Bundesnetzagentur

Danish Utility Regulator

Regulators' opinion on

21 October 2019

# ENERGINET-TENNET MONITORING REPORT FOR 2018 ON THE OPERATION OF THE JOINT DECLARATION

In July 2017 the Federal Ministry of Economic Affairs and Energy of the Federal Republic of Germany and the Danish Ministry of Energy, Utilities and Climate as well as the two national energy regulators, Bundesnetzagentur ("BNetzA") and the Danish Energy Regulatory Authority (now "Danish Utility Regulator", "DUR") reached a Joint Declaration ("JD") to increase electricity trade between Germany and Denmark[1]

## BACKGROUND

The Joint Declaration (press release dated 14 June 2017, declaration signed 4 July 2017) increases electricity trade between Germany and Denmark while ensuring grid security by gradually making the full capacity of interconnectors between Germany and Denmark-West available for trade as soon as the relevant infrastructure development has been completed.

Pursuant to the Joint Declaration, the relevant TSOs, TenneT and Energinet, are responsible for the technical implementation of the Joint Declaration and they are requested to continuously monitor the implementation. The TSOs shall prepare and submit yearly monitoring reports to the NRAs, Bundesnetzagentur ("BNetzA") and the Danish Utility Regulator ("DUR"), which in turn provide an annual opinion.

On 29 March 2019, BNetzA and DUR received the TSOs' report "DK1-DE Countertrade following Joint Declaration 2018". Please see Annex to this opinion.

In December 2018, TenneT published that they had entered into an agreement with the European Commission on certain commitments regarding capacity on the DK1-DE border. Although there is no formal link between the Joint Declaration and the Commitment, both are applicable for TenneT.

[1] https://www.bmwi.de/Redaktion/EN/Pressemitteilungen/2017/20170614-deutschland-und-daenemark-einigung-auf-stromhandel.html

http://en.efkm.dk/news/news-archive/2017/jun/denmark-and-germany-agree-on-increasing-electricity-trade-between-their-countries/

DUR and BNetzA have issued a similar opinion last year ("*The monitoring report from 16 March 2018 on the implementation of the joint declaration*" dated 15 June 2018).[2]

## PURPOSE OF THIS OPINION

The purpose of this opinion is for regulators to:

- Assess the TSOs' reports and provide an opinion on them with the aim to continuously improve efficiency and effectiveness of the implementation.
- Evaluate whether the formal requirements from the Joint Declaration ("JD") have been adhered to by the TSOs
- Give recommendations or requests for 2019 operation and next year's monitoring report.

## FORMAL REQUIREMENTS FROM JOINT DECLARATION

The purpose and formal requirements of the JD are:

- Promotion of necessary investment signals
- Facilitation of cost effective means of integration of renewables;
- Improve flexibility within and across electricity systems
- Foster increasing cross-border trade while respecting system security;
- Pursuing a consistent and non-discriminatory approach.

As agreed in the JD, the minimum capacity is increased stepwise in order to foster cross-border trade and enable the market to determine the appropriate cross-border flow of electricity. This way forward shall be regarded as temporary until the required grid enforcements are achieved.

The capacity in the day-ahead market in 2018 shall be 700 MW in both directions on the DK1-DE border.

The JD also states that the TSOs should develop countertrade methods or other methods. (DUR and BNetzA remark that this has already been done via TSOs' Impact Assessment of 29 November 2017)[3].The impact assessment showed that all alternatives for countertrading have benefits and drawbacks. It was not possible to choose an alternative completely without drawbacks.

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[2] http://forsyningstilsynet.dk/tool-menu/kontakt-og-presseinfo/nyheder/enkelt-nyhed/artikel/faelles-udtalelse-om-monitoreringsrapporten-for-den-dansk-tyske-el-forbindelse-dk1-de/

[3] *https://en.energinet.dk › News › 2017/12/01*

The JD is envisioned to be revised 12 months before end of 2020.

The JD states that the approach shall set an incentive to continuously work on overcoming internal grid congestions, thereby contributing to a well-integrated European electricity market. The approach shall also foster regional cooperation for market integration and security of supply.

The total costs for realising the minimum capacity values in the stepwise approach will not exceed 40 million € p.a. for the German side[4]. In case the cost cap is expected to be exceeded before the end of any given year, the regulators will initiate a process in which the reasons for reaching the cost cap are analysed and solutions are developed in order to allow the decided capacity to be available to market participants while keeping the costs within reasonable limits.

