Report on the system balancing actions and related procurement activities in the GASPOOL market area in the gas year 2016/2017

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1 Introduction

The administrative ruling on gas balancing handed down by the German national regulatory authority Bundesnetzagentur (below referred to as the “Federal Network Agency”) on 19 December 2014 (the so-called “GaBi Gas 2.0” ruling) places an obligation on the German market area managers (MAMs) to report on their system balancing activities once each year. In their annual reports the MAMs are to provide an account of their balancing experiences in the context of their internal and external balancing actions and related procurement activities carried out in the relevant gas year (GY). This report describes our system balancing activities and related balancing quantities for each rank of the applicable merit order for balancing actions (usually shortened to “MOL” for “merit order list”) along with the associated costs and revenues. Please note that all data and charts also include balancing actions that were taken for gas quality conversion purposes, which are not considered separately.

In addition, this report describes our use of balancing services, our balancing-related procurement activities in adjacent market areas, namely at the Title Transfer Facility (TTF), as well as our use of our balancing platform. We also provide a summary of our experiences in connection with the implementation of the 2015 policy paper on measures to improve natural gas supply security published by the German Federal Ministry for Economic Affairs and Energy (throughout this report referred to as the “BMWi policy paper”). The present document contains the second System Balancing Report published by GASPOOL.

2 Internal balancing actions

In this chapter of the GASPOOL System Balancing Report we describe the so-called “internal” balancing actions carried out in the market area GASPOOL (i.e. balancing actions effected by network operators by way of linepack and network storage measures). Use of the internal balancing tools available in our market area reduces our need for balancing products offered in the market – in return for a fee – by third-party balancing providers (those would be what we refer to as “external” balancing actions).

2.1 Graphical presentation of internal balancing actions and related positive and negative balancing quantities

The chart below shows the internal balancing actions carried out in both directions (positive/negative) in aggregate for both gas qualities (high-cal gas – below referred to as “high CV gas” – and low-cal gas – below referred to as “low CV gas”) for each calendar month in GY 2016/2017. The quantities shown here also include the quantities transferred between the two quality sectors of the multi-quality market area by the transmission system operators (TSOs).

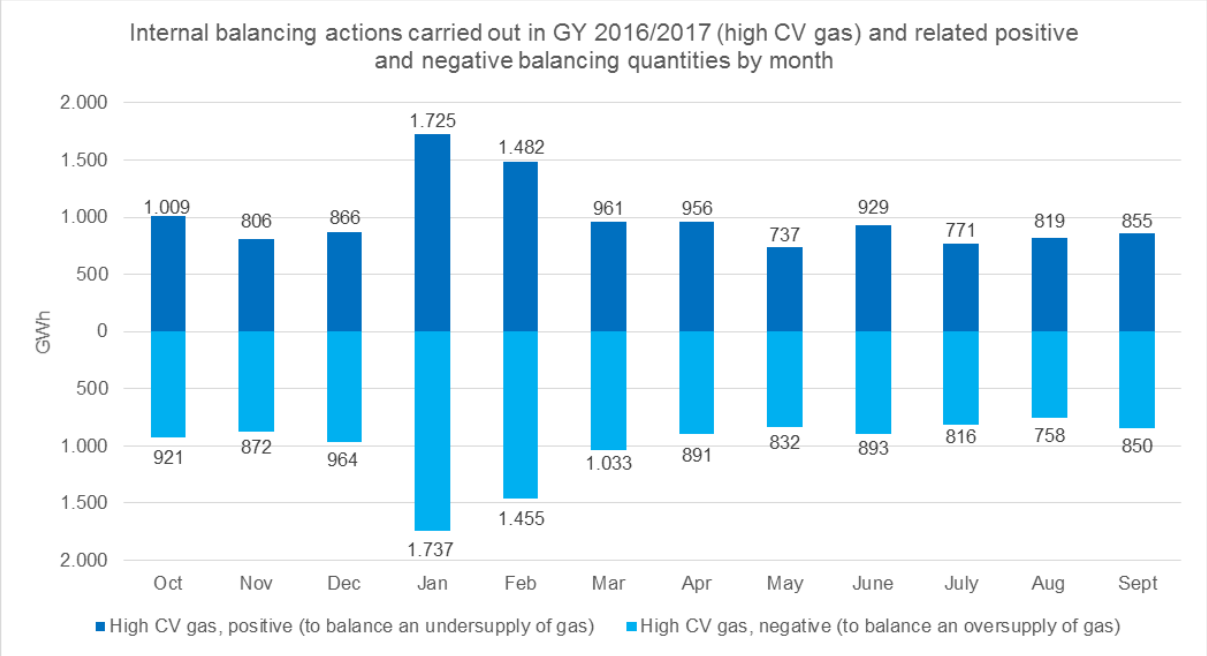

Figure 1: Graphical presentation of internal balancing actions in the high CV network areas and related positive and negative balancing quantities by month

As can be seen in Figure 1, increased internal balancing activities were required in the high CV network areas in January and February.

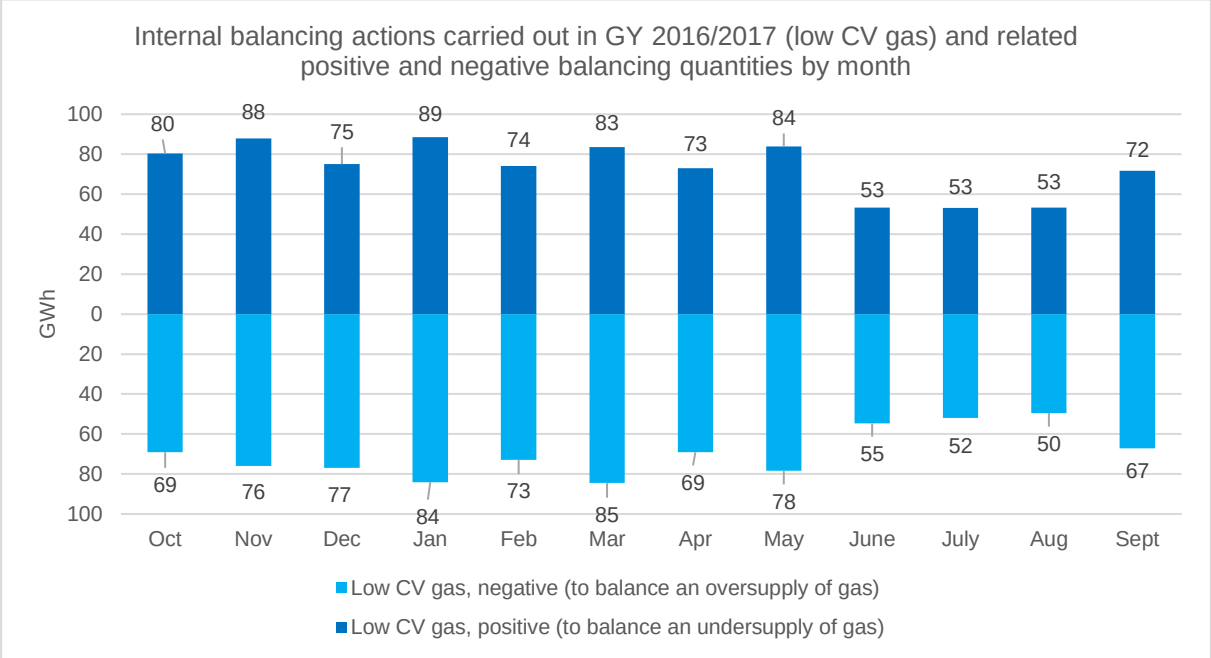

Figure 2: Graphical presentation of internal balancing actions in the low CV network areas and related positive and negative balancing quantities by month

As Figure 2 shows, the internal balancing actions taken in the low CV sector of our market area only run up to around a tenth of the magnitude of those taken in the high CV sector. Overall, positive internal balancing actions across both gas qualities were 18% up from the previous year, negative internal balancing actions up 20%.

2.2 External balancing actions and related procurement activities

In this chapter of the GASPOOL System Balancing Report we describe the market-based ("external") balancing actions carried out in the market area GASPOOL. Separate analyses are provided for the different ways in which we can take external balancing actions (purchases and sales of gas) as well as for the individual ranks of the merit order ("MOL"). Detailed cost, revenue and quantity information is given in the tables provided in Annex I.

Our total external balancing expenditure for the entire gas year amounted to EUR 135.296m (previous year: EUR 105.624m, up 28.1%). In relation to our sales of gas we generated external balancing revenues of EUR 41.779m (previous year: 39.457m, up 5.9%).

2.3 Overview of buy and sell balancing actions by MOL

2.3.1 MOL 1

The chart below shows the aggregate balancing quantities procured within MOL 1 for each month together with the associated costs and revenues. MOL 1 means that gas is traded using the global order book on PEGAS (this is the order book where trades are not subject to any specific physical delivery restrictions as to gas quality or location).

Until 10 October 2016, all non-locational balancing requirements in the high CV network areas were met by way of trades in the global order book. As no specific physical delivery restrictions concerning gas quality apply in relation to the global order book, delivery on global trades may also be made by delivering low CV gas, however. Our experience in the past was that delivery of our MOL 1 trades was always effected at high CV points. Recent observations indicate that this may have changed. As gas quality is always a factor in determining system imbalances and related balancing requirements, we can therefore no longer use the global order book in many cases.

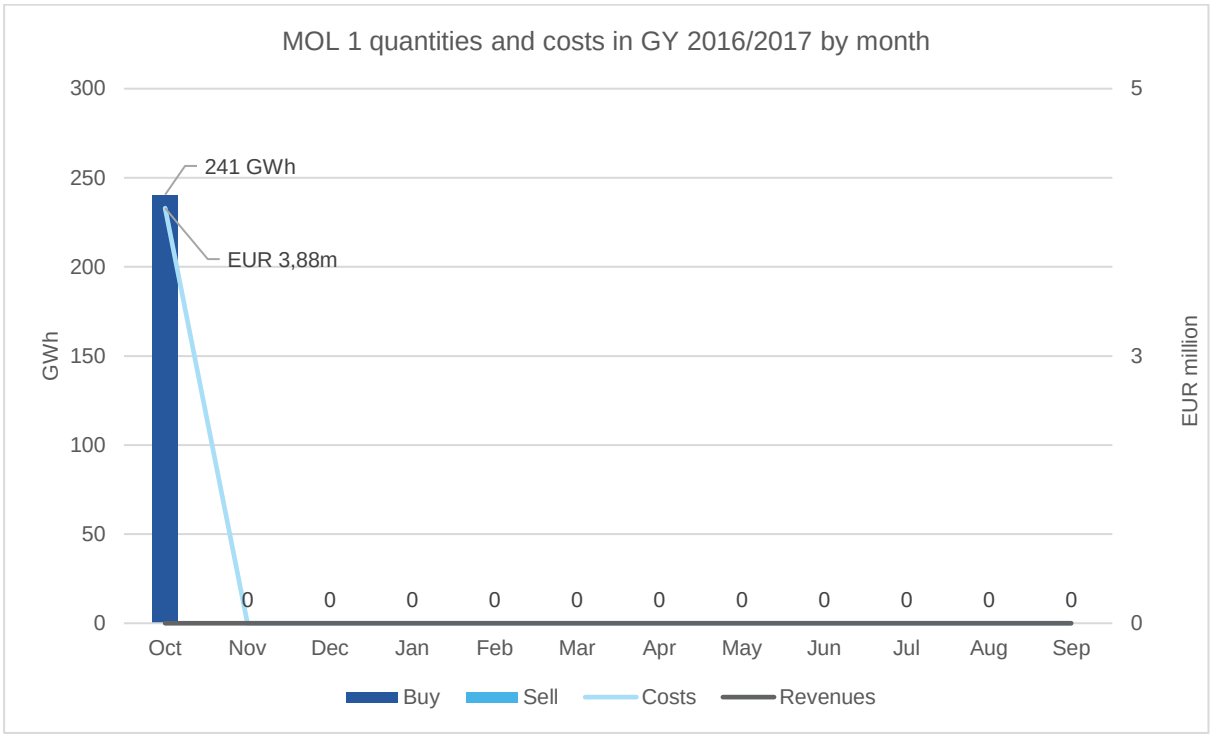

Figure 3: MOL 1 quantities and costs in GY 2016/2017 by month

Owing to our decision to no longer use MOL 1 after October 2016, all future balancing actions were taken using quality-specific products. Our last MOL 1 balancing action was carried out on 10 October 2016. We bought a total of 241 GWh at a cost of EUR 3.88m.

It should be noted that our past and current use of MOL 1 products is no indication of future developments. We review our MOL 1 options on a regular basis and are ready to take MOL 1 balancing actions at any time.

2.3.2 MOL 2

Merit order rank MOL 2 comprises all other standardised products traded on the exchange that are used by the MAMs for their external balancing actions. GASPOOL effected MOL 2 transactions to trade both high CV and low CV gas for delivery at the GASPOOL VTP using the quality-specific order books, to trade gas through the zone-specific order books on PEGAS and also to trade spot contracts for delivery of gas at the virtual trading point TTF in the

adjacent market area operated by the Dutch TSO Gasunie Transport Services B.V. (GTS). Gas contracts traded via the order books for delivery at the GASPOOL VTP are subject to specific physical delivery restrictions. Trading participants effecting trades via these order books have an obligation to cause a physical effect in a magnitude corresponding to the quantities traded, which is a necessary requirement for us to be able to manage system imbalances.

The chart below shows the daily balancing quantities procured via MOL 2 as well as the associated costs and revenues by month.

