

Redesigning the Austrian gas balancing framework

Conclusions of the stakeholder process, September 2018 – February 2019

The present document provides an overview of the conclusions of the stakeholder process that was conducted around redesigning the Austrian gas balancing framework. On each of the main issues, we recap the E-Control conclusions published after the individual workshops¹ so that readers may gain an overall appreciation of the results of the entire process. At the same time, we will use this document to revise the concept that we had originally consulted (the consultation draft).² In formal and legally binding terms, the redesigned framework will require recasting the Austrian gas market model ordinance.

Please note that the process focussed on the eastern market area, as does the present conclusions document.

1 Summary

Austria's redesigned balancing framework will feature:

- integrated daily balancing for transmission and distribution, with the same rules for all entry/exit points and a single balancing system:
 - balancing energy pricing in line with the gas BAL NC;
 - a small adjustment as foreseen in the gas BAL NC in the lower single digits;
- within-day obligations that complement the daily balancing regime:
 - tolerances for BRPs' within-day balancing whose amount is derived from the quantities allocated to consumers and which are fed from the available linepack;
 - a conservative single-digit percentage for the tolerance level;
 - a WDO fee payable by BRPs only for days where their daily imbalance quantity coincides with an opposing market area balancing energy procurement;
 - calculation of the daily imbalance quantity based on the net imbalances during a gas day beyond the BRP's tolerance;
 - cost-reflective pricing of the WDO fee, i.e. the rates for the charge being set so that it covers the actual costs the single clearing entity has incurred for within-day balancing;
- provision of comprehensive information about the position of the individual balance group and of the market area;
- large consumer schedules, provided for system operation reasons, while without relevance for the balancing framework; no other consumer schedules;
- curtailment of balance groups, adjusted to reflect that there are no consumer schedules anymore;
- a new framework for technical network balancing with improved transparency, cost-reflective settlement and perspectives for further enhancements:
 - transitioning calorific values applicable for interconnection points between networks from default to actual calorific values, which can be metered, calculated or projected; preparations for transitioning consumed

¹ The documents are available at <https://www.e-control.at/en/marktteilnehmer/gas/weiterentwicklung-bilanzierungsmodell>.

² https://www.e-control.at/documents/20903/443907/20180302+Konsultationsunterlage+Bilanzierungsmodell+180301+ECA_EN.pdf/41a9823c-66e4-167c-3aaa-f42367185d85

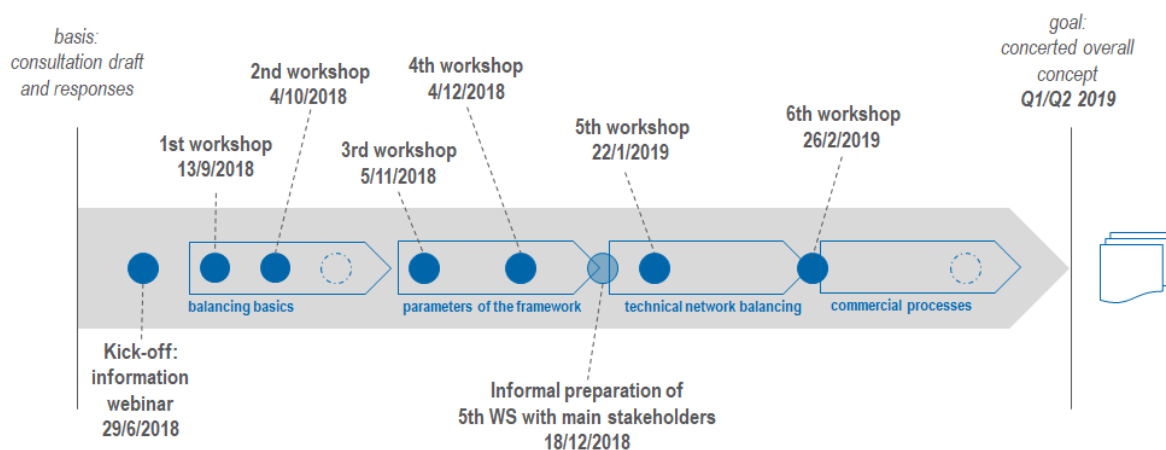
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volumes from default to actual calorific values, so that the results of an ongoing OVGW process can be accommodated;

- adjusting the allocation components to fit with the overall goal;
- elimination of billing DSOs for linepack movements; calorific value differences (unless actual calorific values are used for consumed volumes) and other differences are billed to DSOs directly and are then passed on to consumers, i.e. elimination of the current residual load approach;
- no technical network balancing by the single clearing entity for transmission level;
- more efficient commercial processes:
 - application of most features of the current neutrality charge system in the distribution area under the integrated balancing framework;
 - calculation of the neutrality charge and the clearing fee from total entry and exit allocations;
 - an enhanced risk management that adequately addresses risks;
 - commercial transactions being handled by the single clearing entity;
 - a monthly clearing rhythm that maintains the current second clearing mechanism.

2 Timeline

Figure 1: Timeline



3 Background

Both ACER and market players have for some time criticised the Austrian balancing framework (cf. the presentation discussed at the first workshop³). Also, section 41(4) Natural Gas Act 2011 requires that balancing rules at transmission and distribution level be harmonised. To address this need, we are currently undertaking a comprehensive revision of the balancing framework in Austria. We are working with stakeholders and in line with our legal mandate.

