Evaluation Report on the Gas Quality Conversion Mechanism

Gas Year 2022/23

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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 system 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).

The period considered in this report covers all full-year conversion periods in accordance with the amended Konni Gas ruling, starting on 1 October 2017. It mainly allows for the H-to-L conversion fee to be retained permanently, and no conversion fee is applied any longer for the conversion from low CV gas to high CV gas (L to H). The conversion fee is determined using an incentive-based approach. On the one hand, the market must be given sufficient incentive to take advantage of the virtual conversion option in the multi-quality market area. On the other hand, it is important to avoid a situation where the market area manager (MAM) becomes the main buyer of low CV gas in the course of its balancing activities as a result of the commercial conversion measures it has to take.

The merger of GASPOOL’s and NCG’s low CV gas networks in combination with the continuing curtailment of Russian gas flows 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 conversion 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 system 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 have therefore increased the assumed level the system can cope with from 20 % to 50 %. This will lead to a significant reduction in the incentive-based conversion fee to EUR 0.21/MWh starting in the 2023/24 gas year; the conversion neutrality charge was also reduced back to EUR 0.00/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 system in the Trading Hub Europe market area 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 evaluation reports of 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 when aggregated across both market areas in the gas years up to and including GY 2019/20. Virtual conversion in the direction from high CV gas to low CV gas essentially took place in the winter months and was comparatively moderate. While the net conversion direction was reversed once in GY 2020/21, with the direction from high CV gas to low CV gas predominating, virtual conversion since GY 2021/22 has again been mainly in the direction from low CV gas to high CV. Table 1 shows the conversion fees per gas year for the old market areas and, from GY 2021/22, for the THE market area along with the calculated net virtual conversion quantities for the single German market area.

Figure 1 provides an overview of the virtual conversion quantities for the two old market areas up until GY 2020/21 and for the THE market area from GY 2021/22, 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

After the steady decline in virtual conversion quantities in the direction from high CV gas to low CV gas following the introduction of the amended Konni Gas ruling (aggregated over both market areas from 22 TWh to 15 TWh to 12 TWh (GY 17/18, 18/19, 19/20)), GY 2020/21 showed a significant increase in the two old market areas to more than 41 TWh overall. In GY 2021/22, on the other hand, the figures for the

Conversion period	Conversion fee H→L	Net virtual conversion quantity	Direction of conversion (net)
1.10.2017 - 30.09.2018	GASPOOL: 0.45 EUR/MWh NCG: 0.45 EUR/MWh	10,037 GWh	L → H
1.10.2018 - 30.09.2019	GASPOOL: 0.45 EUR/MWh NCG: 0.45 EUR/MWh	37,055 GWh	L → H
1.10.2019 - 30.09.2020	GASPOOL: 0,42 EUR/MWh NCG: 0.45 EUR/MWh	28,841 GWh	L → H
1.10.2020 - 30.09.2021	GASPOOL: 0.39 EUR/MWh NCG: 0.45 EUR/MWh	24,176 GWh	H → L
1.10.2021 - 30.09.2022	THE: 0.45 EUR/MWh	34,983 GWh	L → H
1.10.2022 - 30.09.2023	THE: 0.45 EUR/MWh	89,087 GWh	L → H

Table 1: Net virtual conversion quantities

THE market area again dropped significantly, so that, with the exception of GY 2020/21, the trend of decreasing virtual conversion quantities in the direction from high CV gas to low CV gas has continued, with virtual conversion quantities in GY 2021/22 reaching 11.5 TWh, which even continued down to 9 TWh in the last gas year.

Quantity analysis in the direction from low to high CV gas

While the virtual conversion quantities in the direction from low CV gas to high CV gas were regularly at a very high level of 30 TWh to over 50 TWh throughout Germany in the gas years after the abolition of the conversion fee, they fell to 17 TWh in GY 2020/21. However, as with the virtual conversion from high CV gas to low CV gas, GY 2020/21 was also an exception in the direction from low CV gas to high CV, and the virtual conversion quantities rose again to over 46 TWh in GY 2021/22, almost reaching the very high level initially seen in GY 2018/19 after the conversion fee had been abandoned. However, the conversion quantities more than doubled again in the last gas year, ultimately totalling 98 TWh.

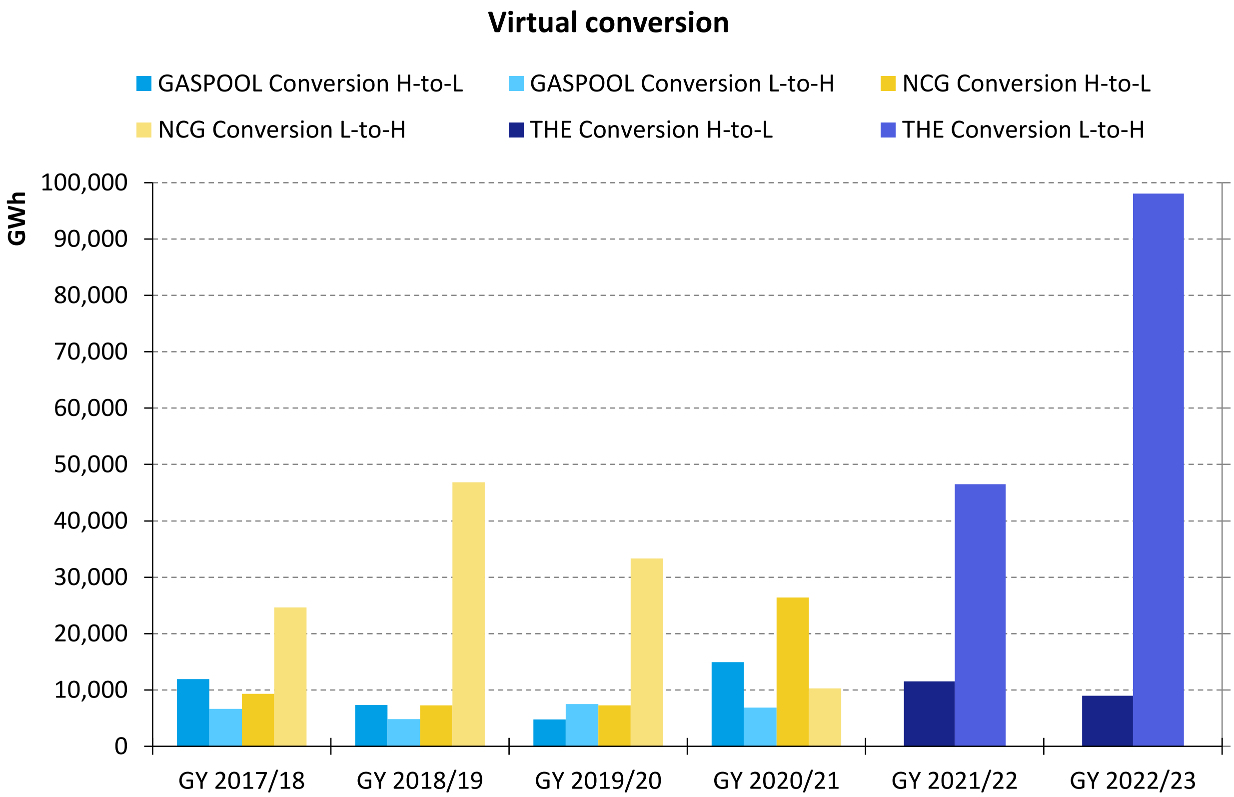

Figure 1: Virtual conversion quantities

System-wide virtual conversion

System-wide virtual conversion follows virtual conversion with somewhat lower quantities due to netting effects. In the last gas year, 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) for the two old market areas up until GY 2020/21 and for the new THE market area from GY2021/22, 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. Moreover, about two thirds of the total German low CV gas network is in the old NCG market area and only one third in the old GASPOOL market area.

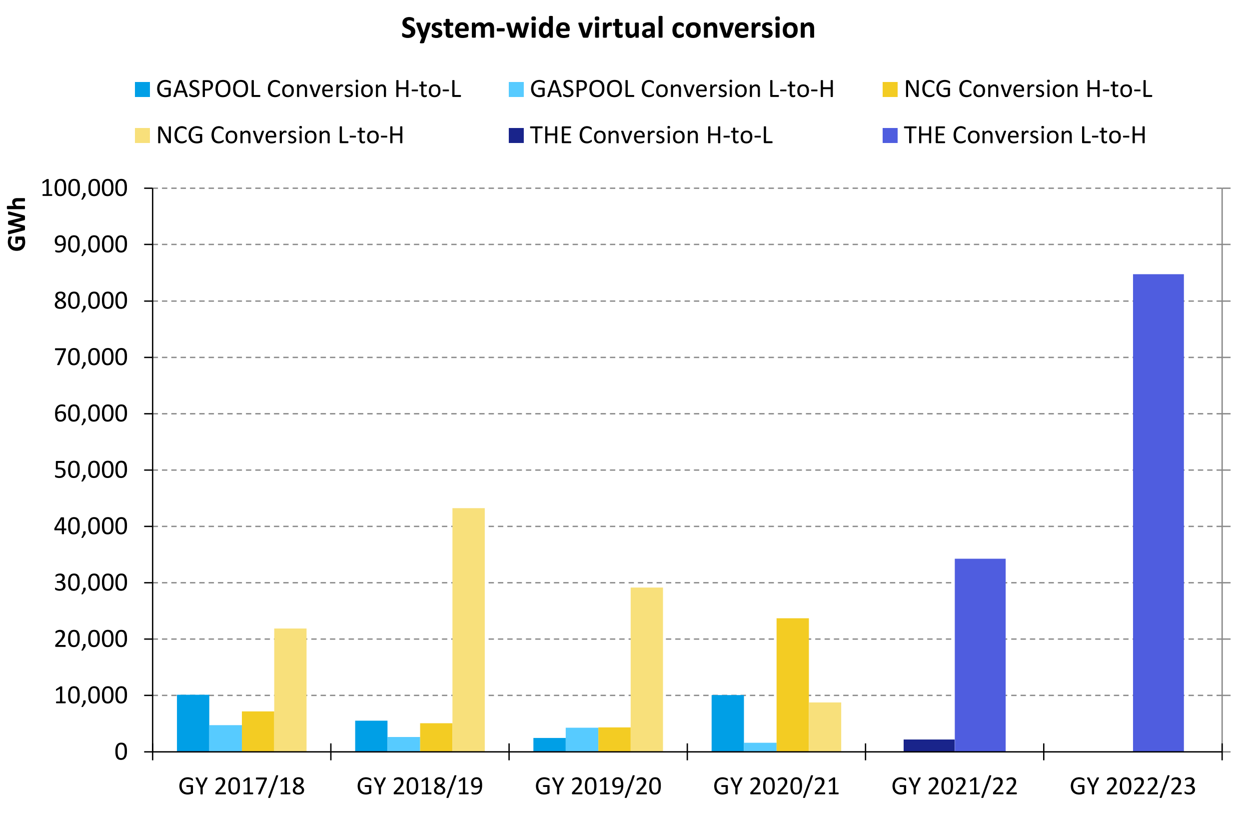

Figure 2: System-wide virtual conversion quantities

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. While there is a clear increase to approx. 20 % per former market area for the direction from high CV gas to low CV gas in GY 2020/21 (matching the previous peak of approx. 20 % in the NCG market area in GY 2015/16), the market shift in the direction from high CV gas to low CV gas for the THE market area in the last two gas years has dropped significantly to only 7 % in both gas years. The market shift in the opposite direction from low to high CV gas for high CV gas sales in the two old market areas, which had previously decreased, has increased significantly in the last gas year, reaching a new high of 9 % in the THE market area.