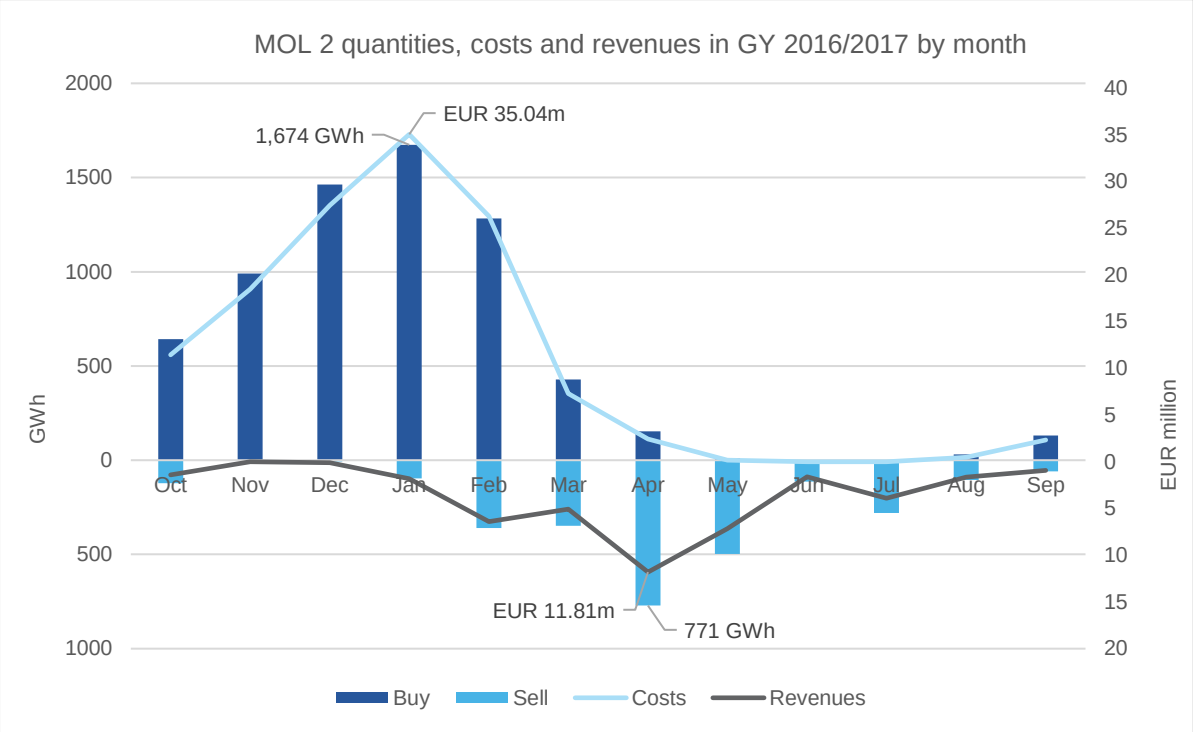

Figure 4: MOL 2 quantities, costs and revenues by month

As can be seen in Figure 4, most of our MOL 2 buy transactions were effected in the winter months and into early spring. The largest monthly quantity, 1,674 GWh, was purchased in January (previous year: 661 GWh in February, up 153.3%) at a cost of EUR 35.04m (previous year: EUR 10.08m in January, up 247.6%). On the sell side, relevant quantities were sold between February and July, with April seeing the largest monthly sell quantity of 771 GWh (previous year: 201 GWh in May, up 283.6%) at revenues of EUR 11.81m (previous year: EUR 2.17m in May, up 444.2%). The year-on-year differences in our buy and sell quantities are due to our decision not to use the MOL 1 order book any longer.

Figure 5 presents the lowest and highest prices in EUR per MWh that we paid and received in connection with our MOL 2 buy and sell transactions for each gas day.

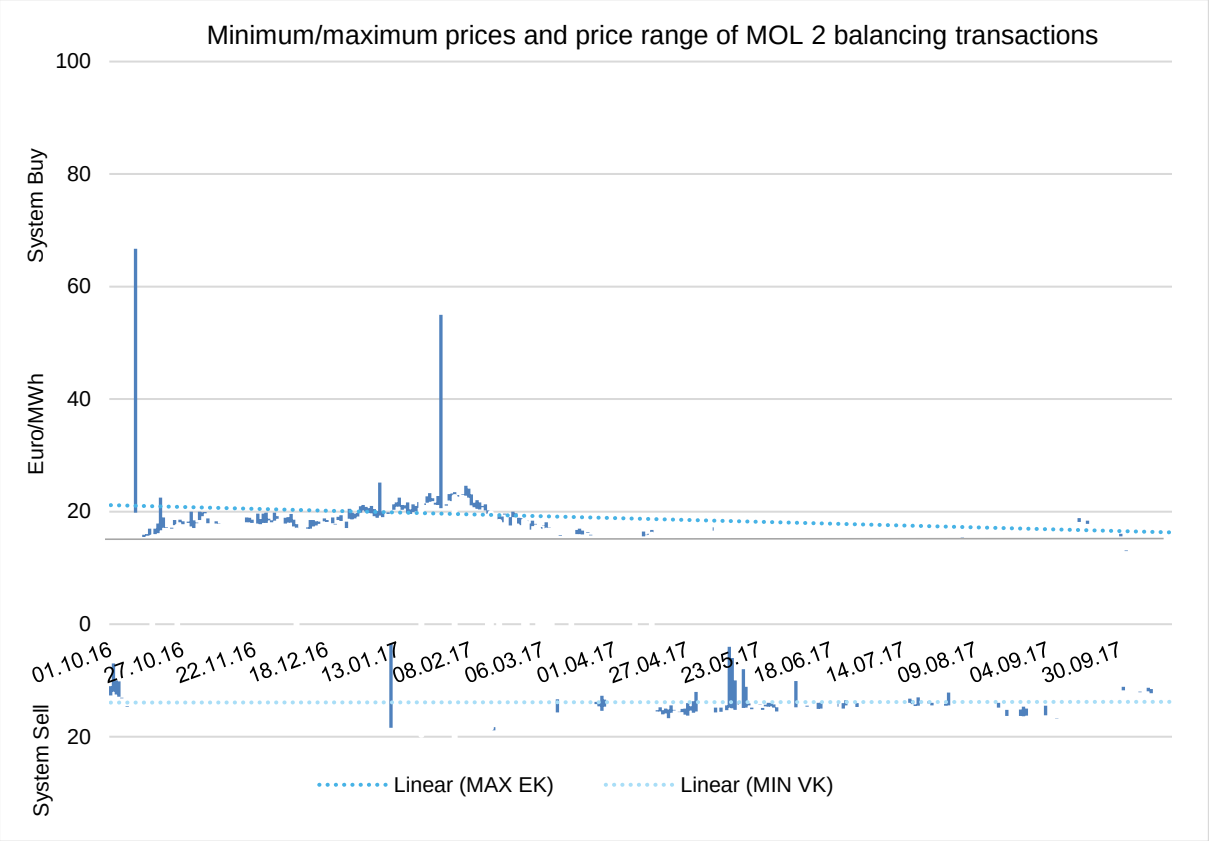

Figure 5: Minimum/maximum prices and price range of MOL 2 balancing transactions

The highest MOL 2 buy price, 66.725 EUR/MWh, was paid on 10 October 2016 and related to a trade effected in the locational order book for delivery in the GUDH network area. The lowest buy price, 15.2 EUR/MWh, related to a TTF transaction executed on 8 April 2017. The highest sell price, 21.0 EUR/MWh, was obtained on 2 February 2017 and related to a trade effected in the quality-specific order book for low CV gas, the lowest sell price of 3.45 EUR/MWh was received for a locational trade in the ONTRAS order book on 10 January 2017.

2.3.3 MOL 3

In GY 2016/2017 we did not take any MOL 3 balancing actions. The specifications applicable to the available MOL 3 balancing products are identical to those traded on the exchange. All balancing requirements were therefore met from within MOL 1 and MOL 2. Our MOL 4 contracts were only used in a few, special situations.

2.3.4 MOL 4

MOL 4 comprises the balancing products “Long-Term Options” (LTO) and “Flexibility”. LTOs were only contracted for the purpose of implementing the requirements of the BMWi policy paper on supply security. For the winter months from December 2016 to March 2017 we contracted monthly reserves of 1.3 GW for the low CV network areas of our market area. The capacity charges payable under these contracts totalled EUR 2.04m. The total capacity charges paid in relation to our “Flexibility” contracts amounted to EUR 17.54m. Detailed information on our LTO contracts is provided in chapter 5.1, our Flexibility product and its use is described in chapter 0.

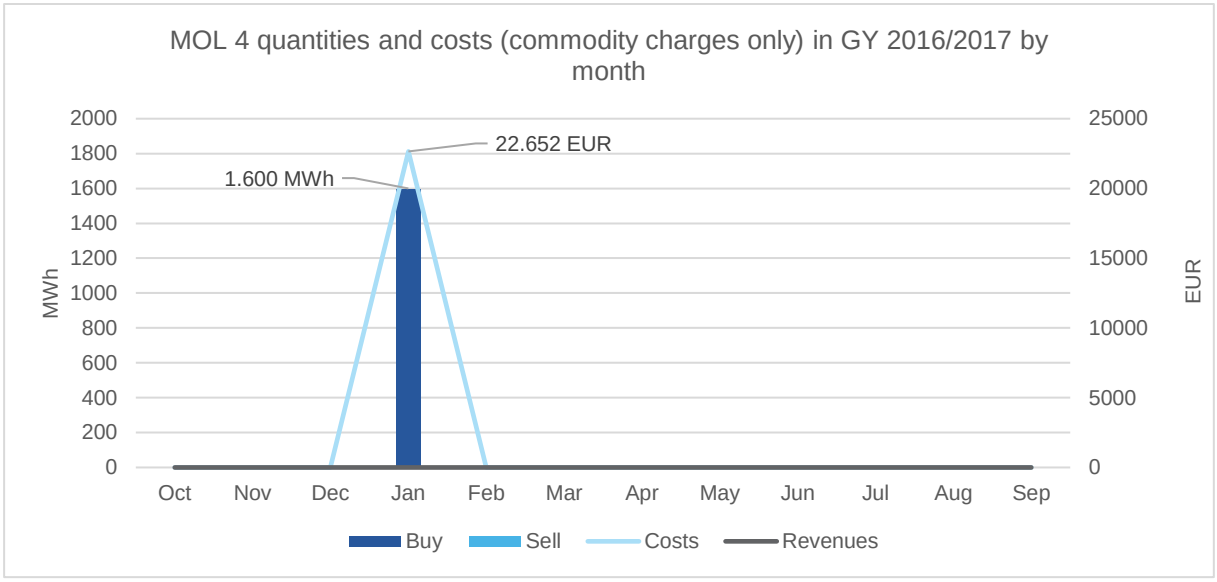

Figure 6: MOL 4 quantities and costs (commodity charges only)

The MOL 4 balancing action shown in Figure 6 was due to a test call order we issued on one of our LTO contracts on 16 January 2017. In this case a total quantity of 1,600 MWh was requested, incurring a total cost of EUR 22,652.

2.3.5 High CV gas

The chart below provides an overview of the quantities of high CV gas we bought and sold (SystemBuy and SystemSell) for balancing purposes in each month. These include all commodity transactions across all merit order ranks. The chart shows the cumulative daily quantities in GWh along with the cumulative costs and revenues in millions of EUR by month.

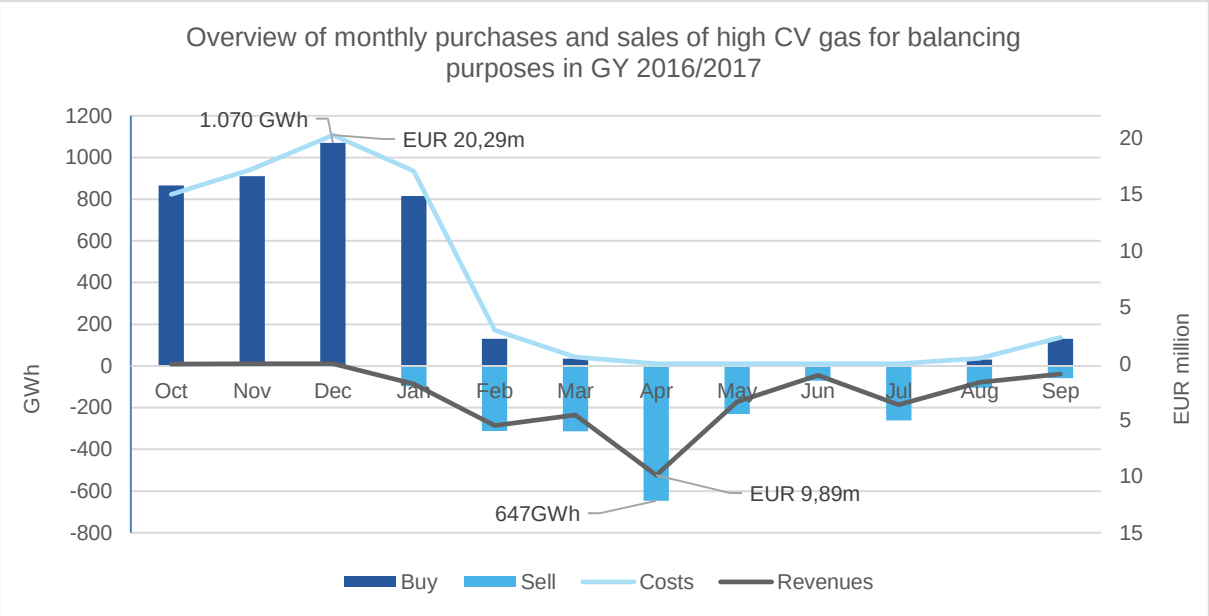

Figure 7: High CV gas balancing transactions (buy and sell) in GY 2016/2017 by month

As is shown in Figure 7, most of our buy transactions for the high CV sectors of our market area were carried out in the winter months of the GY, with the largest monthly quantity totalling 1,070 GWh being purchased in December 2016 (previous year: 1,048 GWh in November, up 2.1%) for a total price of EUR 20.29m (previous year: EUR 18.6m in November, up 9.1%). External sell transactions (SystemSell) for the sale of surplus gas in the high CV network areas were mostly executed in the months from February to July, with the largest monthly sale totalling 647 GWh being carried out in April (previous year: 613 GWh in May, up 5.6%) and generating cumulative revenues of EUR 9.89m (previous year: EUR 7.24m in May, up 36.6%).

Overall, some 3.988 TWh of high CV gas[1] (previous year: 3.682 TWh, up 8.3%) were bought for balancing purposes at a total cost of EUR 76.06m (previous year: EUR 60.37m, up 26.0%), compared with sales of 2.095 TWh (previous year: 2.436 TWh, down 14%) and revenues of EUR 32.304m (previous year: EUR 30.577m, up 5.7%).

[1] To ensure comparability of these figures with the previous year, all MOL 1 balancing actions have been treated as relating to the high CV network areas and have therefore been included in this data.

In the months from October to January we observed a strong buy trend in the high CV sector. In the period from February to August our balancing activities tended to be in the sell direction.

2.3.6 Low CV gas

The chart below provides an overview of the quantities of low CV gas we bought and sold for balancing purposes in each month. The chart shows the cumulative daily quantities in GWh along with the cumulative costs and revenues in millions of EUR by month.

