

Establishment of common and harmonised rules and processes for the exchange and procurement of Frequency Containment Re- serve (FCR) – Consultation Report

26 April 2018

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1. Executive summary

TSOs have prepared a proposal for the market design evolutions and a public consultation on the detailed design proposal respecting the EBGL process was held from the 15th of January to the 15th of February 2018. The consultation report on hand presents results of the public consultation together with TSO analysis and subsequent TSO conclusions. Foreseen market design evolution is summarized below. Detailed information is provided in the dedicated chapters.

TSOs conclusions regarding the evolution of FCR cooperation market design are the following:

- change the auction frequency from weekly auctions to D-1 daily all days auctions
 - as an intermediate step introduce D-2 daily auctions on working days only
- change the product duration from weekly to 4h products
 - as an intermediate step introduce daily products
- not to introduce a cross border transfer of obligations
- allow indivisible bids, with a restriction that no divisible bid can be paradoxically rejected
- maximum bid size of an indivisible bid will be limited to 25 MW
- keep the current minimum bid size of 1 MW
- neither to implement exclusive bids, linked bids nor multiple products
- not to introduce asymmetric products
- introduce marginal pricing as the TSO-BSP settlement scheme
- adopt the TSO-TSO settlement

The main concern of the stakeholders were the number of implementation steps. This was acknowledged and it was decided to merge the consulted implementation packages 3 and 4. This means that 4h products will be implemented with the D-1 auctions. However, the target solution cannot be delivered earlier than 01.12.2020 due to dependencies with aFRR and mFRR auctions. Therefore the implementation of 4h products will move backwards for about 6 months.

First implementation step can't be postponed because of the EBGL, even though the implementation will be a challenge for the TSOs as well. TSOs will start implementation immediately, anticipating positive response from NRAs. TSOs explained why they put effort on the implementation of the daily auctions instead of cross border transfer of capacity.

Following inputs were considered:

- publication of different marginal prices
- better description of the TSO-TSO settlement
- better description of the effort and challenges with the cross border transfer of capacity

2. Introduction

A public market consultation took place from the 15th of January to the 15th of February 2018. In this market consultation the stakeholders were asked to give their opinion about the draft proposal for establishing the design of the common FCR market. 44 participants filled in the online consultation and they were grouped by following characteristics:

- BSP size
 - big: > 20MW prequalified volume
 - small: <= 20MW prequalified volume
 - other: non-BSPs (e.g. associations)
- Country grouping
 - Several: BSPs active in multiple countries (e.g. Alpiq, Uniper, Vattenfall, ...)
 - Other: Replies from countries outside of FCR cooperation
- Technology grouping
 - Generation or mix: 'Generation' or 'Generation and storage/consumption'
 - Storage or consumption
 - n.a.: not relatable to 'Generation', 'Storage' or 'Consumption' (e.g. associations)

In the below
the general statistics from the consultation are shown.

