CONSULTATION REPORT

Report on the public consultation regarding the study on the remuneration of mFRR & aFRR capacity: pay-as-bid vs. pay-as-cleared

17/12/2020

Table of Contents

1. Introduction

Between 1st September and 1st October 2020, Elia organized a public consultation on its study on the remuneration of aFRR and mFRR capacity: pay-as-bid vs. pay-as-cleared[1]. The study has also been presented to, and discussed with, the Balancing Working Group during a dedicated workshop on 15th September 2020.

The purpose of this report is to consolidate the feedback received from the public consultation, while at the same time reflecting Elia's position on these reactions.

2. Feedback received

In response to the public consultation, Elia received non-confidential replies from the following parties:

- Febeg
- Febeliec
- Centrica Business Solutions (hereafter CBS)
- Paul Verheecke

All responses received haven been appended to this report. These reactions, together with this consultation report, are available on Elia's website.

3. Introductions for reading this document

This consultation report is structured as follows:

- Section 1 contains the introductory context,
- Section 2 gives a brief overview of the responses received,
- Section 3 contains instructions for reading this document,
- Section 4 provides the feedback received during the public consultation and Elia's responses,
- Section 5 contains the annexes of the consultation report.

This consultation report is not a 'stand-alone' document, but should be read together with the proposal submitted for consultation, the reactions received from the market participants (annexed to this document) and the final proposal.

[1] Consultation webpage: https://www.elia.be/en/public-consultation/20200901_public-consultation-on-the-study-on-pay-as-bid-vs-pay-as-cleared

Section 4 of the document is structured as follows with additional information on the content per column below.

Numbering	(Subject)	Stakeholder	Feedback received	Elia's response
A	**(B)**	**C**	**D**	**E**

A. Numbering/reference of the feedback received.
B. In general, the comments are grouped by topic. When relevant within the section, the Subject column indicates more concrete subtopics.
C. The stakeholder who made the comment.
D. This column contains an overview of all comments on the document submitted for consultation.
   - In doing so, an attempt was made to list/consolidate all comments received and to explain why Elia considers that they should be taken into account or not.
   - In order to maintain authenticity, the comments have been copied as much as possible in this document. However, the comments have sometimes been shortened and terms have been standardized to make them easier to read.
   - For clarification purposes, it is recommended to always read the original comment of the stakeholder concerned, as included in the appendix to this report.
E. This column contains Elia's response to the stakeholder feedback. Depending on the feedback, Elia's response may be a clarification or a position (and justification) whether to change the text in the final proposal, or simply an acknowledgement. However, this column does not contain the final text. For this purpose, the final study report must be consulted.

4. Comments received during the public consultation

4.1 General comments

This section provides an overview of the general reactions and concerns of market players that Elia received to the document distributed for consultation.

	STAKEHOLDER	FEEDBACK RECEIVED	ELIA'S VIEWS
#01	*Paul Verheecke*	*Perfekt zo*	*Elia thanks Paul Verheecke for the feedback.*
#02	*Febeliec*	*Febeliec (…) follows the theoretical approach by Elia on the merits of PAB vs PAC (…). The concern for Febeliec lies mostly in the opportunity to switch from PAB to PAC in light of the specific situation in the Belgian (balancing) market, with a very high concentration and a fairly limited liquidity. Febeliec is mostly concerned that costs for grid users would explode under a move from PAB to PAC if not all preliminary conditions are fulfilled to provide a competitive environment.*	*Elia notes that Febeliec's views are in line with Elia's study report, and in particular acknowledges the distinction made between the theory and the practical application in Belgium, as well as the careful considerations required concerning the risk for (short-term) cost increase.*
#03	*FEBEG*	*FEBEG is very much aligned on the conclusions shared in the document. Pay-as-cleared clearly shows advantages and is advisable for many good reasons explained in the analysis. We agree that pay-as-cleared results in a fair remuneration for all market participants, as it guarantees equal remuneration for satisfying the same requirements (offering the same product). FEBEG therefore does support Pay-as-cleared as the target for Balancing markets. However, we have listed some elements which explain why in practice, a fast shift towards pay-as- cleared would be very challenging in the short-term: [see further]*	*Elia notes that Febeg's views are in line with Elia's study report, and in particular acknowledges Febeg's support for a pay-as-cleared model based on the theory. Elia also notes the practical concerns expressed by Febeg with respect to a too fast shift towards this model.*

#04	*CBS*	*Given the negative short- and long-term impact of the current pay-as-bid (PAB) mechanism, CBS is strongly in favour of implementing pay-as-cleared (PAC) in both mFRR and aFRR capacity auctions as soon as possible.*	*Elia notes the position of CBS to implement a pay-as-cleared remuneration of aFRR and mFRR capacity as soon as possible.* *Considering the elements explained in the study report as well as the feedback of other stakeholders on this study and on the Balancing Roadmap for 2021 – 2022 presented in the WG Balancing meetings, Elia nevertheless maintains its initial point of view. A decision for such a shift should be based on a sufficiently long experience on the FRR procurement schemes (while the current design of aFRR and mFRR have been implemented during 2020). The situation for mFRR capacity will be re-assessed in Q2 2021 and, taking into account the implementation constraints at the side of the market and of Elia, it will be decided whether or not the design change to pay-as-cleared remuneration for mFRR capacity can be integrated in the next contract update (in the framework of the MARI project). The situation for aFRR capacity will be re-assessed after achieving the target model (with only aFRR capacity auctions organized in day D-1).*