Figure 3 shows the development of the market shift for each old market area up until GY 2020/21 and for the THE market area from GY 2021/22, 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.

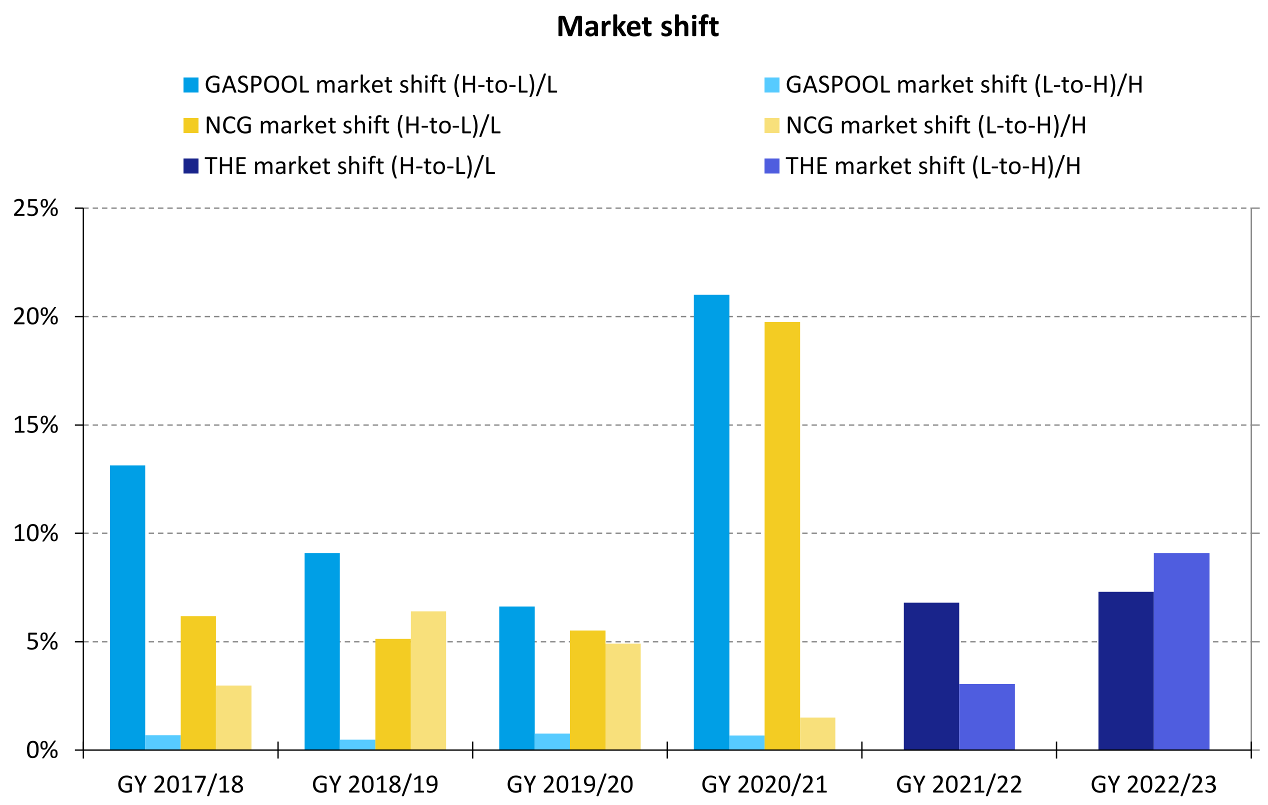

Figure 3: Market shift

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. In addition, OGE has a blending plant at its site in Scheidt which can be used to add low CV gas to the high 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 reduced output from the Groningen field, have a limiting effect on the technical conversion capacity from high CV gas to Low CV gas in the old NCG market area which is dominated by imports from the Netherlands. 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. In the old GASPOOL market area, these restrictions have not had a big effect due to the high proportion of natural gas produced in Germany. 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 system, which have already been taken into account in the transportation tariffs for each old market area up until GY 2020/21 and for the THE market area from GY 2021/22, 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 share of the gas quantity technically converted in the direction from high CV gas to low CV gas, which was the predominant direction in previous gas years, only accounts for a small proportion of the technically converted quantities in the THE market area in GY 2022/23. In contrast, the gas quantity technically converted in the direction from low CV gas to high CV gas has increased significantly, reaching a new high of approx. 8 TWh.

2.2.2 Conversion facilities not included in the transportation tariffs

A technical conversion plant located in the Nowega GmbH network is also being used for conversion in the THE market area – in much the same way as previously in the old GASPOOL market area since January 2018. This technical conversion plant, which produces low CV gas by adding nitrogen to the high CV gas flow, is not fully included in the network operators' transportation tariffs. Moreover, no arrangements are currently in place between THE and third parties 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.

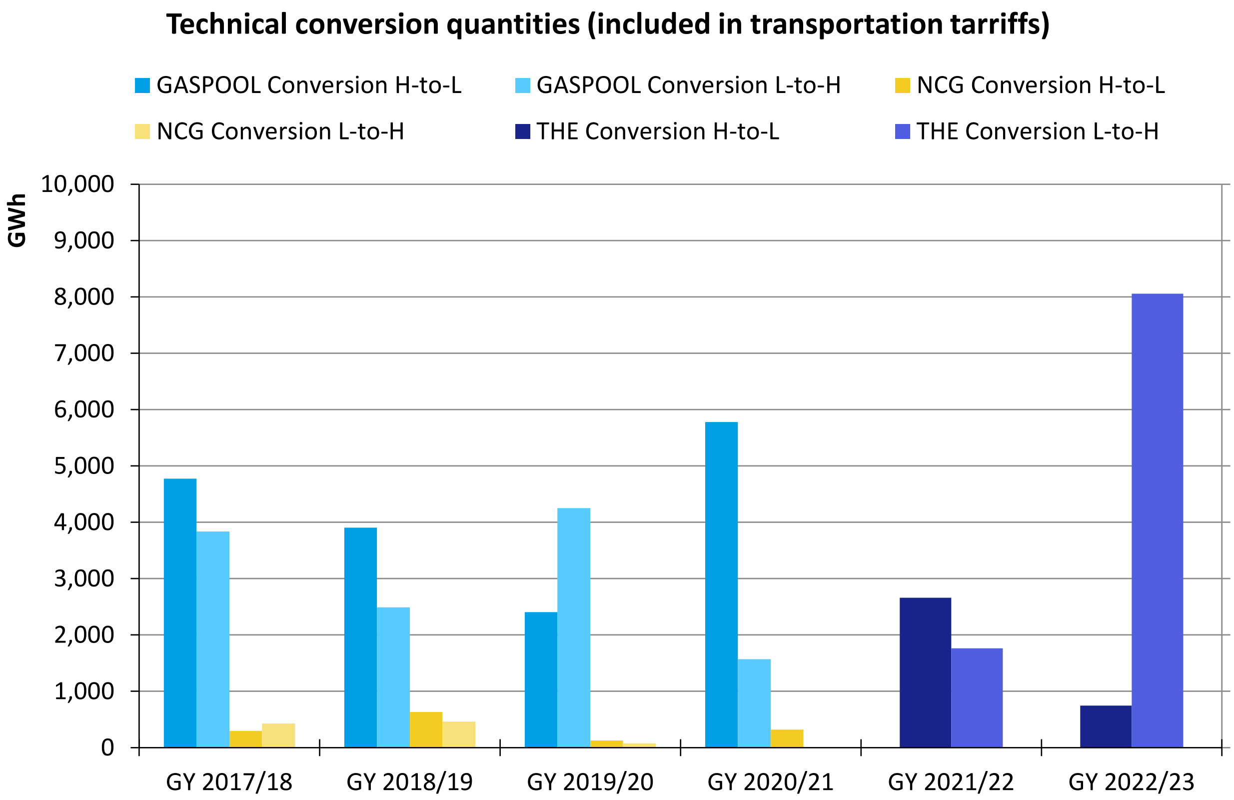

Figure 4: Technical conversion quantities (included in transportation tariffs)

While a technical conversion quantity of approx. 80 GWh was still recorded for this facility in GY 2020/21, there was no chargeable use of the facility in the two last gas years. In the conversion merit order list (MOL) the facility is ranked at the optimum price. When other conversion options offer more favourable terms, the facility is not used.

Figure 5 shows the technical conversion quantities of the previous gas years whose costs were not already included in the network operators' transportation tariffs for each old market area up until GY 2020/21 and for the THE market area from GY 2021/22; no third-party facilities were used in the old NCG market area. Given the current technical circumstances, conversion can only take place in the direction from high CV gas to low CV gas.

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 managers' 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.

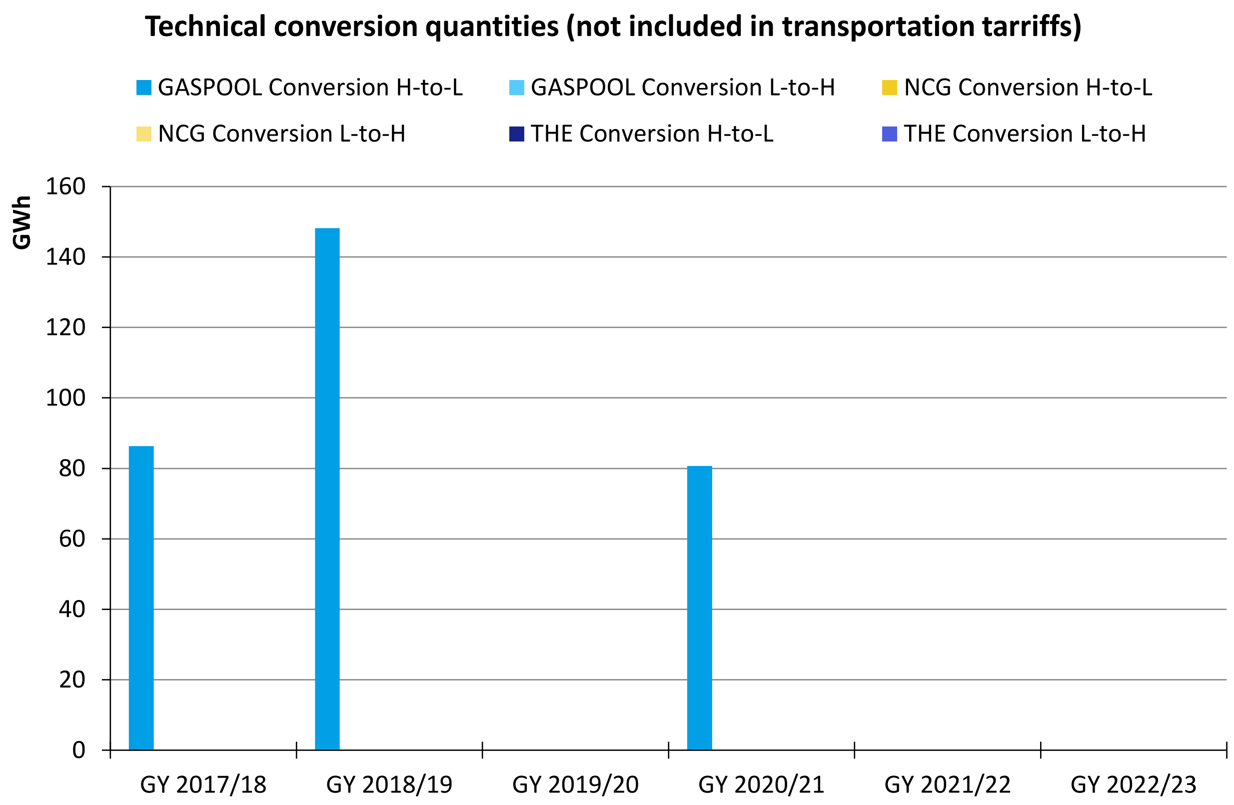

Figure 5: Technical conversion quantities (not included in transportation tariffs)

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 a 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.

