



PREPARATORY MEMO

WORKSHOP 1

ALTERNATIVE COUNTERTRADE MODELS

1. Introduction

Energinet conducts countertrade on all borders to handle congestions - especially as part of the minimum capacities implemented at the DK1-DE/LU border due to the Joint Declaration¹. The current countertrade model is “special regulation”, as also analysed in the common “Energinet TenneT Impact assessment” from 2018 with the introduction of the Joint Declaration².

Energinet has launched a study to analyse alternative countertrade models, as the demand for countertrade in the previous years has markedly elevated, as the regulatory framework for countertrade has significantly changed, and as new common European balancing platforms will replace current national and regional models.

As part of this work, Energinet invites all interested stakeholders (TSOs, market participants, national regulatory authorities and other interested parties) to participate in two workshops to provide input to the study.

This material is prepared in advance of the 1st workshop on the 21st of August 2020.

2. Scope of the workshops

Two workshops have been planned to secure the inputs for the further assessment of alternative countertrade models by Energinet. Energinet aims to prepare a collected report, which will be part of Energinets assessment in selecting the recommended countertrade model. The inputs from stakeholders will be collected and considered when finalising the report.

2.1 The purpose of the first workshop

The main purpose of the 1st workshop is for Energinet to present and open the discussions with all stakeholders.

¹ <https://en.energinet.dk/About-our-news/News/2019/01/21/guaranteeing-minimum>

² <https://en.energinet.dk/About-our-news/News/2017/12/01/Energinet-and-TenneT-publish-final-impact-assessment-of-different-countertrade-models-for-DK1-DE>

First, Energinet will present the background for the task, definition of countertrade, a legal assessment of the use of countertrade, the developments of the European balancing platforms, and the implications on system security i.e. the situation in the summer of 2020, where Energinet restricted countertrade due to low levels of upward regulation.

Further, Energinet will present a first assessment of alternative countertrade models and the evaluation criteria which will be used to assess each of the alternative countertrade models.

Please be aware that both the presented alternative countertrade models and evaluation criteria are solely first assessment and can be extended or altered based on the discussions with the stakeholders at the workshops. There will be an opportunity for stakeholders to suggest alternatives counter trade models and evaluation criteria during the 1st and 2nd workshop.

The goal of the first workshop is to present and discuss the above elements, especially the first assessed alternative countertrade models and the evaluations criteria, and possibly to extend the list of models or evaluations criteria if necessary.

Based on this 1st workshop, Energinet asks all stakeholders to prepare their inputs for each evaluation criteria for each model for the 2nd workshop.

2.2 The purpose of the second workshop

The main purpose of the 2nd workshop is to provide an opportunity for all stakeholders to present their inputs to each alternative countertrade model based on the evaluation criteria.

Therefore, Energinet asks all interested stakeholders to reserve the date for the 2nd workshop on the 23rd of September 2020.

Due to the COVID-19 situation, it is still not settled if the second workshop can be arranged as a physical meeting or virtually. Due to this, the workshop might be subject to changes. Energinet will inform all participants in due time.

3. Definition of countertrade and redispatch

Physical congestions between bidding-zone borders can effectively be alleviated by coordinated countertrade and redispatch.

Countertrade is defined as a *measure with the objective of relieving physical congestions between two bidding zones, where the precise generation or load pattern is not predefined*.³ Redispatch is defined as a *measure with the objectives of relieving physical congestions by altering a particular generation and/or load pattern*. More specific, redispatching refers to one or several TSO(s) requiring specifically located upward or/and downward regulation in order to maintain the network security.

The need for countertrade is based on the results from the day-ahead market and whether the scheduled flows create physical congestions in bidding-zones grid. When physical congestion occurs, the TSOs respectively activates upwards regulation on one side of the congestion and

³<https://acer.europa.eu/en/Electricity/MARKET-CODES/CAPACITY-ALLOCATION-AND-CONGESTION-MANAGEMENT/Pages/18-RDCT-Coordination.aspx#InplviewHash7e9816d1-810a-4a20-9a26-10ffcfed9f77=>

activate downward regulation on the other side. The use of up-and downward regulation depends on the direction and volume of the scheduled flow.

The scope for countertrade is only related to the activation of the sufficient amounts of up-and downwards regulation to relieve the congestion at the border without further consideration of internal congestions. The countertrade and redispatch to relieve internal congestions are conducted by TSOs in their daily balancing.

The focus for the task is to find a suitable countertrade model, i.e. a model which allows for upward and down-ward regulation without a predefined location of the generation/load pattern. Geographic flexibility is considered in another project in Energinet⁴.

4. Legal developments

There are overall two legal developments, which should be considered when discussing alternative countertrade models; the 70% rule and ACER pricing proposal as will be explained in the following two subchapters.

