

**Demand assessment report
for the incremental capacity process
starting 2019 between *the*
*Danish market area and Trading Hub Europe***

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This report is a joint assessment of the potential for incremental capacity projects conducted by

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A. Non-binding Demand indications

The following **aggregated non-binding demand indications** for firm capacity have been received within eight weeks after this year's yearly capacity auction and will be used as a basis for this demand assessment:

| From [entry-exit system] | To [entry-exit system] | Gas year | Amount [kWh/h/ Year] | Request is submitted to other TSOs | Period when Demand Indication was received* | Additional Information |
|-----------------------------|---------------------------|--------------------------------------|---|---|---|---|
| Denmark | German market area | 2022/23 until and including 2031/ 32 | German side: 2.500.000 Danish side: 2.800.000 ¹ | No | 2 | Request for freely allocable firm capacity. |
| German market area | Denmark | 2023/24, no end date was stated | Danish side: 2.280.000 ² | No | 2 | Request for firm capacity. |

* The following standardised period shall be used for indicating the receiving date of the demand indication:

- 1) later than eight weeks after the annual yearly capacity auction in the previous incremental capacity cycle, that have not been considered previously;
- 2) within eight weeks after this year's yearly capacity auction (0 – 8 weeks after yearly auction in year);
- 3) later than eight weeks after this year's yearly capacity auction, but that will be considered in this incremental capacity cycle (9 – 16 weeks after yearly auction in year).

After the eight weeks timeframe after this year's yearly capacity auction an additional non-binding demand indication was received by Gasunie Deutschland Transport Services GmbH and Open Grid Europe GmbH. Following the terms and conditions for participation in the incremental capacity process of the affected TSOs and in line with the provision stated in Article 26 Paragraph 7 of the Regulation (EU) 2017/459 (NC CAM) this non-binding demand indication will not be considered within this market demand assessment but within the next foreseen assessment which will start after the yearly capacity auction in 2021.

¹ No capacity but an energy amount was stated in the non-binding demand for the Danish side which was recalculated for comparability. In addition, no timeframe was stated for the Danish side as the capacity is available. This will be addressed also later within the report.

² No capacity but an energy amount was stated in the non-binding demand for the Danish side which was recalculated for the purpose for comparability. As the indication was only received on the Danish side, and because the demand is below the current firm capacity, only the direction from Denmark to Germany is further exploited in this report

B. Demand assessment

Future merger of the German entry-exit-systems

On 7th July 2017, the German Bundesrat (Federal Council) approved the revision of the German Grid Ordinance (hereinafter GasNZV) which in §21 p. 1 s. 2 obliges transmission system operators (hereinafter TSOs) to merge the currently existing two entry-exit-systems within Germany until 1st April 2022. Since such a merger implies that interconnection points between the entry-exit-systems will be transformed to inter-TSO exchange points and due to the fact that capacities eventually will not be bookable for transports, TSOs will stop marketing the respective capacities as of the date of the entry-into-force of the revised GasNZV for transports taking place after the merger.

In the course of the merging project of the two German market areas ("marco") the German TSOs announced that they are planning to merge the two German market areas as of 01 October 2021. The name of the joint German market area will be Trading Hub Europe.

Since the ongoing incremental capacity process will end with the auctioning of yearly capacity products for capacity starting on 1 October 2021 in July 2021 there is no possibility to consider any requests concerning the borders of the market areas NetConnect Germany or GASPOOL. Therefore, only demand indication for the borders of the merged German market area can be stated in the incremental cycle 2019 – 2021 (and following) and only those will be evaluated.

Due to the complexity of developing a joint capacity model the evaluation of requested capacity will be based on the latest legally binding version of the German network development plan gas (hereinafter NEP) 2018 – 2028. In the further process of incremental capacity this basis for planning can change and a new assessment of already done conclusions could be necessary. As a consequence, also the level of demand for incremental capacity could change in the course of an incremental capacity project. All known facts will be incorporated into the process to the best of one's knowledge and belief, still the TSO reserve the right to amend the input values for capacity modelling.

Implementation of virtual interconnection points

Article 19 Paragraph 9 of the Regulation (EU) 2017/459 (NC CAM) foresees the establishment of virtual interconnection points (VIP). Because of the merger of the two German market areas it is possible that a VIP will have to be implemented between the Danish and German market area. This implementation could eventually affect any auction including incremental capacity in 2021.

i. Historical usage pattern at the concerned interconnection points

For the incremental capacity cycle addressed by this report non-binding market demand indications were received. Therefore, an analysis of the historical capacity utilization between the aforementioned entry-exit systems is given to support the assessment of a future demand for incremental capacity.

