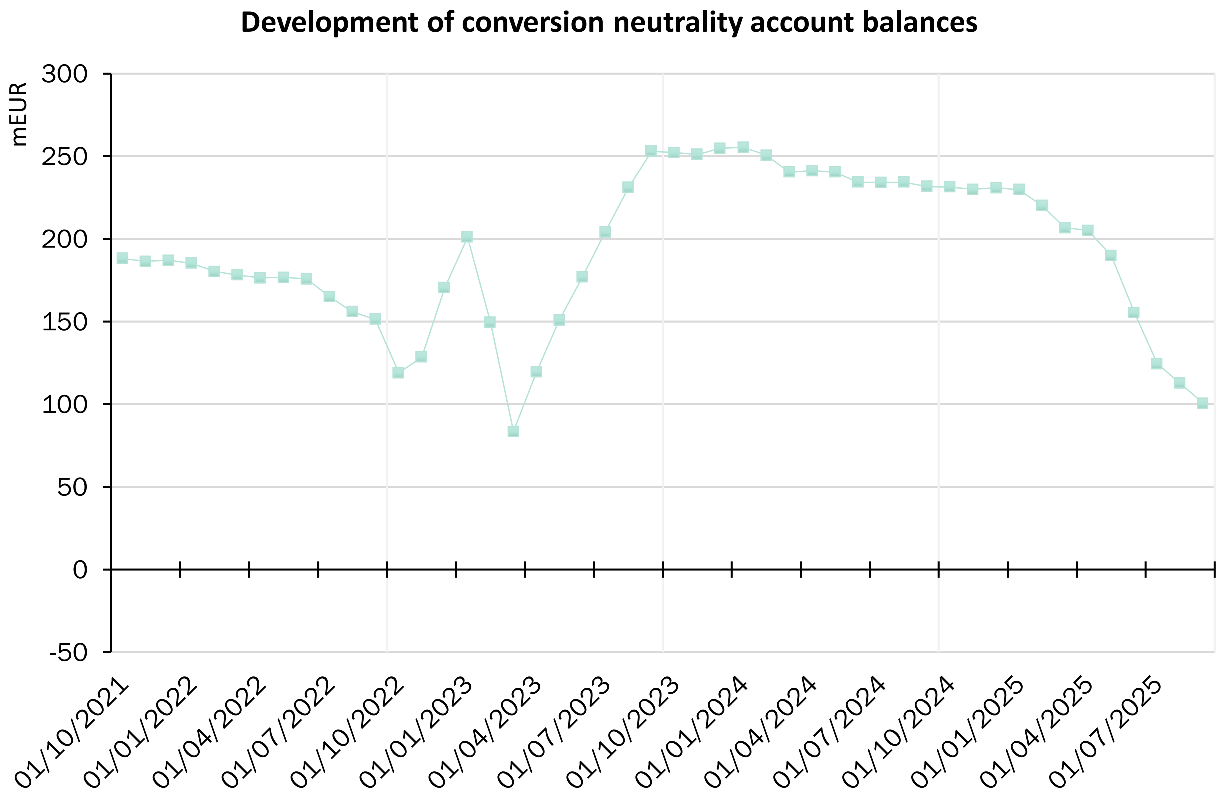

Figure 14: Development of conversion neutrality account balances

The influence of the individual risks on the liquidity buffer is shown in Table 3.

THE aims to have a liquidity buffer of EUR 269.7 million at the end of the GY 2025/26 conversion period.

Risk	Explanation	Impact[1] on liquidity buffer
Volume risk	Uncertainties, especially due to weather conditions and the behaviour of market participants	High
Price risk	Uncertainties, e.g., due to gas shortage or behaviour of market participants	High
LTO	Uncertainties, especially due to price and volume risks	Medium
Margining increase	Margining requirement due to increased balancing gas demand	Medium
Other risks	Legal disputes, payment delays	Low

Table 3: Impact of the individual risks on the liquidity buffer

[1] The assessment of the individual risks results from the relation of the respective individual risk to the liquidity buffer of the conversion system

5 Necessity to retain the conversion fee

Section 3(c) of the operative provisions of the Konni Gas ruling imposes an obligation on THE to consider in its annual evaluation report whether it will be necessary to retain the conversion fee. These considerations are provided in this chapter.