4.1 The 70 % rule

The European Parliament and the Council of the European Union's (EU) regulation 2019/943 on internal market for electricity, article 16, specifies that 70 % of the capacity on TSO's interconnectors shall be released to the market, considering system security.

This could result in too high capacities at the day-ahead market, which will have to be counter-traded by Energinet.

Further, this implies that countertrade will be a necessity in the future for all borders, not only for the DK1-DE/LU border. This implies that the countertrade model shall also be assessed in terms of providing upward and downward regulation for all Energinet's borders.

4.2 ACER pricing proposal

On the 24th of January 2020, ACER published their decision on the methodology to determine prices for the balancing energy that results from the activation of balancing energy bids according to the Commissions regulation (EU) 2017/2195 establishing a guideline on electricity balancing ("EB GL"), article 30.

The methodology sets the principles for determining prices for the balancing energy, which is enabled on the common European platform for aFRR and mFRR. The decision specifies, that bids activated on the platform, regardless of the use of countertrade or balancing, should be settled with one marginal price.

The reasoning for ACERs decision can be read in ACERs decision comment 45 and 46⁵:

"45: In contrast, if balancing energy bids were activated for internal congestion, this would require the activation of specific bids at a specific location. Consequently, the bids outside the merit order would need to be activated (i.e. the merit order activation would no longer be respected)

⁴ <https://energinet.dk/El/Systemydelser/Nyheder-om-systemydelser/Pilotprojekt---Handel-med-lokal-fleksibilitet>

⁵ https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2001-2020%20on%20the%20Methodology%20for%20pricing%20balancing%20energy.pdf

and such bids should not define the marginal price because this would result in the paradoxical situation that some bids would not be activated even though their price are below the marginal price (i.e. in the money). For this reason, Article 30(1)(b) of the EB Regulation specifies that balancing energy bids activated for internal congestion management shall not set the marginal price of balancing energy. No such requirement is provided for the case when bids are activated for cross-zonal congestion management purpose. Therefore, Article 30(1)(b) of the EB Regulation is consistent with the Agency's understanding that the only reason for deviating from the marginal pricing principle is when the activation of bids does not respect the merit order. However, in the context of EU balancing platforms, there will be no activation for the purpose of internal congestion management, since the only locational information the EU balancing platforms handle is the load-frequency control area or the bidding zone; no locational information with respect to the exact location within the load-frequency control area or the bidding zone is provided with the bids."

"46: The Agency, therefore, removed from the Proposal the provisions providing for different pricing of balancing energy bids activated for system constraints. These provisions were replaced by a provision specifying that if the EU platforms are used for activations other than balancing and if these activations respect the merit order principle, one single cross-border marginal price shall be established for all activation purposes. This clarification aims to address the requirement of Article 30(1)(b) of the EB Regulation."

The pricing proposal shall be effective at the day of implementation of the European Balancing platforms, which is expected medio 2022. Energinet and the other Nordic TSOs will not participate in the European Balancing Platforms initially due to a later implementation of 15-minutes Imbalance Settlement Period (ISP). The Nordic bidding zones are expected to join the European balancing platform between Q3 2023 and Q2 2024.

However, at the writing of this material, Energinet is not aware if this pricing proposal shall be effective for the Nordic market before the Nordic countries enters the European balancing platform.

5. Developments of European balancing platforms

The European balancing platforms are being developed by all TSOs in Europe. This implies that all decisions related to these platforms have to be made in consensus with other TSOs.

The decision of one marginal price no matter the purpose of activation in ACERs pricing proposal has led to other European TSOs being against the implementation of countertrade possibilities in the European platform for mFRR, MARI. Energinet has throughout the development of the platform advocated for the use of countertrade in MARI, however, the request has been denied by a majority of TSOs.

A decision to implement countertrade opportunities in MARI might also conflict with that fact that congestion issues should not influence the marginal price of balancing, since all energy activated on the platform should be paid at the same clearing price.

Due to this, it is clear, that countertrade needs arising from the day-ahead market, i.e. coming from the 70 % rule or minimum capacities will not be handled in the MARI platform. It is expected that the MARI platform will be available for countertrade needs arising in real time due to failures, however these discussions have not been finalized.

In the European platform for RR, TERRE, countertrade opportunities have been implemented with different pricing models for balancing and other purposes than balancing. This is subject to change due to ACER's decision Methodology for pricing balancing energy and cross-zonal capacity used for the exchange of balancing energy or operating the imbalance netting process. Energinet is not yet aware of the implementation process for this.

6. System security – case from the summer 2020

As Energinet informed at our website⁶ and on the Nordic communication platform⁷, Energinet has since 3rd of July 2020 restricted countertrade toward TenneT Germany on the DK1-DE/LU.