The JD states that the regulators shall request the TSOs to continuously monitor the implementation of the Joint Declaration and prepare and submit monitoring reports to the NRAs. The monitoring reports will at a minimum include costs incurred, deviations from the Joint Declaration, reasons for deviations, challenges in implementation and opportunities for improving the implementation of this Joint Declaration. The monitoring report will also include a status on internal grid developments on both sides of the border.

The JD states that the NRAs shall assess the monitoring reports and provide an opinion on them with the aim to continuously improve efficiency and effectiveness of the implementation.

## REGULATOR REQUESTS FROM LAST YEAR'S OPINION

In the joint regulator opinion (dated 15 June 2018) on the TSO monitoring report (dated 16 March 2018), the regulators requested the following from the TSOs:

- Monitor and assess the impact on the Nordic mFFR market including possible spill-over effects between the Nordic regulating power market and the market for special regulation;
- Include statistics on ordinary special regulation in DK1 and assess the interplay between ordinary special regulation and special regulation according to the Joint Declaration;
- Include impact of countertrading on the German intraday market;
- Monitor and assess the liquidity of the special regulation market;
- Report on the status on grid development on both sides;
- Include best estimates for future costs (already to include this in the reports from august 2018 to the NRAs); and
- Include information on how the activated downward regulation is provided (consumption, thermal production, RES curtailment or by other means).

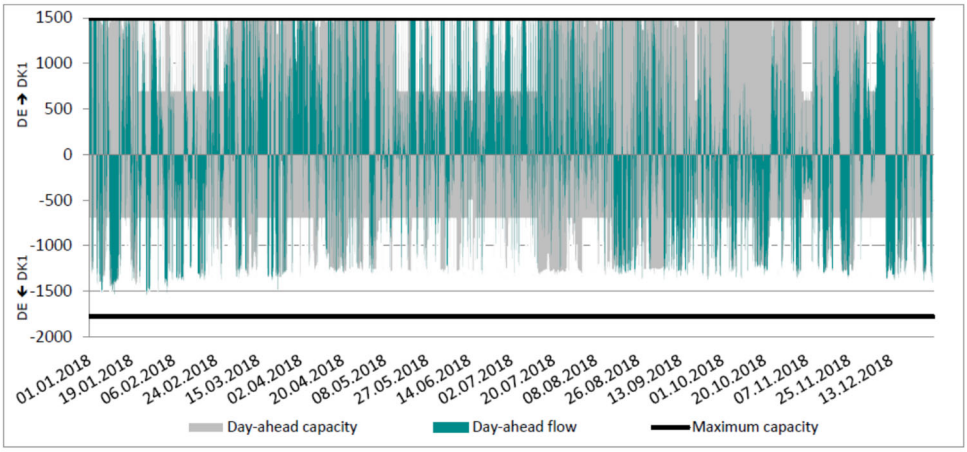
[4] A requester pays principle is used, according to agreement between Energinet and TenneT.

## MAIN CONCLUSIONS FROM TSOS' REPORT

### CAPACITIES

The TSOs state they have fulfilled the JD, and that the required minimum capacity of 700MW was uphold except in 28 hours out of 8760 hours, cf. Figure 1 that shows the hourly capacity in both directions. All reductions were caused by maintenance on inter-connectors between DK1-DE, Kassø-Jardelund.

FIGURE 1 | **TSOS' REPORT OF AMOUNT OF CAPACITY**




Source: Energinet and TenneT.

### TSO ANALYSIS OF COUNTERTRADE

The TSOs report between 2479 MWh/month and 115,669 MWh/month countertrade as shown in Figure 2.

The Danish market for special regulation has seen increased supply. Demand has always been below 90% of supply, where Q1 and Q4 have been the most critical quarters. No more than 177 hours have seen a demand greater than 50% of supply capacity. Conventional production has delivered around 50% of the downward regulation, whereas wind curtailment and additional consumption split the remaining 50% around equally.

Regarding special regulation in the Danish market, the TSOs conclude that special regulation reached new heights in 2018: 1.6 TWh from Germany to Denmark. The selected countertrade model – special regulation – has delivered the desired volume of down regulation throughout the entire period, which is satisfactory. The volume of available regulating power bids has gradually increased in step with the increase in demand. Handling the extraordinary imports has significantly reduced the scope and price of upward regulation in the Danish balancing market. However, handling special regulation in the form of Danish downward regulation has not noticeably affected the price for downward regulation in the Danish balancing market. Finally, it has been noted that certain players

are using their knowledge of special regulation to reduce their purchases in the spot market at certain times ('under scheduling') in order to be able to supply down regulation in the form of up regulation of consumption.