5.1 Supply security risks dues to sharp drop in low-CV gas production

Low-CV gas production from the natural gas field in the Groningen area in the Netherlands has been impacted by unforeseeable cutdowns in production, which saw production output being scaled down enormously since 2013. On 29 March 2018[2], it was announced that gas production in the Groningen field would be discontinued. After a reduction in the production volume to below 11.8 bcm/a in GY 2019/2020, production is to be limited to 8.1 bcm/a for GY 2020/21 according to the decision of 21 September 2020[3]. After commissioning of the nitrogen blending plant in Zuidbroek (originally planned for April 2022), production was to be gradually reduced to zero in 2022. For 2023, the Dutch government has limited production to 2.8 bcm/a[4]. Gas production in Groningen stopped on 1 October 2023. At the same time, the "Zuidbroek II" nitrogen blending plant went into operation to provide low-CV gas through technical conversion. Continued production will only be possible under an emergency plan.[5]

The reason for the above cutbacks in/discontinuation of production is a rise in the frequency of earthquakes registered in the region around Groningen, the cause of which is assumed to be the extraction of natural gas from the field. On 8 January 2018 an earthquake with a magnitude of 3.4 on the Richter scale struck the Netherlands, the strongest since 2012. The reduction in low-CV gas production could only be offset by creating additional technical conversion capacity or by reducing low-CV gas demand. Legal claims to have sufficient supplies of low-CV gas provided so that the demand of German end users can be met are only available under the existing long-term supply contracts signed by German gas suppliers and Dutch producers. For the security of the supply of German end users of low-CV gas it is therefore essential that German gas suppliers do not terminate their existing long-term supply contracts for low-CV gas prematurely.

Even if the conversion fee has been reduced to EUR 0.00/MWh since the last gas year due to the calculation method applied, there is still the option under Konni Gas to adjust the conversion fee during the course of the validity period. THE is of the view that even the possibility of charging a conversion fee will be one of the factors that will motivate German suppliers to uphold their existing long-term supply contracts for low-CV gas. This effect results from the fact that the conversion fee provides an incentive

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[2] Termination of natural gas extraction in Groningen (https://www.government.nl/documents/parliamentary-documents/2018/03/29/kamerbrief-over-gaswinning-groningen)
[3] Letter to Parliament on gas production in Groningen in gas year 2020-2021 (Dutch only, https://www.rijksoverheid.nl/onderwerpen/gaswinning-in-groningen/documenten/kamerstukken/2020/09/21/kamerbrief-gaswinningsniveau-groningen-gasjaar-2020-2021)
[4] Groningen gas field on the back burner in October https://www.government.nl/latest/news/2022/06/20/groningen-gas-field-on-the-back-burner-in-october)
[5] Afbouw Gaswinning Groningen (only in Dutch, https://www.rijksoverheid.nl/onderwerpen/gaswinning-in-groningen/afbouw-gaswinning-groningen

for suppliers to physically provide low-CV gas for the supply of low-CV end users. The conversion fee can therefore contribute to preventing supply security risks in the German low-CV network areas, also in the long term.

5.2 Costs incurred under the conversion mechanism

In GY 2021/22, moderate quantities and high prices resulted in significant costs of around EUR 38 million (which already take into account the revenue from the conversion fee of around EUR 5 million). Since no conversion neutrality charge was applied, the liquidity buffer in the conversion account, which mitigates financial risks from the conversion mechanism, dropped to a lower level. This and the general geopolitical situation with its impact on gas prices resulted in an urgent need to introduce the conversion neutrality charge in GY 2022/23. As the costs incurred previously could be offset by the income generated in GY 2022/23, the conversion neutrality charge for GY 2023/24 was again reduced to EUR 0.00/MWh. The development of costs, revenues and liquidity requirements made it unnecessary to levy a conversion neutrality charge for GY 2024/25. The increased need for gas imports and exports carried out for conversion purposes as well as commercial conversions described in the previous chapters led to a further rise in total costs to over EUR 130 million in GY 2024/25, which was not offset by any income from conversion fees or conversion neutrality charges.