Energinet will in general not offer upward regulation in Western Denmark (DK1) for countertrade towards TenneT Germany from 3 July 2020 to 31 August 2020. Energinet will still offer downward regulation in DK1 for countertrade.

Energinet has reassessed the situation in the beginning of August and will again at the end of August. It is important for Energinet to underline that in cases of failures and critical instances, Energinet will assist TenneT with upward regulation at our best effort.

The reason for restricting countertrade is that generation adequacy, i.e. ensuring sufficient generation to cover consumption, will be much worsened by Energinet's obligations to ensure a level of upward regulation for countertrade towards TenneT Germany. Under the Joint Declaration, Energinet is obliged to guarantee up to 1,100 MW of upward and downward regulation every hour.

July and August 2020 have and will be characterized by:

- Many HVDC connection outages due to faults
- Many planned outages of thermal power plants
- Increased demand for upward regulation in DK1 and DK2 due to many planned outages in Sweden
- Several limitations in the internal German electricity grid announced by TenneT Germany. In situations with import from Germany to DK1, an exceptionally high need for upward regulation (increasing generation) in DK1 may arise given the agreements on minimum capacities on the DK1-Germany border.

Due to the above points, and if no remedial actions are implemented, Energinet expects many situations where there will not be enough upward regulation to mitigate an outage of the largest unit (N-1). Particularly countertrade due to the minimum capacities create problems, because countertrade 'uses' the manual reserves procured to cover N-1.

Not acting and accepting the risk is unacceptable. Therefore, Energinet will temporarily limit the possibility of upward regulation as a result of minimum capacities over the summer of 2020 in order to ensure a very high level of security of electricity supply. This is based on the principle of proportionality, i.e. the risk of consumer outages is not proportional with the agreement to guarantee minimum capacities on the DK1-Germany border.

⁶ <https://energinet.dk/El/Systemydelser/Nyheder-om-systemydelser/Modhandel-DK1-DE>

⁷ <https://www.nucs.net/outage-domain/unavailability-messages/show?u-mid=248a565da34c4fcfb79d0a6e79a123d0%7C10X1001A1001A248>

TenneT Germany has been informed of July 3, that they must alter their capacity calculation to no longer reflect the possibility of upward regulation in the Danish bidding zones.

This shall not affect the minimum capacities for the day-ahead market, which would result in the need for downward regulation in the Danish bidding zones.

Energinet expects the power situation to improve in the autumn. Several interconnectors and thermal power plants are expected to return to operation in September. Therefore, it should not be necessary to extend the period of countertrade limitation on the Western Denmark-Germany border beyond 31 August 2020, however this shall be further assessed.

It is difficult to predict whether critical situations will arise going forward, as this depends on the specific operating situation.

7. Alternative countertrade models

Prior to this workshop, Energinet identified some alternative countertrade models to be discussed with stakeholders, however the list might be subject to changes based on the inputs.

7.1 Continuous Trading on the Single Intraday Market Coupling (SIDC)

On the 12th of June 2018 the first countries in Europe went live with a common implicit cross-zonal capacity allocation mechanism, which allows for orders entered by market participants for continuous matching in one bidding zone border to be matched by orders submitted in any other bidding zone as far as transmission capacity is available (continuous trading) in the intraday market. Energinet has been part of the Single Intraday Coupling (SIDC) since the first wave, and the market has now expanded to more than 21 countries in Europe.

In the continuous trading on the intraday market, Energinet, or a third-party on our behalf, could trade the needed countertrade in the continuous intraday market. Energinet would place buy and/or sell bids into the SIDC, depending on the need for up- or down regulation, which are then matched with bids from other market participants. Bids are settled according to pay-as-bid.

In order to secure the effect of countertrade, Energinet might have to prevent allocation in a specific direction on the borders. This could either be done by “directional halt”, which closes all open contracts in one direction, or by “contract halt” which closes a contract in both directions. There is also the option that the capacities are adjusted. Developments of the SIDC system could lead to the option of being able to close a contract solely in one direction, however, this is currently not possible. An aspect of the above are therefore also potential constraints, which require sufficient transparency measures.

7.2 Intraday auctions

ACERs Decision from the 24th of January 2019 on Intraday cross-zonal capacity pricing methodology⁸, following CACM article 55, specifies that the TSOs in European are obliged to implement implicit intraday auctions (“IDAs”) before the opening of the continuous trades at the borders.

⁸ https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2001-2020%20on%20the%20Methodology%20for%20pricing%20balancing%20energy.pdf

As specified in ACERs Decision from the 30th of January 2020⁹ on Algorithm Annex III, the intraday auctions are expected to be implemented before the 1st of January 2023. Currently the intraday auctions are being designed. It is expected that the design will be finalised by first quarter 2021, thereafter NRAs approval have to be achieved and the solution to be developed tested and implemented. Intraday Auctions' design is taking the Single Day-Ahead Market Coupling model as a basis.