Countertrade in Germany is based on the continuous intraday market, where the countertrading has required up to 22% of this market. There were deals done in 17.5% of the hours in 2018. TenneT's entry into the market has caused slightly increasing intraday prices, in the range of some €/MWh. (The main ID market in Germany is intraday auctions).

FIGURE 2 | **TSOS' REPORT OF AMOUNT OF COUNTERTRADE**

| 2018 | Hours with countertrade | Countertrade as of total hours per month | Countertrade (MWh) |
|---|---|---|---|
| Jan | 99 | 13% | 41.103 |
| Feb | 161 | 24% | 57.584 |
| Mar | 104 | 14% | 41.170 |
| Apr | 14 | 2% | 2.479 |
| May | 196 | 26% | 61.382 |
| Jun | 154 | 21% | 24.986 |
| Jul | 74 | 10% | 5.036 |
| Aug | 46 | 6% | 22.736 |
| Sep | 159 | 22% | 60.030 |
| Oct | 221 | 30% | 115.669 |
| Nov | 188 | 26% | 69.788 |
| Dec | 121 | 16% | 50.621 |

Source: Energinet and TenneT.

## TSO REPORT OF COSTS INCURRED AND EXPECTED

The TSOs report that a total cost of 25.3 million € has been spent by TenneT. These overall costs include the expenses on the German intraday market as well as the expenses on the Danish special regulation market, most of the time being refunds, i.e. Energinet receiving payment from market participants downregulating. The average

monthly prices have varied in Denmark between -21 €/MWh and 13 €/MWh. See Figure 3. The German intraday prices (hourly) have varied between -40 €/MWh and 140 €/MWh, whereas a negative intraday price has only occurred in 21 hours. The overall average monthly prices for TenneT in Germany have varied around 35-60 €/MWh.

In the forecasted normal scenario, the TSOs expect 35 million € in 2019 and 39 million € in 2020. The JD cost cap of 40 million € could be exceeded in the worst-case scenario in 2019 and in the normal and worst case scenario in 2020.

FIGURE 3 | **TSOS' REPORT OF TOTAL COSTS**

| 2018 | Costs in Denmark West (EUR) | Costs in TenneT area (EUR) | Average costs Energinet (EUR/MWh) | Average costs TenneT (EUR/MWh) | Total costs (EUR) | Acc. Costs (EUR) |
|---|---|---|---|---|---|---|
| Jan | -214.481 | 1.711.724 | -5,22 | 41,64 | 1.497.243 | 1.497.243 |
| Feb | -1.191.505 | 2.604.572 | -20,69 | 45,23 | 1.413.067 | 2.910.310 |
| Mar | 533.362 | 1.811.373 | 12,96 | 44,00 | 2.344.735 | 5.255.045 |
| Apr | -50.838 | 86.017 | -20,51 | 34,70 | 35.179 | 5.290.224 |
| May | 83.453 | 2.298.580 | 1,36 | 37,45 | 2.382.033 | 7.672.257 |
| Jun | -76.662 | 1.224.163 | -3,07 | 48,99 | 1.147.501 | 8.819.758 |
| Jul | -9.331 | 303.558 | -1,85 | 60,28 | 294.226 | 9.113.984 |
| Aug | -468.472 | 1.350.195 | -20,6 | 59,39 | 881.723 | 9.995.707 |
| Sep | -172.133 | 3.084.342 | -2,87 | 51,38 | 2.912.209 | 12.907.916 |
| Oct | 435.094 | 6.703.237 | 3,76 | 57,95 | 7.138.331 | 20.046.247 |
| Nov | -964.081 | 3.848.134 | -13,81 | 55,14 | 2.884.053 | 22.930.300 |
| Dec | -569.952 | 2.907.513 | -11,26 | 57,44 | 2.337.561 | 25.267.861 |

Source: Energinet and TenneT.

## OTHER MATTERS

The TSOs report that no new grid developments have been implemented in 2018. The TSOs also list future expected developments: The Kassø-Dollern project (on Energinet's side called "Eastcoast Line" and on TenneT's side called "Middle Axis") and the Endrup-Brunsbüttel extension (called "West Coast Line" in Energinet terms).