Moreover, our experiences in the NCG market area in spring 2016 and the strong increase in conversion quantities in both market areas towards the end of the gas year have shown that a low conversion fee for high-CV to low-CV gas conversions carries a real risk of a complete market shift in this direction. If this were to occur, it is likely that due to the large balancing requirements arising as a consequence, this would also result in high costs for the conversion mechanism. Besides producing high costs, THE believes that such a development does not reflect the separate market roles as defined by law. The purpose of balancing actions should be to address gas imbalances on the gas networks, but in no event should this mean that the MAM becomes the main buyer of gas in either gas quality.

As the above circumstances have not changed, it is our view that the possibility of levying an appropriately priced H-to-L conversion fee – as defined in the amended Konni Gas ruling – remains a necessity.

In the other direction (L to H), the costs for gas imports and exports carried out for conversion purposes and those for commercial conversion in the direction from low-CV gas to high-CV gas rose to record levels of over EUR 100 million in GY 2022/23 and GY 2024/25. Since June 2022 up to and including September 2025, the conversion mechanism incurred costs of EUR 284 million for commercial conversion measures alone. In addition, there are pro-rata costs for long-term contracts totalling EUR 250 million (EUR 205 million of which were recorded in GY 2022/23). It remains to be seen what further impact a market without a conversion fee will have on the costs of the conversion mechanism (in particular, whether last summer's high conversion costs will be repeated).

6 Conversion outlook for gas year 2025/26

As the current winter period is not over at the time of publication of this report and final data is not yet available for most months, the evaluations provided in the outlook for GY 2025/26 must be interpreted with reservation. The cut-off date for data collection is 19 January 2026.

As regards virtual conversion (see Figure 15), it can be observed that in the direction from high-CV gas to low-CV gas, the quantity profile in the first four months of GY 2025/26 is developing similarly to the previous year, albeit at a slightly lower level. The virtual conversion quantities in the opposite direction from low-CV gas to high-CV gas were used more than in the last winter. The December figures in particular are significantly up on the previous year.

Technical conversion in the direction from high-CV gas to low-CV gas remains at a low level due to the reasons mentioned in Chapter 2.2. In the direction from low-CV gas to high-CV gas, the technical conversion quantities of the facilities that are included in the transportation tariffs are roughly at the summer 2025 level and thus lower than in the respective months of last winter. With regard to the preliminary figures shown in Figure 16, it should be noted that the technical conversion quantities used for conversion purposes as part of Konni Gas have not yet been calculated. There is still no technical conversion happening in the THE market area that involves facilities not taken into account for network charges, because no such facilities are used.