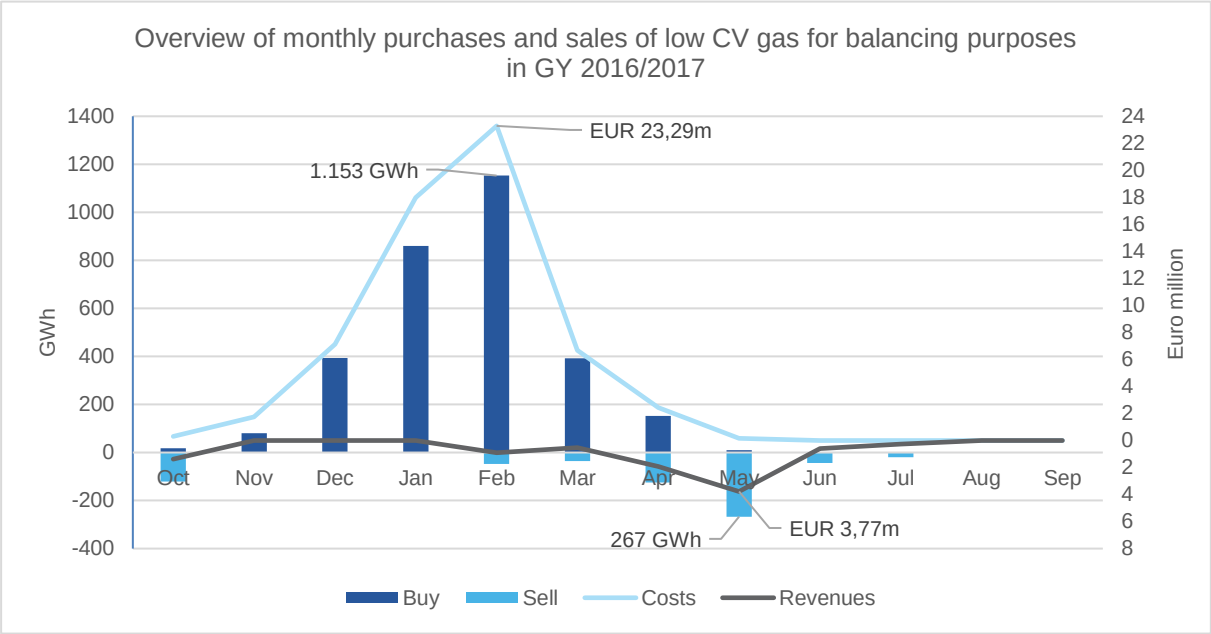

Figure 8: Low CV gas balancing transactions (buy and sell) by month

As can be seen in Figure 8, the major part of our gas purchases for the low CV sector – similar to the situation in the high CV network areas – were made during the winter months of the GY, but significant quantities were purchased up to April. The largest monthly quantity, 1,153 GWh, was purchased in February (previous year: 661 GWh in February, up 74.4%) for a price of EUR 23.29m (previous year: EUR 10.08m in January, up 131.1%). Relevant quantities were sold between April and June as well as in October, with May seeing the largest monthly sell quantity of 267 GWh (previous year: 191 GWh in May, up 39.8%), bringing in revenues of EUR 3.77m (previous year: EUR 2.16m in May, up 74.5%).

Overall, some 3.060 TWh of low CV gas (previous year: 2.813 TWh, up 8.8%) were bought for balancing purposes at a total cost of EUR 59.760m (previous year: EUR 43.975m, up 35.9%), compared with sales of 0.660 TWh (previous year: 0.739 TWh, down 10.7%) and revenues of EUR 9.375m (previous year: EUR 8.711m, up 7.6%).

As can be seen in the chart, the primary balancing trend in the months from December to March was in the buy direction. In October, April and May we observed a sell trend. Hardly any buy or sell transactions had to be executed during the months from June to September.

2.4 Procurement of gas for balancing purposes in adjacent market areas

Below we describe the quantities we procured in the adjacent Dutch market area by trading gas for delivery at the TTF.

The gas purchased at the TTF is made available on the gas network of the Dutch TSO GTS and therefore needs to be transported to the GASPOOL market area via cross-border interconnection points (IP). In order to do so we have to book transportation capacity, for which we incur additional costs.

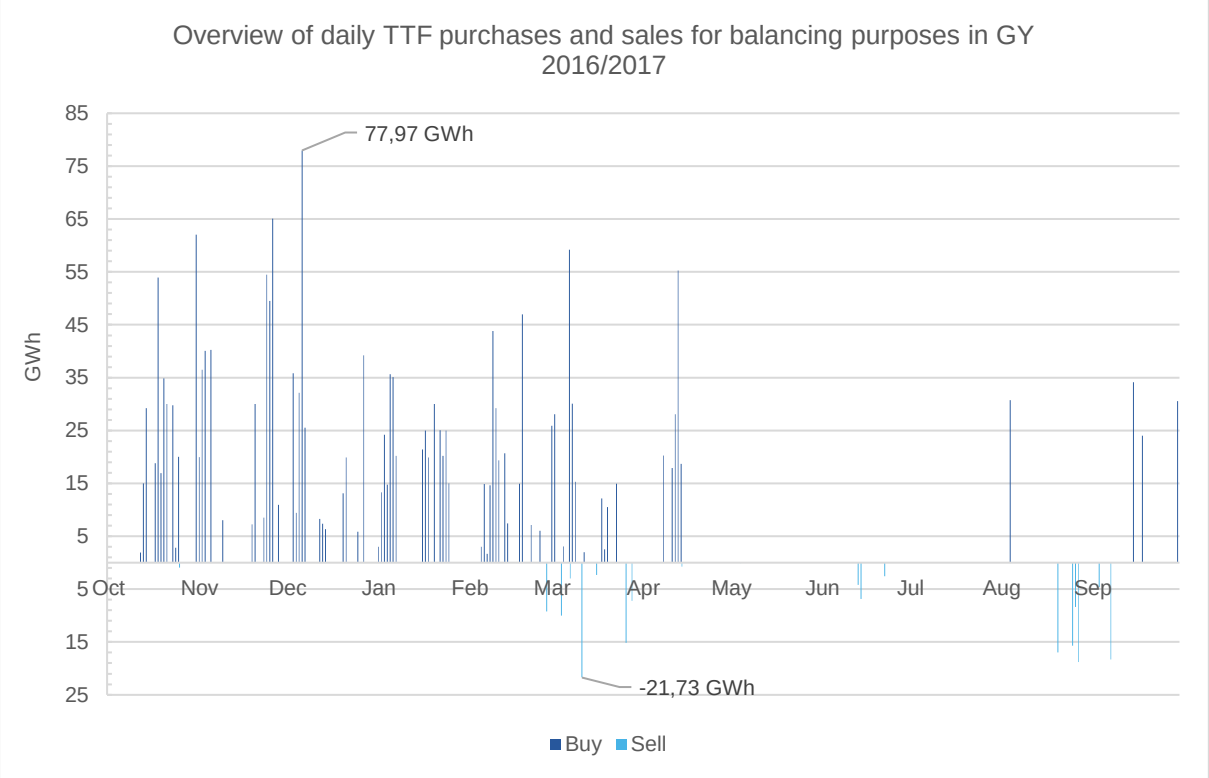

Figure 9: Procurement activities in adjacent market area (TTF) by day

GASPOOL used the TTF in conjunction with transportation capacity contracts as an external balancing tool on 102 days in total (previous year: 117 days, down 12.8%).

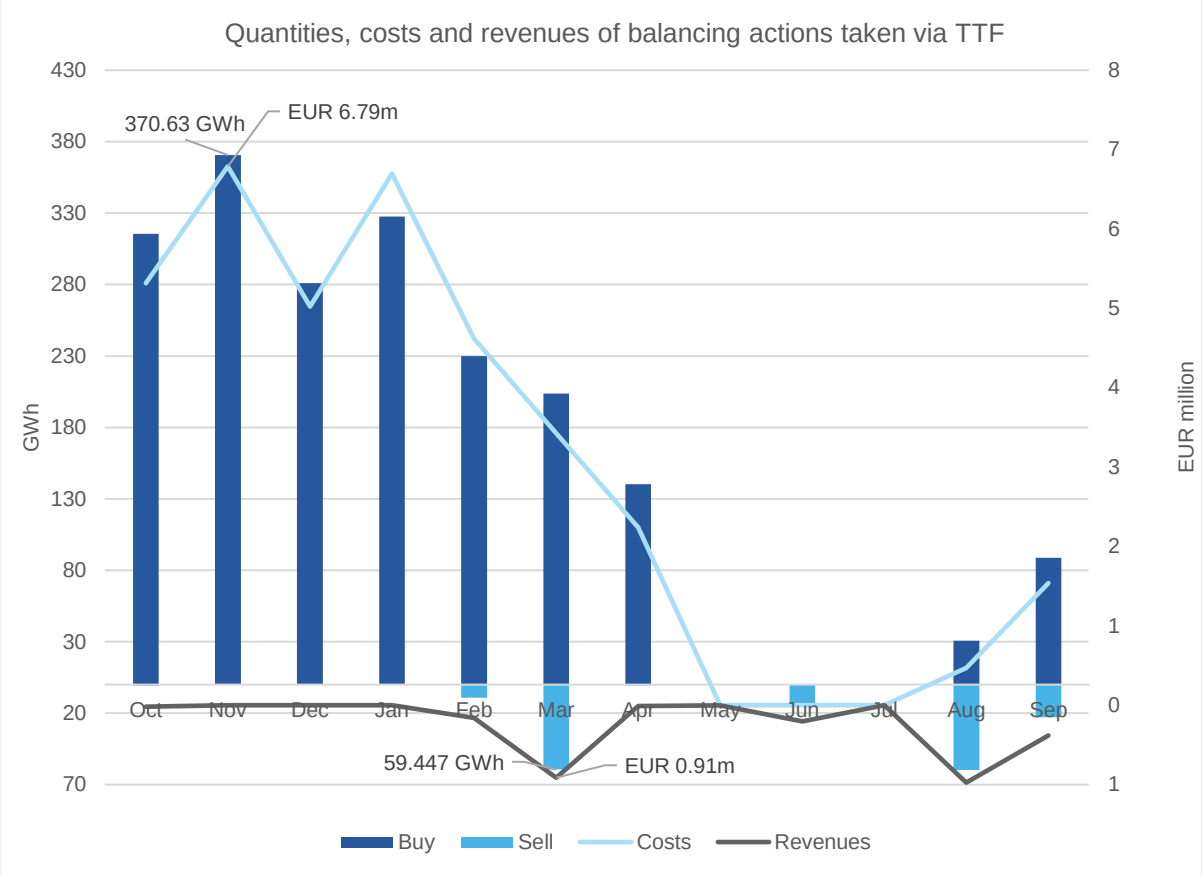

Figure 10: Quantities, costs and revenues of balancing actions taken via TTF

The TTF was generally used for the procurement of both high CV and low CV gas throughout the entire gas year. Figure 10 shows the monthly quantities supplied and received together with the associated costs and revenues. We purchased 1.988 TWh of gas at a total cost of EUR 36.12m (previous year: 1.365 TWh / EUR 20.084m, up 45.6% and 79.8%, respectively). This compares to sales of 0.167 TWh generating total revenues of EUR 2.659m (no sales were effected in the previous year).

The gas sourced via the TTF is bought without qualifying it as either high CV or low CV gas but instead is assigned a gas quality with reference to the corresponding booked transportation capacity. According to this approach we incurred costs of EUR 15.204m for a quantity of 0.865 TWh bought for the high CV network areas and EUR 20.916m for a quantity of 1.123 TWh bought for the low CV sector. On the sell side our high CV gas sales totalling 0.161 TWh generated revenues of EUR 2.559m, while we sold a quantity of 0.006 TWh of low CV gas for revenues of EUR 0.100m.

The transportation capacity we booked for the purpose of taking the above balancing actions is shown in the chart below together with the associated costs. We primarily booked capacity in the winter months, with the largest amounts of entry capacity being booked in November (389 GWh). The largest exit capacity bookings (75 GWh) were effected in March. Entry

capacity costs were highest in January, where we paid a total of EUR 430,924.16. The highest costs for exit capacity were incurred in March and ran up to EUR 109,226.38. In total we booked 2.089 TWh at entry points to our market area and 0.197 TWh at exit points.

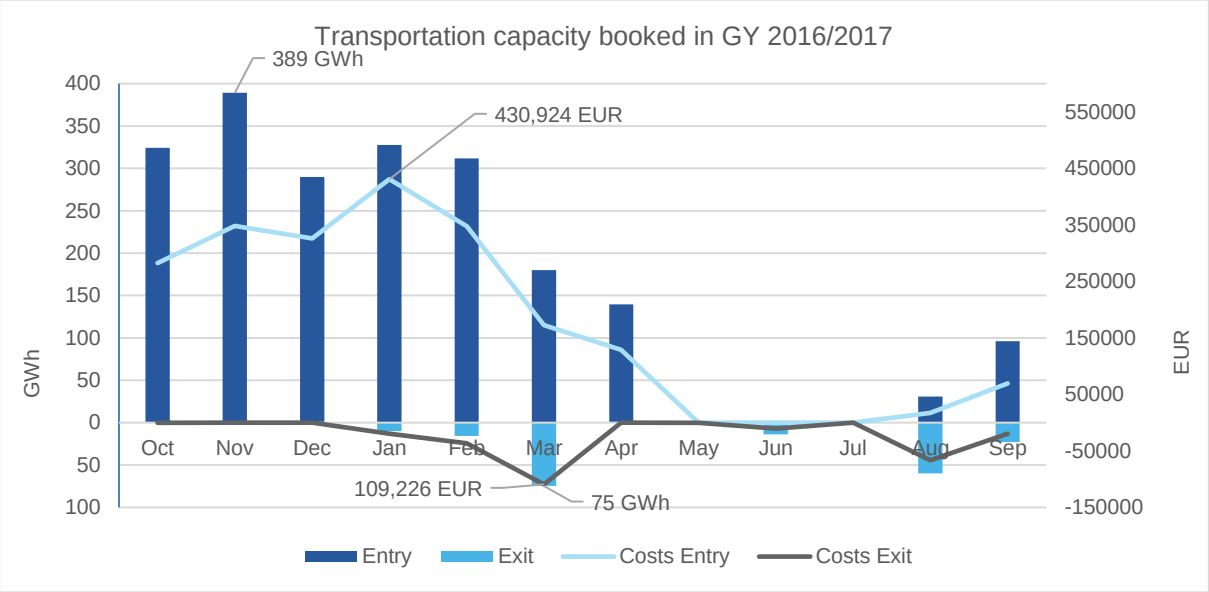

Figure 11: Transportation capacity booked for balancing actions via adjacent market areas in GY 2016/2017

Out of the 2.089 TWh available under the signed entry capacity contracts we transported a total of 1.988 TWh, equivalent to a utilisation rate of around 95.2% (previous year: 72.4%, up 31.5%). In the exit direction we transported 0.167 TWh. Compared with our total exit capacity bookings of 0.197 TWh, this corresponds to a utilisation rate of approximately 84.8% (no exit capacity had been booked in the previous year).