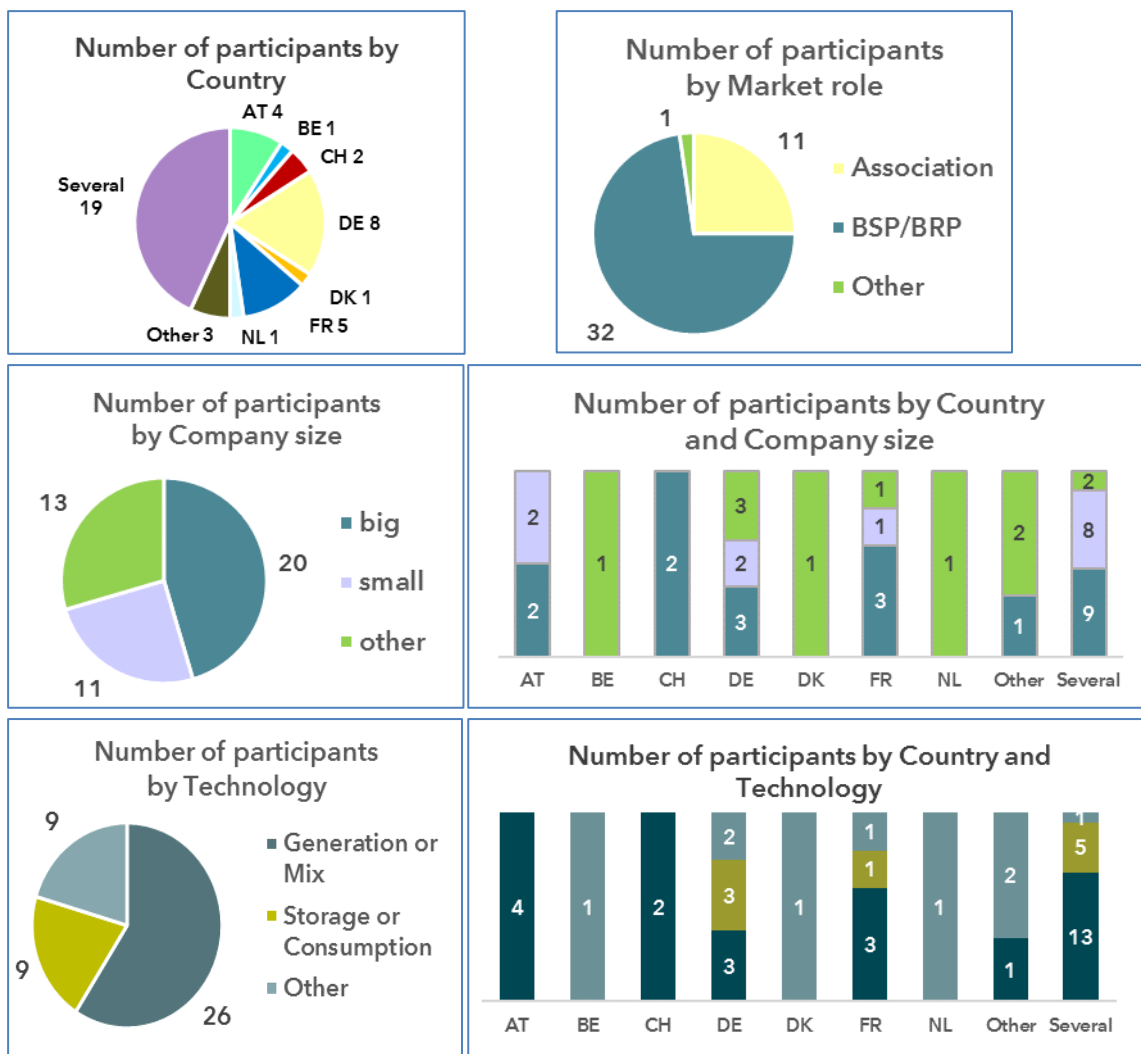


Figure 1: General statistics from the consultation

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3. TSO-TSO-Model

3.1 Analysis of results

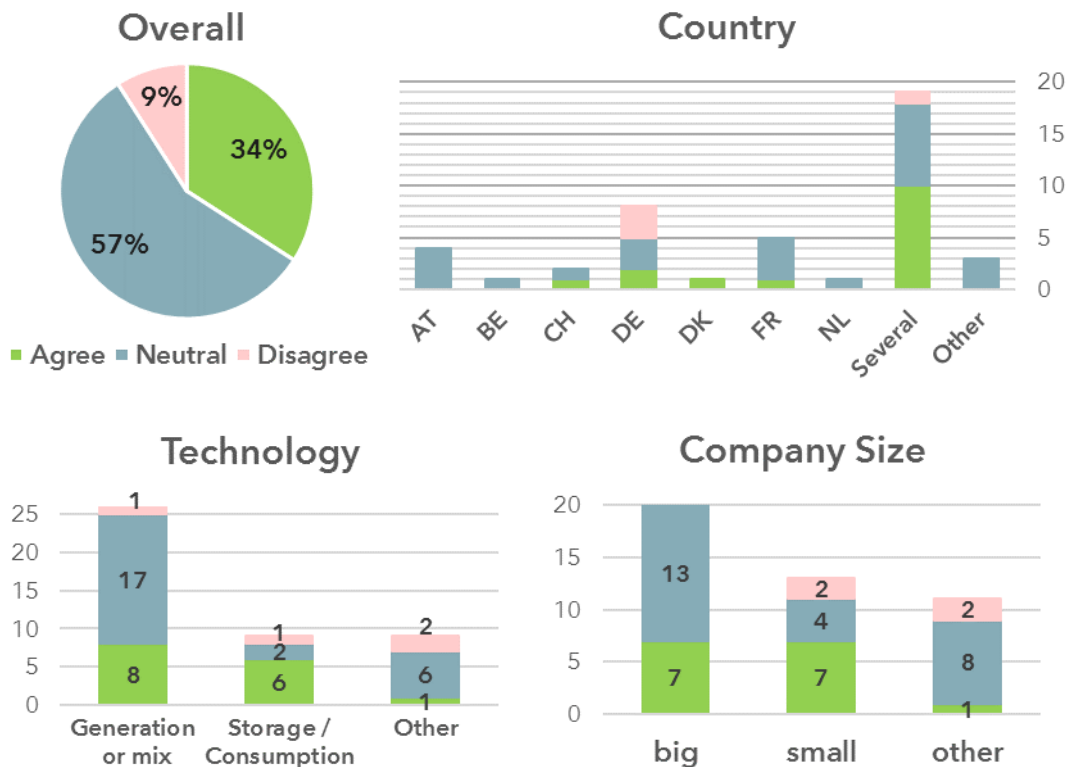


Figure 2: Stakeholder opinion on TSO-TSO-Model

One third of the stakeholders agree with the proposal of the TSOs and more than half of them have a neutral opinion. Some participants complain about the complexity of the balancing market for the BSPs caused by the TSO-TSO model. As a possible measure to reduce complexity of the TSO-TSO model the participants ask for more transparency. This topic is addressed in chapter 9 in more detail.

There are a lot of other comments (e.g. about cross border transfer and harmonisation) which in TSOs opinion are not directly connected to the proposed TSO-TSO model. For these topics the TSOs refer to the respective other chapters of this document. Overall there are more positive comments about the (already existing) TSO-TSO model than there are negative comments.

3.2 Proposal & Justification

A TSO-TSO model shall apply pursuant to Article 33 (2) of EBGL and combines the advantages of having a common market, a harmonised market design and the benefits of national regulations where necessary. In the existing FCR Procurement the exchange of FCR is already performed based on a TSO-TSO model. From the experience of the TSOs this TSO-TSO model works quite well. By four years after entry into force of the EBGL, all exchanges of balancing capacity shall be based on the TSO-TSO model. Therefore the proposal of the TSOs is to continue with the existing TSO-TSO model.

4. Auction frequency and auction timing

4.1 Analysis of results

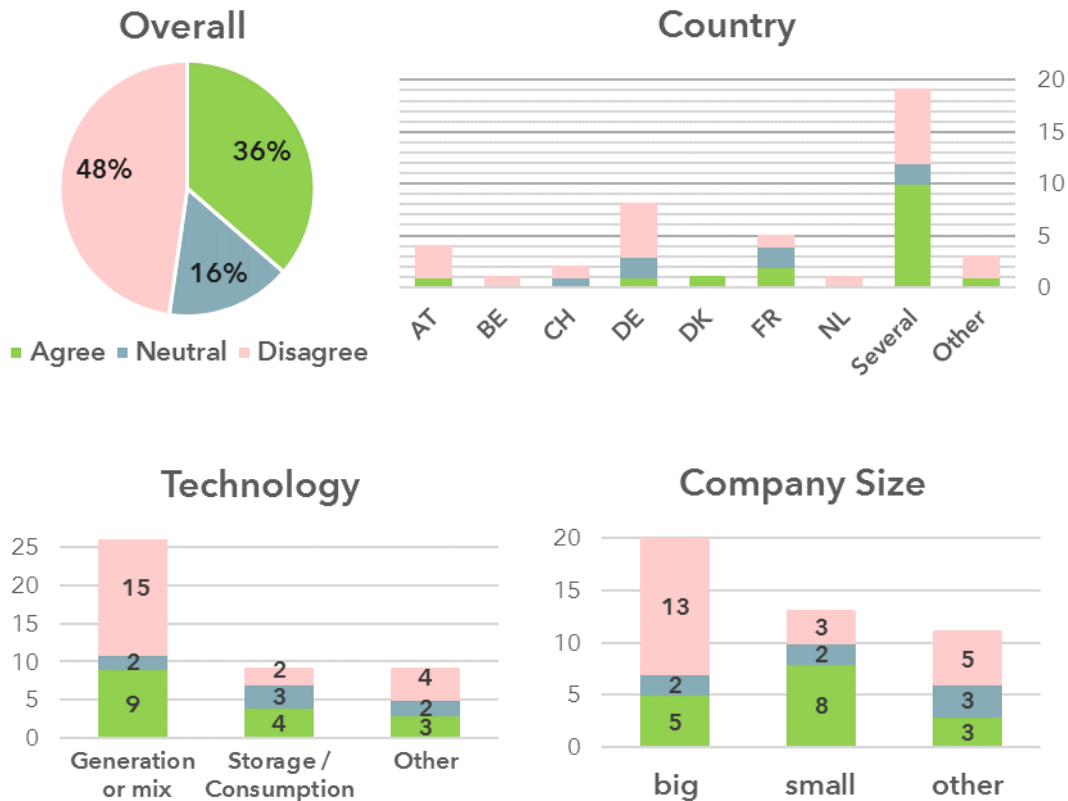
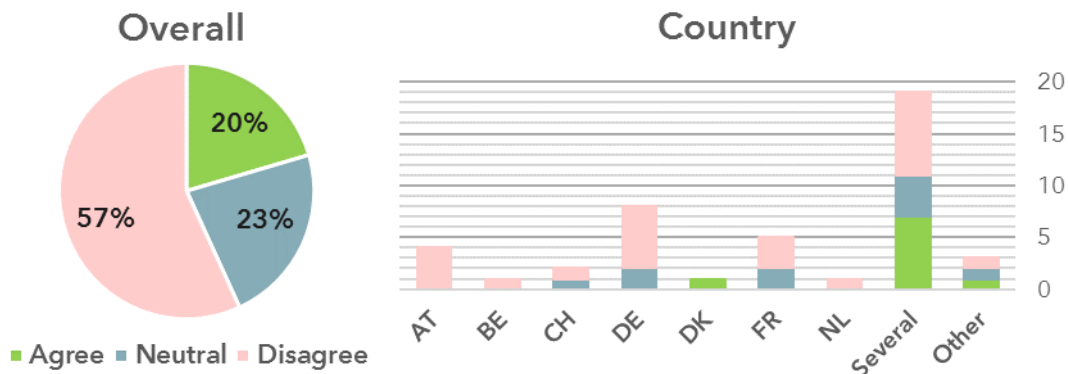


Figure 3: Stakeholder opinion on auction frequency

48% of the respondents is not in favour of changing the auction frequency to daily auctions, this leaves just over half (52%) of the respondents that are not against the change. Among the respondents not in favour there are many bigger companies that have generation assets in several countries, in a number of occasions it is stated that weekly auctions in combination with a secondary market is preferred. At the same time also some smaller stakeholders are not in favour, which is mainly due to the increased workload and extra cost resulting from daily auctions, some associations argue that there is not enough proof that daily auctions are better.