## MARKET VIEWS

The TSOs have not consulted the market since April 2018, when the TSOs' impact assessment and the subsequent choice of countertrade model was made. However, DUR has received comments from a Danish market player:

- Concern that speculative behaviour takes place in hours with special regulation, where consumption balance responsible actors are suspected of initially reporting too much consumption and later increase the expected consumption (as a way of supplying down regulation to Energinet). This possibly influences the day-ahead price.

## REGULATORS' OPINION ON THE TSOS' ANALYSIS.

First of the all, the agreed capacity of 700 MW in 2018 has been met except for 28 hours, which are related to net maintenance issues. The costs of 25 million € have not exceeded the cap of 40 million €.

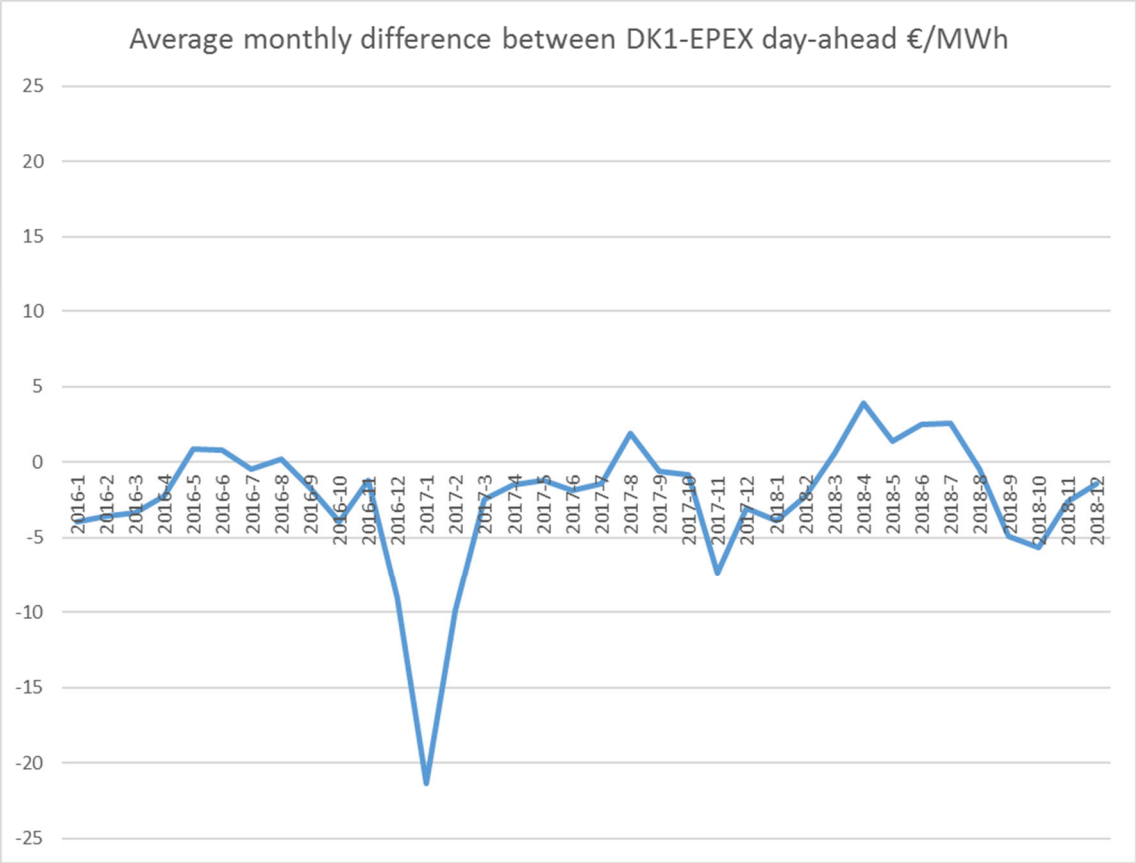
The price spread between DK1 and DE varies between circa -20 €/MWh to circa 5 €/MWh as shown in Figure 1 which goes from 2016 till the end of 2018. The JD came into force in summer 2017. In general, the prices are higher in Germany than DK1, but it seems that the balance is getting closer to vary around 0 €/MWh.