As required under sentence 3 of Article 9(3) of the BAL Code, GASPOOL reconsiders the terms and conditions applicable to the trading of balancing products in adjacent market areas on an annual basis. Our review of the general terms and conditions governing our TTF trading activities as well as of the relevant transportation contracts governing our corresponding gas transports/nominations did not give rise to any legal concerns that would lead us to dispute their appropriateness. Furthermore, in our view the possibility to procure gas in adjacent market areas continues to be a necessary and appropriate option. In summary, it can be noted that our trading activities in adjacent market areas are in conformity with the requirements of sentence 3 of Article 9(3) of the BAL Code.

Calculation of transportation markups and markdowns until 30 September 2017

Under the GaBi Gas 2.0 ruling and the Balancing Group Contract Terms & Conditions (Appendix 4 to the Cooperation Agreement VIII), the MAM has an obligation to take the transportation costs it incurs in relation to MOL 2 balancing actions into account. So whenever we buy or sell gas on the exchange in an adjacent market area as part of our balancing actions, the resulting transportation markups and markdowns are factored in when calculating the applicable negative and positive daily imbalance prices.

- These transportation markups and markdowns were calculated on a monthly basis, with separate amounts being determined for SystemBUY balancing transactions (purchases of gas) and SystemSELL balancing transactions (sales of gas), respectively.
- For SystemBUY transactions the MAM applied a transportation markup and for SystemSELL transactions a transportation markdown, with the applicable markup or markdown being added to or deducted from the price payable in respect of the relevant exchange trade.
- The transportation markups and markdowns applicable in the following delivery months were published on the MAM's website on an ex-ante basis on the 10th business day of the month preceding the relevant period.

The applicable transportation markups and markdowns were calculated according to the following formula:

$$(1)\quad \text{Transportation markup/markdown} = \frac{\text{daily transportation tariff (EUR/MWh/h)}}{\text{Ø utilisation period (h)}}$$

- Calculation of the daily transportation tariff:
  - The calculations were based on the daily capacity tariffs applicable to day-ahead capacity products during the relevant validity period on the Dutch and German sides of the IPs the MAM used for transportation purposes.
  - Where gas transports were effected via more than one IP, the applicable daily tariff for each side of the border was calculated as the arithmetic mean of all daily tariffs payable on that side of the border.
  - The daily capacity tariffs thus calculated were then added together for both sides of the border.

- Determination of the average utilisation period:
  - For the purpose of calculating the utilisation period only days on which the booked transportation capacity was actually used were taken into account:

$$(2)\quad \text{Utilisation period} = \frac{\text{total quantity supplied/received on the day (MWh)}}{\text{maximum hourly quantity supplied/received on the day (MWh/h)}}$$

- The average utilisation period was calculated as the average of the daily utilisation periods determined, with separate average utilisation periods being calculated for the winter (1 October to 31 March) and summer (1 April to 30 September) periods.
- All calculations were based on the data available for the last complete winter or summer period, as applicable.

The applicable average utilisation period remained unchanged for the duration of each validity period.

Changes to the transportation markup/markdown calculation methodology taking effect on 1 October 2017

Transportation markups (or markdowns) are applied to all balancing actions taken via adjacent market areas to take account of the fact that the MAM incurs transportation costs in connection with these balancing activities. When determining the daily imbalance prices applicable in its market area the MAM adds the corresponding transportation markup to the buy price of each TTF buy transaction (if any) and deducts the corresponding transportation markdown from the sell price of each TTF sell transaction (if any). Our previous approach relied on constant utilisation rates. To take account of the fact that the MAMs now mostly book capacity on a within-day basis, GASPOOL and NetConnect Germany adjusted their approach in consultation with the Federal Network Agency with effect from 1 October 2017. The new calculation methodology is as follows:

- Separate transportation markups and markdowns are calculated for SystemBUY balancing transactions (purchases of gas) and SystemSELL balancing transactions (sales of gas), respectively, based on the actual number of hours in which we use the transportation capacity booked for this purpose.
- For SystemBUY transactions the MAM applies a transportation markup and for SystemSELL transactions a transportation markdown, with the applicable markup or markdown being added to or deducted from the price payable in respect of the relevant exchange trade.

- The transportation markups and markdowns applicable to each utilisation period are published on the MAM's website for each delivery month.

$$\text{Transportation markup/markdown (EUR/MWh)} = \frac{\text{transportation tariff (EUR/MWh/h)}}{\text{utilisation period (h)}}$$

- Calculation of the transportation tariff:
  - The calculations are based on the daily capacity tariffs applicable to day-ahead capacity products during the relevant validity period on the Dutch and German sides of the IPs the MAM can use for transportation purposes.

- As several IPs are available in each gas quality, we determine the arithmetic mean of all daily capacity tariffs applicable at the relevant high CV and low CV IPs for each side of the border.
- On the GASPOOL side of the border the full average daily capacity tariffs are taken into account. On the GTS side of the border the applicable daily capacity tariffs are taken into account on a pro-rata basis, based on actual utilisation.
- The formula has the following components:

$$\text{Transportation tariff} = \left(\text{Ø daily capacity tariff} + \left(\frac{\text{Ø daily capacity tariff GTS}}{24h}\right) * utilisation\ period\right)$$

- Utilisation period: the actual delivery period during which gas was supplied/received (as the case may be).

As a result, the transportation markups and markdowns vary depending on the number of hours in which the booked capacity was used. The shorter the utilisation period, the higher the transportation markup/markdown.

The applicable transportation markups and markdowns are also taken into account when it comes to deciding whether or not a balancing action is carried out via the TTF. The TTF is only used if the purchase price plus transportation markup is smaller than the price we would have to pay in the German wholesale market (and vice versa for sell transactions).

3 Number of trades executed for balancing purposes pursuant to Article 9(4) of the BAL Code

Below we provide a summary of the number, frequency and costs of the balancing actions we effected in the last GY. Figure 12 shows how many balancing actions we carried out on a rest-of-the-day (RoD) basis within each MOL and month. In January 2017 we executed a total of 50 transactions, while in August and September we had to interfere no more than five times.

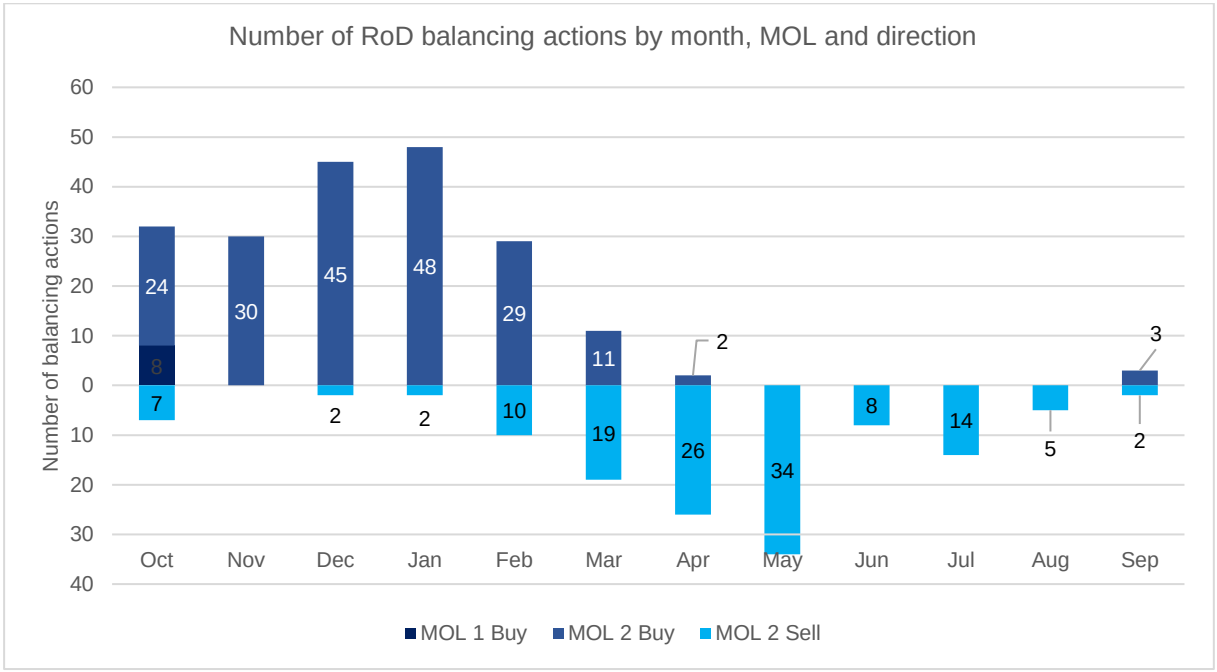

Figure 12: Number of RoD balancing actions in GY 2016/2017 by direction and MOL

The numbers for our day-ahead (DA) balancing actions are shown in Figure 13. In total, our DA balancing activities in GY 2016/2017 resulted in 120 balancing actions.

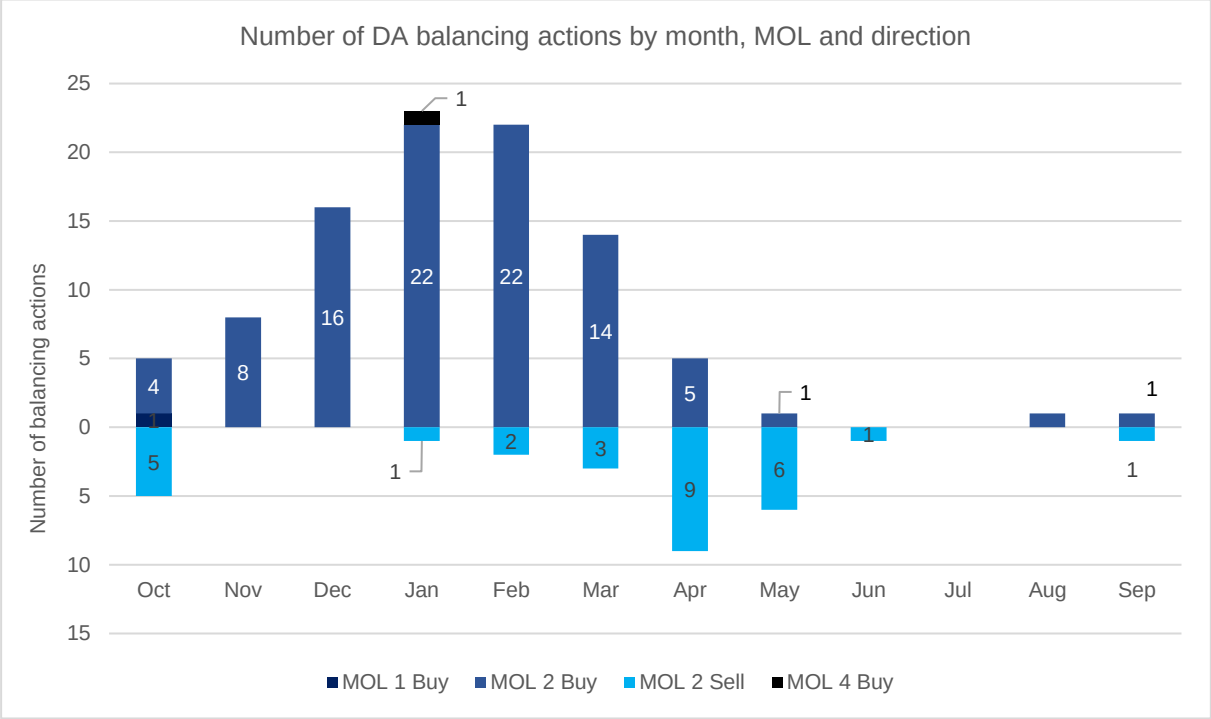

Figure 13: Number of DA balancing actions in GY 2016/2017 by direction and MOL

Figure 14 shows the number of balancing actions per gas day. Balancing actions were carried out by GASPOOL on 220 days (previous year: 241 days, down 8.7%). No balancing actions were necessary on 145 days (previous year: 125 days, up 16.0%). Overall, we took a total of 448 balancing actions in GY 2016/2017 (previous year: 532 balancing actions, down 15.8%), averaging 1.23 balancing actions per gas day (previous year: 1.45 balancing actions, down 5.2%). The day with the highest number of balancing actions was 27 December 2016, a day on which we had to take seven balancing actions. As can be seen in the chart, the number of required balancing actions tended to be lower during the summer months. Accordingly, these are also the months with the lowest balancing quantities.