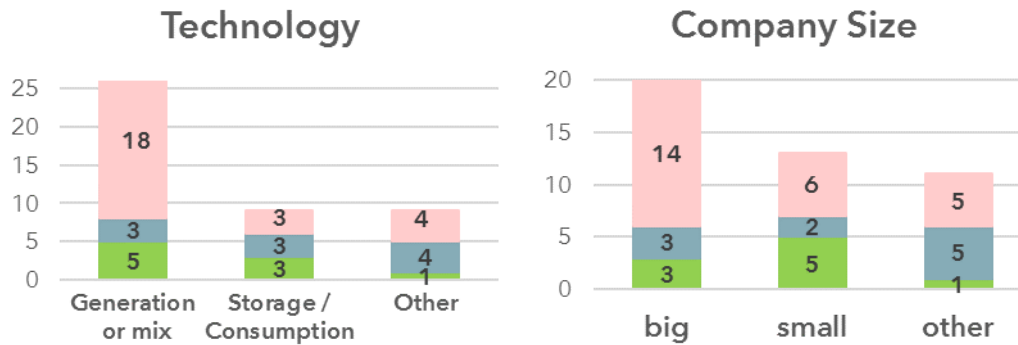


Figure 4: Stakeholder opinion on auction timing

Regarding the auction timing the graph shows that more than half of the stakeholders do not agree, but it should be noted that in several cases it is explained that parties do not agree since they do not like the intermediate steps in implementation and in many cases it is added that moving to the final solution as quick as possible is preferred. So it seems that this group of stakeholders is actually not against the proposed change, and in case we consider this kind of answers positively the picture is different and 52% agree while only 32% oppose. The distribution among companies in terms of size and technology does not differ a lot from that in the auction frequency answers.

4.2 Proposal & Justification

In Article 24 (2) of EBGL it is stated that for balancing energy procurement the GCT shall be as close as possible to real time. It is a general opinion that moving auctions closer to delivery time increases liquidity and gives better possibilities to smaller BSPs and new market entrants with non flexible resources like RES, to offer the service. It is acknowledged that larger BSPs, especially the ones with classic production units, do not need higher auction frequency and shorter GCT but it is assumed that the extra effort is easy to handle by these organisations. The FCR cooperation TSOs have the ambition to comply with the target of a GCT close to delivery in the best way possible while respecting the timings of other auctions that have interdependencies, the order in which products are auctioned should be the right one and enough time should be available inbetween auctions.

The FCR cooperation TSOs propose for the final solution to have daily auctions, executed every day for the next day (GCT is D-1 8h00), and the GOT will be D-5. GOT for the first implementation step will be D-14 (calendar days) with the justification that TSOs aim to apply a clear rule that takes into account all national holidays, allowing BSPs to have always minimally 3 working days for the GCT (D-5 working days). Several dates in December 2018 are defined as holiday to avoid GCT on Friday afternoon before holidays.

Regarding the exact timing of the sourcing of FCR in the envisaged daily auctions, the ambition is to have the GCT as close as possible to the delivery day while respecting the technical constraints for a secure operation. However, due to conflicting timings in Germany with the aFRR market GCT (which will move to 8:00 from the second half of July 2018 onwards) and in order to move to the target solution in a stepwise approach the GOT, GCT and publication time for the FCR Procurement will be implemented in two steps.

In the chapter on implementation roadmap (chapter 12) there is further argumentation on the intermediate steps and how the remarks received during the consultation have been taken into account.

5. Transfer of balancing capacity

5.1 Analysis of results

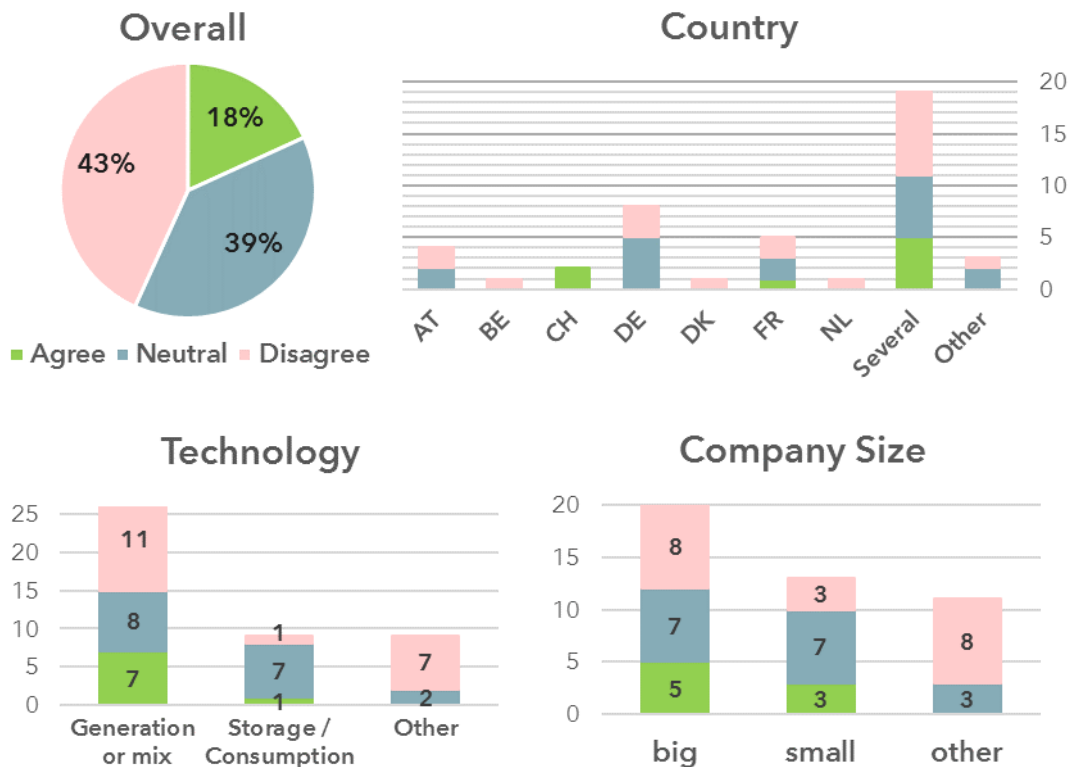


Figure 5: Stakeholder opinion on transfer of balancing capacity

Mainly bigger BSPs with generation technology and especially when they are BSPs in several countries wish to have the opportunity of cross border transfer of obligations. Furthermore associations and especially those with a trader focus support a secondary market.

Small BSPs which provide storage or consumption units can accept the further non availability of a crossborder transfer of capacities or have a neutral opinion on that.

5.2 Proposal & Justification

Art. 34 EBGL states that TSOs of a regional cooperation shall allow cross border transfer of obligation and have a strict implementation date of 12 months after entry into force of the EBGL. Furthermore TSOs can request an exemption from allowing crossborder transfer if the contract period is less than one week. The FCR Cooperation TSOs evaluated both possible options to be compliant with EBGL.

Implementing cross border transfer of obligation which is often called secondary market by the stakeholders is technically not implementable in the given time:

- First of all a concept for a secondary market has to be developed (first like that in Europe). What should be the market design of that secondary market? EBGL just states that gate closure of secondary market is at least a hour before the delivery day. But many details still need to be defined.
- From this concept the technical feature requests can be derived. First a total new IT platform would have been needed which captures the notifications and aligns them with the import/export limits as given by SO GL. Stakeholders mentioned that this would not be overly complex. But in a setup of seven countries in hourly or smaller resolution with 40 or more BSPs and resulting possible cross relations when transferring obligations this is quite complex and has to be done automatised tool based.

- Publication functions have to be foreseen. There is no such tool yet. It would have to be designed and to be implemented.
- Then having cleared each hour, or in the worst case shorter, we have 96 k-factor¹ changes in nine Load Frequency Controllers (LFCs). The LFC is control center IT and not comparable with usual business IT as the tendering tools. Currently the TSOs do not have LFC technology ready to calculate and import on 1/4h or hour basis new k-factor values as parameter in the LFCs. Investigations of implementation times for automating k-factor parametrizing showed implementation times way longer than 12 months. Correct calculation and parametrizing the LFCs each and every time is crucial from system operation point of view. If the k-factor combinations are wrong then aFRR regulates away FCR and it is lost.

From TSOs perspective there are very limited additional benefits of having a secondary market closing one hour before the delivery day compare to a daily auction in D-1. Stakeholder feedback claims there would be lots of benefit which would outweigh cost but they did not quantify or explain from where they shall derive and how the distribution of the benefits look like. There is also no benefit loss since at the moment there is no crossborder secondary market which would be abandoned with this exemption.