Figure 6 shows the gas imports and exports carried out for conversion purposes during the last few gas years for the old market areas up until GY 2020/21 and for the THE market area from GY 2021/22, 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.

After gas imports and exports carried out for conversion purposes in the direction from high CV gas to low CV gas had peaked at around 90 GWh across both market areas in GY 2020/21 (the share of gas imports

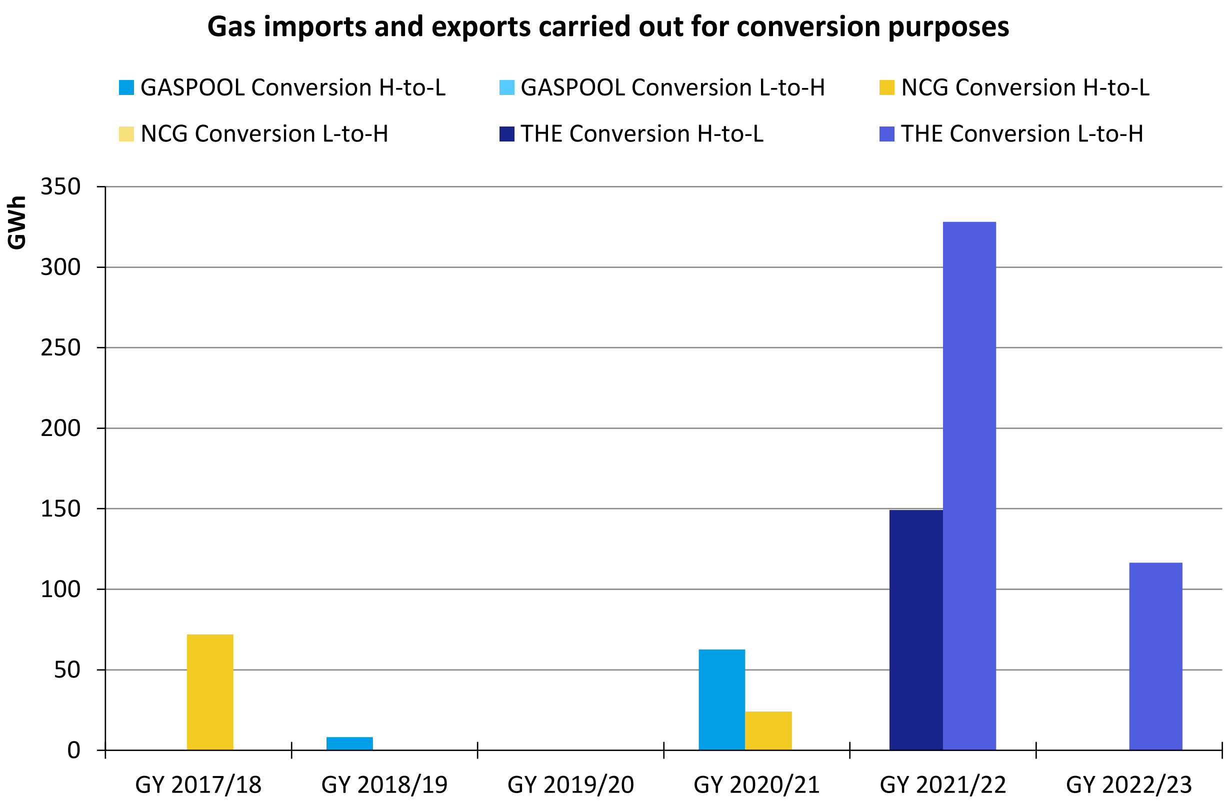

Figure 6: Gas imports and exports carried out for conversion purposes

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and exports carried out for conversion purposes remained very small compared to technical conversions), it rose once again in the THE market area in GY 2021/22, reaching approx. 150 GWh. While there had been no gas imports and exports carried out for conversion purposes in the direction from low CV gas to high CV gas in previous years, such imports and exports were recorded in this direction for the first time in GY 2021/22 (approx. 330 GWh). In the last gas year, the quantities of gas imported and exported for conversion purposes in the direction from low CV gas to high CV gas fell again significantly to approx. 120 GWh, while there were such quantities in the direction from high CV gas to low CV gas.

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 2020/21 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

GY 2020/21 was characterised by an extensive use of the conversion mechanism, showing the highest commercial conversion quantities since the start of the multi-quality market areas. In GY 2021/22, virtual conversion in the direction from high CV gas to low CV gas dropped sharply, which meant that the instrument of commercial conversion in this direction only had to be used to a very limited extent. Only at the end of November 2021 was there a significant demand of up to 150 GWh/day in one week.

Virtual conversion in the direction from high CV gas to low CV, which had fallen sharply in the last gas year with separate market areas (GY 2020/21), rose again in the year after (primarily in the second half of the conversion period) to the levels known from GY 2018/19 and 2019/20. In the last gas year (GY 2022/23), the quantities doubled to almost 100 GWh. In the past, the extensive use of virtual conversion in the direction from low CV gas to high CV gas had resulted only to a comparatively limited extent in commercial conversion activities. This was due to the fact that on the Dutch side market participants are looking to reduce low CV gas sales as much as possible because of production cutbacks implemented in the Netherlands. In many cases, therefore, the transmission system operators operating the relevant cross-border interconnection points (IPs) now agree to swap the additional quantities of low CV gas made available by shippers for high CV gas, which is then delivered at other IPs. These swaps in turn mean that the market area manager has to carry out fewer technical and/or commercial conversion measures. Following the integration of GASPOOL's low CV gas network in connection with the changed flow situation and the effects of the curtailment of high CV gas imports from Russia, the savings potential since GY 2021/22 has not been as extensive as it had been in previous gas years in the NCG market area. In the last gas year, commercial conversion quantities in the direction from low CV gas to high CV gas reached almost 24 TWh, which is a new high for any direction.

Figure 7 shows the development of commercial conversion quantities in previous gas years for each old market area up until GY 2020/21 and for the THE market area from GY 2021/22, 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.

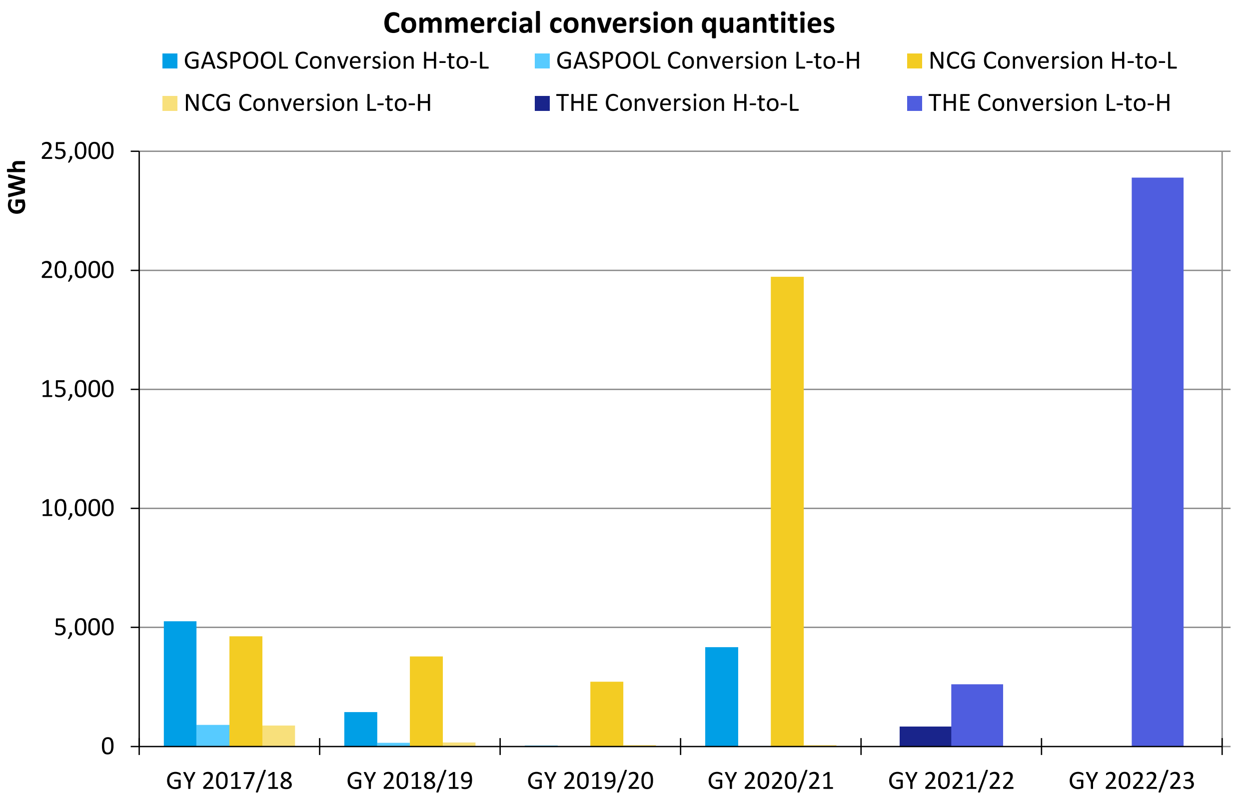

Figure 7: Commercial conversion quantities

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 system; 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: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.

While the low CV gas SystemBuy quantity of 42 TWh (across both market areas; without taking into account the hourly products for within-day structuring) in GY 2020/21 represented a new high (the previous high of 40 TWh dates back to GY 2015/16), the low CV gas SystemBuy quantity in the last gas year in the THE market area reached less than 200 GWh and thus dropped to a new low compared to the past years in the old market areas. After the SystemSell quantity in low CV gas more than quadrupled in GY 2021/22 compared to the previous four gas years 2017/18 to 2020/21 from approx. 3.3 GWh (on average across both old market areas) to almost 15 TWh, the last gas year saw quantities triple to 49 TWh, 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 decline in gas imports from Russia.

