

CWE FLOW-BASED MARKET COUPLING - Public Consultation



EFET¹ Response – 28 June 2013

I) Survey Questions

1.) Introduction

After studying the consultation document, do you have a clear view on the benefits of the implementation of Flow Based (FB)/ Flow Based Intuitive (FBI) market coupling? *

Yes

No

In case of No: Which information is missing?

The theoretical benefits of FBMC are clear, however the practical consequences/impacts for market participants are still rather uncertain.

Market participants need to be able to forecast market prices in order to take efficient decisions (including investments, maintenance scheduling, operational scheduling, building order books from non coupled countries, ability to be dispatched for thermal units). Such efficient decisions and efficient integration of the flow-based process in the previous, subsequent or neighbouring processes can have significant impacts in welfare gains (for example, the bad quality order books will result in sub-optimised dispatch, even if the coupling algorithm is more efficient).

As a consequence, the beneficial effects should not be limited to the day-ahead stage, but also for the week-, month- and years-ahead stages, as well as for intraday. An inadequate integration of the flow-based process in the overall trading environment may result in a decrease of welfare in other timeframes. It is therefore important to ensure a sufficient visibility and understanding of the flow-based process and not to decrease the time available for market participants to analyse and run other processes.

As an example, network information is part of the fundamental market information that needs to be published and that has impact on prices. However the way through which network information will be published in the forward timeframe in a flow-based environment is still unclear to us. The need for network information is also changed because of the introduction of flow-based.

¹ EFET is an industry association which was set up in order to improve the conditions of energy trading in Europe, mainly in electricity and gas markets. Established in 1999, EFET represents today over 100 companies in 27 European countries. EFET works to promote and facilitate European energy trading in an open, transparent market unhindered by national borders. More information at: www.efet.org.

In the NTC-based approach, TSOs applied rather stable (possibly conservative) choices when allocating cross-border capacity over the different borders. Although, in theory, TSOs are within the NTC approach free to shift cross-border capacity from one border to another (depending on their expectation of the economic value of such a shift), in practice such “continuous optimisation” did not take place. This means that market parties are able to model NTC values (or: to model TSO choices) with a sufficient level accuracy. Also the market models used by market participants are based on the NTC approach.

In the flow-based approach, TSOs do not make choices on allocating cross-border capacity over different borders. Such choices will now be done automatically by applying a detailed grid model, with the day-ahead order books. This determines the value of the cross-border capacities for the different borders and automatically results in lower capacity allocation at some borders and higher capacity allocation at other borders.

In addition, market participants need the information on the situation between the different regions (e.g. CWE and CEE). Some of TSOs are part of CWE and also other regions with different capacity calculation methods (FBMC, NTC, etc.). Market participants in all regions need the explanation (principles, requirements and method) about splitting the capacities on critical branches between CWE and other regions. Up to now, market participants are only informed about the cross border capacities for the different borders within CWE.

Market participants also need the information regarding loop flows outside the CWE region which are imbedded into the CWE flow-based capacity calculation, including all limitations.

Also, market participants would need additional information on the configuration of the COSMOS model which will be used to compute results.

In conclusion, the need for market parties to “model the TSO calculations of cross-border capacities” will not decrease with the introduction of flow-based, but will be much different. With an NTC approach, this was a relatively easy task but it becomes a much more complex process in the flow-based approach. A direct consequence of this is that market parties will also need much more detailed information on network elements. The current parallel run does not allow sufficient analysis to be performed on network elements. As an example, the reference number of Critical Branches always changes (from one hour to the next and from one day to the other): CB1 can refer to one network element in one hour and to another network element in another hour. This does not allow running any correlation analysis.

Are the interests and motivations for the FB(I) implementation comprehensible for you ? *

Yes

No

In case of No: Which information is missing?

As already has been explained above, market participants need more detailed information regarding the influence on other regions.

Are you convinced by the studies and experimentations performed so far and the results of the external parallel run ? *

Yes

No

In case of No: What are the reasons? *

As explained above, market participants need more detailed network information in order to perform proper market analysis and price forecasting. Such information is not provided as part of the external parallel run.

Also, although the current parallel run is a very useful step in order for all market participants to start preparing for flow-based and to get a first flavour on flow-based market coupling, we consider that the real parallel run will only start when flow-based results will be published on a daily basis, in a normal time process and without any days missing.