4.2 Specific comments

4.2.1 Theoretical aspects

	STAKEHOLDER	FEEDBACK RECEIVED	ELIA'S VIEWS
#05	*Febeliec*	*Febeliec understands that there is a chicken-and-egg dilemma here, and that market attractiveness is important to attract new entrants, but that these might also entail an extra cost burden, especially in the short run (as could also be observed in Switzerland). Febeliec believes that a range of expected evolutions in the near future (e.g. aFRR new sourcing approach, evolution towards a European balancing market) might provide the necessary liquidity to the Belgian balancing market to minimize the risk of very substantial cost increases for consumers.*	*Elia shares Febeliec's point of view, and believes it is already appropriately taken into consideration in the report. Elia indeed seeks for a reasonable comfort that costs will not substantially increase when moving to a pay-as-cleared remuneration for FRR capacity*
#06	*Febeliec*	*On market liquidity and competition, Febeliec does believe that over the last few years a large effort has been done, in particular also by Elia, to increase liquidity and competition (e.g. by making products technology neutral), yet is not convinced that current liquidity and competition levels are sufficient for move from PAB to PAC (both in mFRR and especially aFRR). The Elia assessment shows that in some particular instances mFRR Standard was provide by only one BSP, that the HHI was often quite high, that liquidity was at "some moment near critical levels". Febeliec is, as already indicated, strongly concerned that "if the transition period of several months or even a year would pass before the advantages of moving to a paid-as-cleared design kick in, a substantial increase in total procurement costs is certain", which would be unacceptable for Febeliec as long as costs are passed through to consumers without any incentive for other involved parties to evolve as soon as possible towards the promised ultimate benefits.*	*Elia shares the concern expressed by Febeliec which is – as quoted by Febeliec – already clearly mentioned in the study.*

#07	*Febeliec*	*On the theoretical discussion of the merits and disadvantages of PAB versus PAC, Febeliec also refers to its comments on this discussion in the framework of the CRM. Febeliec wants to reiterate here that while indeed under PAB bidders could try to artificially push prices up by adding extra profit margins, this could result in an outcome where they end up with nothing (too greedy could lead to no revenue at all), which should also put a limit under this behaviour. Nevertheless, it is clear that liquidity is, whatever the clearing mechanism, an essential element of any well-functioning market.*	*Elia notes, in line with the study report, Febeliec's recognition of the possible advantages and risks for a BSP of setting high prices in a pay-as-bid remuneration mechanism.*
#08	*FEBEG*	*… it is not straightforward to assume that moving to Pay-as-Cleared would result in a big increase in new participants right away, as the balancing market is relatively complicated (compared to, for example, the energy markets).*	*Elia notes Febeg's feedback on the complexity of balancing markets in general. As indicated in the report, one of the key pre-conditions for efficiently shifting to pay-as-cleared is the absence of significant other barriers to entry. Elia has already implemented multiple measures (e.g. technology neutral products, daily procurement, 4-hour capacity contracting period,, …) to reduce as much as possible such barriers and aims to continue to do so where relevant. However, the balancing market will indeed remain more complicated than for example the wholesale energy market. As Elia points out in the study report, the question is whether efforts required at BSP side in response to a change from pay-as-bid to pay-as-cleared (e.g., to develop a larger portfolio) would require a considerable time before resulting in increased liquidity.*
#09	*FEBEG*	*FEBEG agrees that a Pay-as-Cleared system is less complicated but, one should not exaggerate the complexity of the Pay-as-Bid system. In principle, any technology should offer a bid price that corresponds to its opportunity costs plus a margin. On the other hand, it is indeed more complex to use a pricing strategy which is based on the assessment of the marginal technology selected price, even when this could be considered as opportunistic behavior, one cannot*	*Elia takes note of Febeg's view on how BSPs in practice could or should manage their pricing strategy for FRR capacity.* *As explained in the theoretical section of the study report, a pay-as-bid remuneration mechanism indeed drives providers towards a pricing strategy aiming for bid prices that are close to the marginally selected bid price.*