It would be ideal if an appropriate amount of physical flow could be transferred over the DK1-DE border instead of financial transfers via countertrading. However, with the pending grid enforcements in Germany this is expected to be enabled. The TSOs have given a factual description of the status of grid development. However, the expected effect from grid developments on the ability to actually transport physical power across the DE-DK1 border is not explained. DUR and BNetzA would therefore ask the TSOs to assess this in next year's report.

Energinet and TenneT have agreed on a requester pays principle. This means that the TSO requesting downward/ upward regulation from the other TSO is the one to pay for it. Some of the tables and graphs explain "requested by TenneT". However, it is many times implicitly assumed that "TenneT requests". To make this explicitly clear, DUR and BNetzA recommend that next year's report clearly states in all figures and tables who is the requester, so the paying TSO can be identified.

DUR and BNetzA evaluate the liquidity of the German intraday market as being sufficient for the requested countertrading but ask for a yearly evaluation of this interference. DUR and BNetzA also assess the liquidity of the Danish market for special regulation as being sufficient for the requested countertrading, but the TSOs should continue to monitor the market.

FIGURE 4 | PRICE SPREAD BETWEEN DK1 AND DE.




Source: Energinet

DUR and BNetzA acknowledge that Energinet and TenneT have most likely found the most cost effective means of upholding the JD. It appears that the Danish market for downward regulation has been able to follow the demands from the JD, thereby underlining that the Impact Assessment[5] made by Energinet and TenneT most likely was robust in its choice of method, given the set of alternatives. Nevertheless, for the regulators it remains unclear how the system of special regulation will be handled in the future with the upcoming European balancing platforms, new interconnectors and enforcement of existing ones. It seems that to widen the geographical scope of downward regulation

[5] 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

would be economically beneficial. DUR and BNetzA ask TSOs to present the future target model for countertrading in the next yearly report.

Regarding the view from a Danish market participant that some market participants report too low a consumption in order to provide downregulation (via upregulation of consumption), possibly influencing day-ahead prices in DK1. DUR recognizes that it cannot be ruled out that this takes place. If so, and depending on the circumstances in the specific case, such a conduct might raise questions under the REMIT Regulation[6], more specifically regarding the prohibition in the REMIT Regulation article 5 against market manipulation. Bundesnetzagentur and DUR are monitoring wholesale energy markets and are the competent authorities for implementing the REMIT Regulation in, respectively, Germany and Denmark, and therefore will enforce the prohibition in a coordinated manner, cf. article 16 (1) of the REMIT Regulation.

Market participants can send a so-called suspicious transaction report via ACER's notification platform[7] in case they find that a breach of REMIT is suspected. This report will be sent to Bundesnetzagentur and / or DUR if the possible breach occurred in the German or Danish markets. In addition, the described conduct does carry a risk for the balance responsible to plan not to be in balance in the DA market, and rely on subsequent, possibly less liquid markets, to come into balance.

The regulators have no objections to the findings in TenneT's and Energinet's monitoring report on the implementation of the JD from March 29 2018. The TSOs have also provided all extra information that the regulators requested in last year's opinion, and the extra information does not give reason to concern.

## CONCLUSION AND REGULATORS' REQUESTS FOR 2019 OPERATION AND NEXT MONITORING REPORT

DUR and BNetzA have assessed Energinet's and TenneT's report for the calendar year 2018.

DUR and BNetzA agree that the special regulation counter-trading model is cost-effective and that the model has delivered the desired volume of down regulation throughout the entire period, which is satisfactory. The TSOs' reporting is also satisfactorily.

DUR and BNetzA note that the JD states that the regulators shall request the TSOs to continuously monitor the implementation of the JD, and prepare and submit monitoring reports to the NRAs, including challenges in implementation and opportunities for improving the implementation of the JD.

In addition, DUR and BNetzA have a few additional requests for next year's report:

[6] Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency

[7] https://www.acer-remit.eu/np/str

- Explain effect of net developments on expected ability to transport physical power on the DK1-DE border.
- State clearly in all text, graphs and figures, which TSO is the requesting party.
- Describe how special regulation will be provided in the light of the upcoming European balancing platforms, grid enforcements and increasing countertrade volumes (future target model for counter-trading).

BNetzA and DUR are also of the opinion that there is no need to revise the Joint Declaration.

Due to TenneT commitments, BNetzA and DUR are also of the opinion that there is no reason to initiate a process in which the reasons for reaching the cost cap are analysed and solutions are developed in order to allow the decided capacity to be available to market participants while keeping the costs within reasonable limits.