The flow-based parallel run is indeed not limited to testing the algorithm itself but also aims to ensure that the overall process is robust enough and can be run on a daily basis in an industrial environment. Depending on the interactions with other processes and depending on the daily timings, a wide variety of implementation issues may arise.

2.) Coordinated Flow Based capacity domain calculation

Is the capacity calculation method clearly described and understandable? *

Yes

No

In case of No: What could support a better understanding of the methodology?

Which sections of the capacity calculation process should be more clearly described: *

Inputs (Basecase, GSK, CB, FAV, FRM,...)

Process

Output (PTDFs, RAMs)

None

Additional comments?

Market participants would require explanations on the days for which the social welfare was decreased compared to the NTC method, since this should not be possible in theory. It should also be clarified to what extent the critical branch selection is coherent or not with the existing methodology (i.e. more conservative or less).

Also, NRA monitoring reports on GSK methodologies and remedial actions principles should be published and better described, especially if it differs from one country to another. Market participants need to better understand how TSOs are defining rules for GSK, and on which principles TSOs are activating control actions to maximize the flow-based domain.

Cross-border capacities made available in intraday should be consistent with what is allocated in day-ahead. The impact of counter-intuitive flows on intraday welfare should be assessed and reported daily with the parallel run results. A recalculation (instead of a shift) of the flow-based domain should be performed after day-ahead clearing to allocate the intraday cross-border capacities.

Finally, historical PPDF matrices should be made available via the ftp-server (and not through the utility tool).

3.) The CWE Market Coupling Solution

What kind of issues / challenges are brought about by FB(I) implementation for you as a market participant?

How can project partners help in this respect?

As mentioned above, market participants need more detailed network information in order to perform proper market analysis and price forecasting. Such information is not provided as part of the external parallel run.

Fundamentally, all network information needs to be published. This includes the Common Grid Model (with all electrical characteristics of all network elements, allowing for load flow calculations), but also the GSK, FRMs, the list of critical branches and the base case assumptions. All the data that determines the PTDF matrices needs to be published preferably as early as the evening before (D-2), and in any case before 8:00 am D-1 (well before the 10:30 am deadline that was in use for ATC values).

Part of this information consists of “pure” network data, such as grid topology and electrical characteristics. Confidentiality on such information does not play any role, and publication should be possible. There may however be limitations from a practical point of view. The amount of data needs to be manageable by market participants. This requires a discussion between TSOs and market participants to find a balance.

Another part of this information consists of “non-pure” network data, such as generation availability and even efficiency of power plants (which is needed for the GSKs). Confidentiality might be an issue for such data. This requires a discussion between TSOs and market participants to see how this issue can be addressed.

The publication of vast amounts of “raw data” is probably not very helpful for market participants, neither is it practical for TSOs. We believe that market participants will be able to express their needs when they get more familiar with the flow-based algorithm and when they will have more visibility on it.

We would also request that even after the go-live date, a parallel publication of ATC values remains available:

- This will further facilitate the transition and the adaptation to the flow-based environment,
- ATC values are valuable aggregated indicators which are easier to read than a PTDF matrix for non-expert market participants; they can also be used to quickly detect some variations or even inconsistencies in the PTDF matrix and can hence be used as a control indicator,
- ATC values can be used in case of fall-back solution if the flow-based algorithm fails to produce adequate results.

Do you think that a « full member testing » (where market parties would submit dedicated orders) would be useful, not only to validate the operational process but also to complete the parallel run which is based on ATC order books? Would you commit to participate in order to secure representativeness of the results? *

Yes

No

If Yes, which requirements do you have to make such a full member testing useful?

This would need to be organised a few weeks or months before the go-live date and once the flow-based process has demonstrated its robustness and ability to bring value on a daily basis. This would also require that a sufficient number of market participants are willing to take part in these tests. It could therefore be part of the mandatory transition process since it would allow checking that all market participants are able to trade in a flow-based environment. Otherwise there would be a risk that the daily process is disrupted because of some market participants not being ready yet.

4.) Fall-back arrangement for Market Coupling (capacity allocation)

From the current planning, proceedings for the publication of ATCs used for Shadow Auctions and CASC gate closure remain the same as developed, practiced und further developed for ATC MC. Are there any general comments?

See our comment on the parallel publication of ATC values on a daily basis (even without fall-back). The timings also need to be compatible with a more complex process. For example, the 10 minutes reopening of order books for partial decoupling, which is already too tight in an NTC environment, will most likely be completely unrealistic when switching from flow-based to an NTC fall-back.