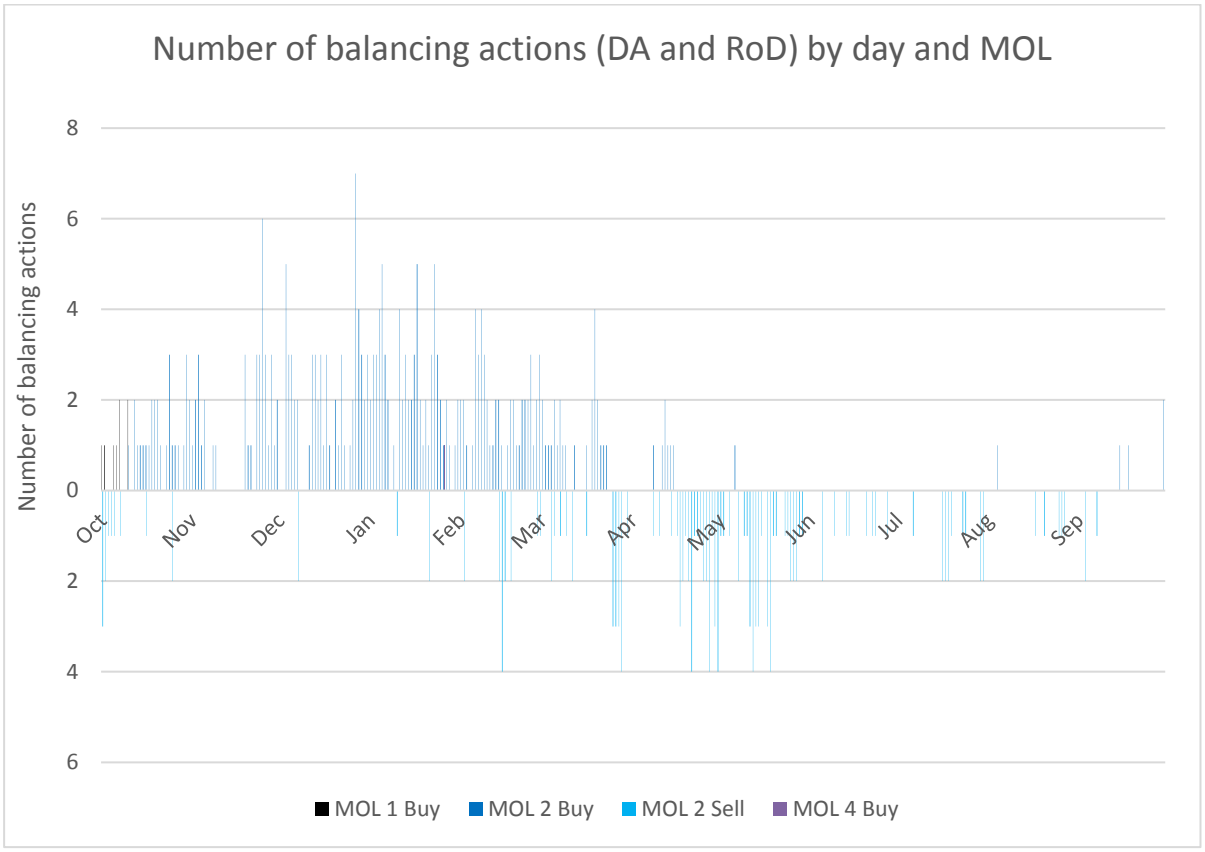

Figure 14: Number of balancing actions (DA and RoD) by day and MOL

In Figure 15***: MOL 1 to MOL 3 balancing actions across the high CV and low CV network areas by time of day*** our balancing actions are plotted against the time of day when they were executed.

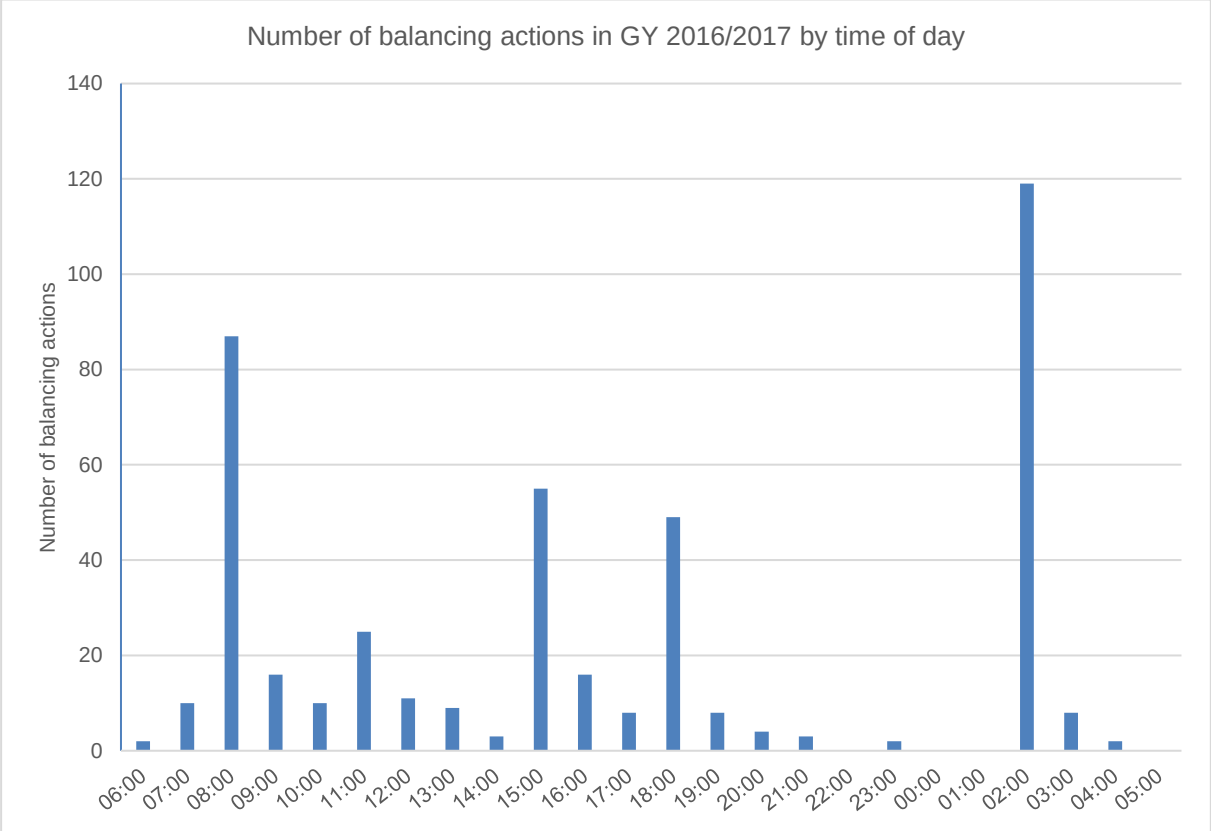

Figure 15: MOL 1 to MOL 3 balancing actions across the high CV and low CV network areas by time of day

The largest number of balancing actions per hour was executed between 02:00 and 03:00 hours at night, with 119 of the total balancing actions taken during the entire GY being carried out in this hour (previous year: 142 balancing actions, down 16.2%). These were balancing actions taken via the exchange on a DA basis for which we used either the day-ahead or within-day order books to meet the corresponding balancing requirements. Overall, the proportion of our balancing actions that was carried out on a DA basis fell to 120 (previous year: 197 balancing actions, down 39.1%) and thus a share of approximately 26.8% (previous year: 37%, down 27.6%). The focal point of our within-day balancing activities was the hour from 08:00 to 09:00, with 87 balancing actions being taken in this hour (previous year: 102 balancing actions, down 14.7%). 49 balancing actions were executed between 18:00 and 19:00 hours (previous year: 55 balancing actions, down 10.9%).

GASPOOL's related balancing costs and revenues show the same seasonal pattern and are shown in Figure 16. We incurred the highest costs in January 2017 (EUR 35m), while generating the largest revenues in April (EUR 11.8m).

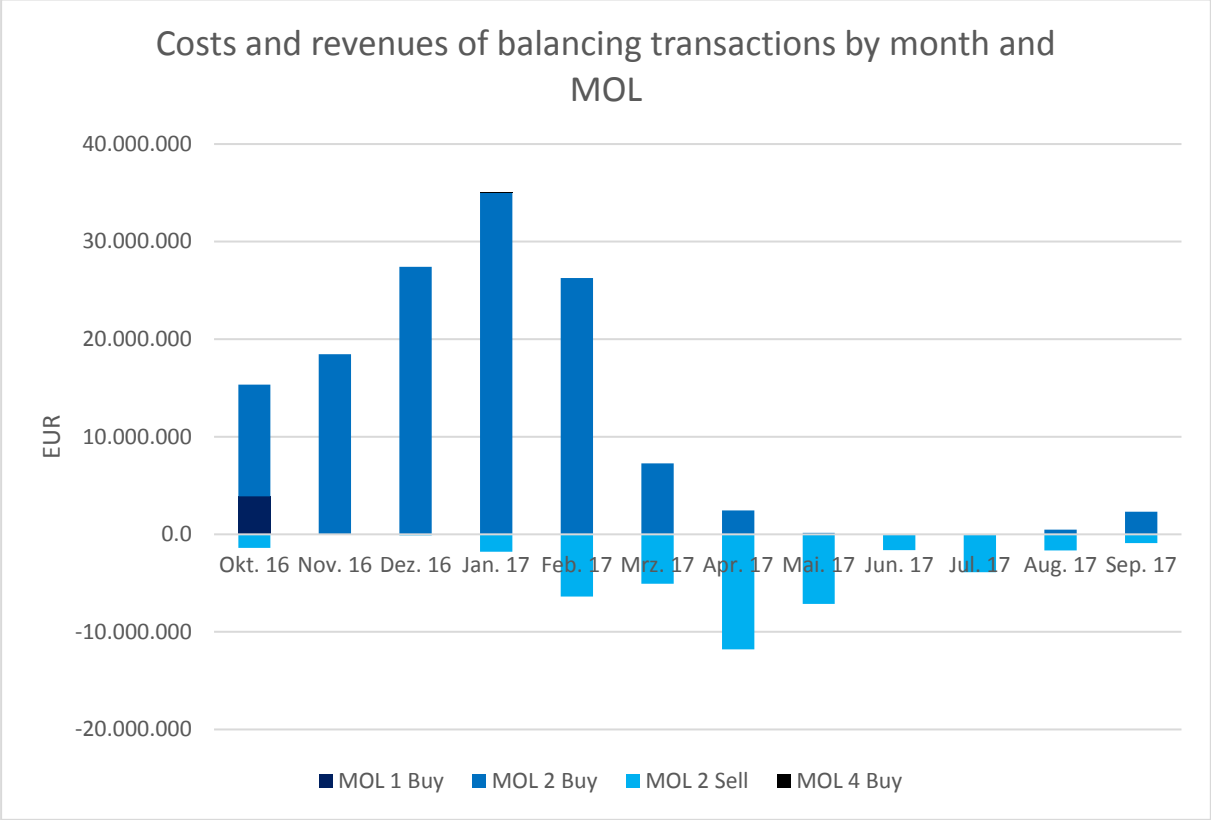

Figure 16: Costs and revenues of balancing transactions in GY 2016/2017 by month and MOL

4 Effect and application of the within-day obligation rules

As required under the Gabi Gas 2.0 ruling, GASPOOL introduced a within-day obligation regime on 1 October 2016. The new system replaced the variable structuring charges previously applied.

The within-day obligation rules are to incentivise balancing group managers (BGMs) to keep their balancing group accounts in balance during the day, too. For this purpose the hourly imbalances between the inputs and offtakes allocated to BGMs' balancing groups are recorded and cumulated over the course of each gas day. If a pre-defined threshold is exceeded, these hourly imbalance quantities (so-called "within-day flexibility quantity") may be charged to BGMs. Charges are only applied, however, if the MAM had to take (MOL 1) balancing actions in opposite directions on the day in question (i.e. buy and sell gas on the same day) and actually incurred costs as a result. At the same time and in order to avoid that all forecasting inaccuracies incur a charge, BGMs are granted an hourly tolerance on offtakes at "RLM" exit points (i.e. intraday-metered exit points equipped with a supply meter installation that records hourly consumption) which is calculated as 7.5% of the daily RLM offtake quantity allocated to the relevant balancing group. No tolerances are available for any other types of system points.

The extent to which BGMs used the flexibility available in GY 2016/2017 is presented in Figure 17, which shows that we observed rising within-day flexibility quantities until February 2017. In the following months BGMs' within-day flexibility quantities dropped to a lower level but without indicating a clear trend.

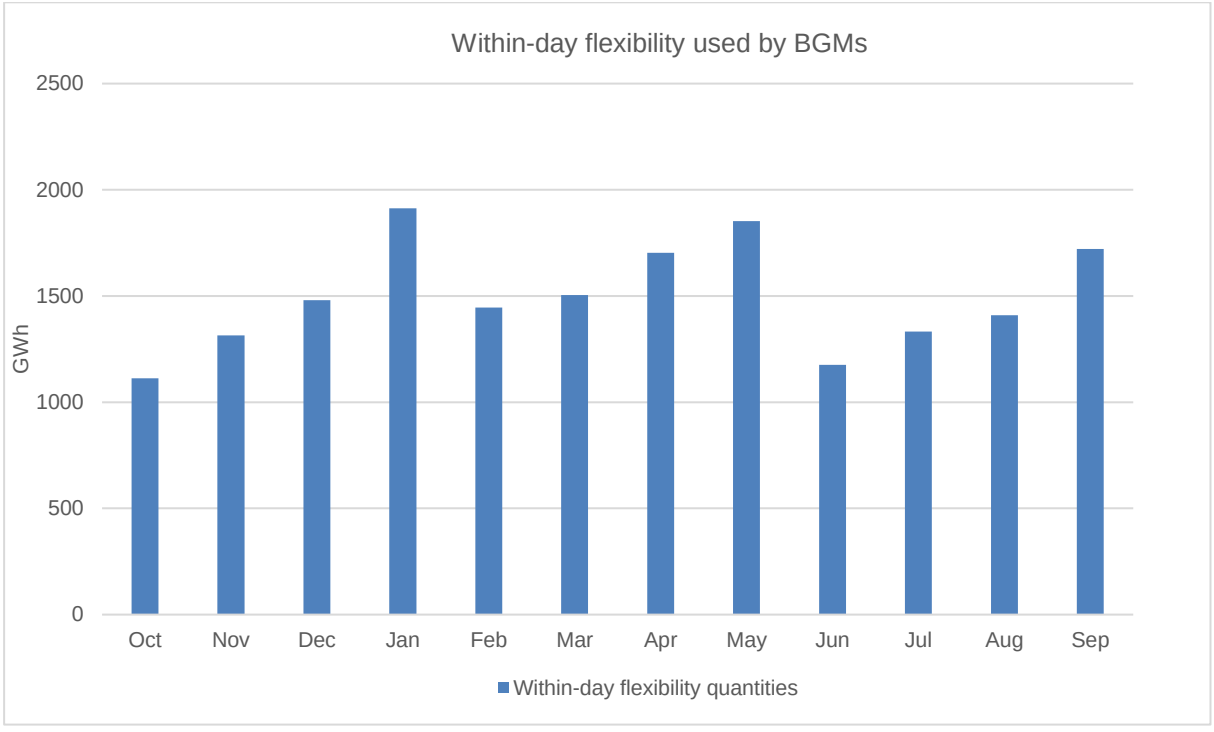

Figure 17: Within-day flexibility quantities in GY 2016/2017

Compared with the former rules, the current hourly tolerance of 7.5% of daily RLM offtakes affords BGMs greater flexibility during the day and means that it is generally more advantageous for BGMs to have their RLM customers assigned to the “RLMmT” allocation regime, where daily offtakes are divided by 24 for balancing purposes (flat allocation profile). The exception to this rule are customers who use large quantities of gas but whose consumption fluctuates strongly over the day (e.g. gas-fired power stations). In these cases it may still be better for BGMs to have these points assigned to the “RLMoT” allocation group, where actual hourly offtakes are allocated as measured. Even so, RLMoT quantities made up only 6.3% of total RLM allocations in the GASPOOL market area in GY 2016/2017.