When designing a balancing framework, regulator, operators and market players come to the table with a wide array of expectations. Overall, we aim to ensure that our framework complies with all national and European legal provisions, addresses the points for improvement identified and unlocks efficiency potentials (simpler processes, better distribution of roles and tasks), etc. With this in mind, adjusting the balancing framework at transmission level only is no longer an option; in our view, only by overhauling it and creating an integrated balancing framework will we be able to accommodate all points. The consultation draft and the stakeholder process have been directed at such a comprehensive framework redesign.

³ https://www.e-control.at/documents/20903/388512/WS01+Grundsaeetze_der_Bilanzierung_180913.pdf/ae1a350d-e30c-10d5-6e7d-757f8462703a (German only)

4 Integrated daily balancing

By “integrated daily balancing”, we mean a single balancing zone in which the same rules apply for all entry/exit points and a single operational balancing system.

For balance responsible parties, it will no longer make a difference whether they are balancing at transmission or distribution level; this means simpler processes, reduced risks and more transparency. For further details about this integrated daily balancing system and with what it means for the roles of market players and operators, and for what it implies for related topics such as within-day obligations, please consult the documents relating to the first stakeholder workshop.^{4,5}

The principle of daily balancing is a central tenet of the gas BAL NC. It stipulates that a balance responsible party’s daily imbalance quantity corresponds to the difference between all its inputs and all its off-takes during a gas day. This applies to the entire balancing zone, i.e. across transmission and distribution.

Our current hourly balancing regime is not compatible with this rule. However, the gas BAL NC lays the basis for within-day obligations to complement the daily balancing regime, and we envisage a revised balancing framework that features this possibility (s. chapter 5).

4.1 The daily imbalance quantity

The following values and readings (= allocation components) will be relevant to calculate each balance group’s daily imbalance quantity:

Figure 2: Values and readings that will be used to calculate daily imbalance quantities

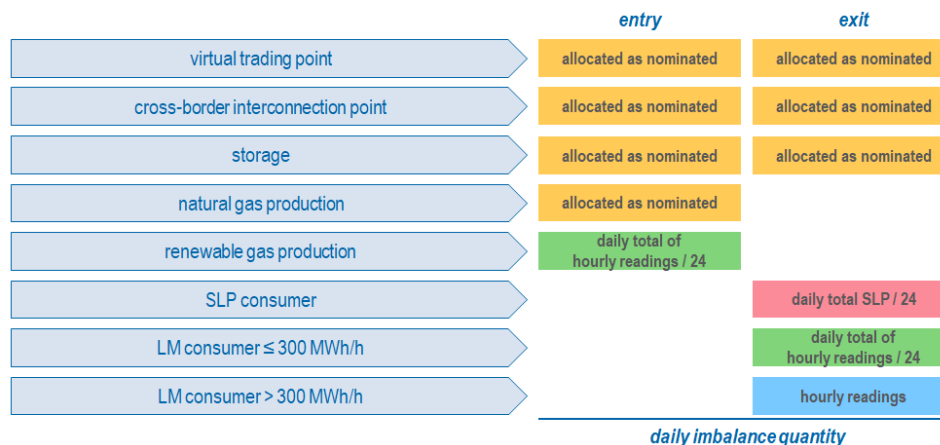


Figure 2 displays the values and readings that will form the basis for calculating the daily imbalance quantity for each balance group, though the individual components might still be adjusted. For further details, please consult sub-chapter 8.2.

4.1.1 Opting for the hourly consumption profile

Figure 2 already differentiates between consumers with connected capacities up to 300 MWh/h and those with larger connected capacities. In addition, it might make sense for balance responsible parties to be able to choose that the hourly consumption profile should be used for consumers in the latter group. The default for these consumers will no longer be a constant exit; instead, actual metered hourly exits will be used. We will introduce this option, while keeping the related process as clean and straightforward as possible. This should ensure that the overall system will remain efficient and simple.

4.1.2 Data quality

Data quality questions are discussed and answered in a dedicated document.⁶

⁴ https://www.e-control.at/documents/20903/388512/WS01+Grundsätze_der_Bilanzierung_180913.pdf/ae1a350d-e30c-10d5-6e7d-757f8462703a (German only)

⁵ https://www.e-control.at/documents/20903/388512/Stakeholderprozess+BAL_Sichtweise+E-Control+nach+WS01+2018-09-13.pdf/8acad194-36c7-9147-bf1d-af9664c2e6a5 (German only)

⁶ https://www.e-control.at/documents/20903/388512/Stakeholderprozess+BAL_Q%26A_181003.pdf/88035e0b-1100-af1c-9b27-cdef75d6e056 (as of 3 October 2018, German only)

4.2 The single clearing entity

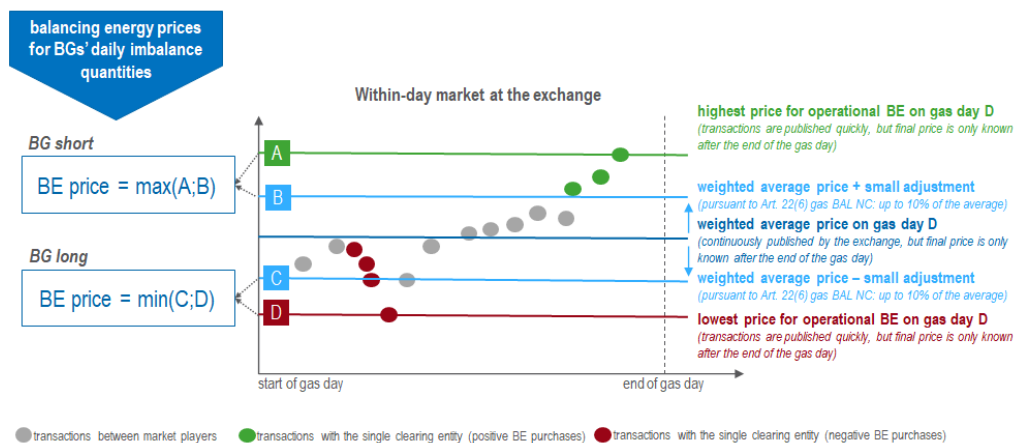
One of the centrepieces of the revised balancing framework will be a single clearing entity that will handle all clearing and settlement tasks which are currently carried out by either the clearing and settlement agent or the market area manager.