		exclude such a strategy. Additionally, in a daily auctioning system, one can expect that operators that are participating on a daily basis in these markets are highly qualified and are fully equipped to absorb the complexity of the market.	*Elia agrees that the daily procurement is expected to fasten the learning curve and (together with the publication of the capacity bids and auction results) facilitates BSPs to improve their pricing strategy. Nonetheless, it is also clear that even highly and fully equipped yet small bidders may suffer from information asymmetry and from reduced economies of scales compared to larger ones.*
#10	*FEBEG*	*Pay-as-Cleared would trigger new entrant: While a Pay-as-Cleared system would simplify at least one component, there have already been incentives to offer new capacities and/or see new entrants in the past. Nevertheless, the balancing market remains complicated and new entrants will still need a good understanding of the market before entering the market. FEBEG considers that conditions to attract new flexibilities are already existing today. Here, one can think about attractive capacity prices, 4- hours blocs that do not require technology being baseload available, product for slow-starting units, mFRR non-contracted offer, etc.*	*Elia notes Febeg's view that the conditions to attract new flexibilities have already been established by Elia and that the main remaining barrier is the high complexity of the balancing market. The key question is thus whether the additional incentive obtained by shifting towards pay-as-cleared will deliver its promises – or whether there still remain barriers (e.g. technical complexity) that prevent this to happen.*
#11	*CBS*	***Currently, PAB in Belgium doesn't allow all market participants to access full remuneration of the service provided, hampering their ability to recover their incurred costs, in particular up-front capital expenditure (CAPEX).*** *As an aggregator, CBS has invested – and continues to invest – in a Virtual Power Plant (VPP) platform to create value for the system by unlocking reliable flexibility. These incurred costs (mostly up-front CAPEX) are yet to be fully recovered by market revenues. In order to provide capacity to the balancing market, increase liquidity and competition and drive technological innovation, aggregators such as CBS build portfolios by combining demand response and distributed generation assets. Their primary use is not to deliver balancing services*	*Elia notes CBS's elaborate analysis of the cost structure of aggregators, which varies from other more traditional assets (notably in terms of CAPEX).* *Elia also fully understands the point being made by CBS, namely that – to recover CAPEX on the long-run – revenues in the short-term should be maximized, and that – in a paid-as-bid mechanism – this implies to "guess" the behavior of other participants, which is costly and more difficult for smaller players. Elia also understands the potential differences in terms of resulting remuneration, both in short and long run.* *However, Elia is not yet convinced that the conditions for an optimal selection of supplying assets are yet satisfied, and therefore fears that – despite the potential long-term benefits (increased competition and lower prices) –*

		on their own, which provides value to aggregation. Combining such assets allows to provide capacity to the FRR market, and therefore a valuable contribution to the grid. *In order to provide this service, aggregators such as CBS have invested in and developed platforms, requiring both initial CAPEX and recurrent O&M costs, independent from the number of MWs offered to the market. This leads to a cost structure that is significantly different from standalone assets explicitly built to provide capacity or energy to the electricity system.* *On top of seeking to cover opportunity costs linked to the non-participation in other markets, aggregators operating a VPP in the balancing markets also seek to recover investment costs over a longer time horizon.* *Two categories of assets can take part to the aFRR or mFRR auctions:* • *Category 1: technologies not built with the primary goal of providing balancing reserves, and which price their opportunity cost of not partaking in other markets in the aFRR or mFRR auction (e.g. CCGTs);* • *Category 2: technologies built with the primary goal to provide balancing reserves and that must compete with assets of the aforementioned Category 1 in order to earn revenues (e.g. VPPs).* *MWs of Category 2, such as Demand Response, have been the main source of increased competition and lower prices of balancing reserves in several European countries. They provide a competitive alternative to assets of Category 1, such as CCGTs, which are typically more suited to deliver energy on the wholesale markets.* *To pursue this trend, it is key that price formation in these markets reveals the proper price signals to allow MWs of Category 2 to be paid according to the value of the service they deliver, and hence be able to fully cover their costs. If this cannot be ensured and the value for the same service is different, MWs of*	*there may be short-term negative effects leading to a (temporary – though for an undefined period) increase of FRR capacity procurement costs. The risk for tariff payers may therefore be significant, which Elia needs to take into account.* *The range of capacity bid prices offered indeed shows the difficulty of estimating the market equilibrium price in a paid-as-bid remuneration scheme. However, transparency on the capacity markets has increased with the implementation of the aFRR and mFRR designs in 2020. The Elia website on a daily basis provides information on the FRR capacity demand and on the results of the capacity auctions, including the list of individual (anonymized) capacity bids offered.*

		Category 2 will not be able to remain competitive in the balancing markets, which means that: • *in the short run, they will not be selected in the auctions because their bid price will be too high compared to capacities of the Category 1;* • *in the long run, they will not be able to recover their incurred costs and defect the market.* *The current PAB mechanism in Belgium leads to significant revenue losses for aggregators engaged in mFRR Flex and Standard.* *Pay-as-bid rewards good guesses. Market participants try to forecast market price, which is costly and provides advantage to large players.* *(…) two negative effects of PAB, being the fact that:* • *CBS cannot be paid up to the marginal price of the last competitive MW selected by Elia;* • *CBS' bids can get rejected when CBS cannot estimate the clearing price with sufficient precision.* *Since providers such as CBS need to estimate the clearing price in an often opaque market, these two effects currently lead to a [CONFIDENTIAL]% loss of revenues when taking part to mFRR compared to the price paid by Elia to the last selected MW.* *This clearly demonstrates the current lack of transparency in the mFRR market, where the available information does not allow market participants to correctly anticipate the price formation in order to submit competitive bids allowing to cover their costs. Overall, this leads to a non-optimal price formation, where the total cost-minimizing merit order dispatch can't be assured due to varying estimates of what the highest accepted bid will be.*	