According to consultation feedback crossborder secondary market is seen as a backup opportunity. With this setup (transfer only for a whole day, notified D-1) the secondary market wouldn't be satisfying for the stakeholders since it is not useable because backup needs emerge spontaneous. So most likely a set up of the secondary market as a continuous market opportunity in maybe 1 hour blocks or smaller would meet the expectations of the market. The increased complexity of such granularity further support that its implementation by the end of 2018 is not possible. Its implementation on a longer term is not excluded.

Level playing field issues as mentioned in the stakeholder feedback were not touched since cross border secondary market is in a non discriminating way as not in place for anyone.

Daily auction performed on working days d-2 are technically implementable into the respective TSO IT tools in the given time. These IT tools are usual business IT which just has to be adapted. Working day process in usual office time is manageable too. Change of k-factor once a day in the LFCs is the bottleneck in the project, but this manual approach is still acceptable on a daily basis.

As daily auctions were proposed, the requirement for the exemption would be given, and the logic conclusion for being compliant with EBGL is to implement daily product before 18 December 2018.

¹ Defined in Article 3(45) of Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation

6. Product

6.1 Analysis of results

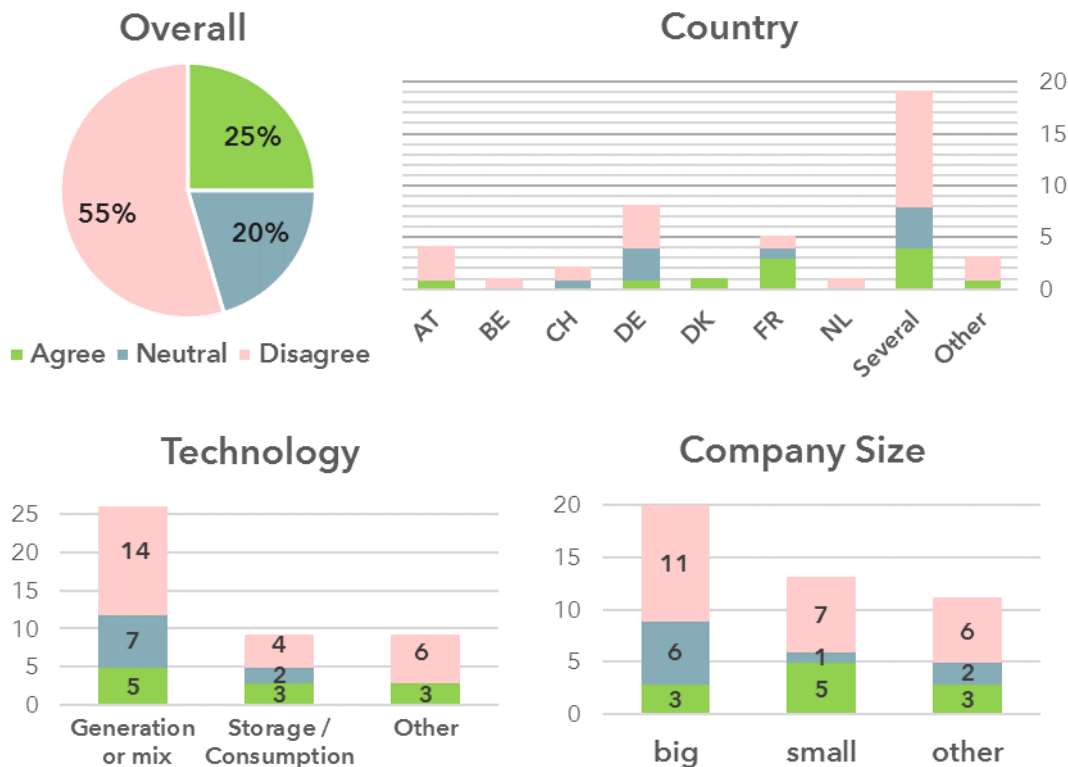


Figure 6: Stakeholder opinion on Product

55% of the stakeholders are against the proposed solution but many of them have different concerns. About half of the stakeholders are in favour or have a neutral opinion.

TSOs thank the participants for their acknowledgement regarding the target 4H product as a good compromise solution (11 answers). Among the participants there is wide agreement towards symmetric bids (11 answers) and understanding for IT changes and constraints to be considered towards the intermediate and target market designs (2 answers).

Two participants ask for new products and parallel products (symmetric and asymmetric bids).

25 participants disagree with the proposed changes. The main concerns raised in the consultation are:

Product duration: Both agreement and disagreement is seen regarding the proposed product duration. Some participants wish for shorter product duration than the proposed 4h, others wish to stay with the current weekly duration.

Symmetric product: To offer an asymmetric product, parallel to the existing symmetric product can enable more technologies like demand response operators and weather dependent renewables to participate in the FCR market.

System security: Product duration also shows significant implication for system security and deterministic frequency deviations (DfDs).

Operational constraints: Some stakeholders see increased operational effort and costs as well as increased complexity.

Financial issues: Some stakeholders fear that the operational costs will increase due to higher ramping and maintenance efforts. Moreover some stakeholders expect volatile prices with every 4h product change and see too little incentive for further investment in technologies with low opportunity costs.

6.2 Proposal & Justification

The market change is considered to be a good compromise between long and short term products. It is expected to increase the flexibility in the market and help integrate renewables and decentralised sources. Moreover, it will allow for better alignment with scheduled operation of the participating units.

Product duration: The observed mixed opinions show that the compromise proposed by TSOs is a good option that will allow more flexibility for BSPs with variable FCR delivery over the day.

Symmetric product: Although the proposed product is symmetric, BSPs still have the opportunity to use aggregation or pooling of asymmetric technologies in order to create symmetric bids. Asymmetric bids have major technical and operational implications, like specific upward and downward k-factors per country in their Load Frequency Controllers as well as the risk related to system splits if positive and negative FCR is not evenly distributed. Also, asymmetric bids raise the question of FCR energy remuneration and BRP imbalance adjustment. The general call from stakeholders for transparency and reduced complexity is met with a symmetric product. TSOs propose only symmetric bids due to technical and operational implications.

System security: FCR TSOs have taken into account system security implications and DfDs and derived the 4h product as best possible compromise regarding system stability, cost, transparency and also enabling more technologies to participate in the market. It is suggested to allow that mitigation measures are applied in case increased DfDs, linked to the 4h product duration, are observed or are expected.

Operational constraints: TSOs have proposed a model that by following a step-wise implementation plan gives stakeholders time to adapt to new operational procedures and opens the market for new entrants.

Financial issues: The proposed FCR model will be based on marginal pricing which will lead prices towards marginal costs and will make it easier for small and new participants to bid their own costs and not develop advanced bidding strategies. With this simple mechanism participants will have their operational costs covered and the proposed market change is expected to give better investment signals to the market.