In accordance with section 170a Natural Gas Act 2011, in conjunction with section 85 Natural Gas Act 2011, such a single clearing entity must be nominated between 30 September 2021 and 30 September 2023. The nomination will be preceded by an invitation to tender, based on the revised balancing framework as described in the documents developed together with the market players. As is provided by law, economical delivery of the services requested, independence and neutrality towards market players and a secure and modern clearing and settlement software will be decisive criteria.

4.3 Pricing

Articles 19 through 23 gas BAL NC explain the pricing mechanism for daily imbalance charges (cf. also Figure 3).

Figure 3: Prices for daily imbalances



The only element that needs to be determined at national level is the small adjustment. We expect that the percentage for the small adjustment will remain in the lower single digits. Even so, we reserve the right to increase or decrease the small adjustment if practical experience suggests that this is appropriate.

4.4 No helper/causer system

In the consultation draft, we had envisaged a helper/causer system. After thorough discussions at the second and third workshops (cf. the conclusions of the third workshop⁷), however, we have decided not to implement such a system for the time being. Setting a low small adjustment (cf. sub-chapter 4.3) will allow us to realise at least some of the potentials that led us to propose a helper/causer system at the outset, while also accounting for the limits of such a system and addressing the concerns voiced.

5 Within-day obligations

5.1 The need for within-day obligations

The consultation draft built on the current situation and already included within-day obligations (WDOs), but this was without prejudice to the conditions and criteria for WDOs prescribed in the gas BAL NC. Since then, the TSOs and AGGM conducted a qualitative analysis to investigate whether there was a general need for within-day obligations in the eastern market area. They find that there is a definitive need for WDOs to ensure system integrity and to minimise the use of balancing energy. In addition, it describes how the criteria for WDOs under Article 26 gas BAL NC are met.

In formal terms, the revised balancing framework will first be further elaborated on and then be transformed into a recast gas market model ordinance before it comes into effect. This will need to respect the substance and the procedures foreseen in the gas BAL NC for all elements, including for within-day obligations. Even though these steps have yet to take place, we are convinced that the revised balancing framework will feature WDOs.

⁷ https://www.e-control.at/documents/20903/388512/Stakeholderprozess+BAL_Sichtweise+E-Control+nach+WS03+2018-11-05.pdf/6bcffc15-c06e-da54-5f92-4aff928aa0b6 (German only)

5.2 Distribution of tolerances from linepack

Following the responses to the consultation⁸ and the arguments presented in the stakeholder process, available linepack (including any available linepack at transmission level) will be equally distributed to all entry/exit forecasts, i.e. all types of consumers will enjoy the same tolerance as far as their within-day obligations are concerned.⁹ For entries and exits that do not need to be forecast, we will maintain today's system: we expect BRPs to ensure that they are overall balanced, because in contrast to servicing consumers, there is no systemic imbalance risk for these entries and exits.

5.3 Pricing

Within-day obligations will incentivise players to maintain a balanced portfolio. WDO pricing must thus be based on a BG's total entries and exits.

Generally, quantities and prices will be determined ex-post (in the end, they will be part of the daily imbalance charge). However, information about a balance group's current position and the market area's overall position will be released to BRPs in the course of a gas day.

This will be crucial for BRPs, because we foresee that the WDO fee will be payable only for days during which their imbalance coincides with an opposing net market area imbalance. (The idea behind this rule is that any operational balancing energy for the other direction is necessary to respond to swings during the day.)

The fee will be payable only for quantities beyond the BG's tolerance. In addition, we keep the principle of summing up all of a BG's hourly imbalances across a gas day before applying the WDO fee. Experience with the GABI Gas 2.0 system in Germany have shown this to be the better approach. Also, it enables BRPs to offset their imbalances during the gas day against each other (within their tolerance) without immediate financial impacts.

A BRP's WDO fee for a gas day will be calculated as the difference between:

- > the weighted average costs of positive balancing energy procured during the gas day; and
- > the weighted average costs of negative balancing energy procured during the gas day.

Also, the total fee paid by all BRPs for a gas day is capped with the total costs incurred by the single clearing entity in procuring opposing balancing energy for that gas day.

The above mechanism for calculating the WDO fee is simpler than in the consultation draft. In this format, it is easier for BRPs to estimate how high their fee will be and some of the costs for any opposing operational balancing energy in the other direction will be evened out through the neutrality charge for balancing.

One of the documents used during the stakeholder process included an example to illustrate how the mechanism will work; please consult this document for further details.¹⁰ There will be no within-day obligations at the level of technical network balancing (i.e. technical or systemic market-area-level imbalances).

5.4 Calculating the parameters

AGGM and the TSOs conducted a joint scenario-based analysis based on historical consumption, historical linepack availability (without prejudice to future developments) and different network user behaviours under the revised balancing framework.¹¹

5.4.1 Quantities

Several variables were tested for their impact on the number of days during which we expect procurement of opposing operational balancing energy and on the quantities that will need to be procured. (Within-day obligations are only relevant for days with opposing operational balancing energy procurements, cf. sub-chapter 5.3).