GASPOOL did not apply any within-day flexibility charges during the entire GY. This was due to the fact that we never took balancing actions in opposite directions within MOL 1 (see chapter 2.3.1).

5 Procurement and use of balancing services (MOL 4)

Our “Flexibility” product involves the provision of short-term “parking” and “lending” services in the event of an oversupply or undersupply of gas in the GASPOOL market area. Both GASPOOL and the provider may supply or receive gas under this service. Both directions are possible:

- “to GASPOOL” means that the MAM temporarily receives gas quantities from the provider and subsequently returns these gas quantities to the provider (“lending”); and
- “from GASPOOL” means that the MAM temporarily supplies gas quantities to the provider and subsequently receives these gas quantities back from the provider (“parking”).

The Flexibility product is a combined “lending/parking product”. The supply or receipt of gas under the service commences within a few minutes after being instructed by the MAM but no later than 90 minutes thereafter. In duly justified exceptional cases the supply or receipt of an instructed gas quantity may also take place outside the above time window, provided GASPOOL has expressly approved this new time window beforehand. The product does not involve any call order or nomination processes. The Flexibility provider supplies or receives an exact gas quantity in kWh at a specified physical entry or exit point; the service can only be offered for a network area of a TSO operating in the GASPOOL market area.

All gas quantities supplied or received by a provider are returned or received back at the point where the gas was originally supplied or received, generally in the course of the gas day on which the gas quantities were originally supplied or received.

The period of time throughout which a provider is required to procure availability of the contracted balancing service may correspond to a month, a quarter, a half-year or a year. The parties may also agree shorter periods covering only a part of the above durations in individual cases specified by GASPOOL. Tender invitations and contracts may be for either firm or interruptible products.

The lot size specified in a Flexibility bid must correspond to a gas quantity delivered at a rate of 10 MWh/h.

When submitting a bid, each provider may specify a positive price to be applied without variation throughout the entire contract period.

Each provider must specify a positive commodity charge, which is then applied to the hourly balances of the provider’s gas account.

Two contract periods fell within GY 2016/2017, the period from October 2016 to March 2017 and from April 2017 to September 2017, respectively. For the winter period from October 2016 to March 2017 we signed firm Flexibility contracts for 2,600 MW (previous year: 1,500 MW, up

73.3%) for the low CV network areas of our market area. In the summer period from April 2017 to September 2017 we contracted 1,000 MW in firm capacity per month (previous year: 500 MW, up 100%). The capacity charges we paid as a result amounted to EUR 14.618m in the winter period (previous year: EUR 8.347m, up 75.1%) and to EUR 2.967m in the summer period (previous year: EUR 1.414m, up 109.8%). This means that our costs developed almost linearly with the additional capacity reserves contracted. We accepted all contract offers that were submitted on an interruptible basis; in relation to these contracts no capacity charges must be paid.

Additional information on the flexibility agreements we entered into in GY 2016/2017 is provided in Table I and Table II.

Table I: Contracted firm flexibility services (low CV gas only)

Contract period	Delivery rate required (GW)	Delivery rate offered (GW)	Delivery rate contracted (GW)	Number of bidders	Number of bids	Number of bidders who were awarded a contract	Costs for capacity charges (EUR)
01/10/2016-01/11/2016	2.60	3.10	2.60	5	18	4	1,769,558
01/11/2016-01/12/2016	2.60	3.15	2.60	6	19	5	2,033,063
01/12/2016-01/01/2017	2.60	3.15	2.60	6	19	6	2,673,263
01/01/2017-01/02/2017	2.60	3.13	2.60	6	19	6	2,984,201
01/02/2017-01/03/2017	2.60	3.14	2.60	6	19	6	2,557,370
01/03/2017-01/04/2017	2.60	3.18	2.60	6	20	5	2,589,327
01/04/2017-01/05/2017	1.00	1.94	1.05	6	10	5	651,889
01/05/2017-01/06/2017	1.00	1.94	1.00	6	10	4	537,472
01/06/2017-01/07/2017	1.00	1.84	1.00	6	9	3	447,792
01/07/2017-01/08/2017	1.00	1.79	0.99	6	8	4	446,250
01/08/2017-01/09/2017	1.00	1.76	1.00	6	8	3	456,468
01/09/2017-01/10/2017	1.00	1.89	1.00	6	7	3	398,036

Table II: Contracted interruptible flexibility services

Contract period	Delivery rate offered (GW)	Delivery rate contracted (GW)	Number of bidders	Number of bids	Number of bidders who were awarded a contract
01/10/2016-01/11/2016	4.60	4.60	3	10	3
01/11/2016-01/12/2016	4.60	4.60	3	10	3
01/12/2016-01/01/2017	4.60	4.60	3	10	3
01/01/2017-01/02/2017	4.60	4.60	3	10	3
01/02/2017-01/03/2017	4.60	4.60	3	10	3
01/03/2017-01/04/2017	4.60	4.60	3	10	3
01/04/2017-01/05/2017	5.00	5.00	2	5	2
01/05/2017-01/06/2017	5.00	5.00	2	5	2
01/06/2017-01/07/2017	5.00	5.00	2	5	2
01/07/2017-01/08/2017	5.00	5.00	2	5	2
01/08/2017-01/09/2017	5.00	5.00	2	5	2
01/09/2017-01/10/2017	5.00	5.00	2	5	2

Figure 18 shows the aggregate gas account movements for all interruptible flexibility agreements in place for the high CV networks.

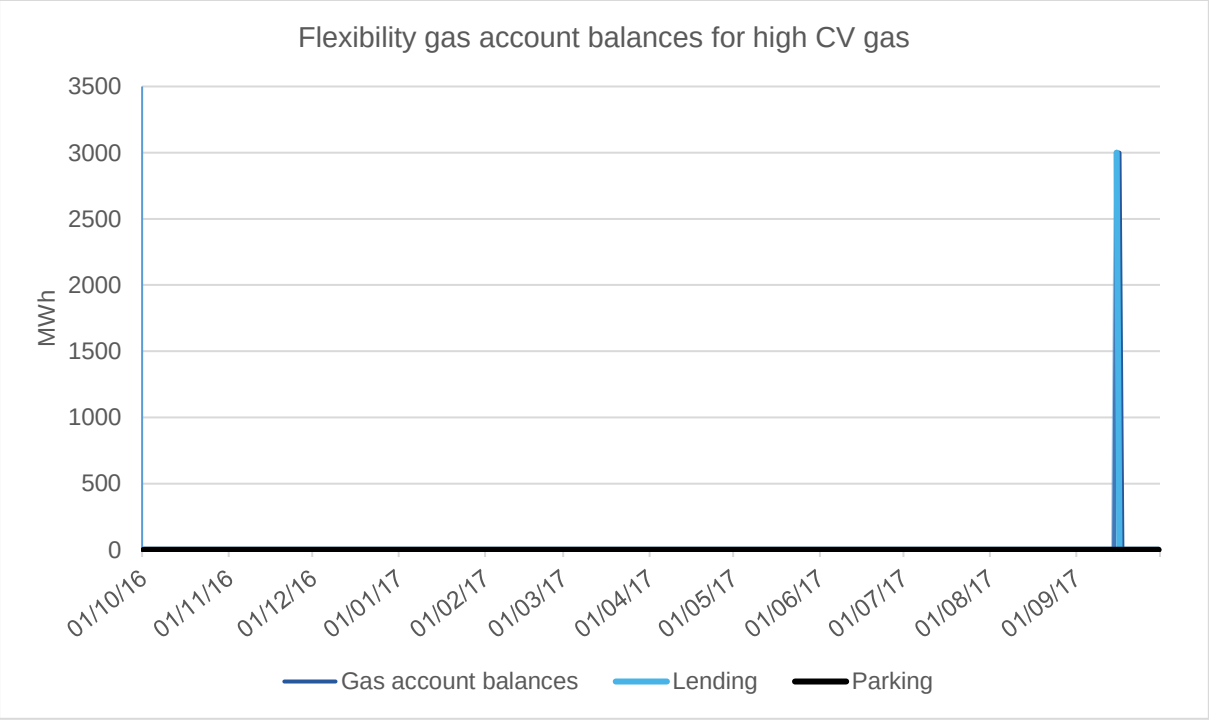

Figure 18: Flexibility gas account movements and quantities supplied/received in the high CV network areas [MWh]

As can be seen in Figure 18, we only made use of our high CV flexibility agreements on a single day in September 2017. Throughout the entire GY we did not use any parking services at all. As for the high CV network areas we had only entered into interruptible flexibility agreements, we incurred no capacity charges under these contracts.

Figure 19 shows the aggregate gas account movements for all flexibility agreements in place for the low CV networks.

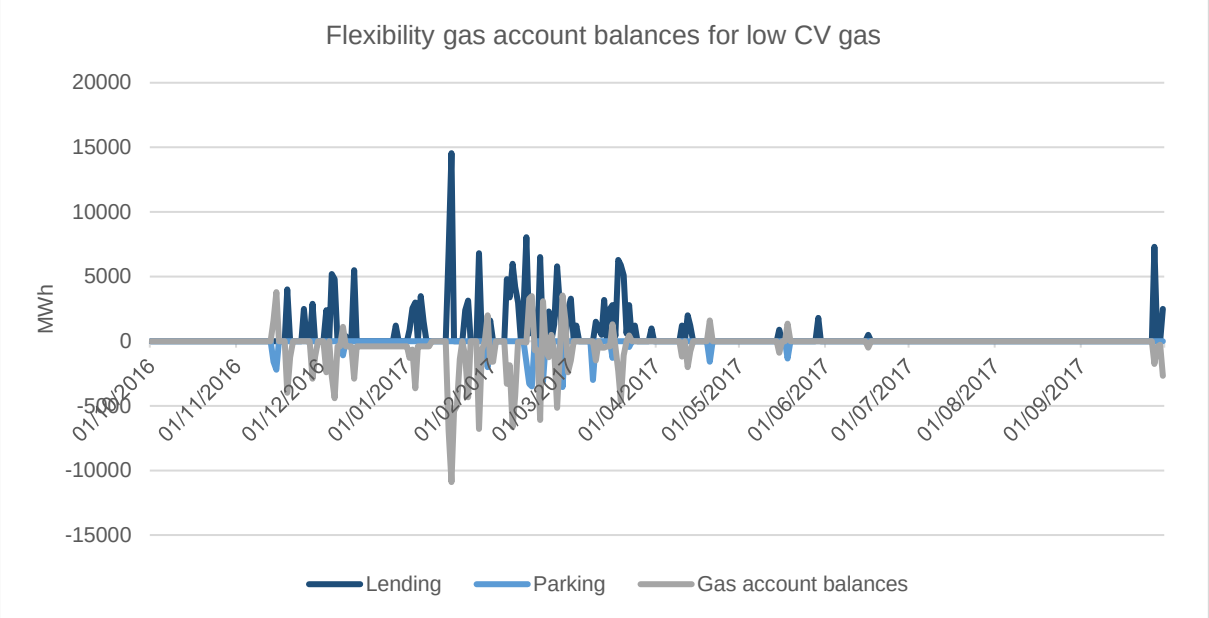

Figure 19: Flexibility gas account balances and quantities supplied/received in the low CV network areas in GY 2016/2017

We made most active use of our low CV flexibility agreements in the months from November to April. The highest daily utilisation rates were seen in January 2017, for both parking and lending.

Article 8(6) of the BAL Code places an obligation on the MAMs to review potential options for reducing their balancing service contract volumes. From today's perspective we do not see any possibility to reduce current contract volumes in the GASPOOL market area. Owing to the underlying contractual arrangements, especially due to their short-notice availability within 90 minutes of receipt of a service instruction, our contracted Flexibility products deliver a significant contribution to upholding supply security. As there are presently no alternative products available on the exchange, we will not be able to reduce our Flexibility needs for the time being.

5.1 Long-Term Options

Under LTO contracts providers promise their availability to buy or sell gas on a rest-of-the-day basis (RoD) throughout the contract period.

The product variant RoD means that the provider has an obligation to ensure its availability on each and every gas day of the agreed contract period to receive or supply a specified gas quantity at a constant hourly rate on a specified gas day on receiving an instruction to this effect from GASPOOL (this instruction is referred to as a “call order”), with delivery in each case starting from the relevant “call hour”, i.e. the hour from which the provider is instructed to receive or supply gas. GASPOOL issues call orders for LTOs in compliance with a lead time of no less than three hours ahead of the start of the relevant call hour. Call orders instructing a provider to receive or supply gas at varying hourly rates over the course of a call period and/or for a period of time ending before the end of the relevant gas day are not permitted. Each provider has to ensure that it will receive or supply each instructed gas quantity from the relevant call hour onwards.

The period of time throughout which a provider is required to procure availability of the contracted balancing product may correspond to a week, a month, a quarter, a half-year or a year. The parties may also agree shorter periods covering only a part of the above durations in individual cases. The contract period always commences at the start of the first gas day of the relevant contract period and ends on the last gas day of the relevant contract period.

The lot size specified in LTO bids must correspond to a delivery rate of 10 MWh/h.

Providers have the right to specify a capacity charge to be applied throughout the agreed contract period so as to remunerate the provider for its availability to supply gas to or receive gas from GASPOOL. Where a capacity charge is specified, it is applied constantly throughout the relevant contract period (i.e. it is not subject to variation). Capacity charges must always be positive prices and are paid irrespective of whether GASPOOL issues any call orders or not. If no capacity charge is specified, the applicable capacity charge is recorded as zero.

Providers who submit LTO bids must always specify a commodity charge in EUR/MWh for the supply and/or for the receipt of gas quantities. In both cases the commodity charge must be a positive price, which, in the case of gas quantities being supplied by the provider, the MAM must pay to the provider, and which, in the case of gas quantities being received by the provider, the provider must pay to the MAM.

No LTO contracts for ordinary balancing reserves were tendered out or signed in the GASPOOL market area for the GY covered by this report. Our procurement of option contracts for the purpose of implementing the BMWi policy paper is addressed separately in chapter 0. Information on the reserves we contracted in the course of a supplemental tendering exercise is provided below.

5.1.1 Supplemental tendering February 2017

In response to low storage inventory levels GASPOOL launched a supplemental tender for LTO and DSM contracts for the contract period from 15 February 2017, 06:00 to 15 March 2017, 06:00, inviting bids for 750 MW in additional reserves. DSM bids were requested for the network areas of Nowega and Gasunie Deutschland (low CV gas). LTO bids had to be for delivery at the storage connection points Lesum (GUDL) and Empelde (Nowega). We received offers for 480 MW out of the 750 MW requested, so we were only able to meet our requirements up to this level. No call orders were issued on the contracts signed. No DSM bids were submitted.