7. Bid design possibilities

7.1 Analysis of results

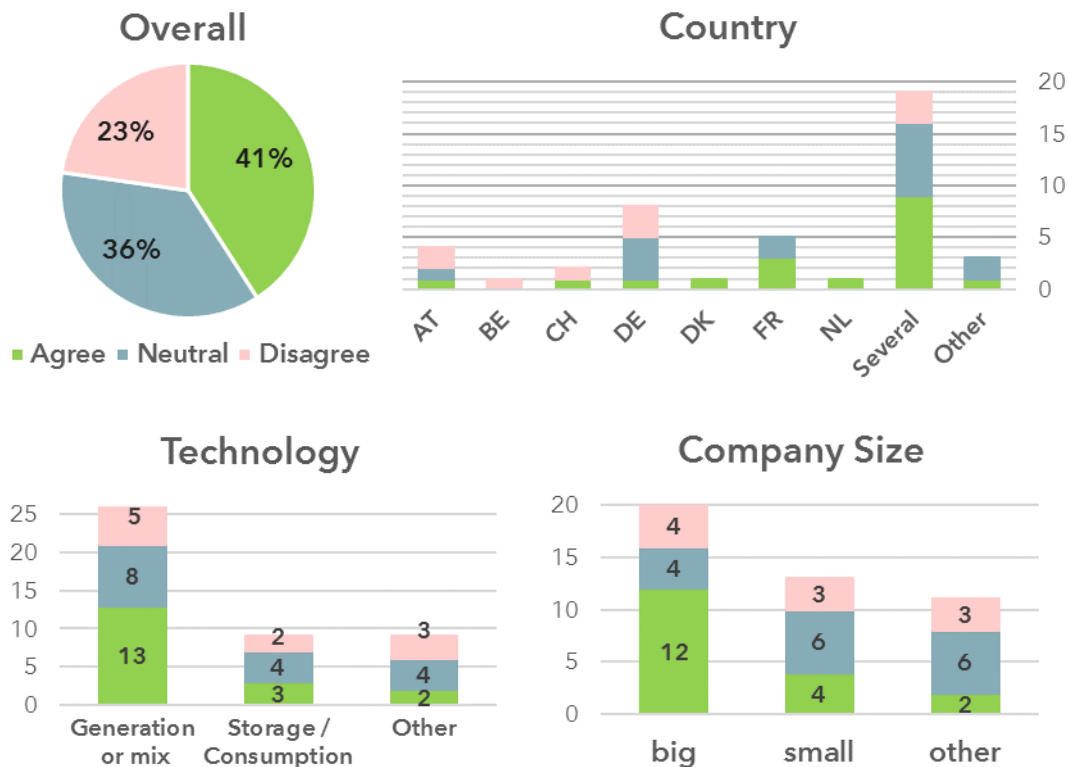


Figure 7: Stakeholder opinion on Bid design possibilities

41% of stakeholders agree on the proposal to allow for every participant divisible bids together with indivisible bids and on the minimum and maximum bid size. 36% don't have a strong opinion on the subject. 23% do not welcome this proposal.

While most of the BSPs welcomes the 1 MW bid size, in order to avoid to regroup in a reserve providing group, some stakeholders would like to have a smaller minimum bid size down to 0.1 MW to promote new entrants to offer FCR.

The current limitation of 25 MW of maximum bid size for indivisible bid is questioned since the auction allocation algorithm prevents any divisible bid from being paradoxically rejected. Some BSPs don't want to have indivisible bids.

Stakeholders would like the TSOs to study the possibility of linking bids in the same procurement period (4h) and between 2 blocks of 4h.

7.2 Proposal & Justification

TSOs propose to have 1 MW minimum bid size and a maximum bid size of 25 MW for indivisible bids. BSP are not forced to use indivisible bids, and this proposal was done to reflect specific constraints of units as reflected in the formal consultation report.

Regarding the possibility of introducing linked bids and decrease the minimum bid size, TSOs agree to monitor the outcome of the changed market design when it is fully in force in terms of liquidity and number of BSPs and then will investigate measures to foster efficiency with this proposal.

Moreover the 4h products comes already from a compromise between BSPs that wanted to have hourly bids, and linked bids and BSPs who wanted longer bids.

8. Auction Allocation Algorithm

8.1 Analysis of results

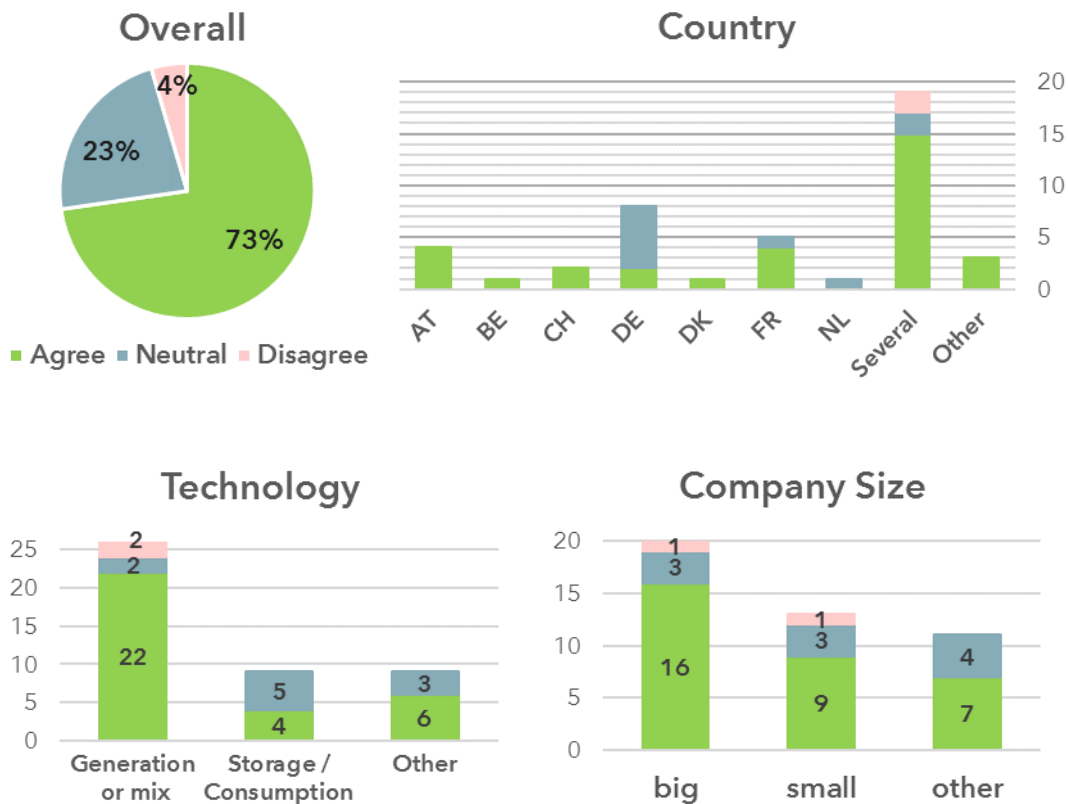


Figure 8: Stakeholder opinion on Auction allocation algorithm

Most of the participants agree to the proposed changes, and would like to keep the transparency of the algorithm results.

8.2 Proposal & Justification

The considered market design change will guarantee that divisible bids below the marginal price will always be fully awarded. In this way, the relevance of the marginal price signal will be strong and will facilitate long term optimisation. At the same time the transparency of the algorithm will not be decreased. Publication of the awarded bids will be sufficient, as all rejected divisible bids would have a higher price than the marginal price. This will comply with Article 12 of the EBGL. In addition different marginal prices –if applicable - will be published.