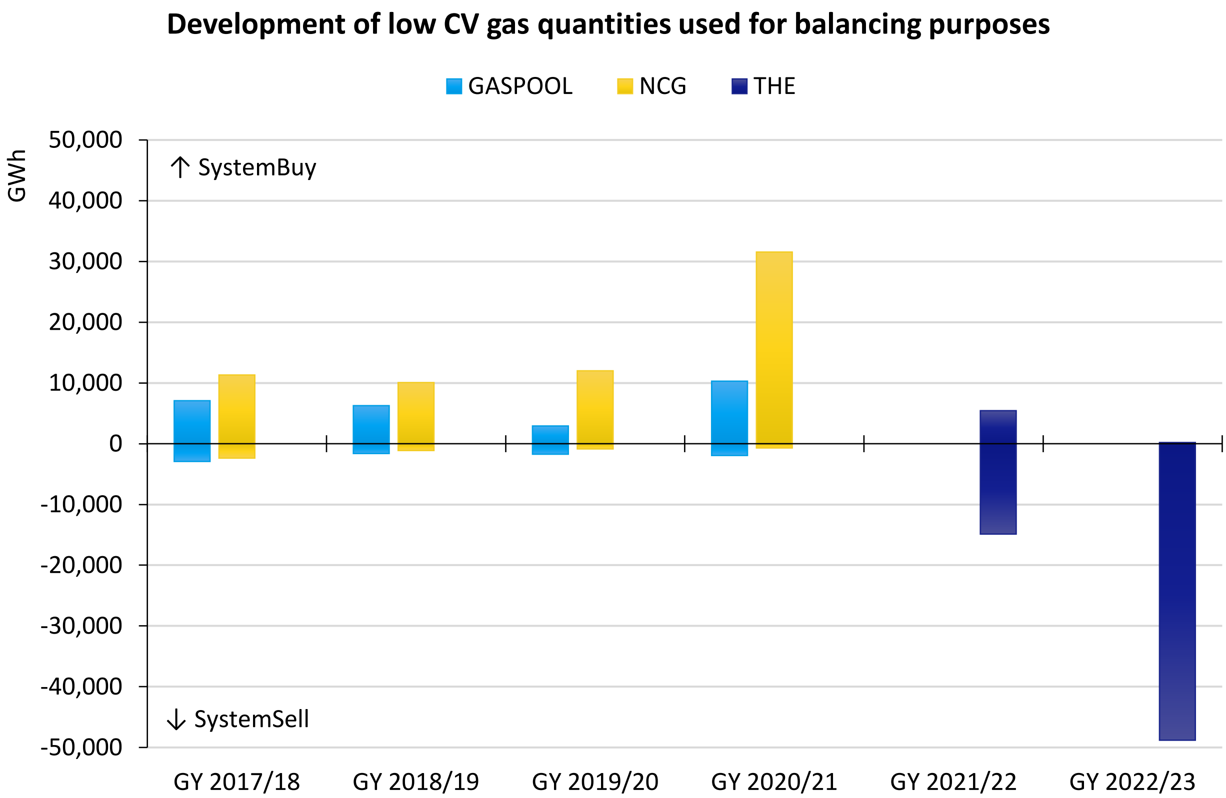

Figure 8: Development of low CV gas quantities used for balancing purposes

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 conversion system costs 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 last gas year fell accordingly to around 65% of the five-year average.

Figure 9 shows the physical inputs in previous gas years for each old market area up until GY 2020/21 and for the THE market area from GY 2021/22. The data provided is based on the data series types “Entryso”, “Entry Biogas” and “Entry Wasserstoff”. However, a conversion neutrality charge was not reintroduced until the start of GY 2022/23 (see Chapter 4 – Commercial assessment).

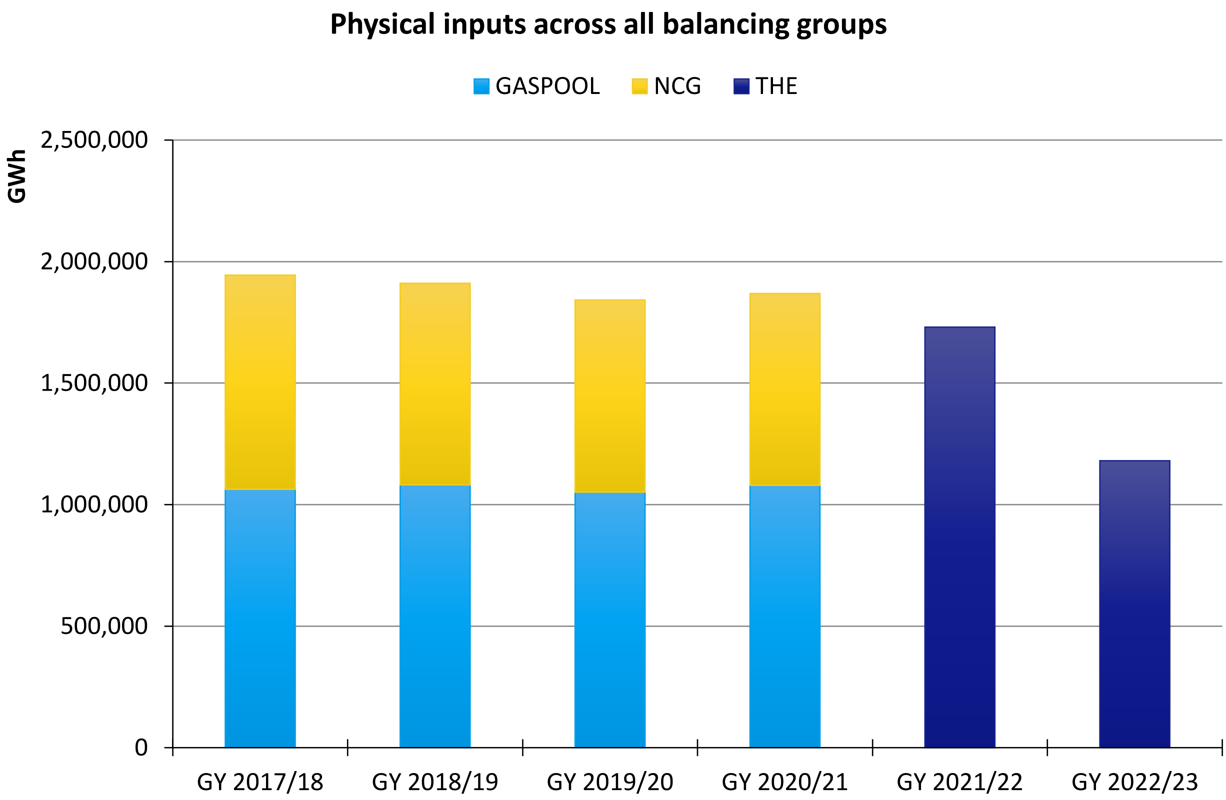

Figure 9: Physical inputs

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 system in the direction from low CV to high CV gas. From June 2022, however, the conversion system is dominated by conversions in the opposite direction. All costs incurred through commercial conversion totalling over EUR 170 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 10 shows the maximum daily proportion in the respective month for the old market areas from October 2019 and for the THE market area from October 2021. The chart also shows the conversion fee for the old market areas and the THE market area applicable in the respective month.

Indicator 1 clearly shows the dependence of the virtual conversion quantities on the given conversion fee for the old GASPOOL market area. Therefore, the reduction to 0.39 EUR/MWh in October 2020 led directly to a significant increase in offtakes of low CV gas (maximum daily values), peaking at over 90 % in September 2021. While a conversion of 0.45 EUR/MWh in the THE market area meant that significant levels of virtual conversion in low CV gas sales were only recorded in a few months already back in GY 2021/22, this share fell to 0% in all months in GY 2022/23 with the conversion fee remaining the same, 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 shifted the direction of flow in the European gas market from east-west to west-east.

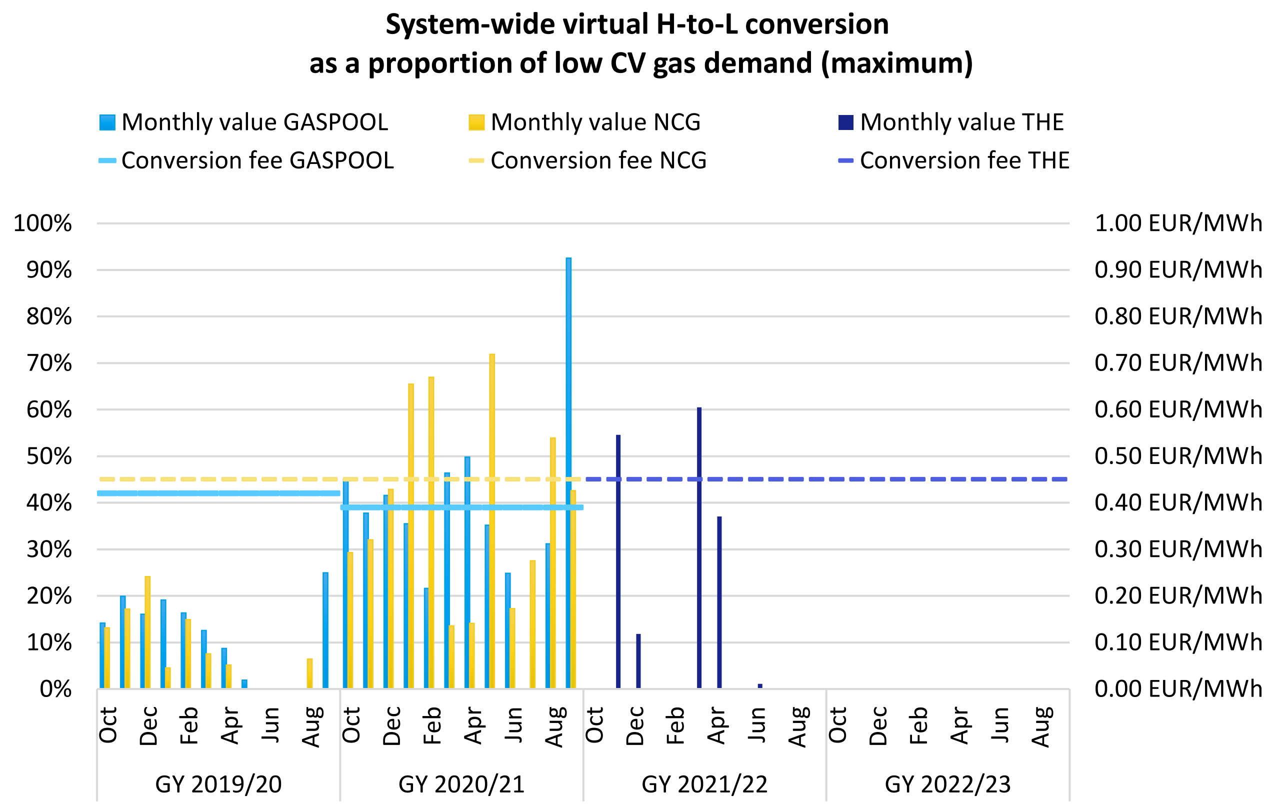

Figure 10: System-wide virtual H-to-L conversion as a proportion of low CV gas demand

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 11 shows arithmetic mean of all daily proportions in the respective month for the two old market areas from October 2019, and 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 2020/21 comparatively high levels of balancing actions used for commercial conversion purposes were recorded in the old market areas. They were last seen in much earlier fee periods. The levels of up to 40% in several months seen in the old GASPOOL market area are the highest since GY 2017/18. After the fee in the old NCG market area was set at 0.45 EUR/MWh, the proportion of low CV gas sales accounted for by