The following variables were considered:

- Tolerance level (The tolerance level will be a percentage of the consumed quantities allocated to a BRP during a gas day. The percentage itself will be determined by E-Control after the stakeholder process has been concluded and all analyses have been conducted.)
- Hourly consumption profile threshold (The system will differentiate between two consumer groups. Up to a certain connected load, constant quantities will be allocated throughout each day; above that threshold, the default will be to allocate according to hourly meter readings.)

⁸ https://www.e-control.at/documents/20903/0/2018-06-04+Stellungnahmen_Bilanzierungsmodell/7908b10c-4ce4-bcc3-e6ba-f0b9b5d8b6fd (German only)

⁹ The consultation draft already provided for within-day obligations. The need for WDOs was confirmed by the TSOs and AGGM during a workshop (cf. the chapter on within-day obligations).

¹⁰ https://www.e-control.at/documents/20903/388512/2018-12-04+WS04+Parameter_der_Bilanzierung_181204.pdf/416d6b11-d420-74fb-30da-5fbc9442a2da (German only)

¹¹ https://www.e-control.at/documents/20903/388512/20181107+Technische_Analyse_Bilanzierung_neu_vers.pdf/a5c0cdd0-0f9d-86b7-57b2-ac242aa83596 (German only)

- BRP's use of tolerances (Though a full examination of this aspect has not been possible, it directly impacts the result and should thus be factored in.)
- Availability of transmission linepack (While availability cannot be guaranteed or forecast, linepack that is available for extended periods of time considerably impacts the result and should thus be factored in.)

Figure 4 summarises the results of the analysis for the four years from 2015 to 2018.¹²

Figure 4: Impact of a variety of parameters on WDO quantities¹³

Scenario 1: all BGs use all of their tolerances														
1	hourly consumption profile threshold													
	up to 50 MW				up to 100 MW				up to 300 MW					
	excl. transmission linepack		incl. transmission linepack		excl. transmission linepack		incl. transmission linepack		excl. transmission linepack		incl. transmission linepack		excl. transmission linepack	incl. transmission linepack
	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)
tolerance level	3%	1	163	1	243	1	167	1	247	2	131	1	149	
	5%	23	218	11	202	25	221	11	208	27	277	13	245	
	7%	69	485	32	460	69	499	32	479	71	542	34	494	
	10%	138	990	73	945	139	999	74	942	141	1,023	75	978	
	12%	169	1,342	94	1,268	170	1,351	95	1,269	171	1,375	96	1,301	
	15%	201	1,903	125	1,712	201	1,912	126	1,713	203	1,924	128	1,728	
	20%	247	2,695	171	2,474	248	2,700	171	2,480	248	2,725	171	2,514	

Scenario 2: suppliers of consumers up to 50 MW do not change their behaviour																
2	hourly consumption profile threshold															
	bis 50 MW				bis 100 MW				bis 300 MW							
	excl. transmission linepack		incl. transmission linepack		excl. transmission linepack		incl. transmission linepack		excl. transmission linepack		incl. transmission linepack		excl. transmission linepack		incl. transmission linepack	
	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)	number of days	daily quantity (kNm ²)
tolerance level	3%	1	83	1	78	1	87	1	82	1	113	1	104			
	5%	2	139	2	113	2	143	2	116	3	143	2	165			
	7%	10	169	4	171	10	175	4	156	12	226	5	180			
	10%	34	322	16	278	35	327	16	276	38	357	17	301			
	12%	57	436	24	400	58	442	25	409	60	482	27	430			
	15%	91	645	42	638	93	645	42	648	98	658	44	658			
	20%	151	999	80	912	152	1,005	80	922	153	1,030	82	940			

5.4.2 Costs

In addition to the quantitative analysis in the previous sub-chapter, a commercial analysis has been conducted. It focusses on the WDO fee payable by BRPs under different scenarios (cf. chapter 5.3).

AGGM used the prices for actual procurements of positive/negative physical balancing energy that it had published as part of the distribution-level statistics. This corresponds to about 9% of CEGHIX on average over a full year. After careful analysis, we believe this to be a reasonable and sufficiently conservative assumption that adequately accounts for the insecurities involved in a system change.

The quantities of opposing balancing energy calculated in the quantitative analysis were multiplied by the prices calculated by AGGM. This gives us the overall costs to the system, which would be distributed to BRPs according to their part in the overall system imbalance. Results show that these costs vary greatly depending on the tolerance level that applies.¹⁴ Figure 4 summarises the results of the analysis for the four years from 2015 to 2018.¹⁵

¹² For further explanations, assumptions etc., please consult https://www.e-control.at/documents/20903/388512/UPDATE+2018-12-04_Technische_Analyse_Bilanzierung_neu_UPDATE.cleaned.pdf/e263fb14-c865-9424-b83a-8e5e68217050 (German only)

¹³ Source: https://www.e-control.at/documents/20903/388512/UPDATE+2018-12-04_Technische_Analyse_Bilanzierung_neu_UPDATE.cleaned.pdf/e263fb14-c865-9424-b83a-8e5e68217050 (German only)

¹⁴ cf. slide 14 here: https://www.e-control.at/documents/20903/388512/UPDATE+2018-12-04_Technische_Analyse_Bilanzierung_neu_UPDATE.cleaned.pdf/e263fb14-c865-9424-b83a-8e5e68217050 (German only)