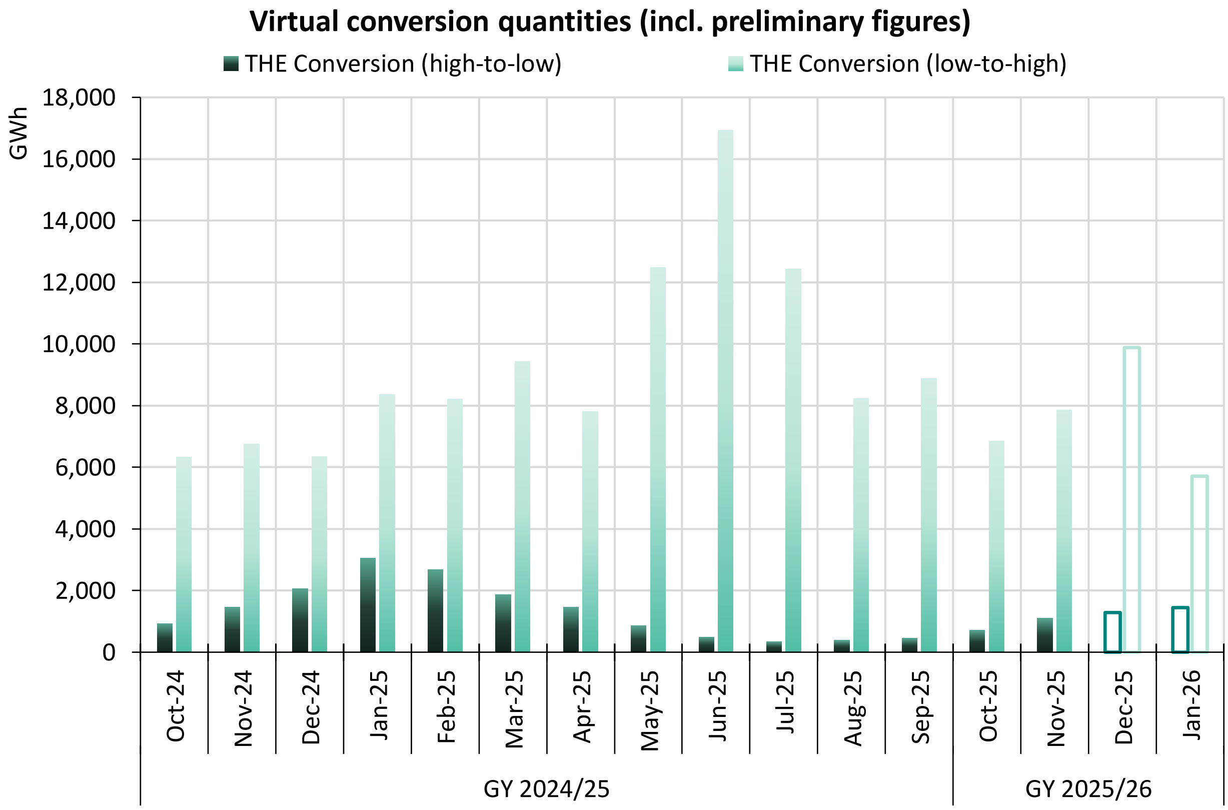

Figure 15: Virtual conversion quantities (incl. preliminary figures; Jan/26 incomplete)