		Remark: CBS also considered the fact that moving from PAB to PAC could trigger a change of bidding behaviour, i.e. in PAC market participants might decrease their bids by removing any margin or risk premium present in PAB. However, even in that case, moving from PAB to PAC would yield higher revenues for aggregators ([CONFIDENTIAL]% uplift). *The current PAB design does not allow certain market participants to access the clearing price. As this might lead to lower revenues and hamper the ability of participants to fully recover costs, such market participants either need to reach a critical mass and sell more MWs (volume effect) or obtain higher unit prices in the balancing markets (price effect)* *As underlined previously, several market parties face an information asymmetry under the current PAB mechanism (e.g. with regards to unavailability), which hampers their ability to predict prices and bid efficiently. Consequently, they cannot be paid up to the real value of the service offered in mFRR, having to bear significant revenue cuts and increase the risk of not recovering their costs.* *As long as transparency in the FRR markets hasn't been significantly enhanced, market parties cannot increase the price of their bid to get closer to the marginal price. As demonstrated above, even with a significant safety margin, the rejection rate is already meaningful. Increasing prices would lead to an even higher risk of not being selected.* *Alternatively, market parties could seek to grow the number of MWs of their portfolio ("critical mass"). Indeed, the more MWs operated, the lower the cost at which each MW can be offered. However, given the limited size of the balancing markets, the growth potential of an aggregator's portfolio is possible but finite.* *CBS therefore concludes that moving to PAC would significantly improve the situation, as outlined in the next chapter.*	

#12	*CBS*	*… [While awaiting the change to PAC] In the meantime, the PAB design needs to be significantly improved, in particular regarding transparency (publication of availability, bid curves, prequalified capacities by technology, etc.).*	*Elia notes Centrica's requests for even more transparency, yet points out that some of the information requested by CBS is already available on the Elia web site:* - *Planned outages are published on https://www.elia.be/en/grid-data/power-generation/planned-and-unplanned-outages* - *Bid curves are published daily on the page with Auction results (https://www.elia.be/en/grid-data/balancing/capacity-auction-results) and monthly on the page with Data Download (https://www.elia.be/en/grid-data/data-download-page)* *Elia does not plan to add publications on prequalified volumes of mFRR or aFRR (without prejudice to the publication of the volume cap applicable in the aFRR per-CCTU auction) at this stage. As prequalified volumes are not necessarily offered during the capacity auctions, the added value seems limited. Elia will nonetheless consider transparency improvements in the next design reviews (planned in the framework of the MARI and PICASSO projects) so requests as those of CBS can at that stage be discussed. Note though that, unless in case of legal obligations or specific design reasons, Elia aims to publish information in a technology-neutral way.*
#13	*Febeg*	*FEBEG wants also to highlight the fact that Elia strived to publish as many data as possible so that market parties have enough information to price capacity bids. Especially while benchmarking data provided by some surrounding countries. In that sense, implementing Pay-as-Cleared would ease the capacity bidding computation. However, BSP active with the current Pay-as-Bid mechanism already have a lot of information and to our opinion, do not suffer of a lack of market transparency.*	*Elia notes Febeg's recognition in the efforts of Elia so far regarding publication of balancing data and Febeg's view that this availability of data reduces the need for a pay-as-cleared remuneration mechanism.*

4.2.2 Proposed models

	STAKEHOLDER	FEEDBACK RECEIVED	ELIA'S VIEWS
#14	*Febeliec*	*Elia states that for the mFRR capacity a distinct clearing price for mFRR Standard and mFRR Flex will be needed (which Febeliec supports), yet Febeliec is surprised to see that Elia also that's that the clearing price for mFRR Standard should at least be equal or higher than the mFRR Flex clearing price. Febeliec understands this from a structural perspective, over an entire period, yet wonders whether this constraint should also be applied for each punctual day. Febeliec is concerned that this constraint could lead to unnecessary and undue cost increases.*	*Elia understands Febeliec's concern but points out that mFRR Standard has much stricter requirements for energy availability than mFRR Flex, and therefore, all else equal, there is no reason to have mFRR Flex priced above mFRR Standard.* *Imposing that mFRR Standard is always at least as well remunerated as mFRR Flex gives an appropriate incentive for participants to offer as much as possible mFRR Standard capacity. In other words, it ensures that, in case the underlying assets are able to do so, mFRR Standard is offered, which is a more valued product from a system security point of view.*
#15	*FEBEG*	*In addition, the existence of R3 Flex product and aFRR all CCTU auction in D-2 are still pending issues to move to Pay-as-Cleared – for which the advantages of removing them should be weighed against possible disadvantages.*	*Concerning mFRR, Elia has suggested a mechanism for pay-as -cleared remuneration regardless of the existence of the "R3 Flex" product. The move towards a pay-as-cleared design is therefore not pending on the question of phasing out R3 Flex.* *For aFRR, as explained in the study report, Elia indeed has the opinion that a proper assessment of market liquidity cannot be performed as long as the target model (in which only the "per CCTU" auction in D-1 remains) has not been reached. The recently implemented design towards this target model serves to first open the market to different technologies and increase liquidity.*
#16	*FEBEG*	*FEBEG supports the proposed design for mFRR.* *aFRR design seems very consistent and FEBEG believes that several months of aFRR daily procurement will be needed to fully advocate such a design.*	*Elia takes note that Febeg a priori supports the mFRR and aFRR design as proposed in the report and understands that experience of several months of aFRR daily procurement will be needed for Febeg to confirm that it supports the design proposal for aFRR. .*