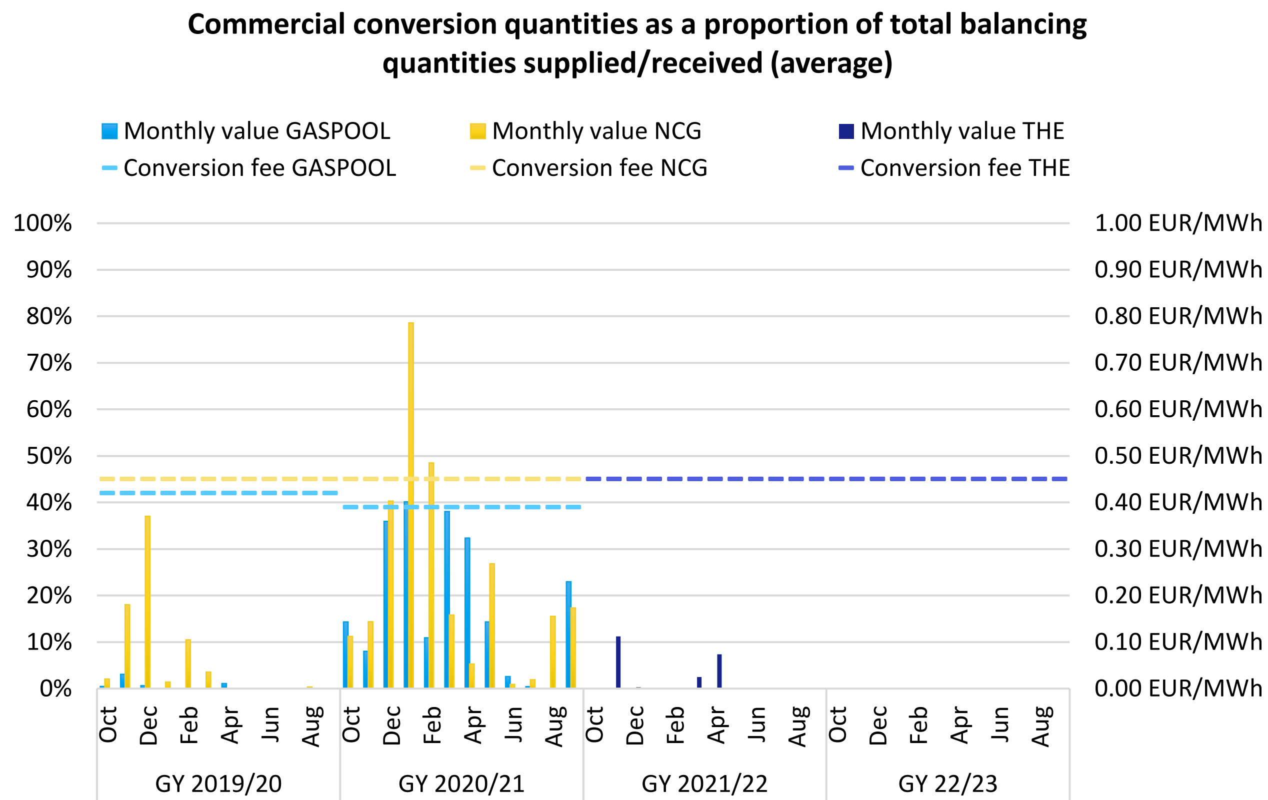

Figure 11: Commercial conversion quantities as a proportion of total balancing quantities supplied/received

balancing actions used for commercial conversion purposes had reached a level the system can cope with overall, even though proportions fluctuated in the individual fee periods while the fee remained unchanged, and in January 2021 the maximum proportion of balancing actions used for commercial conversion of almost 80% in 2016 was again reached. 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 in 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.

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 12 shows the maximum daily proportion in the respective month for the old market areas from October 2019, and for the THE market area from October 2021. The chart also shows the conversion fee applicable in the respective month.

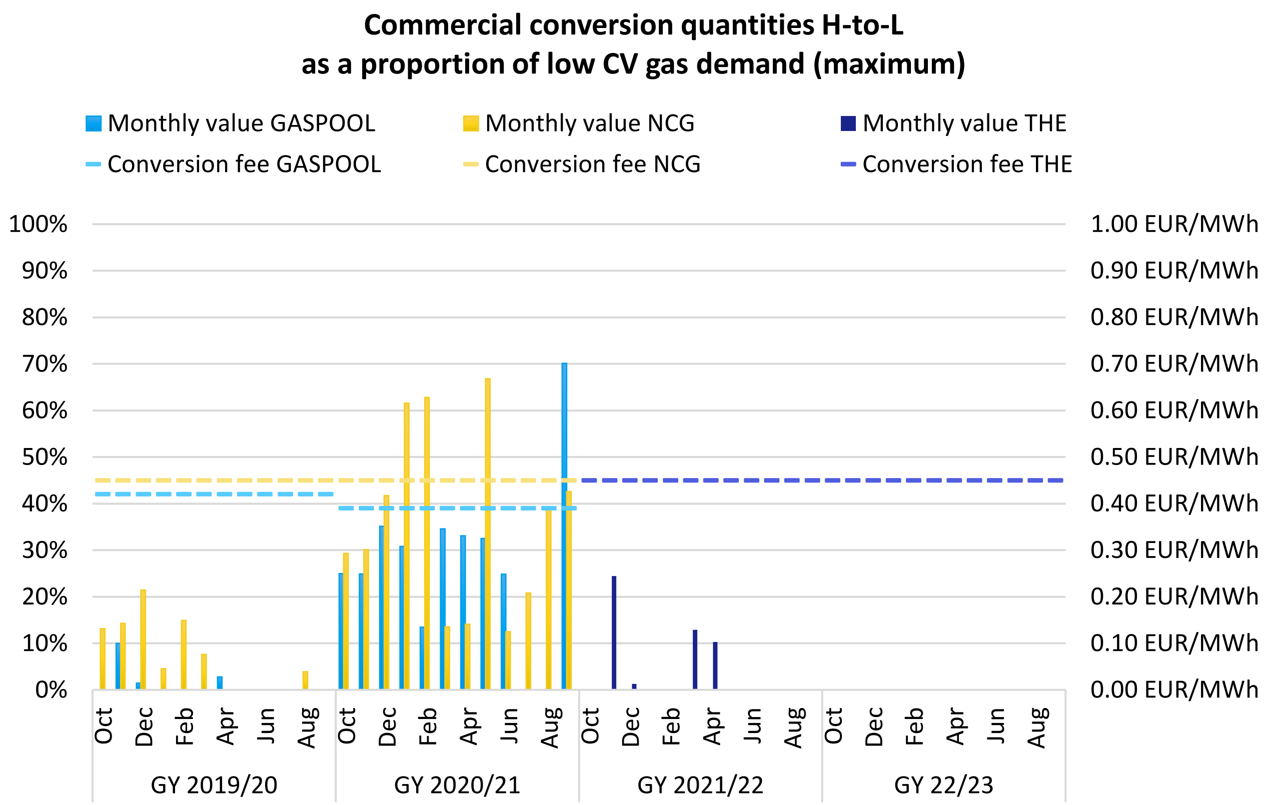

Figure 12: Commercial conversion quantities as a proportion of low CV gas demand

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.

The proportion of low CV gas demand accounted for by commercial conversion, for example, has clearly declined in the THE market area in GY 2021/22. Significant proportions of 10 % to 25 % were only recorded in three months. In the previous gas year, on the other hand, the proportions had risen significantly from October 2020, for example in the old GASPOOL market area. The monthly proportion then remained between 25 % and 35 % until the summer, presumably because of the low conversion fee of 0.39 EUR/MWh, while in September 2021, the previous peak of 70 % was reached. In the old NCG market area where the fee had remained constant at 0.45 EUR/MWh, the proportions had dropped to a level the system can cope with overall, even though some fluctuations were observed. However, in the winter of 2020/2021, the proportion of low CV gas demand accounted for by commercial conversion rose to over 60 % in some cases, and in May the previous peak of 67 % from 2016 was again reached.

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 13 shows the maximum daily proportion in the respective month for the old market areas from October 2019 and 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 year. While proportions of less than 30 % were only recorded in a few months in GY 2020/21, and even significantly higher levels in some of the months, they have been falling steadily since GY 2021/22. In the last gas year, the highest level was 18% and only four months saw levels above 10%.

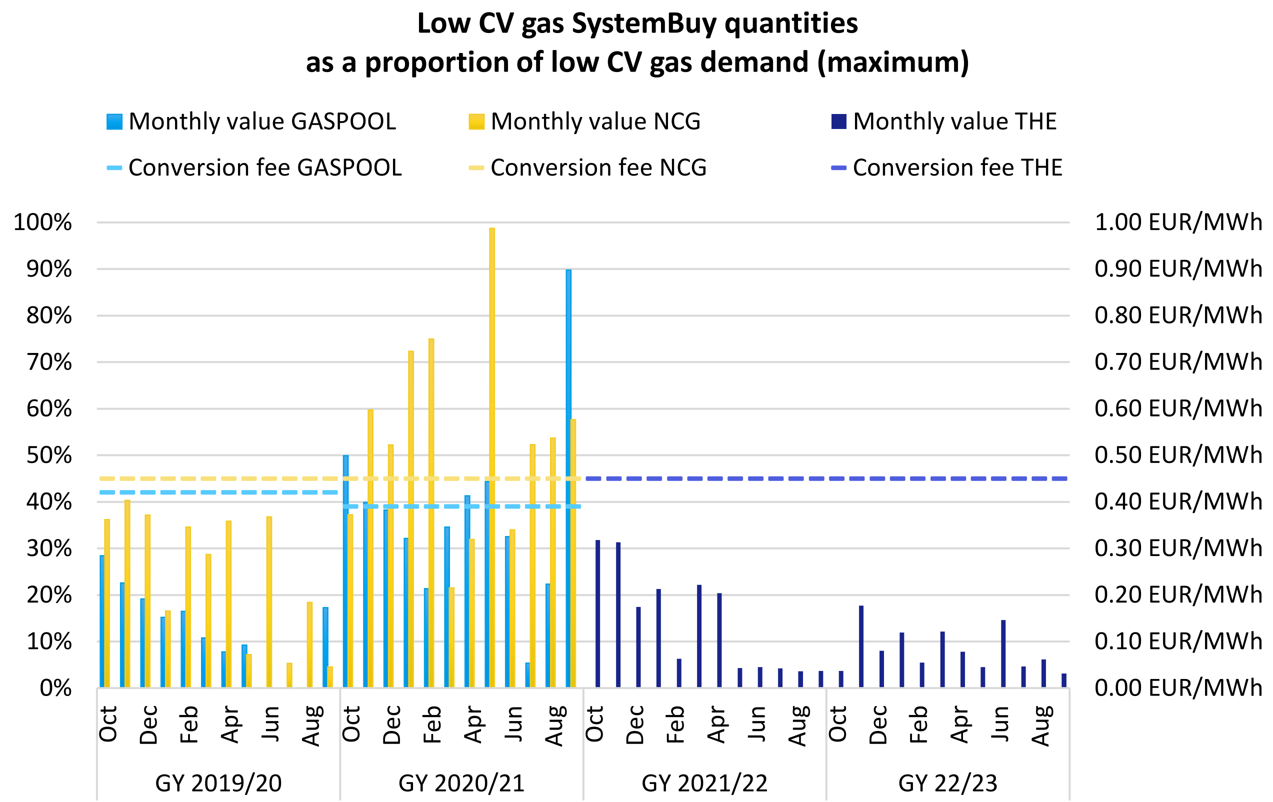

Figure 13: Low CV gas SystemBuy quantities as a proportion of low CV gas demand

Whilst the proportions in GASPOOL's old market area previously hardly ever reached 30 %, they rose immediately to 50 % after the fee was reduced in October 2020 and then remained between 30 % and 40 % continuously in some cases thereafter to then peak at around 90 % towards the end of the gas year. In the old NCG market area where the fee was set at a constant 0.45 EUR/MWh, the maximum proportions procured were usually in an acceptable range. However, especially in the 6-month winter periods, the quantities of low CV gas procured as balancing gas regularly rose to almost 50 %, reaching over 70 % in some cases in the old NCG market area in the winter of 2020/2021. Thereafter, a new peak of over 90 % was reached in May 2021, and the monthly levels in the last quarter of GY 2020/21 were again between 50 % and 60 %.