9. TSO-BSP settlement

9.1 Analysis of results

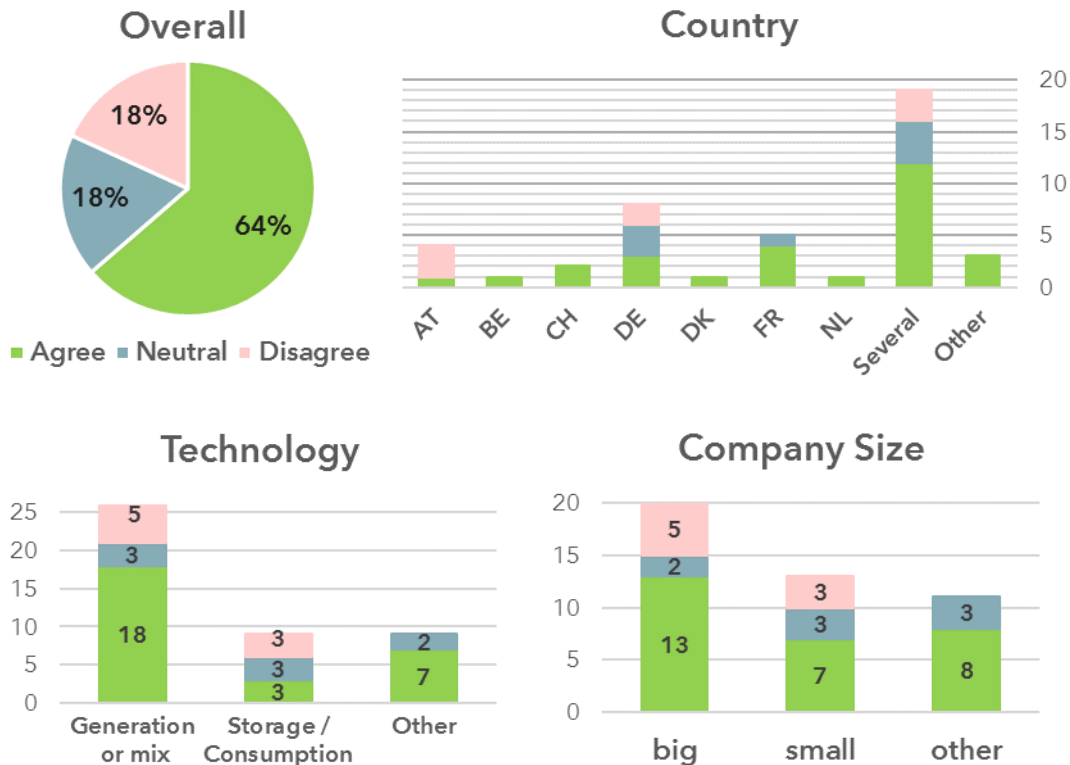


Figure 9: Stakeholder opinion on TSO-BSP settlement

64% of the stakeholders agree with the change from pay-as-bid to pay-as-cleared settlement. 18% are neutral and 18% disagree. Reading the comments from the stakeholders reveals that in total four stakeholders have inconsistencies between their written comments and their choice of agree/neutral/disagree. One stakeholder disagrees, but comments that pay-as-cleared should be implemented faster than the proposed timeline. One stakeholder is neutral, but comments that he prefers to stay with the pay-as-bid regime. Two stakeholders are neutral, but one comments that pay-as-cleared is important in order to send the right price signals and the other comments that pay-as-cleared should be implemented with the 4h products.

All stakeholders that disagree with pay-as-cleared settlement are active in either Austria or Germany or both Austria and Germany, while a single stakeholder is active in Austria, Germany and Switzerland. Stakeholders from all other countries either agree with pay-as-cleared settlement or are neutral.

The main arguments from stakeholders for agreeing with pay-as-cleared settlement are:

- Pay-as-cleared leads to the most efficient market outcome.
- Pay-as-cleared is a sensible harmonization across the FCR cooperation and in line with the EBGL.
- The FCR cooperation is a big market with increased competition and liquidity compared to the situation before the cooperation.
- The market design should provide better price signals, expose scarcity and give better investments signals to the market.
- The current pay-as-bid regime favors the larger incumbents and constitutes a barrier for smaller players.

The main arguments from stakeholders for disagreeing with pay-as-cleared settlement are:

- Pay-as-cleared should be used in case of perfect competition and this is not the case in the FCR cooperation. Pay-as-bid is the right settlement regime for achieving cost-efficiency.
- There are signs of strategic bidding behavior in the FCR cooperation, where some BSPs try to give price signals. This behavior is costly for the BSP in a pay-as-bid regime, but not in a pay-as-cleared regime, since the BSP always receive the marginal price.
- BSPs can bid their marginal cost in a pay-as-bid regime. The argument for wider market participation through pay-as-cleared therefore seems wrong.
- In a pay-as-cleared regime not all BSPs can cover their costs if bids are based on the marginal costs of the BSPs.
- Pay-as-cleared and Cross Border Marginal Pricing is complex and will lead to different remuneration of BSPs if import or export limits are hit. Scarcity will lead to high prices and market participants of an exporting country will be penalized for transmitting cheaper bids, which may affect their bidding behavior and incentivize them to increase prices.
- Pay-as-cleared will make it more difficult for BSPs to prepare their bids in the regular auctions and reduce predictability in terms of volume and prices.

The comments and arguments from stakeholders indicate disagreement on how to achieve cost efficiency, the level of competition in the FCR cooperation and the conditions for small and large players in the common market.

The general comments from the stakeholders to the suggested market design are:

- Import/export limits should be communicated in a transparent way and the definition of when an import or export limit is "hit" should be clarified.
- The implementation time line could be shortened.
- Stakeholders should be able to understand the auction price formation, which requires documentation of the preconditions for the algorithm and publication of local marginal prices as well as all submitted bids including non-accepted bids.

9.2 Proposal & Justification

TSOs propose to implement pay-as-cleared settlement according to the timeline specified in the proposal and to publish the crossborder marginal price as well as local marginal prices in case import or export limits are hit. TSOs share the view that pay-as-cleared settlement will provide better price signals and make it easier for smaller and new entrants to participate in the market.

TSOs understand that some BSPs find the suggested cross border marginal pricing principle complex. However, as the principle is similar to the principle used in the single day ahead market coupling, this should not be unfamiliar to most BSPs. Also, TSOs believe that transparency about the market functioning e.g. publication of the import/export limits will make it easier for market participants to understand the price formation.

TSOs disagree with the argument that cross border marginal pricing penalizes BSPs in exporting countries and that a single price across the entire FCR cooperation is necessary to ensure equal treatment. TSOs are of the opinion that it is important to send adequate price signals to the market. One settlement price across the entire FCR cooperation will not send adequate price signals in case of scarcity in one area and extensive surplus in another area. TSOs therefore believe that crossborder marginal pricing is the best compromise between short -and long-term optimization. Regarding discrimination of BSPs in exporting countries, the export limits are independent of the settlement regime i.e. the volume that BSPs in exporting countries are able to sell will stay the same as with pay-as-bid settlement. Any BSPs possibility to utilize national market power is therefore unchanged. TSOs believe that the possibility to utilize market power – all else equal – is lower in the common FCR market than in purely national markets.

TSOs disagree with the argument that pay-as-cleared settlement discriminates certain types of technologies. The argument from stakeholders for discrimination of certain types of technologies is that pay-as-cleared settlement assumes that all BSPs can bid their marginal cost in the FCR auction

and get their fixed costs covered in other markets, but not all BSPs participate in other markets. TSOs acknowledge this argument. However, like a BSP can bid its marginal price in a pay-as-bid regime, a BSP can also bid a price that covers all its costs in a pay-as-cleared regime - both marginal and fixed. The benefit of the pay-as-cleared regime is that the BSP only has to know its own underlying costs.