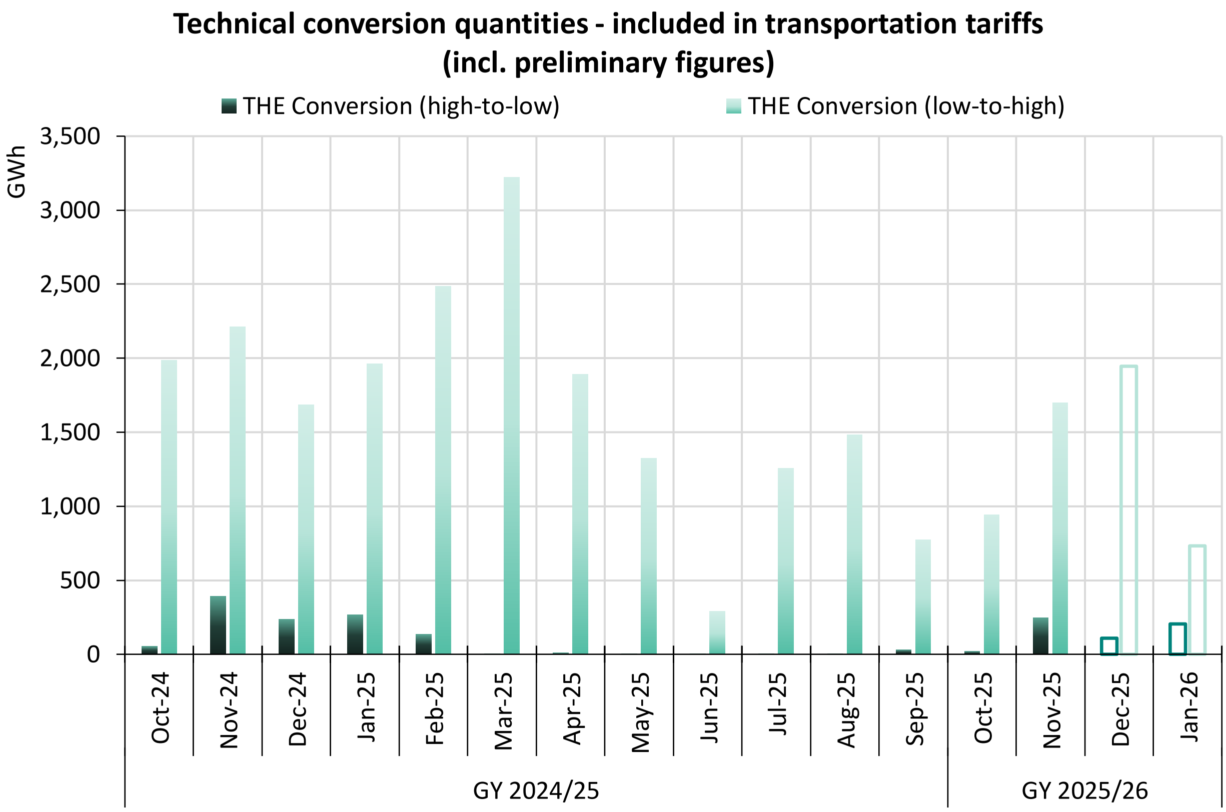

Figure 16: Technical conversion quantities - included in transportation tariffs (incl. preliminary figures; Jan/26 incomplete)

Owing to the renewed increase in virtual conversion quantities from low-CV gas to high-CV gas in December, gas imports and exports carried out for conversion purposes were increasingly used in this direction (see Figure 17), and the level is similar to the quantities used in August/September 2025.

As expected, the development of the virtual and technical conversion quantities is also reflected in a similar way in the commercial conversion quantities. As can be seen in Figure 19, commercial conversion is still only happening in the direction from low-CV gas to high-CV gas. Developments during the period from October 2025 to January 2026 continue with the high quantities recorded in the ending gas year, which are significantly above those of the respective months of the previous gas year. Total conversion costs (excluding pro-rata long-term costs) for the current gas year, including the cost of gas imports and exports carried out for conversion purposes, amount to EUR 5-15 million per month (see Figure 18 and Figure 20).