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.

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 first the proportion of the balancing quantities supplied/received for conversion purposes (commercial conversion quantity) is 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) are distributed proportionally over all days within the quarter. 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 old market areas and in the THE market area. Our conversion costs and conversion revenues are shown by gas year in Figure 14.

While the total costs in GY 2020/21 amount to over EUR 70 million, which is the highest amount allocated to the conversion system to date (in GY 2015/16 and GY 2017/18, the total costs for both market areas were around EUR 60 million), the costs in GY 2021/22 amounted to over 560 million euros. Total costs

Conversion period	Conversion fee	Conversion neutrality charge
1.10.2017 - 30.09.2018	0.450 / 0.450 EUR/MWh (GASPOOL/NCG)	0.022 / 0.00 EUR/MWh (GASPOOL/NCG)
1.10.2018 - 30.09.2019	0.450 / 0.450 EUR/MWh (GASPOOL/NCG)	0.017 / 0.15 EUR/MWh (GASPOOL/NCG)
1.10.2019 - 30.09.2020	0.420 / 0.450 EUR/MWh (GASPOOL/NCG)	0.075 / 0.00 EUR/MWh (GASPOOL/NCG)
1.10.2020 - 30.09.2021	0.390 / 0.450 EUR/MWh (GASPOOL/NCG)	0.005 / 0.00 EUR/MWh (GASPOOL/NCG)
1.10.2021 - 30.09.2022	0.450 EUR/MWh	0.00 EUR/MWh
1.10.2022 - 30.09.2023	0.450 EUR/MWh	0.00 EUR/MWh

Table 2: Development of conversion fees and conversion neutrality charges

have thus increased eightfold compared to the previous year. On the other hand, there was an equally strong increase in revenues of over EUR 525 million, mainly resulting from commodity sales. The previous high of over EUR 210 million (aggregated across both market areas) was recorded in GY 2018/19, but it was primarily based on revenues generated by the conversion neutrality charge. Both new highs in GY 2021/22 are primarily due to the rapid increase in gas prices, which peaked at over 300 EUR/MWh in August 2022. This trend continued with even greater intensity during the last gas year. The combination of record virtual conversion quantities, the resulting 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.

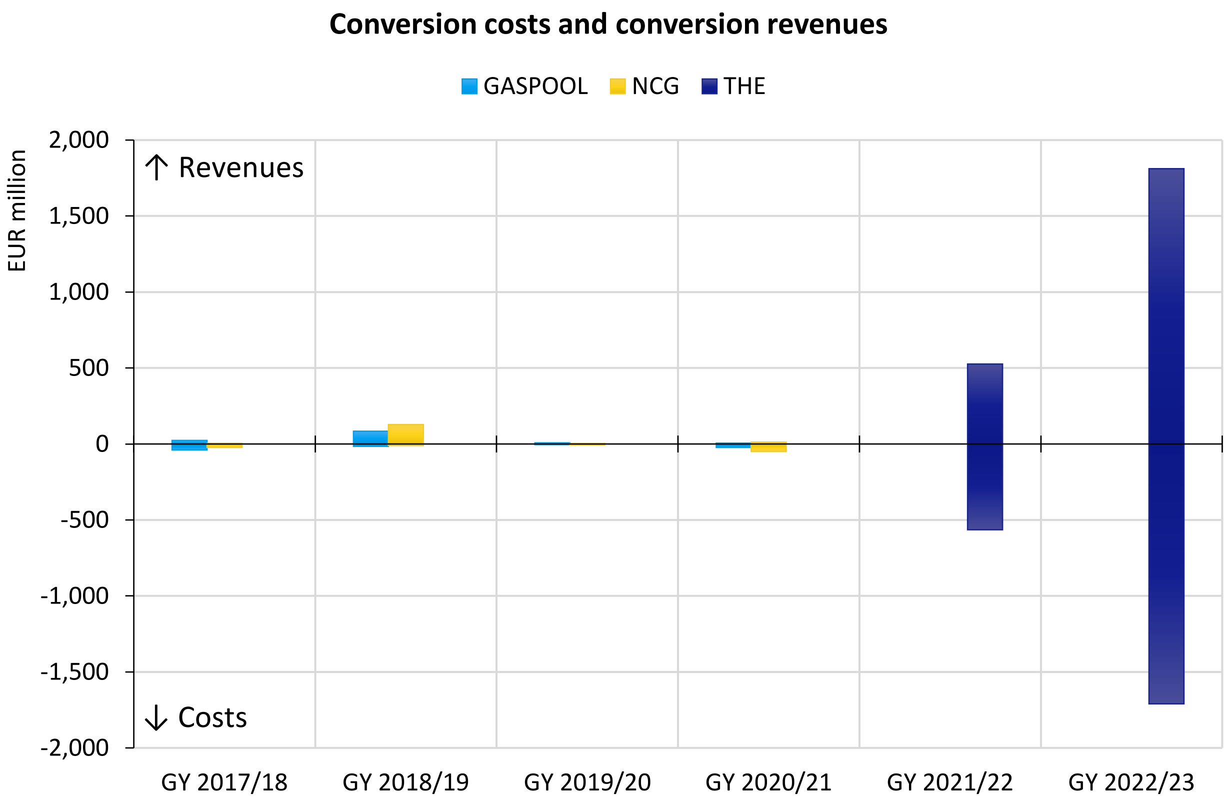

Figure 14: Conversion costs and conversion revenues

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 15), 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 the purpose of publication 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 can vary significantly, even though the general conditions shown in the model are almost the same. For example, the total commercial conversion costs across both of the old market areas were between EUR 5 million (GY 2019/20) and EUR 50 million (GY 2017/18 and 2020/21) without further costs such as shares in long-term bookings and costs of other conversion methods. In GY 2021/22, there were net costs of approx. EUR 350 million, which were offset by approx. EUR 450 million of income from the conversion neutrality charge. Overall, costs in the conversion system have risen significantly as a result of the war in Ukraine and the associated market uncertainties. The risks from price developments must be recognised accordingly in the liquidity buffer. In addition, there

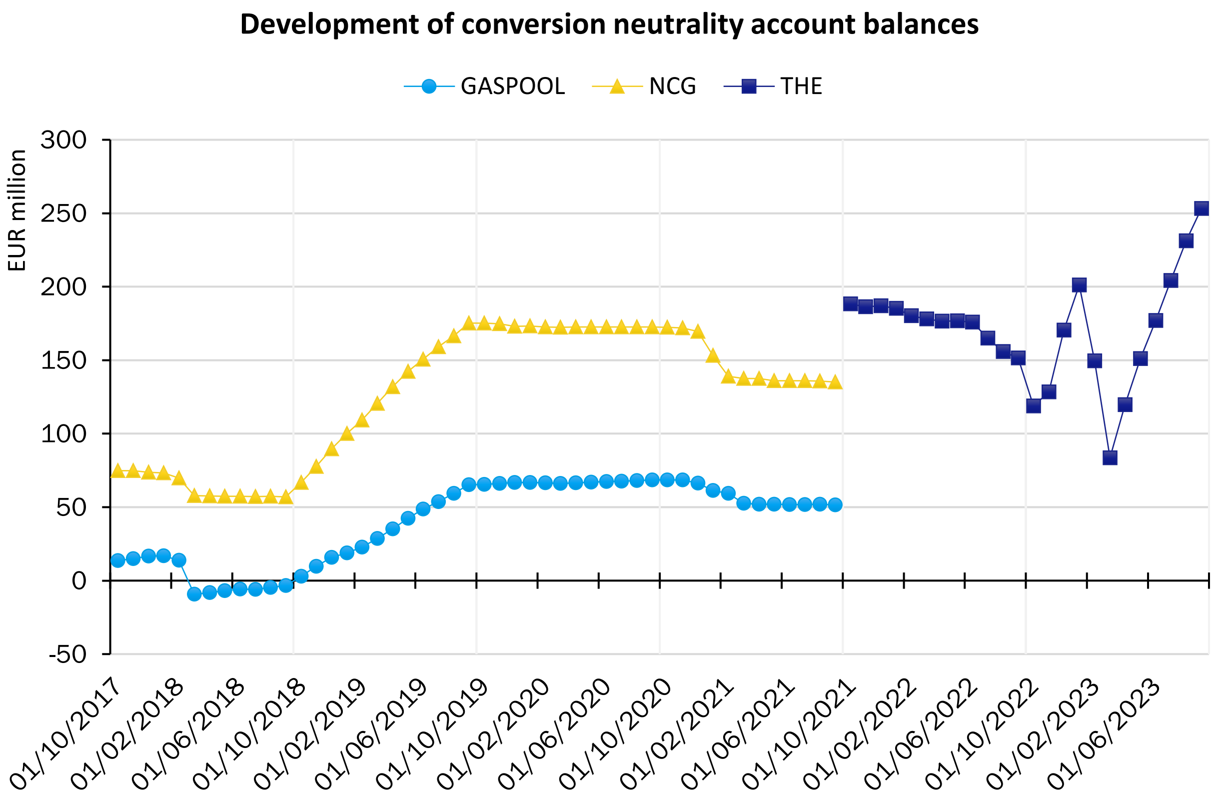

Figure 15: Development of conversion neutrality account balances

are periods in which very high costs were incurred for the procurement of low CV gas within a short space of time (for example, almost EUR 100 million within one week in February 2021 or over EUR 100 million in April 2022). Even if these costs can only be attributed to the conversion system on a pro-rata basis, there are high margin 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 2022/23 was EUR 253.1 million at the end of September 2023. In the previous gas year, a lower balance of EUR 151.4 million had been recorded at the end of September 2022.

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 margin requirements of the clearing houses) and especially to manage the uncertainty associated with volume and price trends. In addition, the termination of production of low CV gas from the Groningen field in the Netherlands poses a particular price risk, which was exacerbated by the rise in procurement prices. The prices for the procurement of low CV gas are far above the prices for the procurement of high CV gas, especially in winter. This effect could be further exacerbated by the reduction in low CV gas production volumes. In addition, the high market prices could increase the spread between purchases and sales. However, in order to be able to ensure security of supply for low CV gas, the possible risk has been taken into account in the current liquidity buffer.

The influence of the individual risks on the liquidity buffer is shown in Table 3. Our risk assessment in this context covers both the full next conversion period (twelve months) as well as the winter season in the conversion period following the next conversion period, so that we can achieve the required balance in the conversion neutrality account by the start of that winter season.

THE aims to have **a liquidity buffer of EUR 223 million** at the end of the GY 2023/24 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
Margin increase	Margin requirement due to increased balancing gas demand/costs	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.

THE is of the view that the conversion fee is 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 for suppliers to physically provide low CV gas for the supply of low

[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

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

After the costs of the conversion system (viewed across Germany as a whole) had been rather low in GY 2018/19 and GY 2019/20 compared to 2017/18 (EUR 5 million and EUR 10 million, respectively), they even exceeded the GY 2017/18 costs of EUR 48 million to reach EUR 51 million in GY 2020/21. In 2021/22, there were significant costs of around EUR 38 million for moderate volumes coinciding with high prices (already taking 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 system, 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 in the last two gas years could be offset by the income generated in GY 2022/23, the conversion neutrality charge for the current GY 2023/24 was again reduced to EUR 0/MWh.