¹⁵ For further explanations, assumptions etc., please consult https://www.e-control.at/documents/20903/388512/UPDATE+2018-12-04_Technische_Analyse_Bilanzierung_neu_UPDATE.cleaned.pdf/e263fb14-c865-9424-b83a-8e5e68217050 (German only)

Figure 5: Impact of a variety of parameters on WDO costs

Scenario 1: all BGs use all of their tolerances							
1	hourly consumption profile threshold						
	bis 50 MW		bis 100 MW		bis 300 MW		
	excl. transmission linepack	incl. transmission linepack	excl. transmission linepack	incl. transmission linepack	excl. transmission linepack	incl. transmission linepack	
tolerance level	3%	€ 5,769	€ 3,952	€ 5,842	€ 3,989	€ 8,286	€ 4,842
	5%	€ 109,756	€ 57,945	€ 120,054	€ 62,016	€ 160,333	€ 79,768
	7%	€ 690,096	€ 345,875	€ 711,693	€ 362,585	€ 789,701	€ 394,899
	10%	€ 2,781,397	€ 1,447,527	€ 2,814,541	€ 1,463,089	€ 2,936,716	€ 1,538,463
	12%	€ 4,583,061	€ 2,480,062	€ 4,616,565	€ 2,501,966	€ 4,745,027	€ 2,592,341
	15%	€ 7,646,964	€ 4,395,622	€ 7,682,053	€ 4,422,716	€ 7,824,617	€ 4,531,309
	20%	€ 13,254,861	€ 8,595,036	€ 13,290,113	€ 8,626,031	€ 13,438,981	€ 8,751,394

Scenario 2: suppliers of consumers up to 50 MW do not change their behaviour							
2	hourly consumption profile threshold						
	bis 50 MW		bis 100 MW		bis 300 MW		
	excl. transmission linepack	incl. transmission linepack	excl. transmission linepack	incl. transmission linepack	excl. transmission linepack	incl. transmission linepack	
tolerance level	3%	€ 2,294	€ 1,222	€ 2,356	€ 1,258	€ 3,237	€ 1,806
	5%	€ 10,068	€ 6,318	€ 10,252	€ 6,379	€ 13,716	€ 8,356
	7%	€ 35,612	€ 19,750	€ 36,967	€ 20,148	€ 64,310	€ 28,098
	10%	€ 239,152	€ 112,706	€ 244,483	€ 115,395	€ 286,661	€ 132,515
	12%	€ 519,378	€ 235,989	€ 536,345	€ 249,917	€ 599,568	€ 277,279
	15%	€ 1,217,048	€ 600,943	€ 1,243,627	€ 613,272	€ 1,326,302	€ 659,859
	20%	€ 3,045,220	€ 1,528,220	€ 3,076,485	€ 1,552,016	€ 3,183,348	€ 1,616,411

5.4.3 Conclusions

The above results show that the market area costs for opposing physical balancing energy are way below historical costs for physical balancing energy, in particular if we assume single-digit tolerance levels. These costs will be distributed to the BRPs, reflecting the degree to which each of them caused the overall market area imbalance, and will be covered through the corresponding WDO fee. Again, we expect the fee to be much lower than the historical costs for balancing energy.

As for the individual parameters, the threshold for applying the hourly consumption profile does not strongly impact how much opposing balancing energy needs to be procured and how much costs result for the system. We will thus stick with the proposal from the consultation draft, i.e. the threshold will be maintained at a connected capacity of 300 MWh/h (cf. Figure 2).

During the stakeholder process, market players asked that the parameters be adjusted gradually; we are picking this up with respect to the tolerance level. We will start with a lower one-digit tolerance level, thereby also addressing concerns that a sudden introduction of high tolerances might be disruptive and bear considerable risks.

After some experience has been gained, we will analyse the situation, evaluate the impact to be expected of further changes and adjust the parameters in line with the results.

6 Information provision

As already indicated in the consultation draft, overhauling the balancing framework entails changes to our information provision model. For details beyond the below sub-chapters, please consult the documents used during the stakeholder process.¹⁶

6.1 The balance group position

Information about a balance group's position on a given gas day D will be provided at several points in time, and each of the instances of information provision will have different characteristics depending on the particular purpose they serve (cf. Figure 5).

¹⁶ https://www.e-control.at/documents/20903/388512/WS02+Grundsätze_der_Bilanzierung_181004c.pdf/2bdbbe93-a97f-ac12-41a4-459734fc1724 (German only)

Figure 6: Features and purposes of balance group position information

	frequency	purpose	implementation
preliminary	each hour during gas day D	enable BRPs to balance their portfolios	current: X from 1/10/19 from DSO perspective: ✓
updated	D+1	preliminary information on actual daily imbalance quantity for day D	✓
for first clearing	in time for first clearing (monthly)	daily imbalance quantity for day D and basis for monthly clearing and settlement	✓
for second clearing	in time for second clearing (as in clearing calendar)	correction of monthly clearing and settlement, taking into account metered quantities for SLPs	✓

The system already disposes of information about entry/exit quantities that are “allocated as nominated” and of SLP consumption forecasts. In addition, BRPs should be informed about preliminary quantities that are allocated to load-metered consumers. This crucially hinges on the DSOs providing preliminary hourly data for load-metered consumers with connected capacities above 10 MWh/h – the corresponding obligation has already been legally enshrined and will become effective as of 1 October 2019. There is no need for DSOs to submit any further data; preliminary data for load-metered consumers with connected capacities up to 10 MWh/h will be calculated by the DAM for each balance group separately. A concrete process for this type of data exchange was developed during the stakeholder process.¹⁷

In terms of the technological solution, we envisage a two-pronged approach: the default and mandatory solution will be a portal; if desired, information can also be provided to the BRPs directly, using established data formats and channels that enable automated data processing.

