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Basis for the calculation of balancing neutrality charges and the liquidity buffer

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Calculation steps to determine balancing neutrality charges and the liquidity buffer

According to operative part 10(d) of the ruling on gas balancing (implementation of the Network Code on Gas Balancing "GaBi Gas 2.0" – ruling BK7-14-020), the balancing neutrality charges as well as the decision regarding any disbursement have to be published before the beginning of the respective period of validity. Trading Hub Europe GmbH (THE) already complied with this obligation on 19 August 2021. This document describes the calculation basis and system used to forecast balancing neutrality charges and the payouts to be made.

The steps involved in forecasting the balancing neutrality charges and the liquidity buffer have been specified by the Federal Network Agency (BNetzA) with the aim of allocating costs and revenues in a fair and appropriate way. Accordingly, the following factors must be taken into account when forecasting the balancing neutrality charges and the liquidity buffer:

- Forecast of the expected balancing gas quantities
- Forecast of the expected daily imbalance quantities
- Forecast of the expected reconciliation quantities
- Forecast of the development of prices for balancing actions
- Prices for balancing gas and reconciliation quantities according to GaBi Gas 2.0
- Current market developments
- Risks in connection with the GaBi Gas regime
- Determination of the liquidity buffer

For the balancing neutrality charge period from 1 October 2021 to 30 September 2022, THE will levy an SLP balancing neutrality charge of €0.00/MWh and an RLM balancing neutrality charge of €0.00/MWh.

Based on these premises and taking into account the steps specified by BNetzA, the forecast of the expected balancing neutrality charges and liquidity buffers looks as follows:

Determination of the initial balance as at 1 October 2021 according to GaBi Gas 2.0

The costs and revenues to be expected by 30 September 2021 are forecast on the basis of the most recently published balances of the balancing neutrality charge accounts at the time of calculation. The resulting balance of the relevant balancing neutrality charge account is the starting point for calculating the next balancing period from 1 October 2021 to 30 September 2022. The costs and revenues incurred during the balancing period are offset against the initial balance, and the necessary liquidity buffer is then subtracted. If this results in a deficit, a balancing neutrality charge is levied to cover the deficit while any surpluses are paid out to the market:

	RLM balancing neutrality charge account	SLP balancing neutrality charge account
Balance of the balancing neutrality charge account as at 28 February 2021[1]	215.4	703.3
Forecast balance of the balancing neutrality charge account as at 30 September 2021	284.4	757.6
Balance of forecast revenues and costs of the balancing neutrality charge period[2]	-114.0	-128.9
Required liquidity buffer[2]	170.4	628.7

in € million

System for calculating the development of the balancing neutrality charge accounts pursuant to operative part 7(d) of GaBi Gas 2.0

A new forecast model has been developed for THE's new Germany-wide market area. Due to the new calculation logic and the uncertainties surrounding the development of volumes and prices in the new market area, there has been a shift in the calculation between the balance of costs and revenues and the liquidity buffer. As a result, the risks associated with the liquidity buffer are now reflected in the cost and revenue forecast.

The first step in forecasting the individual costs and revenues for the balancing neutrality charge period from 1 October 2021 to 30 September 2022 is to determine the quantities for the individual product groups. Various scenarios are forecast using mathematical models along with probabilities of occurrence and current market developments while also taking into account historical developments. Pricing is based on the price developments as published by the relevant trading hubs as well as the price forecasts published by market research companies. For the forecast of the cost and revenue positions, the quantities and prices for the relevant balancing neutrality charge period are multiplied. Budgeting of the SLP balancing neutrality charge account therefore leads to revenues of around €467.4 million and costs of around €596.3 million. For the RLM balancing neutrality charge account, the resulting revenues amount to around €333.2 million and the costs amount to around €447.2 million.

Determination of the liquidity buffer pursuant to operative part 7(d) (aa) of GaBi Gas 2.0

For the period from 1 October 2021 to 30 September 2022, there is a total liquidity buffer requirement for both SLP and RLM of €799.1 million in the Trading Hub Europe market area. Divided into the individual balancing neutrality charge accounts, this means a liquidity buffer requirement for the RLM balancing neutrality charge account of €170.4 million and a liquidity buffer requirement for the SLP balancing

[1] Based on the balancing neutrality accounts of the old market areas.
[2] Forecast for the balancing neutrality charge period form 01.10.2021 to 30 September 2022.

neutrality charge account of €628.7 million. The liquidity buffers are determined on the basis of risk quantiles resulting from the mathematical functions relating to the historical data volumes. They are determined in particular by the risks associated with uncertainties in the development of quantities and prices in connection with the procurement and sale of balancing gas as well as invoice/credit items relevant to the balancing neutrality charge account (essentially reconciliation quantity invoices and balancing group invoices).