Even so, our experiences in the NCG market area in spring 2016 and the strong increase in conversion quantities in both market areas in the last gas year have shown that there is a real risk of a full H-to-L market shift taking place – at least from a balancing perspective – if the H-to-L conversion fee is set too low. If this were to occur, it is likely that due to the large balancing requirements arising as a consequence especially in connection with the current gas prices, the costs incurred under the conversion mechanism would be high. 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 an appropriately priced H-to-L conversion fee – as defined in the amended Konni Gas ruling – remains a necessity. Given the changed flow patterns in the German gas pipeline network, we have increased the assumed level the system can cope with for the determination of the fee from 20 % to 50 %.

In the other direction (L to H) we did not face such risks and problems on a comparable level. Despite the large-scale virtual conversion activities in this direction observed since the conversion fee for this direction was dropped, our conversion costs and technical and commercial conversion measures had remained at a relatively low level in the past. Since GY 2021/22, however, both 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 new record levels.

Since June 2022 up to and including September 2023, the conversion system has incurred costs of EUR 169 million for commercial conversion measures alone (EUR 144 million of which were recorded in the last gas year). In addition, there are pro-rata costs for long-term contracts totalling EUR 207 million (EUR 205 million of which were recorded in GY 2022/23). It remains to be seen what impact the conversion fee, which will be reduced to EUR 0.21/MWh from GY 2023/24, will have on this development (cf. next following chapter "Conversion outlook for gas year 2022/2023").

6 Conversion outlook for gas year 2022/2023

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 2023/24 must be interpreted with reservation. The cut-off date for data collection is 23 January 2024.

As regards virtual conversion quantities (see Figure 16) it can be observed that the quantities in the direction from low CV gas to high CV gas have risen continuously every month since the reduction in the conversion fee for this direction on 1 October 2023, albeit at a level comparable to the previous year. The quantities converted in the opposite direction from low CV gas to high CV gas remain at the significantly lower level of the summer compared to last winter. It is difficult to predict the extent to which the combination of the change in flow direction on the one hand and the reduction in the conversion fee in the high CV gas to low CV gas direction on the other will have an impact over the course of 2023.

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 have already been low again since the summer of GY 2022/23, meaning that the peaks of the previous winter have not yet been reached in the current gas year either. With regard to the provisional figures shown in Figure 17 it should be noted that the technical conversion quantities used for conversion purposes as part of Konni Gas have not yet been calculated. Figure 18 shows that so far it has not been necessary to use the blending facility in Nowega's network, for which THE has to pay. There are currently no imports and exports carried out for conversion purposes in either direction (see Figure 19).

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 20, there is still only commercial conversion in the direction from low CV gas to high CV gas. Whilst the quantities have been increasing again every month since the decline seen during the summer, current utilisation is far from the peaks seen last winter. The costs are also in the low single-digit million range per month (see Figure 21).

It remains to be seen whether there is a cold spell in February/March 2024 and/or whether conversion will increase further. It is also not yet clear what impact the reduced conversion fee will have on the development of quantities and costs in the current gas year.

The ongoing market area conversion will also bring about major changes over the coming years up until 2030. In order to continue to ensure long-term plannability and security of supply in the L-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 L-gas situation. In general, the conversion behaviour remains difficult to assess due to new and constantly changing framework conditions.

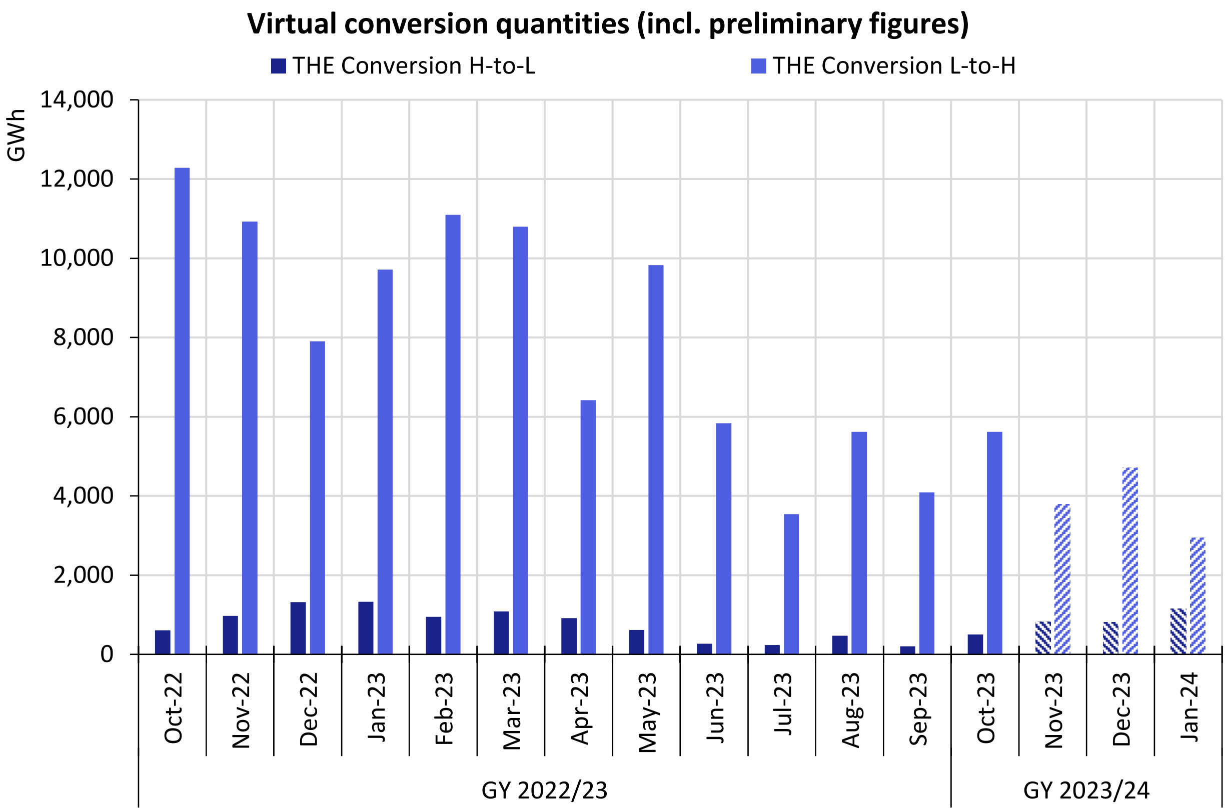

Figure 16: Virtual conversion quantities (incl. preliminary figures)

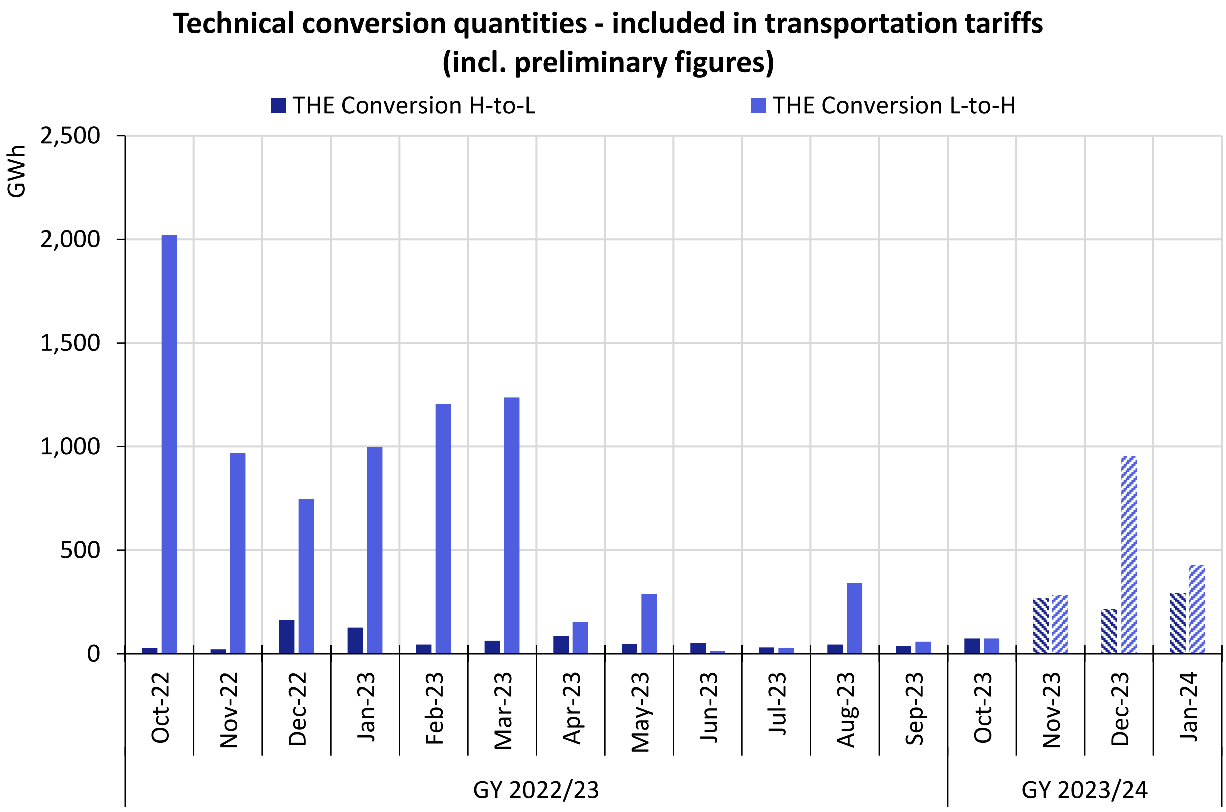

Figure 17: Technical conversion quantities - included in transportation tariffs (incl. preliminary figures)

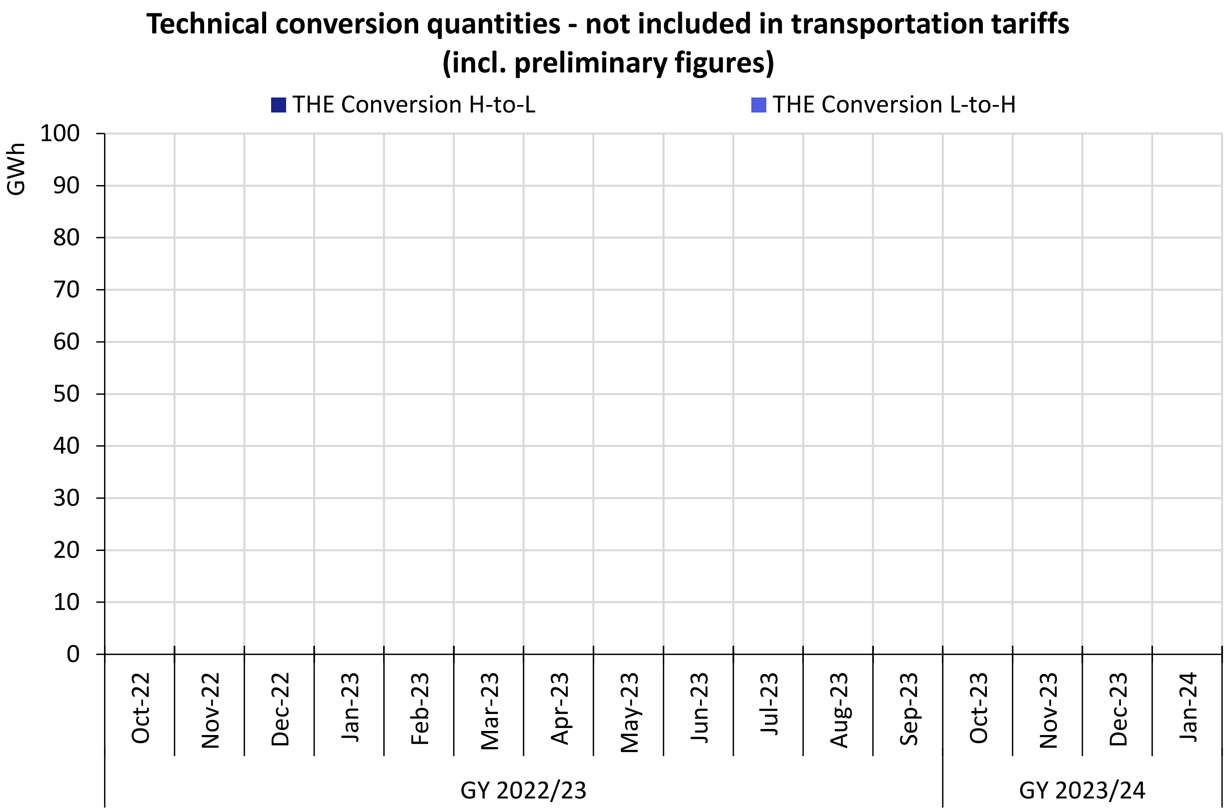

Figure 18: Technical conversion quantities - not included in transportation tariffs (incl. preliminary figures)