4.2.3 Further analysis

	STAKEHOLDER	FEEDBACK RECEIVED	ELIA'S VIEWS
#17	*Febeliec*	*Febeliec believes that it would be wise to repeat the analysis on a wider dataset, as it is especially unclear what the impact will be of a winter period data or the effects of covid-19 on the results.*	*Elia shares Febeliec's point of view that a larger historical dataset, especially one including all seasons, should be used before a final decision over the shift towards pay-as-cleared is made, and believes it is already appropriately taken into consideration in the report.*
#18	*FEBEG*	*First, pay-as-bid seems to work well since the beginning of daily procurement and there is no sufficient data or months of experience on daily procurement to make conclusions on the added value pay-as- cleared would bring in the short and medium term. Therefore, some further statistical analysis of capacity bids and offered volumes should still be done (e.g. descriptive analysis of historical marginal prices, correlation between offered volumes and DA/ ID market tightness - using EPEX DA as a proxy for instance). One should not forget that the behavior of market parties can still change a lot in the upcoming winter months.*	*Elia shares FEBEG's point of view that a larger historical dataset, especially one including all seasons, should be used before a final decision on the shift towards pay-as-cleared is made, and believes it is already appropriately taken into consideration in the report.* *When re-investigating the situation for mFRR in Q2 2021, Elia will assess whether any additional analyses, as those suggested by FEBEG, would provide useful insights.*
#19	*FEBEG*	*FEBEG thinks that the decision to move to Pay-as-Cleared should rely on a data set of 2 years or even more. This way, any outlier data would be part of a larger set of data and could be excluded. We would also see the occurrences of price spikes on several winters and not only one. For instance, one cannot extrapolate what happened on one winter to the next winter. And pressure on prices will depend on how tight markets are. This tightness will depend on market fundamentals and this can vary a lot from one year to the other. (…) FEBEG fully agrees "that despite the possible positive impact of paid-as-cleared remuneration, the current paid-as bid remuneration has its merits given the current market dynamics, and that the data at this stage do not yet clearly support the integration of paid-as-cleared remuneration for FRR capacity". A step towards Pay-as-Cleared needs to rely on sufficient experience and enough data. Daily procurement was introduced 8 months ago, and the market has not yet experienced it*	*Elia agrees that currently the datasets are too narrow to make informed decisions on the shift towards pay-as-cleared remuneration (especially due to the lack of winter data). However, ELIA is not willing to commit to a minimum of 2 years of dataset (which implies to wait at least for 2 years) to make a decision. Elia rather prefers to periodically monitor the liquidity of the FRR capacity markets. Elia's expectation is that – if the FRR capacity markets become liquid enough to shift towards a pay-as-cleared remuneration – then a market tightness (occurring e.g. in a specific winter condition) would adequately deliver results under a pay-as-cleared remuneration scheme.*

		for the entire winter months although this is a period that historically presented tight events for the grid. FEBEG believes that a data set of one year is a strict minimum but a set of 2 years would even be better.	
#20	*Febeliec*	*On the examples of other European Member States that have introduced or will introduce pay-as-cleared in the clearing mechanism, Febeliec lacks information on the (quantitative) evaluation of the before and after situation, a.o. with respect to liquidity and competition (e.g. HHI, number of actors and new entrants, offered capacity versus required capacity, …) in order to be able to fully understand the implications from a Belgian perspective. Febeliec also strongly wants to point to the Swiss experience, where the decision was reversed after a substantial cost increase, which remains Febeliec's strongest concern in this discussion.*	*Elia understands Febeliec's questions and agrees that such information on a European level would be interesting. However, it was neither the intention nor would it be possible to quantitatively analyze in this study the past and present market situations in the other TSOs' regions or to evaluate decisions of those TSOs to change the design from pay-as-bid to pay-as-cleared. To properly evaluate other TSOs' experiences and draw conclusions on useful lessons for Elia, an extended benchmark should include at least an overview of FRR capacity products including specific design characteristics, a good understanding of the designs before and after the introduction of a paid-as-cleared mechanisms (what has all changed simultaneously in the design? How to distinct the impact of the paid-as-cleared remuneration for capacity from other design changes?) and a view on the level of transparency before and after the introduction.*