6.2 The market area position

In addition to information about their balance group’s daily imbalance quantity, which each BRP receives individually, some relevant market area data should be published (cf. Figure 7).

Figure 7: Features and purposes of market area position data

	contents	purpose	frequency
preliminary MA position	total daily imbalance across all BGs	identify needed BRP activities	hourly
operational balancing actions	quantities, prices and details of these actions	transparency about marginal prices, supply situation etc. for BRPs	near real time
MA consumption	total consumption in the MA	transparency about current demand, market shares etc. for BRPs	hourly (preliminary data); monthly (for clearing and settlement)
linepack and linepack use	linepack limits defined by the MAM and linepack use	gauging the need for operational balancing actions	hourly

This information should be available through a public portal, including interfaces and formats (e.g. XML) that enable automated data processing.

6.3 Consumer schedules

In our current balancing framework, consumer schedules link ex-ante balancing with ex-post clearing and settlement, i.e. they are relevant for both types of processes. The consultation draft went a different way: we postulated that balancing, clearing and settlement would no longer need to rely on consumer schedules at all. We could eliminate these schedules and the related administrative effort for market players.¹⁸

Please note that regardless of whether BRPs must submit consumer schedules, the forecasting responsibility rests with them. (This is particularly relevant for balancing and the related balancing energy risks.) Any consumption forecasts provided to

¹⁷ https://www.e-control.at/documents/20903/388512/2018-10-04_AGGM-LPZ-Prognose.pdf/44dc2c0b-0bac-ef58-7f45-8cc646f0284e (German only)

¹⁸ This is without prejudice to anything agreed between BRPs and suppliers bilaterally, e.g. concerning consumers who forecast their consumption themselves (which would then entail offsetting consumer forecasts and allocated meter readings ex post).

BRPs¹⁹ or information about the balance group's position (cf. sub-chapter 6.1) are non-binding and mainly intended to assist BRPs in drawing up their own forecasts. Also, these data are irrelevant for the balance group's daily imbalance quantity, which solely relies on allocations.

If the revised balancing system were to maintain consumer schedules in spite of them being no longer relevant for balancing or clearing and settlement, we would need an incentive mechanism that ties the quality of the forecasts to the tolerances for within-day obligations. We do not follow this line of thinking; instead, the revised balancing regime will no longer work with consumer schedules (except for large consumer schedules, which are needed for system operation; cf. sub-chapter 6.4). This is in line with the consultation draft and was supported by the majority of stakeholders. TSOs and AGGM had some additional concerns around curtailing balance groups; these are discussed in chapter 7. For a more detailed record of the discussions during the stakeholder process, please consult the relating documentation.²⁰

6.4 Large consumer schedules

The consultation draft did not explicitly mention large consumer schedules as they are not relevant for balancing or clearing and settlement. However, AGGM and the TSOs repeatedly underlined that they are crucial for system operation, which is why the revised balancing framework will continue to feature large consumer schedules, submitted by the BRPs. However, these schedules will not be used to clear and settle daily imbalance quantities (rather, they serve system operation purposes). The capacity threshold for large consumers has not been fixed yet. Currently, it sits at a connected capacity of 50,000 kwh/h, and AGGM has suggested that it stay there. We will double-check whether this threshold is adequate for all involved parties.

During the stakeholder process, market players also suggested that BRPs should continue to be contractually obliged to submit large consumer schedules, and that if possible, they should have to do so each hour.²¹ We believe that once the corresponding ordinance has been passed, this particular aspect can be addressed in the general terms and conditions.

7 Curtailment of balance groups

The eastern market area in Austria handles large transit volumes, which implies particular risks for Austrian consumers. To protect them, our consultation draft proposed a mechanism that would allow handling critical situations at times when market-based measures no longer work efficiently.

The revised balancing framework will largely maintain the current mechanism,²² while accounting for the fact that there will be no more consumer schedules (cf. sub-chapter 6.3). Curtailing balance groups will continue to be a last resort option,²³ and it is not linked to any system service interruptions that originate in the capacity model.

As under the current framework, it will be the MAM that exercises curtailments,²⁴ and it will primarily curtail the balance groups with the largest imbalance quantities (i.e. the largest contributors to the market area's overall imbalance). Given that we will no longer have consumer schedules, a balance group's position is not known ex ante for the entire gas day. Figure 8 displays how we propose to handle this under the revised balancing framework. In the end, the recast gas market model ordinance will provide a legal basis and the specifics will then be laid down in the general terms and conditions.

¹⁹ AGGM suggests that the MADAM's forecasts could benefit from knowing the peak hourly load registered for a metering point; this item of information could be submitted when a metering point switches supplier. They will discuss this at the Natural Gas and District Heat Association internally and feed their suggestions into the regular process for revising the market rules.