The intraday auctions are foreseen to be held three times daily, in line with the opening of the intraday market at 15:00, 22:00 and last at 10:00 on the operational day. The first two auctions open products for the whole operational day, whereas the auction on the operational day is open for the last 12 hours of the operational day.

With the intraday auctions, the regularly continuous intraday trading will be stopped until the intraday auctions are hold.

In the Intraday auction model, Energinet, or a third party on our behalf, will buy the needed upward or downward regulation through auctions on the intraday market.

Thus, compared with the continuous trading model, the bids will be settled according to marginal price, as is the case with the day-ahead market auction.

Further, as is the case with countertrade performed within the continuous intraday, using intraday auctions could also constraint the contracts in the following IDA's and continuous trading. This again must be followed with adequate transparency.

7.3 Common TSO countertrade market

Energinet and all the European TSOs are developing a common European balancing platform for mFRR (MARI) and for aFRR (Picasso). These platforms will primarily be used in order to utilize balancing bids across the bidding zones, but it will not be possible to use the bids for countertrade as we know it today on the existing Nordic mFRR platform.

Instead, one alternative countertrade solution could be for Energinet, in cooperation with neighbouring TSOs, to develop a "copy" of the MARI platform for mFRR and design a market for only countertrade purposes. The products that would be auctioned on such platform must be specified by the participating TSOs but could for example be close to mFRR products.

This market could run in the end of or right after the intraday market but before the future European balancing platforms.

In the common TSO countertrade market, the participating TSOs would be able to buy the needed up- and downwards regulation for countertrade via one auction, hour by hour. The common market makes it possible for all market participants in the participating bidding zones to participate in the market, depending on the products at the platform.

However, this model must be a joint TSO platform, as Energinet would need up- and downward regulation towards other bidding zone borders. This implies that such a platform cannot be created with Energinet solely.

⁹https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2004-2020%20on%20Algorithm%20methodology.pdf

8. Evaluation criteria

In the discussions of an alternative countertrade model, the suggested models should be evaluated according to a set of evaluation criteria, which ensures the most social welfare economical and operational efficient countertrade model.

The evaluation criteria are described in the section below and is not necessarily an exhaustive list, as the criterions will be discussed with the market participant at the workshops.

A. System Security

The TSOs must secure and is responsible for maintaining the daily operations of the power grid. Each countertrade model must be evaluated according to its influence on the system security. Countertrade can affect the system security due to both unavailable resources for up- and downwards regulation and through the lead time from the purchase of up- and downwards regulation until the actual real time.

B. Cost-effectiveness

In the selection of a countertrade model the cost-effectiveness must also be evaluated. This refers to both the actual cost pr. MWh up- and downwards regulation bought but also the time perspective and development costs of a new countertrade model.

C. Implementation

This evaluation criteria refers to the necessary measures needed for implementing a countertrade model in today's framework. This includes IT/system developments, discussion and involvement of relevant TSOs, approval from NRAs and other legal obligations which all together is prerequisite for implementing a new countertrade model.

D. Market access/resources

The larger the market area applicable for countertrading, hence the higher the liquidity of the market for purchasing the necessary up- and downwards regulation.
Market access, i.e. which market participants can participate to secure an open and non-discriminating model, is therefore one of the criteria for countertrade model selection.

E. Transparency

The selection of a new countertrade model must adhere the requirements and guideline of the EU Regulation 714/2009 and the Danish law on Energy Supply (elforsyningsloven). These regulations set the requirements for transparency, non-discrimination and non-distortion of competition. Therefore, the evaluation of each countertrade model has to be considered according to the transparency rules and regulations.

9. On the day - virtual meeting

The meeting will be held in Microsoft MS Teams. To join the meeting, please follow the MS Teams link you have received in your e-mail inbox. When joining the meeting, you must enter your name and the company you represent.

If you have not installed the Microsoft Teams app on your computer, you can enter the meeting via the browsers Edge or Chrome. If you participate via mobile phone, you can download the MS Teams app in App store or Google Play and enter the meeting through the app.

Please notice that it will not be possible to “call in” via your phone, however we hope you will be able to join via browser via your computer or phone.

To make sure the virtual meeting runs as smoothly as possible, the following guidelines will be used:

1. Please mute your microphone whenever you are not speaking
2. Please turn off your camera whenever you are not speaking
3. If you have a question or a comment, please use the "raise your hand" function in teams. We will make sure to respect everyone requesting speaking time.
4. You may also ask questions or write comments in the chat box

These guidelines will be explained again at the meeting. If you have any questions regarding the technical set-up before the meeting, please send an e-mail to Emilie via eac@energinet.dk or call +45 26366793.

If you have trouble joining the meeting or if you have any technical difficulties during the meeting, please call +45 26366793 and Emilie will assist you.