4.2.4 Timing aspects – Market readiness

	STAKEHOLDER	FEEDBACK RECEIVED	ELIA'S VIEWS
#21	*Febeliec*	*On the cost benefit analysis, Febeliec takes note of the double digit cost increases (even up to 18,1%), especially considering that the applied dataset might not be fully reflective of the market situation over an entire year (including winter) or a period without covid-19 (where the impact could go in two directions). In any case, as long as consumers have to carry the costs for the balancing capacity and activations, for Febeliec it would be unacceptable and even unconceivable to take any risks on such substantial cost increase, especially taking into account the already very dire financial situation of grid users in this crisis period. Febeliec thus asks for the utmost carefulness from the side of Elia and CREG before taking the very impactful decision to move from PAB to PAC.*	*Elia notes the concerns expressed by Febeliec and ensures that the decision to move towards pay-as-cleared design will be preceded by careful consideration and discussion with CREG and the members of the Working Group Balancing.* *As described in the study report, Elia points out that the analysed period is too short and insufficiently representative to be able to interpret the results properly. As explained in the report, carefulness has been considered in the proposal. This is why Elia did not put forward a quick decision based on the currently available data in the study report, but proposed to re-assess the mFRR and aFRR capacity markets after a longer period of experience with daily procurement, which is expected to contribute to getting a broader view on the different influences on the market throughout the year. Even though the Covid-19 lock-down has undeniably had impact on the market functioning, it is indeed uncertain in which direction these impacts have materialized on the FRR capacity market). Although the highest simulated cost increase Febeliec refers to (the 18,1%) is computed under very conservative assumptions, the recent update of the quantitative assessment (extending the analysed period to include the months up to October) shows cost increases up to 24,5%. In the last months, there have been periods with very high prices as well as periods in which prices are much lower than usual.*
#22	*Febeliec*	*Febeliec is, as already indicated, of the opinion that liquidity is a precondition to avoid market power and market power abuse, yet while Elia mentions that a "decent level of liquidity still remains a genuine prerequisite to implement marginal pricing", it does not provide for any quantitative threshold to consider li-*	*Elia shares the concern expressed by Febeliec. However, it is in practice seen as inefficient to determine ex-ante strict thresholds which would automatically trigger the decision.*

		quidity sufficient. Also an important element is the available volumes in the market after clearing (e.g. market tightness) is a very important element, as the evolution of this parameter over time can be essential, especially in case required balancing volumes to be contracted would increase over time.	*Elia agrees that information on excesses of offered FRR capacity is useful to follow up and believes it is already appropriately taken into consideration in the report.*
#23	*CBS*	*The introduction of PAC shouldn't be made conditional to increased liquidity, as this inevitably results in a "chicken and egg" dilemma. A sound long-term market design must prevail over short-term price considerations to decide on PAB or PAC* *• Short term price reduction under PAB cannot be the only performance indicator used to discard market design changes. Only a sound long-term market design will reveal prices for balancing reserves which truly reflect the cost of providing the service;* *• Delaying the introduction of PAC might have a downwards effect on prices in the short run, but does not imply overall lower procurement costs for balancing reserves in the long run;* *• Market liquidity and concentration can therefore not be the only pre-condition to introduce PAC for the mFRR or aFRR auctions.*	*Elia shares the view that the "chicken and egg" dilemma is a key element of the discussion, and believes that no perfect solution exists. Though, the dilemma only exists if there is reasonable comfort that liquidity and concentration can improve with the introduction of pay-as-cleared settlement. In the past, this has not been the case due to a design that did not specifically aim at allowing for new entrants/new investments. Elia believes that the new aFRR and mFRR designs as implemented in 2020 are greatly facilitating market entry. Though – at this stage – Elia misses practical evidences that these advantages materialize in real, because of the lack of sufficient historical data. This is why Elia proposes to wait and re-assess the FRR capacity markets after more experience is gained with the designs introduced in 2020. Liquidity and market concentration are not the only parameters to take into account to decide on the design change to pay-as-cleared remuneration, but they are nonetheless important input, as evidenced by the theory and underlined by other market respondents.*
#24	*CBS*	*1. CBS understands the concerns raised by stakeholders in the WG Balancing regarding the overall procurement costs of mFRR and aFRR, and the fact that PAC should not lead to an unjustified increase.* *However, CBS points out that seeking lower prices per se cannot be the only driver of a market design, especially when only looking at short term price evolution. Pushing this ever-descending price logic to its limits would mean that only a price at 0 is acceptable, not considering the real cost to provide the service.*	*1. Elia certainly appreciates that there are real costs for the provision of FRR capacity services. It nevertheless believes that sufficient competition is meant to decrease prices by selecting the best technologies and incentivizing other cost reductions wherever possible.* *As stated in the report, Elia definitively recognizes the multiple advantages of a pay-as-cleared remuneration listed by CBS.* *The approach nevertheless will solely deliver such benefits and ultimately decrease capacity procurement costs in case increased competition through new investments and new entrants can materialize in practice. This is why*