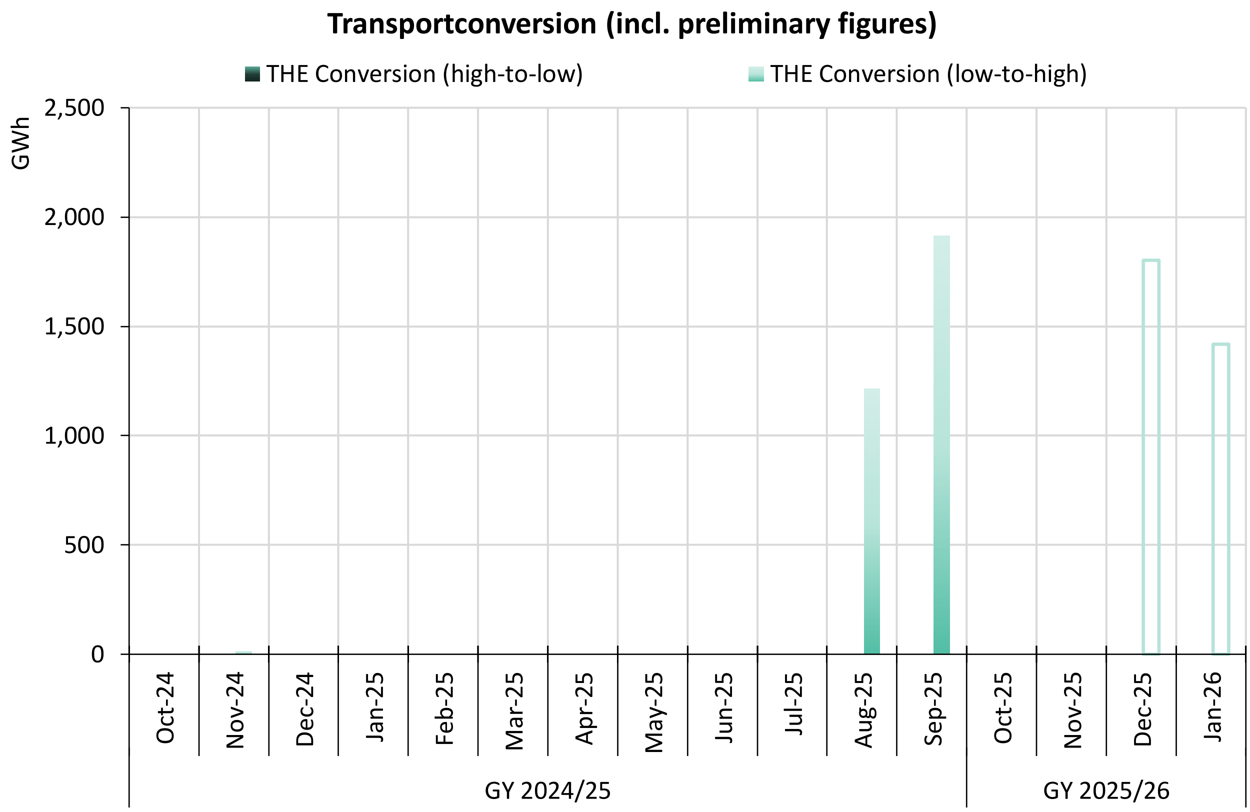

Figure 17: Gas imports and exports carried out for conversion purposes (incl. preliminary figures; Jan/26 incomplete)