Table III: Supplemental tender results for the contract period 15/02/2017–15/03/2017

Contract period	Delivery rate requested (GW)	Delivery rate offered (GW)	Delivery rate contracted (GW)	Number of bidders	Number of bids	Number of bidders who were awarded a contract	Costs for capacity charges (EUR)
15/02/2017-15/03/2017	0.75	0.48	0.48	2	12	2	826,917

5.2 Issuance of test call orders on LTO contracts after 1 April 2017

Around 00.08 hours on 27 January 2017 GASPOOL issued test call orders on some of the available LTO lots. Specifically, we instructed providers to provide 300 MW in the network area of Gastransport Nord GmbH (GTG) and 500 MW in the network area of Nowega in the last two delivery hours of the gas day 26 January 2017.

The aim of these test call orders was to check if the relevant providers were in compliance with their contractual obligation to keep the contracted reserves ready but also if they upheld their commitment to ensure 24/7 communication availability. In addition, we wanted to assess whether the corresponding inputs would actually serve their intended purpose in the event of a supply constraint.

The physical effect registered as a result of these test call orders corresponded to 1,500 MWh out of the 1,600 MWh instructed; an amount of 100 MWh failed to be delivered.

GASPOOL is of the view that in order to ensure that a required physical effect will actually be delivered at least cross-border IPs should be removed from the list of eligible entry and exit points; providers should also be barred from using interruptible entry capacity or exit capacity based on backhaul services. We are going to amend our System Balancing Terms & Conditions accordingly.

5.3 Demand-Side Management (DSM; until 31 December 2017)

The DSM balancing product allows BGMs to submit bids to GASPOOL offering to reduce demand at one or several RLM exit points. After GASPOOL has accepted a DSM bid in the

course of the tendering process we have the right to instruct the provider to deliver on this promised demand reduction at any time throughout the agreed contract period.

Providers who have entered into DSM contracts with us have an obligation to ensure their availability on each and every gas day throughout the agreed contract period to supply gas to the MAM on a RoD basis on receiving a call order to this effect from the MAM, which they must deliver by procuring a reduction in the provider's or an end user's gas demand at one or more RLM exit points (with both RLMmT and RLMoT points being eligible) whilst ensuring that the corresponding gas deliveries are continued.

On receiving a DSM call order from the MAM, DSM providers must deliver the contracted demand reduction at a constant hourly rate starting from the first call hour (the hour from which the provider is instructed to deliver the demand reduction) up until the end of the relevant gas day, i.e. for a maximum of 24 hours and a minimum of 1 hour per gas day (this is referred to as the "call period"), whilst continuing to deliver a quantity of gas equal to the instructed demand reduction rate in each hour of the relevant call period. Call orders instructing a provider to supply gas at varying hourly rates over the course of a call period and/or for a period of time ending before the end of the relevant gas day are not permitted.

If a provider is instructed to deliver on a DSM bid, it must throughout the relevant call period reduce the physical offtakes at one or several RLM exit points (RLMoT and/or RLMmT) belonging to the provider's balancing (sub)group and located within the instructed network area by an amount that is at least equal to the lot size agreed in each case (this is what is referred to as the "demand reduction" or "demand reduction rate").

The demand reduction to be delivered in each case is measured in relation to the rate at which gas was offtaken at the relevant RLM exit point(s) (RLMoT and/or RLMmT) in the hour in which the MAM issued the call order (this is known as the "DSM reference rate").

Throughout a call period the rate at which gas is offtaken at the relevant RLM exit points (RLMoT and/or RLMmT) must not exceed the difference between the DSM reference rate and the demand reduction rate instructed in the corresponding call order. If during any call period another DSM call order is issued, the relevant DSM reference rate will remain unchanged, i.e. the DSM reference rate applicable in the following call period will be equal to the DSM reference rate applicable in the preceding call period. In each hour of a call period the provider instructed in each case must continue to make corresponding gas deliveries equal to the instructed demand reduction rate to its balancing (sub)group by nominating inputs for delivery at the VTP and/or physically delivering gas to the market area, e.g. IPs on market area or national borders, storage connection points or entry points from production facilities.

5.4 Locational balancing products

Locational balancing products are balancing products which require delivery of gas, and of the required physical effect, in a specified location. They include the MOL 2 products traded via

the locational order books for the GASPOOL market area launched on PEGAS on 17 November 2015 and the MOL 3 products traded via our balancing portal (REPo). Neither of these MOL 2 nor MOL 3 products are currently taken into account in the determination of daily imbalance charges.

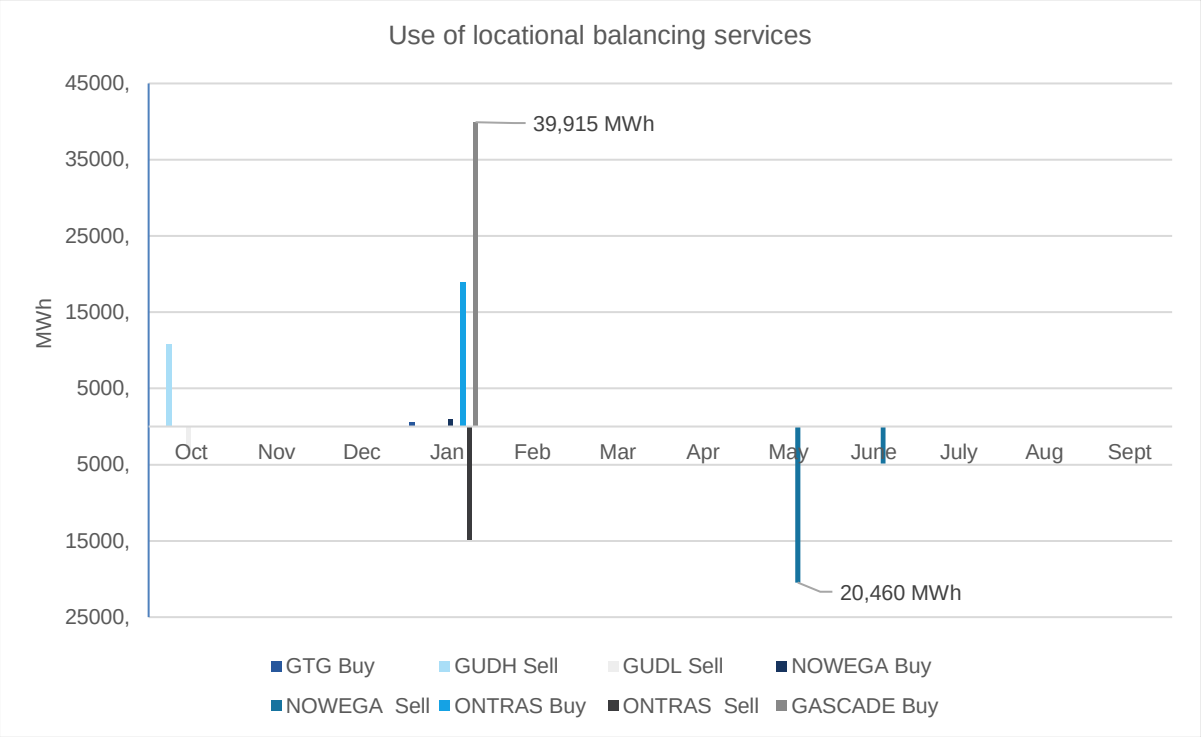

Figure 20: Locational balancing products traded in GY 2016/2017

In the period covered by this report, GASPOOL met all of its locational balancing requirements by trading gas on the exchange. The highest buy requirement was registered in January 2017, when we had to purchase 39,915 MWh for the GASCADE network area (previous year: 129,346 MWh for the GUDL network area in January). The corresponding total cost was EUR 0.982m. Our largest sale, 20,460 MWh, was registered in May 2017 and was executed for the Nowega network area (previous year: 27,164 MWh, also in the Nowega network area), generating revenues of EUR 0.203m. Overall, we purchased 71,323 MWh in locational trades at a total cost of EUR 1.981m and sold a total of 43,485 MWh in locational trades for an amount of EUR 0.473m.

5.5 Allocation of costs to the balancing neutrality accounts

All costs and revenues related to our balancing actions are allocated to the two separate balancing neutrality accounts set up for our market area – one for non-daily metered "SLP" exit points (where daily allocations are based on standard load profiles) and one for intraday-metered "RLM" exit points (where daily allocations are based on measured offtakes) – according to causation. To allocate these costs and revenues, we use daily allocation keys. The costs and revenues allocated for the period from October 2016 to July 2017 are shown in Figure 21[2].

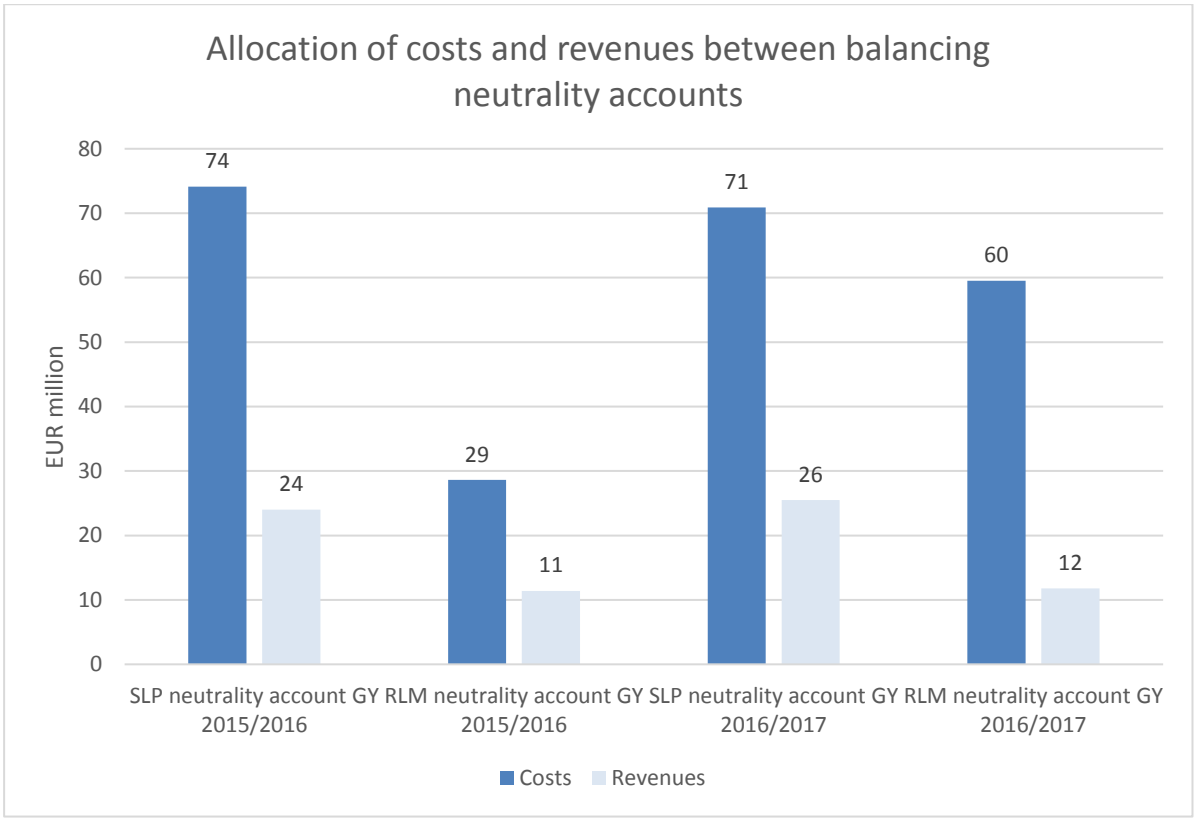

Figure 21: Neutrality account cost and revenue allocation for the last two GYs

The cost and revenue amounts allocated to the SLP account are roughly on the same level as in the previous year. The costs allocated to the RLM account in this GY, however, have increased on the previous GY. Among other reasons, this is due to the imbalances incurred by BGMs in their biogas balancing groups, which affected the daily allocation keys and resulted in a higher share of costs being attributed to the RLM account.

[2] We cannot calculate the applicable daily allocation keys until the data clearing deadlines have passed. Due to this background the relevant data was only available up to July 2017 at the time of writing this report.

In relation to gas days on which no external balancing actions were taken an annual allocation key is applied, which is calculated on an ex-post basis. This annual allocation key is calculated for each neutrality accounting period on an ex-post basis as the mean of all daily allocation keys determined for the individual days falling within the neutrality accounting period. This mean is not calculated on a volume-weighted basis[3].

The preliminary allocation keys for GY 2016/2017 are as follows:

- October 2016 – September 2017
  Preliminary allocation key SLP : RLM: 61.72% : 38.28%

[3] For an analysis of the pros and cons of volume-weighting in the context of the determination of daily allocation keys please refer to chapter 4 of the System Balancing Report for GY 2015/2016.

5.6 Supply security measures in accordance with the BMWi policy paper

In December 2015 the German Federal Ministry for Economic Affairs and Energy (BMWi) published a policy paper[4] according to which the level of supply security was to be increased. The MAMs were asked to procure additional reserves through their existing LTO product at short notice. Additional details were specified by the Federal Network Agency in its first notification on implementation of the GaBi Gas 2.0 ruling5.

In GY 2016/2017 GASPOOL again contracted LTOs for the purpose of further increasing supply security. For the period from December 2016 to March 2017 we signed additional monthly reserves of 1.3 GW to be provided in the low CV network areas operated by Gasunie, Nowega and GTG.

The delivery rates offered in each network area in each month are shown in Figure 22.

