



smartEn
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Response to consultation on all CE and Nordic TSOs' results of CBA for FCR providing LER units

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All CE and Nordic TSOs' results of CBA in accordance with Art.156(11) of the Commission Regulation (EU) 2017/1485 of 2 August 2017

smartEn has identified a series of outstanding issues in the current design and scope of the CBA approved Methodology to assess the time period required for FCR providing units or groups with limited energy reservoirs to remain available during alert state, as well as in the options proposed by ENTSOE as results of the CBA, that need to be addressed to not limit decentralised technologies like for example storage or electric vehicles in providing FCR. The main concerns are the lack of clarity in what data was used to establish the models and their potential inaccuracy, and the worrying suggestions of methodologies that limit the participation of clean technologies in providing balancing services.

Price and cost assumptions affecting LERs

The report assumes that the costs associated to provide FCR will increase with a higher participation of LERs providing it (Table 2). What can be observed empirically today is the opposite: an increase of LERs participating in FCR has decreased its price. The main reason behind is, that typically LERs are price takers rather than price makers. If the cost of LERs were to evolve in the way represented in the report's outcomes, LERs would soon be priced out of the FCR merit order, leaving non-LER units to provide it. This way, the market mechanism implicitly keeps the costs of LER share under control. For this reason there is no clear need to choose now one of the provided models, especially due to the fact that they could limit the use of technologies helping with the decarbonisation of the sector.

Furthermore, smartEn has observed that the methodology and sources for the cost assumptions made in the report are not fully disclosed. The cost assumptions stated in the report have a direct influence on the outcome of the model and the resulting recommendations. For this reason, a stakeholder review of the sources used for modelling the cost assumptions is necessary. This would allow stakeholders to compare them to the actual costs they incur and the costs that can be observed in the current FCR market.

Further transparency on the cost assumptions would be particularly valuable, given that some of the results seem to indicate inexplicably high costs linked to LER units. In table 1 of the consultation report, under T_{min}LER 15', the model assumes that if FCR were provided exclusively by LER units, the size of the FCR procurement would have to be increased by 60%: from the current 3000 MW up to 4800 MW.

Table 1: FCR required to avoid critical depletions in CE

TminLER	LER share										
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
15'	3000	3000	3000	3000	3400	4100	4700	4800	4800	4800	4800
20'	3000	3000	3000	3000	3400	3700	4200	4400	4400	4400	4400
25'	3000	3000	3000	3000	3100	3500	3900	4100	4100	4100	4100
30'	3000	3000	3000	3000	3000	3200	3500	3500	3500	3500	3500

However, as stated in Table 2 for TminLER 15', the costs to reach such a 60% increase in FCR procurement, are projected to grow by almost 400% (from 53M€/year at 0.3 LER share to 264M€/year at 1 LER share). If the total yearly costs were to increase by 60%, even when starting from a 0% LER share (110M€/year), we would still be well under the 264M€/year estimated in Table 2. The cost assumptions also indicate that for the same amount of FCR procured (4800 MW), the costs of procurement grow up to 40%, depending exclusively on the share of LERs providing the service (comparing the total yearly costs of 0.7 LER share to 1 LER share, which is 188 M€/year and 264 M€/year respectively).

Table 2: Total yearly costs to provide FCR in CE [M€/year]

TminLER	LER share											Mean
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	
15'	110	89	70	53	77	125	168	188	206	231	264	144
20'	110	89	70	55	85	110	151	181	200	227	259	140
25'	110	89	71	62	75	108	148	179	200	227	259	139
30'	110	89	71	71	78	103	138	156	177	203	232	130
Mean	110	89	70	60	79	112	151	176	196	222	253	

This might indicate that in the model, the unitary cost of LERs is higher than the costs derived from procuring FCR from conventional technologies. The progression of the costs of FCR procurement grows exponentially when procured from LER units. For this reason, smartEn encourages ENTSO-E to make these cost assumptions transparent and explain the nature of the significantly higher costs for providing FCR with LERs compared to conventional technologies.

Risk assumptions

The study shows a higher risk for the network correlated with the contribution of LER rather than with the impact of the size of the reservoirs TminLER.

This finding seems to indicate that critical frequency excursions last much longer than 15 minutes and that potentially aFRR is not contributing correctly to the European solidarity during critical situations. With the implementation of the new aFRR rules we suggest to postpone any choice that would limit LERs providing FCR until the effects of the new aFRR on FCR can be adequately assessed.

Technology constraining solutions

Whichever solution is taken or proposed, it should not limit the capabilities or the participation of LER in the provision of FCR. This would not only suppose a barrier of entry for decentralised technologies, especially storage, electric vehicles, HVAC and domestic boilers, but would also mean that currently operating LERs might be expelled from the market. Thus, such a measure would even deprive the system from existing and competitive FCR providing units. For this reason, we cannot support the option with a $T_{minLER}=15$ minutes with a 30% LER share limitation (which is already being surpassed today). A limitation like this would also imply not taking advantage of valuable resources for the grid, like electric vehicles once they become commonplace in the EU.

Moreover, the two other options proposed by ENTSOE, $T_{min LER} = 30$ min for all or $T_{min} = 30$ min except for existing LER, are not acceptable since they would hinder any new development of LER projects. This would hinder the participation of renewable energy while falling back to the conventional energy sources, endangering the overall system decarbonisation objective.

Proper dimensioning of FCR

If the options with the highest penetration of LER units providing FCR imply the need for a higher dimensioning of FCR, this might indeed be necessary. However, a re-dimensioning should be implemented only after its necessity is justified technically. smartEn has already expressed the need for a proper dimensioning of FCR after ENTSO-E's study on the CE significant frequency deviation events and DFDs. Alternatively, a new, faster and more efficient, FCR product could be implemented, as proposed by ENTSO-E in said report, where technologies like LERs are better suited than traditional technologies with slower response times. This could be a solution to take the stress from FCR without the need to increase its dimension.

Reassessing the relationship between aFRR and FCR

Before any decision is taken regarding the use of LERs in FCR provision, the impact of the new requirements for aFRR brought forward by the implementation of the PICASSO platform need to be observed, especially the reduction of the reaction time to 300 seconds compared to the current applicable 600-900 seconds. It is also not clear why FCR should have a full activation time of 30 minutes if aFRR should be provided after five minutes.

System decarbonisation

LERs play an important role in achieving the overall system decarbonisation targets set by the EU. Limiting the participation in system services of battery storage, electric vehicles, heating and cooling and other LERs might have a severe impact in reaching those goals. For this reason we strongly discourage the adoption of any scenario that includes limiting the share of LERs in FCR provision.

Transparency

More transparency is required in the whole process of the CBA, especially in regards to the input data used for the modelling as well as the upcoming procedure after the consultation. In particular the data used to establish the cost assumptions for LERs should be made available.

There also seems to be a conflict between the stated scope of the CBA methodology and some of the recommendations issued, in particular the increase of FCR to tackle Deterministic Frequency Deviations (DFDs), which is not part of the original scope of this CBA.

For the reasons presented above, smartEn proposes to extend the period of time before taking a firm decision on the CBA methodology used, expanding the report with more empiric data to have a clearer understanding on the impact on FCR costs from the use of LERs.