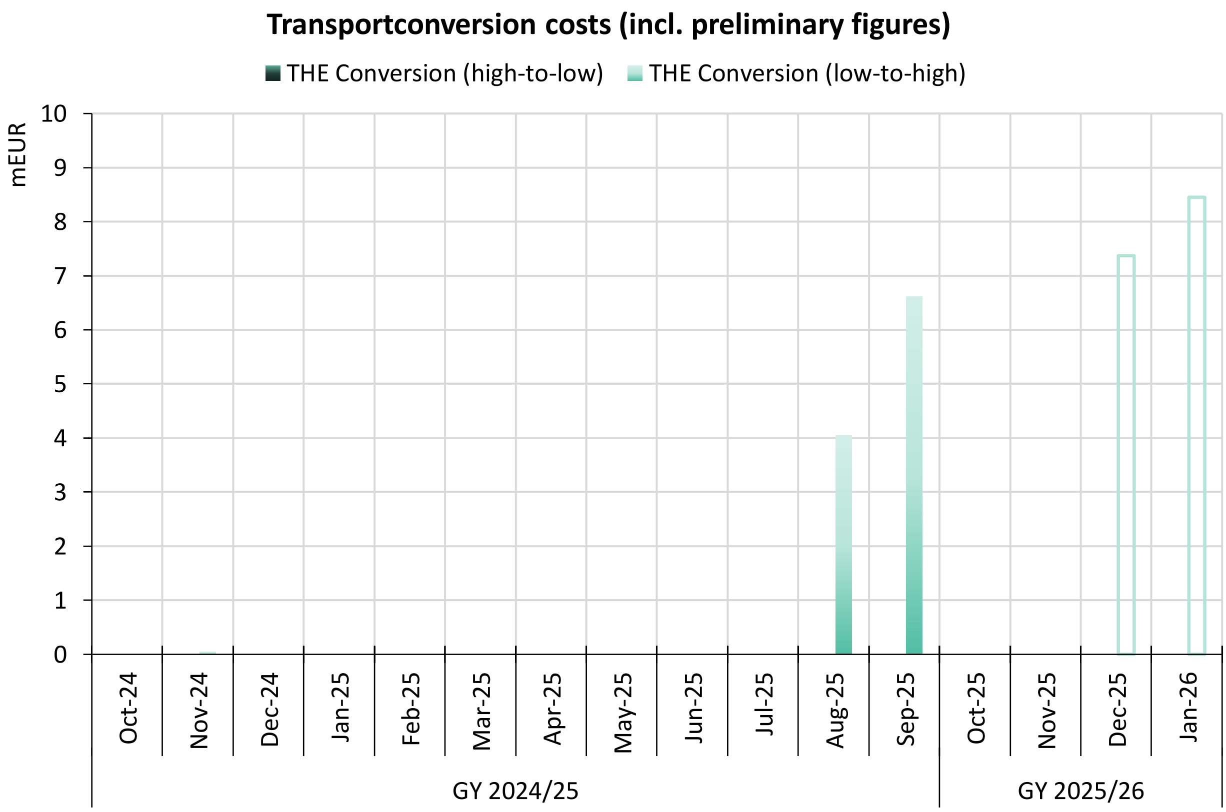

Figure 18: Cost of gas imports and exports carried out for conversion purposes (incl. preliminary figures; Jan/26 incomplete)

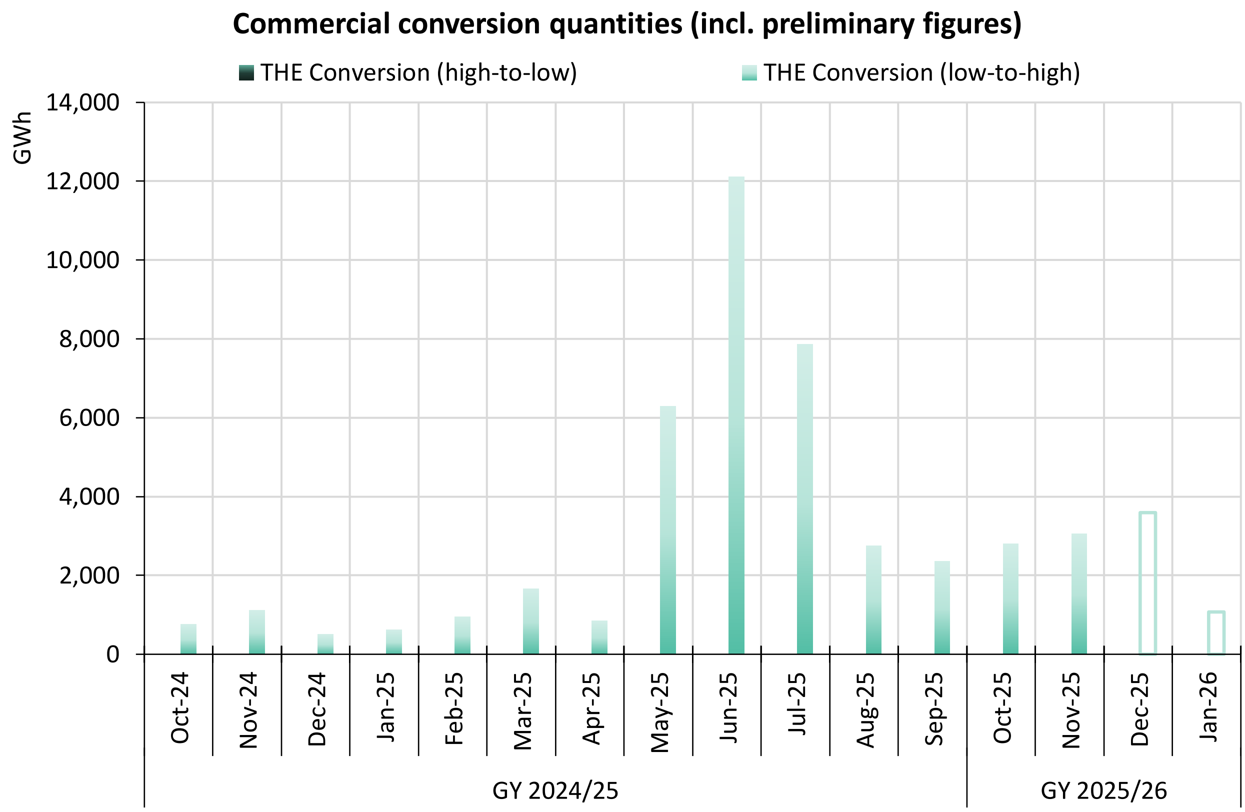

Figure 19: Commercial conversion quantities (incl. preliminary figures; Jan/26 incomplete)