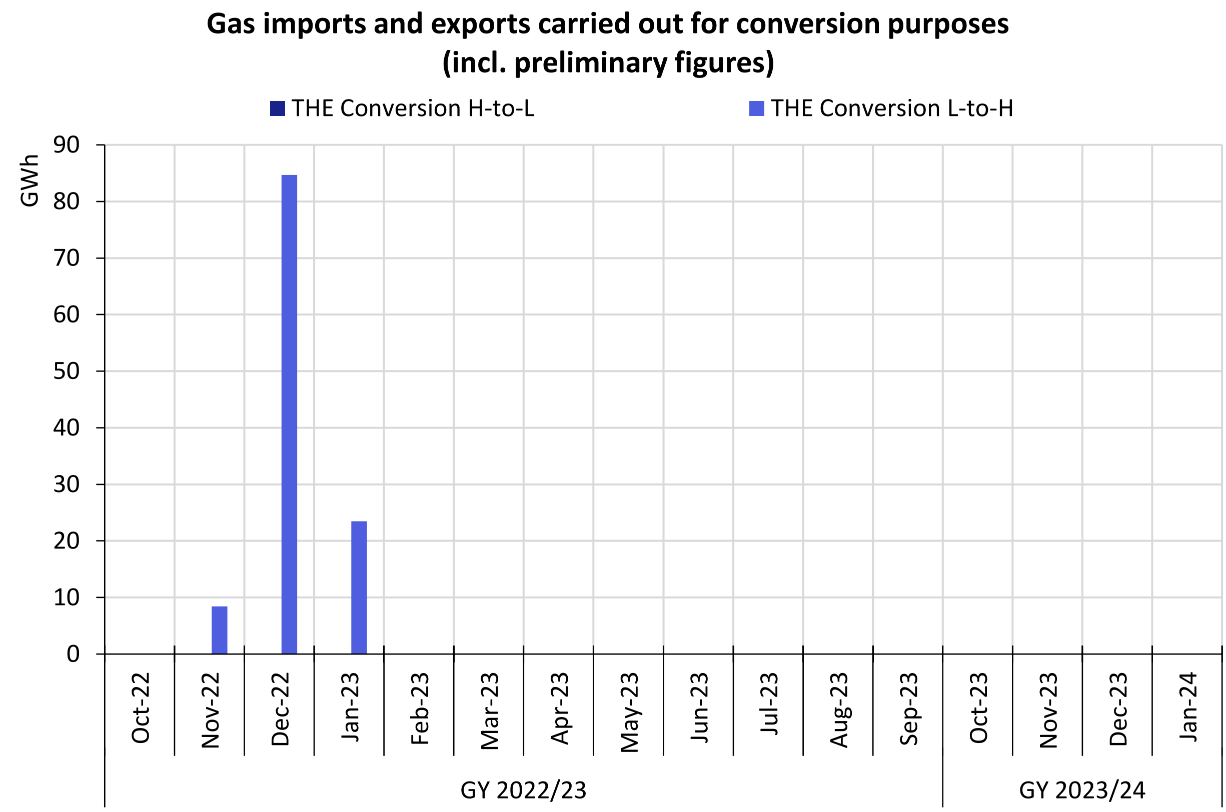

Figure 19: Gas imports and exports carried out for conversion purposes (incl. preliminary figures)

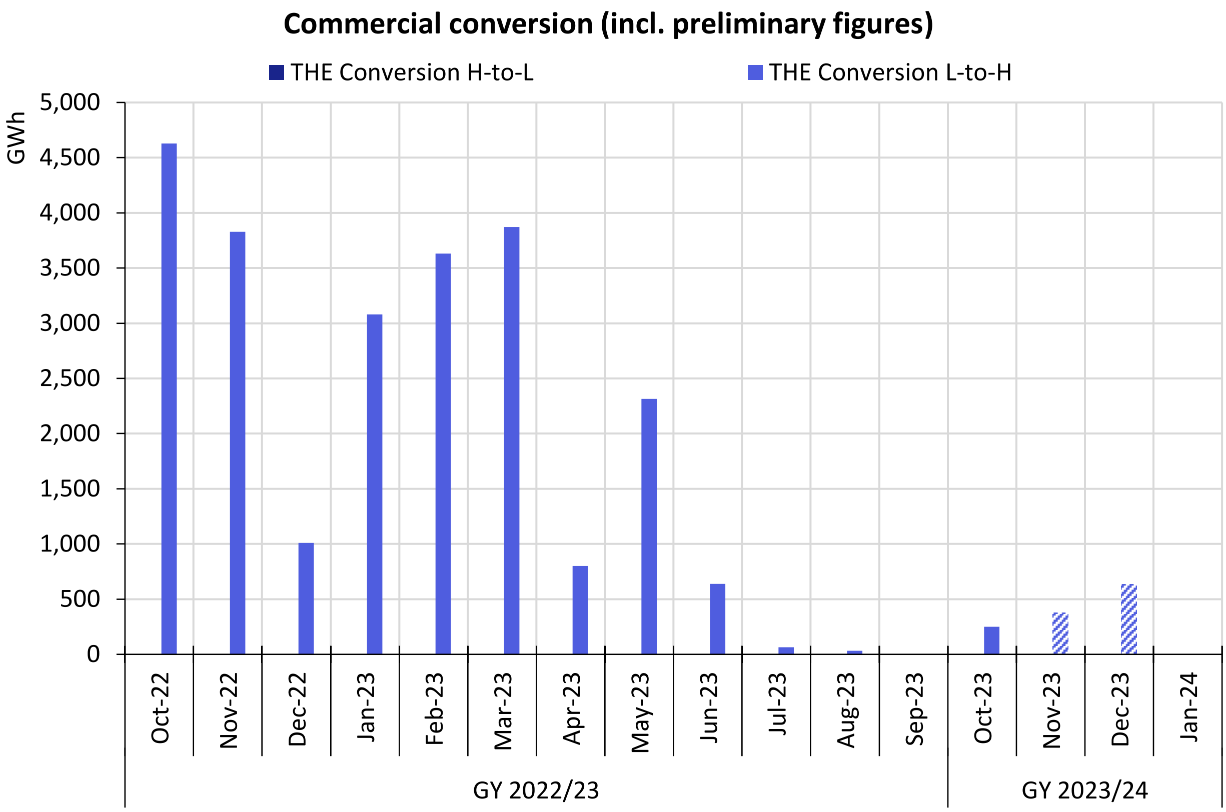

Figure 20: Commercial conversion quantities (incl. preliminary figures)

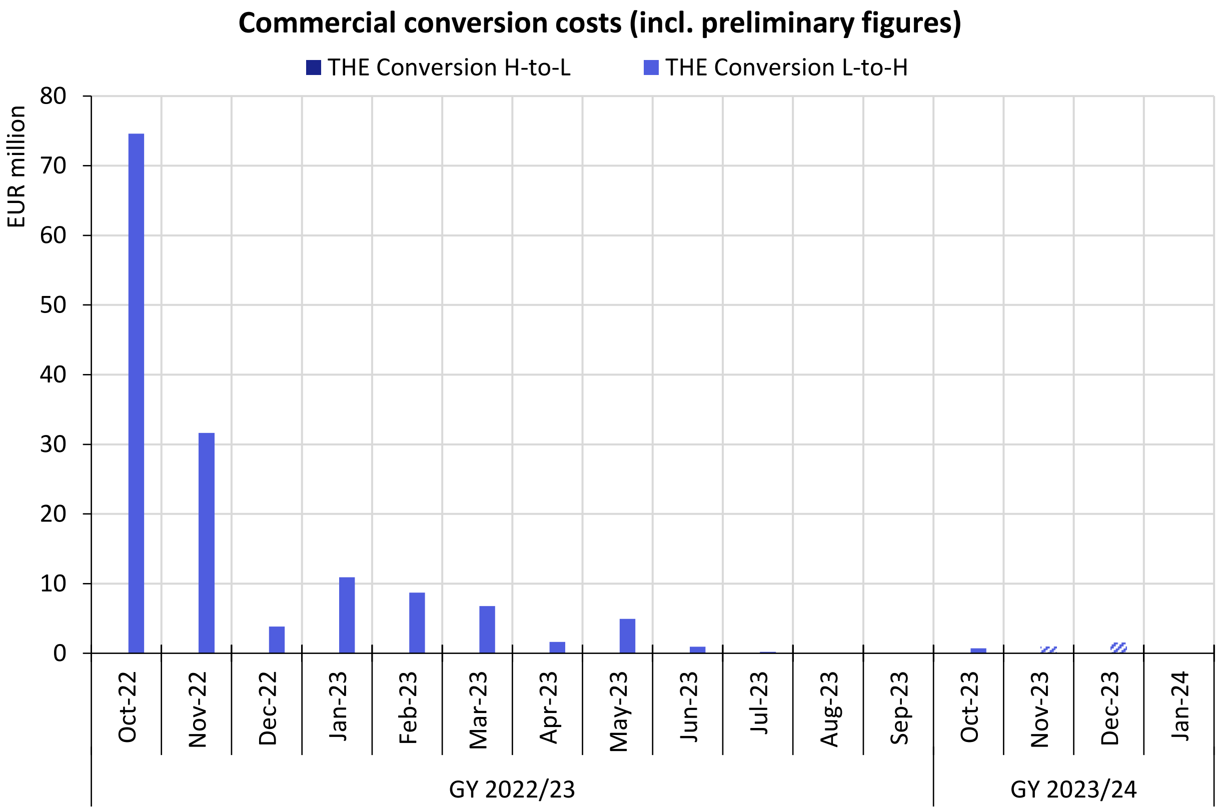

Figure 21: Commercial conversion costs (incl. preliminary figures)

Trading Hub Europe GmbH
Kaiserswerther Straße 115
40880 Ratingen

market-development
@tradinghub.eu
T +49 (0) 2102 597 96 – 404
F +49 (0) 2102 597 96 – 418
www.tradinghub.eu