		While a temporary price increase due to the introduction of PAC cannot be ruled out, it can also not be proven. It can however be argued that in the medium to long run, the introduction of PAC for FRR capacity: *• Removes asymmetry of information and eases an efficient price formation;* *• Fosters competition and promotes investment in new capacities;* *• Leads to a transparent market and overall lower procurement costs;* *• Is easier to monitor, since providers have clear incentives to bid at short run marginal cost;* *• Is in line with the recommended harmonized pricing methodology of balancing energy for standard balancing products, as foreseen in EBGL and the Electricity Regulation.* *It can therefore be argued that a potential temporary price increase in the period after the introduction of PAC will be mitigated or even over-compensated by the incentive for more participants to enter the market, innovate and make investments required.* *2. Delaying the introduction of PAC might have a downwards effect on prices in the short run but does not imply overall lower procurement costs for balancing reserves in the long run.* *Due to the different cost structure of different technologies (cf. above, Categories 1 and 2), and the long-term price dynamics, efficiency of price formation can only be looked at in the longer run.* *Delaying the introduction of PAC might lead to lower prices in the short-term. But if barriers remain and market participants are unable to cover their costs due to the lack of transparency, complexity and drawbacks implied by PAB, this can lead to lower revenues for providers, costs not being covered. As such a*	*Elia proposes to first wait and observe if the new aFRR and mFRR designs can adequately allow this. Indeed, if the new designs do not foster competition (i.e., if other barriers to enter the market remain that are independent of design choices), then a shift towards paid-as-cleared settlement is likely to increase the procurement costs for a longer period. The question is then whether the change to pay-as-cleared in the long run will substantially reduce procurement costs to compensate for the impact of the transitory period.* *2. Elia is concerned by CBS's assertion that, due to a potential "missing money issue" at least partly caused by the pay-as-bid remuneration, ultimately procurement costs in the long-term could increase. To implement pay-as-cleared Elia needs to be sufficiently convinced that there will be no other major obstacle remaining to grasp the benefits of the alternative remuneration scheme. Unfortunately, such a comfort is not yet reached. As described in the study report, Elia does not only follow the total of offered FRR capacity (as CBS focuses on) but also the excess of offered FRR capacity as an indicator on market liquidity, which could evolve positively either due to changes at demand or supply side.* *3. Elia understands that market competition can only increase by adding providers as far as the profit margins in the market give good prospects to new providers to recover the initial investment costs. Consequently, the entrance of new providers in the market may indeed not (immediately) result in a substantial downward pressure on prices.* *Elia's objective is also not an unlimited increase of liquidity. Rather, its sole objective it to procure the means to secure the grid operations at least cost.*

		situation cannot be sustained over longer periods of time, it might lead to even further decreasing liquidity and increasing prices. *Therefore, the long-term dynamics of the market must be considered: if prices are currently low but increase in the future due to a "missing money" issue created by the PAB design, overall procurement costs will be higher than necessary.* *Market liquidity and concentration can therefore not be the only pre-condition to introduce PAC for the mFRR or aFRR auctions* *3.Looking to the pre-requisites laid down by Elia before envisaging a shift towards PAC in aFRR and/or mFRR, CBS points out the following remarks:* • *Liquidity as such is not a sufficient pre-requisite. Indeed, liquidity can only increase to a certain extent, and will only do so if price signals are incentivizing. As outlined above, maintaining PAB will not lead to increasing liquidity, and therefore pre-conditions for PAC will never be fulfilled ("chicken and egg" dilemma);* • *Over-subscribing the market can have adverse effects, in particular on assets of the Category 2. Continuing to grow liquidity while balancing needs stay the same (or even decline) will lead to a situation where prices decrease without allowing providers to be selected and/or cover their costs. The parallel with the FCR Regelleistung market is quite relevant;* • *Market concentration should also be considered carefully, given the limited size of the balancing reserves market. Given the cost structure of aggregation platforms, multiplying the number of providers will only increase the overall amount of costs to recover, therefore not contributing to declining prices.*	*If the grid can be safely operated with less balancing reserves, and that consequently a cost reduction can be achieved, Elia will do so. The aim is on achieving a comfortable ratio between Elia's demand for FRR capacity and BSPs' offers thereof so that Elia can procure FRR capacity in the most efficient way in a market that is sufficiently attractive to BSPs. A sufficient level of competition is a guarantee against potential market abuse and is therefore a situation favored by Elia.*

4.2.5 Implementation impact

	STAKEHOLDER	FEEDBACK RECEIVED	ELIA'S VIEWS
#25	FEBEG	IT impact not yet identified: Market parties are lacking the input needed to assess the efforts of implementing Pay-as-Cleared mechanism. Performing a cost-benefits analysis is consequently not possible as we speak.	Elia notes FEBEG's remark that a better view on business requirements is needed to perform a proper assessment of implementation efforts at BSP side. Elia is at the disposal of BSPs to provide the needed input if requested. Elia invites market parties to share the results of their cost-benefit analyses and give substantiated feedback on their implementation efforts in terms of costs and timing. This information can then be used to re-assess potential implementation together with the result of the market analyses as suggested in the study report (firstly the analysis on mFRR capacity in Q2 2021).
#26	FEBEG	Also from an IT point of view, the impacts of stepping from pay-as-bid to pay-as-cleared needs to be identified and discussed with market parties sufficiently in advance. The level of prioritization will also depend on other project go-lives. FEBEG would like to remind that market parties are facing busy times with multiple go-live and Elia's question on prioritization is a very valid one.	Elia acknowledges the remark, and will – if and when the decision to shift towards pay-a-cleared remuneration takes place – consider a more global implementation roadmap which duly takes into consideration other projects in order to rationalize the related efforts.
#27	FEBEG	FEBEG does not think a move to Pay-as-Cleared is neither essential nor urgent in the short to medium term. Pay-as-Cleared would potentially save time in the capacity bidding process. However, it seems that market parties are still in the learning curve of daily procurement. Also, daily procurement required some process automation that is either partially or fully implemented. A move to Pay-as-Cleared would again trigger new processes to be implemented. A cost-benefit analysis including the following elements is necessary: simulated reserve costs decrease, time saved on bidding through Pay-as- Cleared capacity remuneration, workload of updating BSP contracts, IT impact on both TSO & BSP's, costs to	Elia acknowledges the remarks of FEBEG considering the implementation impact on recently developed processes. The cost-benefit analysis included in the study report quantitatively focuses on the market assessment while Elia's proposal qualitatively takes into consideration the impact on implementation workload at both the BSP and Elia side. The reliability of a quantitative analysis based on costs reported by market parties could be easily challenged as such costs are impossible to verify.