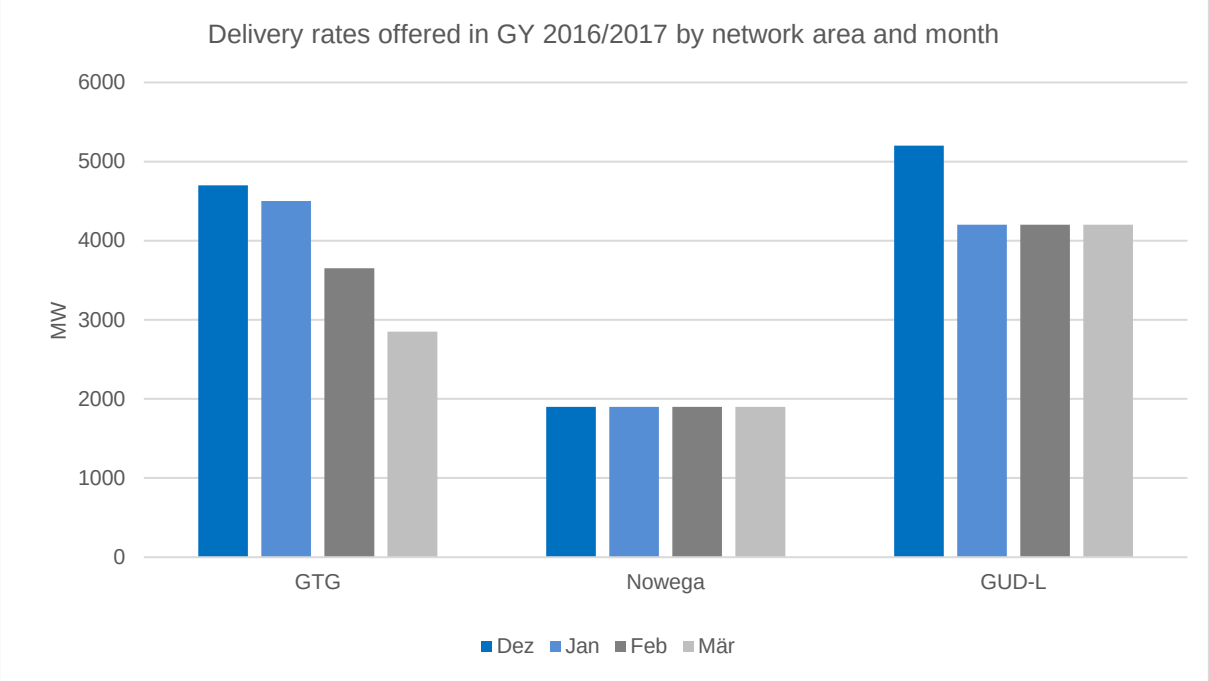

Figure 22: LTO delivery rates offered in GY 2016/2017 by network area and month [MW]

[4] https://www.bmwi.de/BMWi/Redaktion/PDF/E/eckpunkte-gasversorgungssicherheit,property=pdf,bereich=bmwi2012,sprache=de,rwb=true.pdf (German)

[5] http://www.bundesnetzagentur.de/DE/Service-Funktionen/Beschlusskammern/1BK-Geschaeftszeichen-Datenbank/BK7-GZ/2014/2014_0001bis0999/2014_001bis099/BK7-14-0020_BKV/BK7-14-020_MitteilungNr1_download.pdf?__blob=publicationFile&v=2 (German)

The delivery rates offered for all three network areas combined exceeded the rates requested by a factor of up to nine.

The tender results are provided in Table IV. No DSM bids were submitted, so only LTO contracts were awarded. The capacity costs we incurred under these contracts were approximately the same in each month.

Table IV: LTO and DSM tender results for the contract period 01/12/2016–01/04/2017

Contract period	Delivery rate requested (GW)	Delivery rate offered (GW)	Delivery rate contracted (GW)	Number of bidders	Number of bids	Number of bidders who were awarded a contract	Costs for capacity charges (EUR)
01/12/2016-01/01/2017	1.3	11.80	1.3	7	55	2	305,479
01/01/2017-01/02/2017	1.3	10.60	1.3	7	48	2	303,384
01/02/2017-01/03/2017	1.3	9.75	1.3	7	44	2	302,572
01/03/2017-01/04/2017	1.3	8.95	1.3	6	40	2	305,479

We were able to procure the necessary reserves from the bids submitted and paid capacity charges totalling some EUR 1.22m over the duration of the contract period under the corresponding contracts.

6 Review of approved interim measures according to Article 46 of the BAL Code

As part of the administrative proceedings underlying the Gabi Gas 2.0 ruling the MAMs had filed an application seeking permission for continued use of their existing balancing platforms. In its Gabi Gas 2.0 decision the Federal Network Agency approved this interim measure until 16 April 2019. In accordance with the provisions of the BAL Code, however, the MAMs may only use their balancing platforms to procure balancing products which are not traded on the exchange. The aim of this provision was to further promote use of the exchange as a balancing tool. Still, once locational products were available on the exchange, procurement via the balancing platform was only to be ceased after an appropriate implementation phase.

In the past, GASPOOL had been of the view that the balancing platform was a necessary balancing tool. One of the reasons for this was that we thought we should continue to observe the development of the level of liquidity but especially also the availability of zone-specific products. In addition, the existing platform represented a fall-back solution in cases where the exchange's IT systems were unavailable for technical reasons.

The development in the meantime has been such that we now believe that we have satisfactory locational trading opportunities available. Also, the circumstances have changed (see chapter 0) so that GASPOOL will no longer use its balancing platform for the procurement of short-term standardised balancing products effective 1 January 2018. From January 2018 the newly launched STB product can serve as fall-back solution. As a consequence, no balancing products will be available within MOL 3 going forward. In the past GY, however, no MOL 3 balancing actions were taken anyway. An extension of the interim measure beyond 16 April 2019 will therefore not be necessary.

The application on which the platform is built will continue to be used for the tendering and contracting of MOL 4 balancing products as well as the issuance of related call orders, yet these are no short-term standardised products but balancing services within the scope of Article 8 of the BAL Code. The platform therefore no longer qualifies as a balancing platform as defined in the BAL Code.

We would like to conclude this chapter by making a few observations regarding Article 47(2) of the BAL Code and the possibility to merge the existing tendering platforms used by the two German MAMs. The MAMs have repeatedly reviewed this option over the past years and have come to the conclusion that it is technically possible but not advisable from an economic perspective[6]. Even though the platforms will no longer be used to trade MOL 3 products from January 2018, the outcome of the economic analysis has not changed. Balancing services are a non-standardised product by definition, which means that service parameters may vary between the market areas to appropriately reflect the network situation and topology. As a result, we will not be able to merge either of the platforms into the other without implementing

[6] See chapter 6 of the System Balancing Report for GY 2015/2016

fundamental technical changes. Considering the few occasions on which the MOL 4 products are used and taking into account the small number of providers participating in the corresponding tenders, we do not think that there is a compelling economic case for merging the two platforms from this perspective, either, as only a very limited number of market participants is actually affected by the platform's design.

7 Summary

Throughout the period covered by this report we were consistently able to manage the system imbalances arising in the GASPOOL market area and thus to meet one of our key responsibilities in our capacity as MAM. We carried out our balancing activities not only effectively but also efficiently whilst meeting the regulatory requirements set out in the GaBi Gas 2.0 ruling. We purchased a net quantity of 1,893 GWh for the high CV networks in our market area (previous year: 1,246 GWh, up 51.2%), resulting from total purchases of 3,988 GWh (previous year: 3,682 GWh, up 8.3%) and total sales of 2,095 GWh (previous year: 2,436 GWh, down 14%). For the low CV networks we purchased a net quantity of 2,400 GWh (previous year: 2,046 GWh, up 17.3%), resulting from total purchases of 3,060 GWh (previous year: 2,813 GWh, up 8.8%) and total sales of 660 GWh (previous year: 739 GWh, down 10.7%).

In adjacent market areas we purchased 1.988 TWh at the TTF at a cost of EUR 36.12m (previous year: 1.365 TWh / EUR 20.084m, up 45.6% and 79.8%, respectively). This compares to sales of 0.167 TWh generating total revenues of EUR 2.659m (no sales were effected in the previous year). Compared with the previous year, the proportion of our total balancing quantities that was traded on the exchange remained very high, making up a share of 98.5% and thereby delivering on the aims underlying the regulatory framework. An increasing number of our balancing actions was taken on a within-day basis, while around a third of our balancing activities was effected on a day-ahead basis.

The methodology applied to calculate transportation markups and markdowns was changed in both market areas with effect from 1 October 2017. Transportation markups and markdowns are now no longer calculated based on constant historical utilisation rates but based on the actual number of hours in which we use the booked transportation capacity in each of our balancing actions. This means that 24 different transportation markups and markdowns are possible per day and direction.

From today's perspective we do not see any possibility to reduce our current contract volumes for the Flexibility product in the GASPOOL market area. Owing to the underlying contractual arrangements, especially due to their short-notice availability within 90 minutes of receipt of a service instruction, our contracted Flexibility products deliver a significant contribution to upholding supply security. As there are presently no alternative products available on the exchange, we will not be able to reduce our Flexibility needs for the time being.

Our measures to implement the BMWi policy paper included the contracting of additional monthly LTO reserves of 1.3 GW in the low CV network areas of Gasunie, Nowega and GTG for the period from December 2016 to March 2017. The costs for capacity charges we incurred under these contracts amounted to a total of EUR 2.04m. We did not have to issue any call orders on these LTO contracts. Our DSM product was re-designed to reflect the post-launch experiences made in the winter of 2015/2016. As part of this process the existing LTO product and the new DSM product have been merged into a single product. The products' parameters, e.g. contract periods, number/frequency of permitted call orders, pricing etc., have been

harmonised in order to give BGMs greater flexibility in deciding how to provide the contracted services. We have also reduced the number of permitted call orders and harmonised the rules for capacity charges in order to make the product more attractive. It will be launched in January 2018.

A comparison between the costs and revenues allocated to the SLP and RLM balancing neutrality accounts has shown that more costs were charged to the SLP account (EUR 70.9m; previous year: EUR 74.1m, down 2.7%) than the RLM account (EUR 59.5m; previous year: EUR 28.6m, up 108.0%). SLP-related revenues totalled EUR 25.5m (previous year: EUR 24.0m, up 2.1%), while total RLM-related revenues stood at EUR 11.8m (previous year: EUR 11.4m, down 21.9%). No distributions will be made from the balancing neutrality accounts for GY 2016/2017 as the conditions for such distributions are not satisfied.

The balancing platform currently operated as an interim measure will no longer be needed from 1 January 2018. Our locational balancing requirements can now be met by trading gas in the zone-specific order books available on PEGAS. In addition, we can also use our new MOL 4 balancing product “Short-Term Balancing Services” (STB) if needed. The technical application will remain in operation, though, and continue to be used as a tendering platform for the non-standardised balancing products available within MOL 4.

GASPOOL’s REPo tendering platform is a well-functioning procurement tool for non-standardised balancing products and an established solution implemented by GASPOOL and its balancing providers. The REPo platform provides the high levels of availability needed to be able to address system imbalances even in special balancing circumstances. Such circumstances may arise where the products traded on the exchange cannot be appropriately used to provide the required locational response or where due to a failure of external systems or in the event of maintenance works on the exchange systems only the platform remains available. Any platform that is to handle products across all merit order ranks should meet the high availability requirements necessary to manage the balancing process. At present we believe that only the REPo portal meets these strict requirements in the GASPOOL market area. Furthermore, we do not think that the potential efficiency gains that might be achieved if the established long-term (LTO) and short-term (LTO and STB) GASPOOL tendering processes were to be transferred to the exchange would be sufficient enough to justify the switch. Neither do we believe it likely that using the exchange as tendering platform could effect a significant increase in the number of market participants responding to our tender invitations for these balancing services.

Annex I - Overview of external balancing quantities and costs

Table V: Balancing costs and revenues by MOL [EUR], excluding capacity charges

	2015/2016		2016/2017	
	Costs (System Buy, Entry)	Revenues (System Sell, Exit)	Costs (System Buy, Entry)	Revenues (System Sell, Exit)
MOL 1	60,370,212.41	30,277,042.18	3,882,153.00	0.00
MOL 2	43,975,099.47	9,013,784.56	131,361,488.26	41,779,155.18
MOL 3	30,645.60	166,648.40	0.00	0.00
MOL 4	1,248,869.64	0.00	52,784.19	0.00
Total	**105,624,827.12**	**39,457,475.14**	**135,296,425.45**	**41,779,155.18**

Table VI: Balancing costs and revenues by MOL and timing [EUR], excluding capacity charges

		2015/2016		2016/2017	
		Costs (System Buy, Entry)	Revenues (System Sell, Exit)	Costs (System Buy, Entry)	Revenues (System Sell, Exit)
MOL 1	Day-ahead	23,106,425.20	7,506,962.20	325,962.00	0.00
	Rest-of-the-day	37,263,787.21	22,770,079.98	3,556,191.00	0.00
MOL 2	Day-ahead	27,204,363.40	3,482,861.80	58,650,171.00	9,892,004.40
	Rest-of-the-day	16,770,736.07	5,530,922.76	72,711,317.26	31,887,150.78
MOL 3	Day-ahead	0.00	0.00	0.00	0.00
	Rest-of-the-day	30,645.60	166,648.40	0.00	0.00
MOL 4	Day-ahead	0.00	0.00	0.00	0.00
	Rest-of-the-day	0.00	0.00	22,652.00	0.00
	Flexibility (comm.)	1,248,869.64	0.00	30,132.19	0.00

Table VII: Capacity charges paid under MOL 4 contracts [EUR]

	2015/2016		2016/2017	
	System Buy	System Sell	System Buy	System Sell
Flexibility capacity charges	9,761,056.00	0.00	17,544,689.00	0.00
LTO capacity charges - BMWi policy paper	2,297,085.00	0.00	1,216,914.00	0.00
LTO capacity charges - supplemental tender February 2017	-	-	826,917.00	0.00

Table VIII: Number of days on which MOL 4 contracts were used

2015/2016		2016/2017	
Flexibility, parking	Flexibility, lending	Flexibility, parking	Flexibility, lending
41	55	17	62

Table IX: Quantities supplied/received by MOL [MWh]

	2015/2016		2016/2017	
	System Buy, Entry	System Sell, Exit	System Buy, Entry	System Sell, Exit
MOL 1	3,681,815	2,388,898	240,524	0
MOL 2	2,813,252	786,282	6,805,761	2,760,997
MOL 3	1,440	10,300	0	0
MOL 4	260,268	0	226,692	0
Total [MWh]	**6,699,986**	**3,242,269**	**7,241,375**	**2,792,599**

Table X: Quantities supplied/received by MOL and timing [MWh]

		2015/2016		2016/2017	
		System Buy, Entry	System Sell, Exit	System Buy, Entry	System Sell, Exit
MOL 1	Day-ahead	1,406,712	565,827	19,872	0
	Rest-of-the-day	2,275,103	1,823,071	220,652	0
MOL 2	Day-ahead	1,785,984	299,592	3,034,056	663,346
	Rest-of-the-day	1,027,268	486,690	3,771,705	2,097,651
MOL 3	Day-ahead	0	0	0	0
	Rest-of-the-day	1,440	10,300	0	0
MOL 4	Day-ahead	0	0	0	0
	Rest-of-the-day	0	0	1,600	0
	Flexibility	260,268	0	226,692	0