²⁰ https://www.e-control.at/documents/20903/388512/Kurzprotokoll_Stakeholderprozess+BAL_WS04+2018-12-04.pdf/c1e2c0c9-a363-3035-aec7-2cdca63d8bb6 (German only)

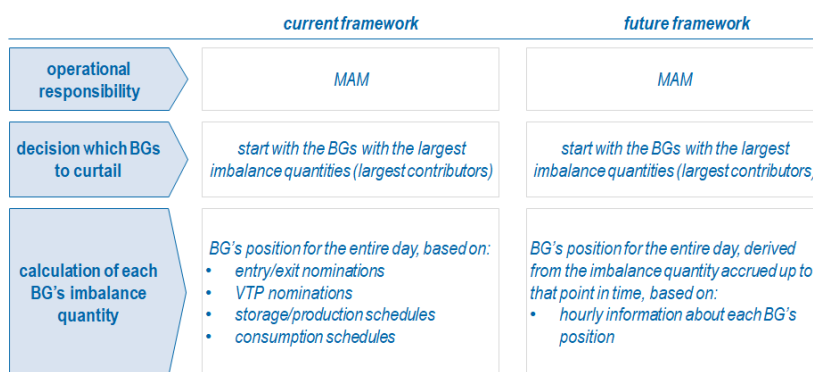
²¹ Currently, this is point 25.9 in the general terms and conditions for MAM, DAM and BRPs in the eastern market area.

²² The corresponding legal provision is section 26(7) Gas Market Model Ordinance, which is further detailed in the general terms and conditions for MAM, DAM and BRPs in the eastern market area.

²³ As a matter of reference: since 1 January 2013, only 2-3 days saw balance groups being curtailed.

²⁴ During the stakeholder process, this aspect was still under discussion and several options were considered.

Figure 8: BG curtailment mechanism



8 Technical network balancing

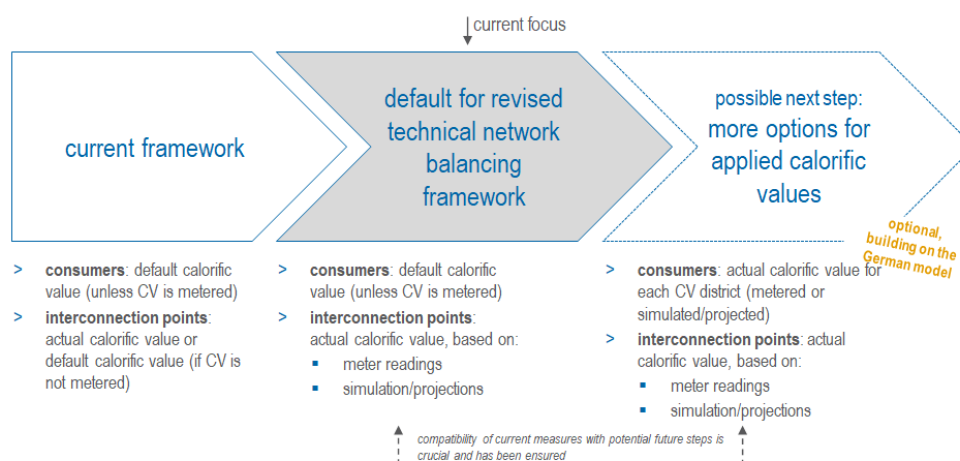
When it comes to technical network balancing, i.e. handling technical or systemic market-area-level imbalances, our main goal is to establish a transparent, fair, future-proof system that enables efficient processes. While we preserve some elements of the current system that have proved their worth, we generally pursue a greenfield approach.

8.1 The calorific value

Technical network balancing is closely connected to the calorific value question. At the moment, the calorific value that is used to convert both consumed gas volumes and gas flows at interconnection points into energy units is the default calorific value (except in cases where the actual calorific value is metered on site).

As shown in Figure 9, we are envisaging a gradual change to this approach. As a first step, we intend to apply calorific values at interconnection points between networks that better reflect the actual situation. A second step could involve a similar transition for consumed gas. This is currently being discussed as part of a process led by the Austrian Association for Gas and Water OVGW, and our revised balancing framework should be able to accommodate the changes that might result²⁵ without having to amend the relevant ordinances.²⁶

Figure 9: Evolution of the default calorific value into the actual calorific value



The future balancing framework will no longer apply the default calorific value at interconnection points but will instead use actual calorific values. These can be metered or calculated via simulations or projections. While the methods for calculating calorific values will need to be developed, there will be no need to considerably expand metering infrastructure.

²⁵ We expect the revised balancing system to take effect in 2021. This might allow for introducing the changes relating to the calorific value at the same time.

²⁶ Such a step would entail changes to the Gas Market Model Ordinance and the Gas System Charges Ordinance. The amendments must be agreed between E-Control and market players and the respective procedure be initiated well ahead of time.

8.2 Allocation components

The individual components for allocating technical network balancing quantities will be maintained as described in the consultation draft, while adjusting for the following principles:

- > nominated entries and exits will be allocated based on actual calorific values, and any differences between the nominated quantities and those resulting from application of the actual calorific value will be recorded in the OBA;
- > generally, all OBA quantities will rely on the actual calorific value at the entry/exit point;
- > linepack fluctuations will be calculated by applying the system operator's weighted actual calorific value;
- > nominations to cover own consumption are already part of other allocation components and must not be introduced to the calculation twice (but they are still necessary for commercial processes);
- > allocation of metered own consumption relies on the actual calorific value, which is either metered or projected, or on the weighted actual calorific value;
- > allocation of non-metered own consumption uses the weighted actual calorific value.