		implement new automated processes, impact of delaying other TSO project (if applicable).	*As discussed in the Working Group Balancing meetings of October and November 2020, Elia indeed aimed to take all these aspects into consideration when deciding on the Balancing Roadmap and hence in this consultation requested the view of the stakeholders not only on the conceptual aspects but also on the priorities and implementation efforts. Elia thanks FEBEG for including these different perspectives in its responses. Any substantiated information on the effort that such implementation would represent for market parties would be welcome and Elia will consider it before making a decision to move to a paid-as-cleared remuneration.*
#28	*FEBEG*	(Answer to the question: When should the redesign of the FRR capacity remuneration be implemented: *Either at the same time or later* than the implementation of the PICASSO/MARI projects). *Go-live date would depend on the existence of cross-border capacity exchange with surrounding countries, having at least one but preferably two years of relevant data on daily procurement, having clear conclusions of a cost-benefits analysis advocating for Pay-as-Cleared mechanism.*	*As explained in the study report, Elia does currently not foresee any cross-border capacity exchanges with surrounding countries.* *For mFRR, Elia will re-assess the market after one year of experience with daily procurement. For aFRR, Elia will also re-assess the situation after at least one year of daily procurement and after the full phase-out of the "all CCTU" auction in D-2. Elia will base any future proposal to move towards pay-as-cleared design on these quantitative analyses as well as on available input regarding implementation efforts and taking into consideration the impact on other projects.*

4.2.6 Other comments

	SUBJECT	STAKEHOLDER	FEEDBACK RECEIVED	ELIA'S VIEWS
#29	*mFRR Flex*	*Febeliec*	*Febeliec also takes note from the confirmation by Elia that mFRR Standard is more expensive than mFRR Flex and thus reiterates its request not to abolish mFRR Flex too soon, as this would firstly increase the overall costs of balancing, as the overall procured volumes would remain the same, while this could also impact liquidity in a negative way.*	*The mFRR product design, and in particular the subsistence of the mFRR Flex product, will be studied separately during 2021. Elia takes notes of Febeliec's opinion in this respect, and will further elaborate on this matter in due time.*
#30	*Dimensioning*	*Febeg*	*Dimensioning out of scope: FEBEG appreciates that the decision to move Pay-as-Cleared is not dependent on the dimensioning exercise (this was not clearly mentioned in the document at least). The reserve dimensioning – meant to identify the amount of MW's needed to balance the grid at any time – is a dynamic exercise rather in the short-term to mid-term horizon while the decision to move to Pay-as-Cleared needs to be considered in the long-term. Therefore, both questions need to be fully disconnected to each other.*	*Elia agrees that the methodology for dimensioning and the question on the remuneration of capacity are not directly linked. However, dimensioning does have an impact on the market as the needs determination influences and the means determination defines the FRR capacity that is procured and thereby it does affect the analysis of liquidity.*
#31	*Link with CRM*	*Febeliec*	*Febeliec does believe that also revenues from the balancing market can provide an investment signal in additional (flexible) capacity. However, Febeliec is also concerned that capacity would be double remunerated in case of the introduction of a CRM in Belgium, as that capacity will already be remunerated via the CRM and would also be remunerated a second time via the balancing market, while those revenues would not necessarily be discounted in the bids for the CRM (in particular in case of limited liquidity and competition). Febeliec is also concerned as it does not believe that Elia has taken such revenues into account in its assessments regarding security of supply in Belgium, clearly indicating a risk of double remuneration at the detriment of grid users.*	*Market participants are in general expected to take into account all anticipated revenues, resulting from the energy market and/or the provision of balancing/ancillary services, in their bidding into the CRM. Hence, whenever market participants would reasonably anticipate additional revenues from the move to PAC for the remuneration of aFRR/mFRR capacity, leading to lower levels of missing-money, also CRM bids can be expected to be lower. In the end therefore, no double remuneration is expected. In its Adequacy & Flexibility study of 2019, Elia did consider the revenues from the provision of ancillary services, cf. p.85 of the study. However, as also indicated in the paragraph*

				on p.85, one should be careful not to double count revenues: "there is a trade-off to be made and that by opting for participation (and revenues) from the ancillary services market, the opportunity for revenues from the energy market is lost."

5. Next steps

On the basis of the reactions received from market players and its views, as set out in this consultation report, Elia finalized its note on the remuneration of mFRR & aFRR capacity: pay-as-bid vs. pay-as-cleared. The final study report also includes an update of the quantitative analyses on mFRR capacity.

Elia submits the final study report, together with the consultation feedback received from the stakeholders and the consultation report, to the CREG. These documents are also published on the consultation webpage of the study on the Elia website.

6. Attachments

The reactions Elia received to the document submitted for consultation:

- Centrica Business Solutions
- Febeg
- Febeliec
- Paul Verheecke

Contact

Elia Consultations
Consultations@elia.be

Elia System Operator SA/NV
Boulevard de l'Empereur 20 | Keizerslaan 20 | 1000 Brussels | Belgium