Risks associated with the procurement of balancing gas: As regards the uncertainties surrounding the balancing gas quantity forecast, it should be noted that the gross quantities procured over the years for the two old market areas combined in SystemBuy vary by a factor of four (GY 2013/2014 to GY 2017/2018) and in SystemSell by a factor of four (GY 2011/2012 to GY 2020/2021) – and the resulting net quantities per gas year also vary strongly (+/- 21 TWh) in both amplitude and direction (purchase/sale). The price forecast risks considered for the liquidity buffer correspond to the uncertainties between the spot price forecasts valid at the time of planning and future prices in global, quality-specific and local system balancing transactions. The different price premiums or discounts in the respective order books can result in strong deviations between forecast and actual prices. In addition, the liquidity buffer must take account of any abrupt and significant price changes (as, for example, during the cold spell in February/March 2018, or all-time low prices in May 2020 or current price developments due to the foreseeable low storage levels), the impact of which cannot be meaningfully reflected by a market price corridor based on daily prices as a basis for forecasting. The volume and price risk for short-term balancing gas include the volume and price risks for LTO products.

The price and volume risks also include uncertainties surrounding the reduction of production volumes in the Groningen gas field and the associated supply of L-gas from the Netherlands: By 2022, the production of L-gas from the Groningen field will be terminated. The reduction in production volumes comes with a price risk, as the prices for the procurement of L-gas are far higher than the prices for H-gas, especially in winter. This effect could be significantly exacerbated by the reduction in production volumes.

Risks in connection with the increase of the clearing houses' margin requirements: The margin requirements of the clearing houses increase as a function of the amount of daily system balancing. Especially for short-term, very high balancing costs, the required margins increase sharply for a period of several weeks. The cash required for this purpose must be kept available by the MAM and deposited with the relevant clearing house at short notice, which means it is no longer available to the MAM for system balancing transactions.

Risks in connection with the market area merger: Due to the upcoming market area merger, there are additional uncertainties regarding future volume and price developments and a potential realignment of the market participants, which could have an impact on established processes (e.g. data exchange, procurement portfolio or billing processes). The resulting risks have been taken into account in the liquidity buffer.

Other risk positions: Apart from the risks mentioned above, the MAM has other risk positions which must be taken into account when calculating the liquidity buffer. These other risks particularly include model risks relating to balancing gas and reconciliation quantities. In addition, THE is exposed to risks in the event of bad debts (insolvencies, conduct incompatible with the system, etc.). With the approval of BNetzA, both the review process for admitting new market participants and the monitoring of existing customers have been significantly intensified. Nevertheless, the risk of bad debt losses still exists, also with regard to the conversion system, which the MAM must take into account accordingly when calculating the liquidity buffer. In addition, costs in connection with legal disputes relating to GaBi, costs relating to special clearing cases, imbalances from biogas balancing groups, etc. are summarised as ‘other risk positions’ in the liquidity buffer.

There is also the risk associated with pre-financing requirements due to, inter alia, outstanding quantity reconciliation processes. Mismatches in the network accounts are balanced using balancing gas. The resulting costs are incurred directly by the MAM because of the D+1 invoicing of exchange-traded balancing gas products. Network operators whose networks are responsible for the mismatch are largely invoiced on the basis of the cut-off date balances. Depending on the reason for the mismatch in each network account, these mismatches are balanced out over the course of the year or are only settled as part of the quantity reconciliation process when the cut-off date reading is taken at the end of the respective billing period. This means that the MAM sometimes has to pre-finance balancing actions for up to 15 months until they are billed. This can lead to a considerable financial burden for the MAM, which must be taken into account in the liquidity buffer.

Determination of the balancing neutrality charges according to operative part 7(d) (bb) of GaBi Gas 2.0

For the levying of a balancing neutrality charge, the calculated deficits and the liquidity buffer requirement of the respective balancing neutrality charge account are allocated to the predicted quantities subject to balancing neutrality charges of the corresponding balancing neutrality charge account for the duration of the balancing neutrality charge period, which gives the balancing neutrality charge in €/MWh. The purpose of the balancing neutrality charge is to cover the costs that cannot be offset by credit balances or revenue items of the respective balancing neutrality charge account or any liquidity buffer taken into account. For the period from 1 October 2021 to 30 September 2022, there is no need to levy a balancing neutrality charge. The quantities subject to balancing neutrality charges (RLM or SLP exit quantities) of the corresponding balancing neutrality charge account can be found in the following table:

	RLM	SLP
Quantities subject to balancing neutrality charges	582,348,343	426,668,446

in MWh

Pay-out from the respective balancing neutrality charge accounts

Any surpluses that remain after the deficits and the necessary liquidity buffers for the relevant balancing neutrality charge accounts have been taken into consideration are calculated after the final costs and revenues and the final annual pay-out key for the surplus period have been determined. According to the aforementioned explanations, the gas year 2020/2021 was not a surplus period. Consequently, there will be no pay-outs from the respective balancing neutrality charge accounts in the subsequent levy period 2021/2022.

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