5.) Roll back to ATC MC

Would a roll-back activation period of 2 months be reasonable for you? *

Yes

No

If No, please specify why and which duration you would recommend: *

It is likely that a much longer period will be needed, and this could also remain an enduring fall-back solution.

6.) Economic Assessment

Do you have enough information to understand price formation under FBMC? *

Yes

No

If NO, what information are currently missing? *

As explained above, detailed network information is missing and too many publications are missing. It would also be necessary to check that the security domains are identical so that the comparison can be considered as relevant. The impact on other processes and timeframes also need to be checked.

7.) Intuitiveness

Are you in favor of plain or intuitive Flow-Based MC and why? *

- Plain
- Intuitive

I need more information to be able to judge

Why, or which extra information do you require?

As explained above, detailed network information is missing in order for market participants to really understand the market results under FBMC. As long as this understanding is incomplete, it is not possible to express a well-substantiated preference for plain or intuitive FBMC. Also if non intuitive results cannot be checked ex-post, this will be a problem and will not guarantee market confidence.

8) Publication of data

Do you have enough information regarding FBMC? *

Yes

No

If no, what kind of additional FB-related information would you need and why do you need it? *

As explained above, detailed network information is missing and ATC values will still be needed in the future, as well as early PTDF matrix publication, ideally the evening before (D-2), but certainly before 8:00 am D-1.

Also the information about splitting the cross border capacity on critical branches between two regions (e.g. CWE and CEE) with different capacity calculation (FBMC, NTC) and the information on loop flows outside CWE and their influence on other regions is missing.

With the publication of total congestion income only, market participants do not have sufficient information at hand regarding FBMC. For the whole market, it is important to know how efficient FBMC is and what the advantage of each market is. For that reason, the following data should be published:

- Congestion income for each border and hour [€/h]
- Social welfare for each market and hour [€/h]

Does the publication concept for daily FBMC operation cover your business needs/ your expectations?

*

- Yes
- No

If no, what kind of additional FB-related information would you need and why do you need it? *

Is a precise knowledge of the critical branches (names, locations) important for you in relation to your daily bidding strategy? *

Yes

No

Please motivate your answer. *

As explained above, detailed network information is missing in order for market participants to fully understand the market results under FBMC. A minimum requirement would be for the critical branches numbers to remain constant so that critical branches can be identified by their numbers.

At the same time, it must be noted that if the selection of critical branches is not adequate, it would be possible to potentially label any internal lines (not interconnectors) as “critical lines”. This would allow TSOs to perform congestion management on internal lines to the detriment of day-ahead cross-border trade and day-ahead economic surplus. This practice could be inefficient but could be attractive as it would result in lower congestion costs and higher congestion revenues.

Enhanced regulatory oversight of TSOs is therefore required in this field, but it is unclear whether this will happen in practice. Therefore, there is a justified concern that TSOs could be tempted to label too many internal lines as critical branches.

It is understandable that TSOs need pragmatic rules (like a “5% rule”), but a general (annual) ex-post assessment and review of this threshold is required (and is necessary to be compliant with Regulation 714/2009).

The current parallel run provides an excellent opportunity to quantify the “day-ahead surplus loss” due to the labelling of internal lines as critical branches or due to any allocation constraints.

Are the results of CWE FBMC easily to be retrieved? *

Yes

No

If “no”, what do you suggest to facilitate the retrieval?

PTDF matrices are not easy to use as they are not published every day. Also, we would like to add a sheet in the parallel run results indicating the hours when a situation was intuitive or not.

9. Additional issues

What do you think could be improved in the external parallel run process?

Is the period of the external parallel run long enough for you to observe results and adapt your daily bidding strategy accordingly? *

Yes

No

If no, what would be the ideal period from your point of view (in months)? *

As stated before, we believe that the real parallel run has not started yet. This would require the daily publication of PTDF matrices and of market results.

Other developments such as NWE price coupling also need to be observed.

What kind of studies / indicators / reports could help FB(I) implementation on the market side?
After NWE Go Live, is a period of 2 months of joint parallel run acceptable? *

Yes

No

If no, why not? *

The switch to NWE price coupling is an important development which also needs to be observed in an NTC environment. This will provide a perfect basis for performing the parallel run on an industrial basis with daily publication at the same time. At least 3 to 6 months would be needed after NWE price coupling goes live.

Similar to the CWE ATC MC Go Live, the Project will have extensive internal Go Live criteria for the start of CWE

FB MC. Please indicate, from your point of view, important Go Live criteria. *