10. TSO-TSO settlement

10.1 Analysis of results

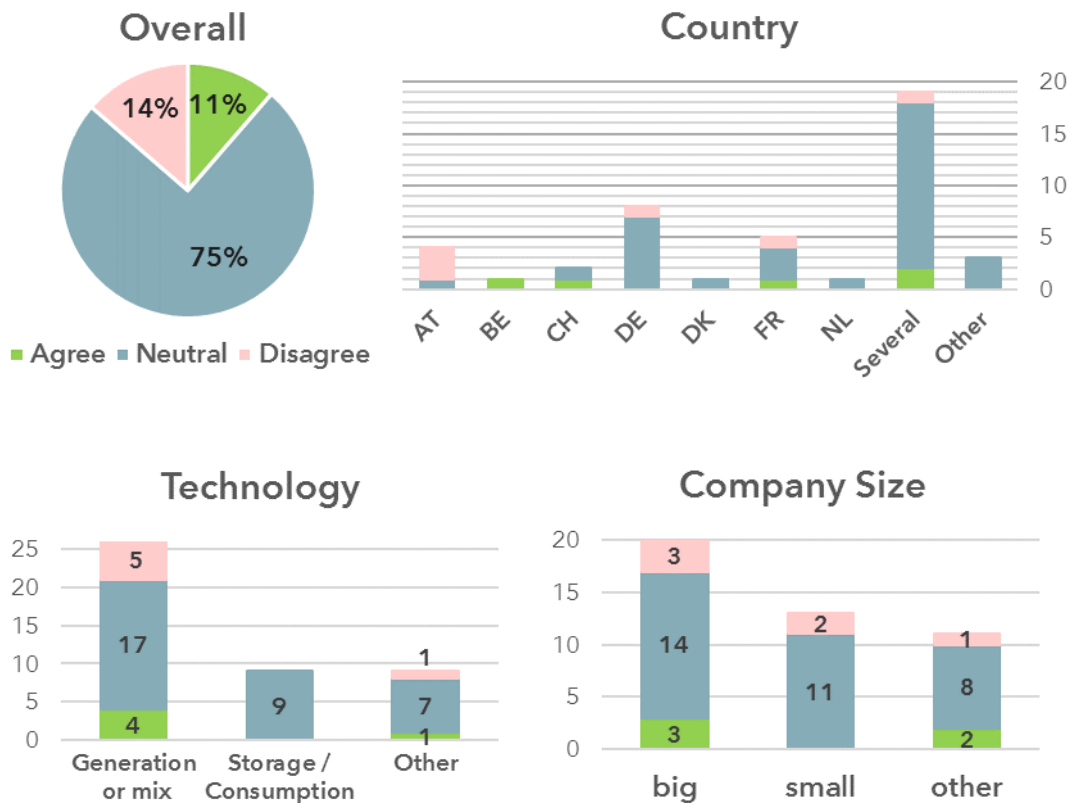


Figure 10: Stakeholder opinion on TSO-TSO settlement

Most of the stakeholders are neutral regarding the current proposal and would welcome an example and a clarification of the neutral impact for TSOs. Moreover, some stakeholders asked for a clarification on how the local auctions of NL and BE will be treated.

For more simplicity some stakeholder would like NL and BE to procure their core share in the common procurement. Finally, one stakeholder expressed concerns that some bids may be remunerated below the marginal price.

10.2 Proposal & Justification

The FCR Cooperation TSOs would like to reassure the stakeholders that all the bids will receive their local marginal price or the cross border marginal price in case no limits are hit.

An importing country, whose import limit was hit, has to pay for all its procured volume (locally and cross border) its LMPI, which is in this case higher than the CBMP.

An exporting country, whose export limit was not hit, gets paid for all his exports the CBMP. Similarly, all the BSPs of a country where the export limit was hit, will receive their own country's LMPE (lower

than the CBMP for the rest of the cooperation), and importing countries pay the common CBMP for their imports (in this case higher than the LMPE).

The local auctions of BE will remain independent of the FCR Cooperation (since Belgian core share will be covered entirely by local auction) and as a result the cross border marginal price of the FCR Cooperation will also remain independent from the local auction. They should neither influence this price, nor create a local marginal price. The rest of the volume that is not part of the core share will be treated like all the other cases by the regional market. The Netherlands will procure its full demand in the common FCR Procurement as of 26 November 2018 (delivery day).

10.3 Example

For this example for the TSO-TSO settlement with marginal pricing the real data of the FCR procurement from Tuesday, 05.03.2018 were used. In reality the settlement was based on pay-as-bid, this example is based on marginal pricing.

Country	demand	import limit	export limit	awarded	import/export	import limit hit	export limit hit	net position	marginal price
	MW	MW	MW	MW				MW	€/MW
AT	64	44	100	84	exporting			20	1.932,00 €
BE	45	45	100	0	importing			-45	1.932,00 €
CH	62	43	100	78	exporting			16	1.932,00 €
DE	620	434	186	806	exporting		yes	186	1.776,00 €
FR	536	375	160	436	importing			-100	1.932,00 €
NL	77	77	100	0	importing			-77	1.932,00 €
Total	1404			1404				0	

	financial position due to import/export	net pos. absolute value	net pos. percentage	net position share	actual cost (TSO-BSP)	import/ export cost	total procurement cost
	€	MW	%	€	€	€	€
AT	38.640,00 €	20	4,50%	- 1.307,03 €	162.288,00 €	- 38.640,00 €	122.340,97 €
BE	- 86.940,00 €	45	10,14%	- 2.940,81 €	- €	86.940,00 €	83.999,19 €
CH	30.912,00 €	16	3,60%	- 1.045,62 €	150.696,00 €	- 30.912,00 €	118.738,38 €
DE	330.336,00 €	186	41,89%	- 12.155,35 €	1.431.456,00 €	- 330.336,00 €	1.088.964,65 €
FR	- 193.200,00 €	100	22,52%	- 6.535,14 €	842.352,00 €	193.200,00 €	1.029.016,86 €
NL	- 148.764,00 €	77	17,34%	- 5.032,05 €	- €	148.764,00 €	143.731,95 €
Tot.	- 29.016,00 €	444	100%	- 29.016,00 €	2.586.792,00 €	29.016,00 €	2.586.792,00 €

Figure 11: Marginal price example

Net position

The net position of a country is the difference between the awarded volume of the country and the country's demand. The absolute value of the net position is limited to the import limit of the country.

Marginal price for each country

For all the countries where the import and export limits are not hit, the marginal price of all these countries is equal. The marginal price of all those countries is the maximum price of the accepted offers over all these countries (Cross Border Marginal Price - CBMP)

If the import or the export limit of a country is hit, then the marginal price of this country is the maximum price of the accepted offers of this country (Local Marginal Price - LMPi or LMPE).

If there are no offers at all for a country, then the marginal price of this country is set to the CBMP.

BSP remuneration

Each BSP is remunerated by its connecting TSO at the marginal price of its country.

Countries financial positions due to import/export

The financial position due to import of each importing country is counted negatively and is equal to the imported volume multiplied by the country marginal price.

The financial position due to export of each exporting country is counted positively and is equal to the exported volume multiplied by the country marginal price.

FCR cooperation import/export limit pool

The sum over all the countries of the financial positions due to import/export is defined as the import/export limit pool (see Figure 12, highlighted in orange).

Distribution of the import/export limit pool among countries

The import/export limit pool is distributed to all countries, proportionally to the absolute value of their net position.

Countries total financial positions

For each country, the country's total financial position is the sum of

- its net position share (due to import/export limit pool distribution)
- its actual cost for BSP remuneration
- its financial position due to import/export