For further details, please consult the document used by AGGM to present the above principles during the stakeholder process.²⁷

8.3 Clearing

The revised balancing framework will feature three major changes from the currently applicable approach:

- > linepack fluctuations will no longer be relevant for clearing and settlement, because they are purely geared towards physical balancing and maintaining the network's ability to transport gas;
- > any differences resulting from the application of different calorific values will no longer be offset by way of the neutrality charge for balancing (s. next sub-chapter). If the default calorific value continues to apply for consumed volumes, any differences will be registered and settled separately. If the actual calorific value is used for consumed volumes, there will be no differences to be registered anymore. This will be taken into account in the recast ordinances.
- > There will be no more billing of residual load to suppliers. Any differences (arising from the calorific value question or from other elements) will stay with the system operators and will then be socialised as part of the grid charges. It is thus in the interest of system operators to correctly differentiate between the elements of technical network balancing; this way, they can minimise the residual load and thus the commercial consequences for themselves and their customers.

8.4 Technical network balancing at transmission level

As explained by GCA and TAG during the stakeholder process, technical network balancing works differently at transmission and at distribution level.²⁸ Transferring responsibility for technical network balancing of the transmission level to the single clearing entity would not unlock any advantages. Instead, the available linepack should simply be logged, assuming that gas would be compensated in kind without causing any commercial transactions. Such a log would also increase transparency. AGCS and AGGM agree with the basic statement that transmission networks should be handled differently.

The revised balancing framework will therefore differentiate between the technical network balancing at transmission and distribution level, while ensuring that all distribution side needs in terms of data provision, data granularity and data provision rhythm will be addressed.

9 Commercial processes

9.1 The neutrality charge for balancing

The revised balancing framework must ensure that the single clearing entity will remain neutral in terms of both quantities and costs. A neutrality charge will only apply if the single clearing entity needs it to maintain its neutral position. By the same token, any overhang will promptly be reverted to the market players.

As proposed by AGCS during the stakeholder process, the amount of the neutrality charge for balancing will be fixed every three months ex ante (generating planning security for market players). It will be calculated for each BRP separately and reflect the balance group's total entry and exit allocations.

²⁷ https://www.e-control.at/documents/20903/388512/2019-01-22_AGGM_Netzbilanzierung.pdf/c2c92ff7-eeef-9468-a792-d4ed7187c134 (German only)

²⁸ https://www.e-control.at/documents/20903/388512/2019-01-22_GCA_TAG_GmbH_Netzbilanzierung_FNB_190114.cleaned.pdf/bd515280-97a4-184a-52e0-ab3f37f0b2a1 (German only)

9.2 The clearing fee

Like the neutrality charge for balancing, the clearing fee will be derived from each balance group's total entry and exit allocations.

9.3 Risk management

Under the current balancing framework, ex-ante risk management is achieved via the clearing house at the gas exchange: any imbalances are offset at the exchange on behalf and for account of the BRP. Additional ex-ante measures are not necessary. Ex-post, explicit risk management takes place, based on historical data.

The revised balancing framework will provide for direct commercial transactions between BRP and the single clearing entity, and it will apply to all market players (from suppliers to transit shippers). The single clearing entity will need a more sophisticated risk management system to deal with this added complexity.

Such a risk management system must:

- > adequately respond to risks without going too far;
- > be able to react to recent developments and risks quickly (on a daily or even within-day scale);
- > leverage any cooperative synergies between the operators and be easy to understand for market players.

We envisage the future legal basis for the revised balancing framework to work with overall principles such as the ones above. Further details can then be agreed between the single clearing entity and the market players and be laid down in the general terms and conditions.

9.4 Contractual counterparty

Our consultation draft offered the option of introducing a separate settlement agent to the financial side of the balancing process, but market players did not consider this necessary. Thus, the revised balancing framework will stick with the current institutional setup: the single clearing entity will enter into contracts with the BRPs and will be operationally responsible.²⁹

9.5 The settlement rhythm

The consultation draft proposed that BRPs would be billed for balancing energy on a daily basis, i.e. would receive bills for each gas day just a couple of days later. Given that the market players did not see a need for such quick settlement, the revised balancing framework will stick with the current monthly rhythm, where BRPs are billed for all gas days of a month at once.

The processes for the first and second clearings will continue unchanged. (Please refer to the AGCS presentation about these processes for further details.³⁰) The only adjustments that might become necessary relate to the calorific value question: if actual calorific values are to apply to consumed volumes, the operators might have to engage in preparatory activities and the clearing process might have to be pushed back by a couple of days.

9.6 Pricing second clearing discrepancies

The current approach towards pricing any reconciliation between allocated and metered quantities that is identified as part of the second clearing will be maintained: it will be priced at the same rate that applies for the first clearing, i.e. when BRPs are first billed for balancing energy.

²⁹ Please note that the single clearing entity can still cooperate with third parties or outsource services.

³⁰ https://www.e-control.at/documents/20903/388512/2019_02_26pdf_ECA_Workshop_AGCS_Bilanz+u+Verrech.cleaned.pdf/9339f901-237c-718f-050a-11f181673ebd (German only)

10 Next steps

We are envisaging the following next steps in the process towards a revised Austrian balancing framework:

by the end of April 2019	The stakeholder process is formally concluded. The present document is updated, completed and published.
by the beginning of September 2019	The consulted concept paper is updated, a draft recast gas market model ordinance is drawn up and both are published. <ul style="list-style-type: none">> A two-month consultation period starts.> A public event could be held.
November/December 2019	The comments received during the consultation are evaluated and the consulted documents are updated.
early 2020	The recast gas market model ordinance is issued with entry into force on 1 October 2021.
early 2020	The tender procedure for nominating the single clearing entity from 1 October 2021 starts.
by mid-2020	A single clearing entity from 1 October 2021 is nominated.
by the end of 2020	The gas market code is drawn up, consulted and issued.
by April 2021	The operators' general terms and conditions are consulted and approved.
1 October 2021	The revised balancing system comes into force.