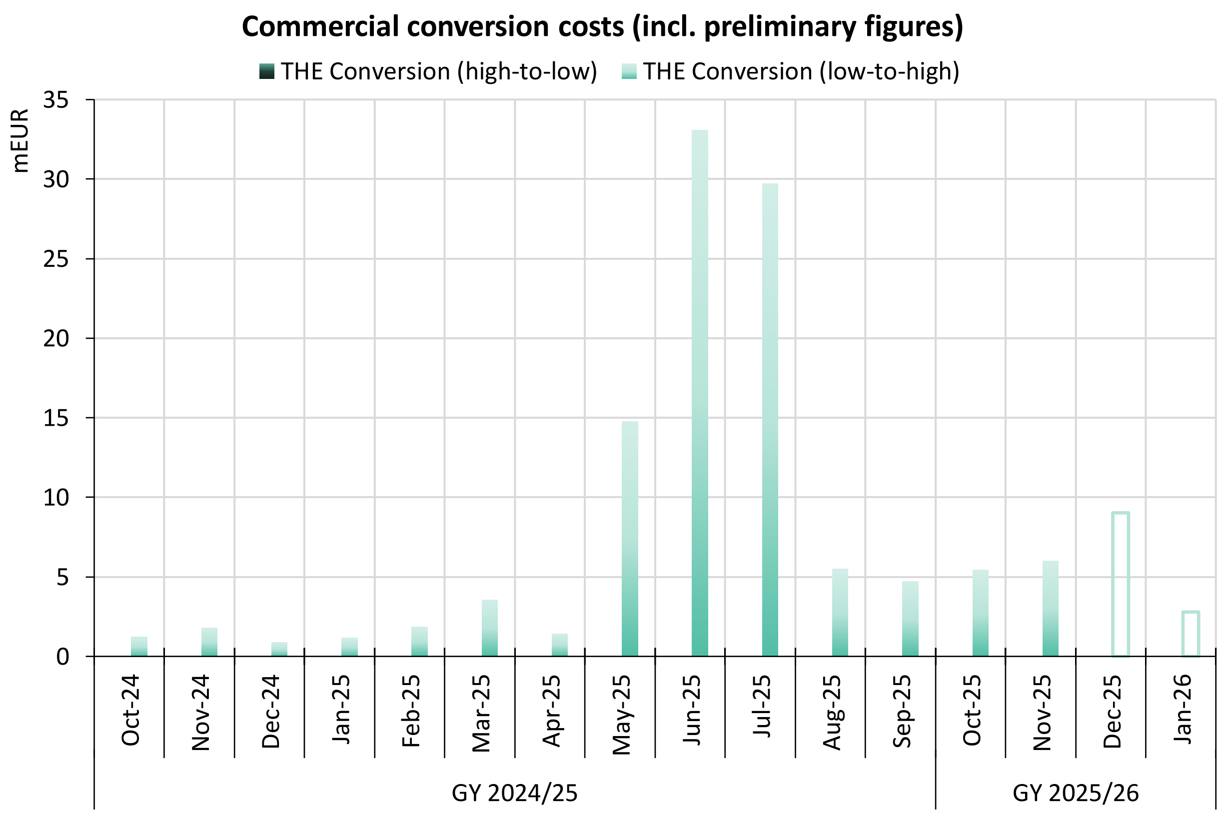

Figure 20: Commercial conversion costs (incl. preliminary figures; Jan/26 incomplete)

It remains to be seen whether there is a cold spell in February/March 2026 and/or whether conversion will increase further. It is also not yet clear what impact the changed conversion behaviour of some market participants will have on the development of quantities and costs of the current gas year.

The ongoing market area conversion will continue to bring major changes over the coming years up until 2030. In order to continue to ensure long-term plannability and security of supply in the low-CV gas market, the transmission system operators and THE have been in talks with the Federal Network Agency (BNetzA) for some time to explore and ultimately implement possible measures for dealing with the low-CV gas situation. Overall, the conversion behaviour remains difficult to predict due to new and constantly changing framework conditions.

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