11. Accession of new parties

11.1 Analysis of results

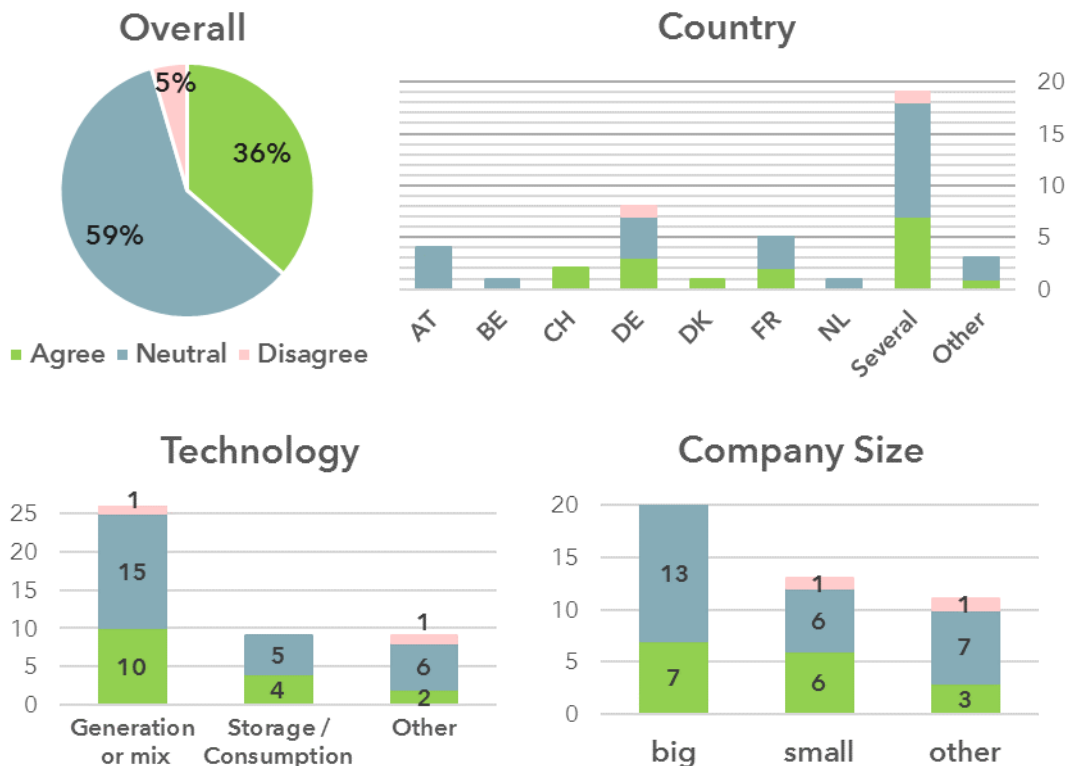


Figure 13: Stakeholder opinion on Accession of new parties

59% of stakeholders are neutral regarding the process for accession of new parties. 36% agree and 5% disagree. Reading the comments from stakeholders reveal that a large part of the stakeholders that have answered "neutral", are positive towards accession of new parties and further integration of the FCR market. However, they request transparency and clear timelines and conditions (import/export limits, phases of limited operation) for new TSOs joining the cooperation. One requests that stakeholders are duly consulted, not only informed, about the request of a new TSO to join the cooperation. Another frequent topic is the level of harmonization, which stakeholders believe should be improved within the existing cooperation. Stakeholders believe that new TSOs joining the cooperation should comply with the rules agreed by the TSOs and NRAs that are already participating in the cooperation.

Some stakeholders comment that the sentence *"when joining the FCR Procurement parties might be asked to implement a phase of limited operation for a limited period of time"* is not clear and should be better clarified.

The argument of the two stakeholders that disagree with the process for accession of new parties is that changes of the balancing market design create costs for BSPs, which must be recovered in the balancing market. A market design which is permanently "under construction" might reduce the number of BSPs, who are willing to invest in such a market.

11.2 Proposal & Justification

TSOs propose to implement the suggested process for accession of new parties, with the addition that information on import/export limits and if relevant a phase of limited operation is published in all participating countries in due time prior to the first auction.

Accession of new parties will not have to be approved by all NRAs of the participating countries. Stakeholder involvement in the country of the joining party will follow the local process.

"phase of limited operation" refers to a trial period where potentially, the import/export limits can be lower than specified in the SO GL for a limited period of time. A trial phase of 6 months was applied during the joining of both Belgium and France.

Extension of the joint FCR Procurement towards Western Denmark ("DK1") is currently foreseen and welcomed by all involved Transmission System Operators ("TSOs") and National Regulatory Authorities ("NRAs"). All TSOs and NRAs support joining of DK1 as soon as possible, but starting implementation process latest by mid of 2018 and joining of DK1 latest at the end of 2018. Despite DK1 not being part of this joint FCR Procurement today, they are considered a party in this public consultation and resulting market design proposal to NRAs, on equal terms with the other TSOs. Thus, the market design will already be approved and applicable when DK1 joins the FCR procurement.

12. Implementation roadmap

12.1 Analysis of results

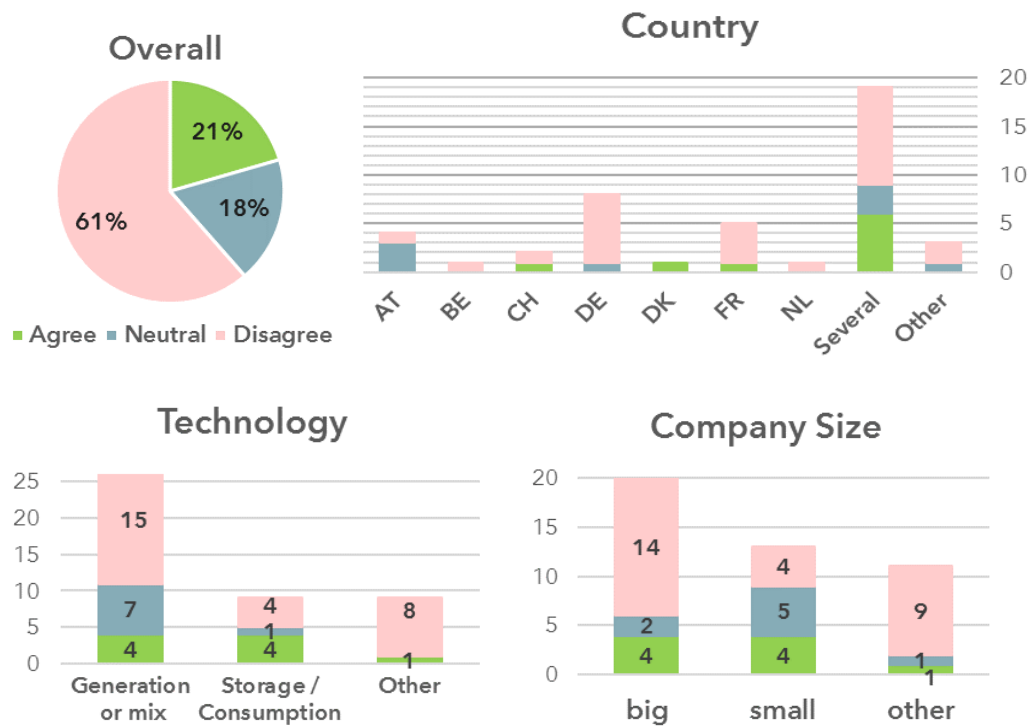


Figure 14: Stakeholder opinion on the Implementation roadmap

Most of the participants disagree with the implementation roadmap because of the number of implementation steps as it could increase the implementation effort. Very short implementation time for the first step seems to be difficult for the bigger companies, but on the other hand some participants would even prefer more ambitious implementation of the final solution. Step 2 is acceptable for most of the participants.

12.2 Proposal & Justification

First step can't be postponed because of the EBGL, even though the implementation will be a challenge for the TSOs as well. TSOs will start implementation immediately, anticipating positive response from NRAs. In chapter 5 it is explained why it was decided to put effort on the implementation of the daily auctions instead of cross border transfer of capacity. Many participants would prefer to implement step 2 already in 2018, but this additional effort for the TSOs would not be feasible. Therefore TSOs propose to keep the first two steps as already planned. For the target design with the daily auction (all days) and 4-hour-products there have to be made quite a lot of significant changes in IT processes and in operational procedures (for TSOs as well as for BSPs).

In order to reduce number of implementation steps TSOs propose to combine step 3 with step 4 and to implement D-1 all days actions in a single step with the 4h products on 1 December 2020 (delivery day).

13. General remarks

In this chapter, the stakeholders had the possibility to give their general comments and remarks. This way, the TSOs wanted to make sure that no comments are omitted even if they are not included in one of the specific questions.

13.1 Analysis of results

A lot of remarks were a repetition of the questions mentioned in the chapters above. However, there were still some valid comments that have not been mentioned in the chapters before. Many of the participants stressed the need for harmonization of rules across the FCR Cooperation. Aspects like backup requirements and penalty regime were flagged as important to ensure a level playing field. Another comment was about the recovery of the FCR costs by the TSOs and the need to have a common approach. Some stakeholders also gave the remark that moving towards daily auctions should be combined with some bidding automatisation.

13.2 Proposal & Justification

We find the comment on harmonisation very valid and we would like to state that FCR Cooperation already works towards harmonisation of rules. With the current proposal, the FCR Cooperation TSOs are already trying to harmonise several aspects like the use of indivisible bids and the decoupling cases of some members of the cooperation. In addition to this and taking into account the opinion of the stakeholders given by the previous consultation, the TSOs are already working towards the harmonization of aspects including monitoring, penalties, backup requirements and aggregation rules.

Regarding the cost remuneration regime, we consider it as a national matter and each NRA should coordinate with the respective TSO how to define the cost recovery. Finally, the FCR Cooperation will consider further automation opportunities.