This analysis is performed separately for each of the following interconnection points which connect the entry-exits systems and for each direction, for which non-binding demand indications were received, in the current report the direction from the Danish to the German market area.

To support the assessment of incremental capacity, demand the interconnection point specific analysis is aggregated to entry-exit-system level by the addition of the respective parameters of the single interconnection points. The analysis is also performed separately for each side of the border, as technical and commercial parameters can differ significantly for several reasons.

For the analysis the technical capacity, the booked firm capacity and the final confirmed quantities according to Article 3 (8) of Regulation (EU) Nr. 312/2014 are presented on an hourly scale. For the confirmed quantities no distinction between transports in firm or interruptible capacities is performed. Only firm freely allocable capacity is included in the analysis to provide fitting reference for the assessment of the demand for incremental capacity.

The analysis is performed for the time frame 01.04.2017 06:00 hrs – 01.04.2019 06:00 hrs.

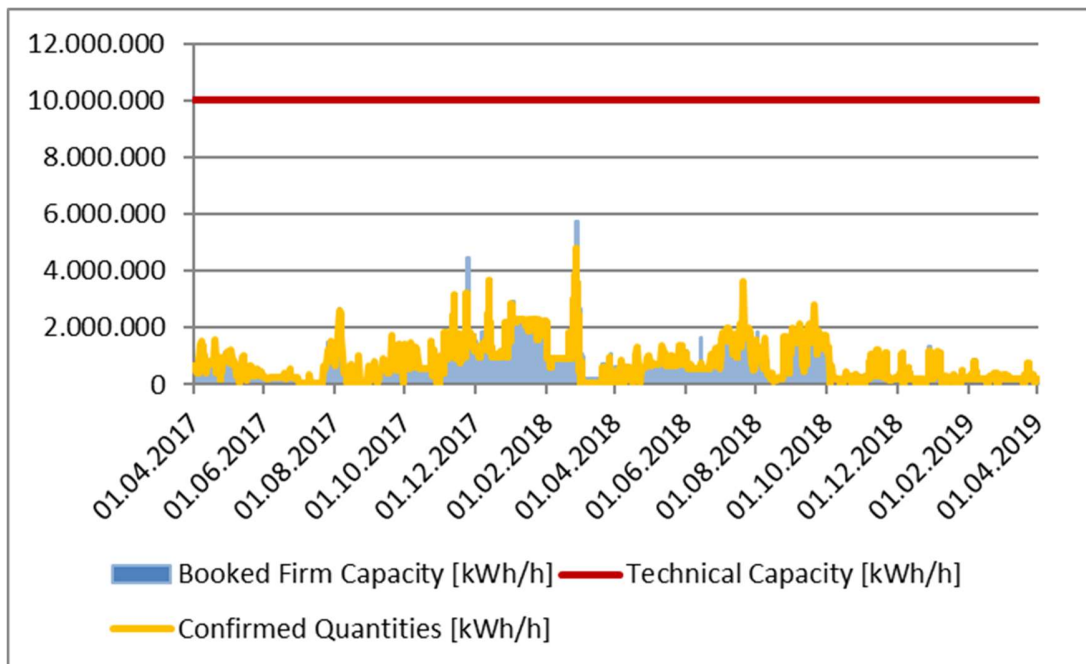
The following interconnection Points connect the entry-exit system and are suitable to fulfill the demand indication:

| | | | |
|-------------------------------|-------------------------|-------------------------------|----------------|
| Interconnection Point: | Ellund | | |
| Energy Identification Code: | 21Z000000000144V | | |
| | | | |
| Entry-exit-system: | Denmark | Entry-exit-system | Gaspool |
| Transmission System Operator: | IP name: | Transmission System Operator: | IP name: |
| Energinet | Ellund | Gasunie Deutschland | Ellund (GUD) |

| | | | |
|-------------------------------|------------------|-------------------------------|---------------------|
| Interconnection Point: | Ellund | | |
| Energy Identification Code: | 21Z0000000000260 | | |
| | | | |
| Entry-exit-system: | Denmark | Entry-exit-system | Net Connect Germany |
| Transmission System Operator: | IP name: | Transmission System Operator: | IP name: |
| Energinet | Ellund | Open Grid Europe | Ellund (OGE) |

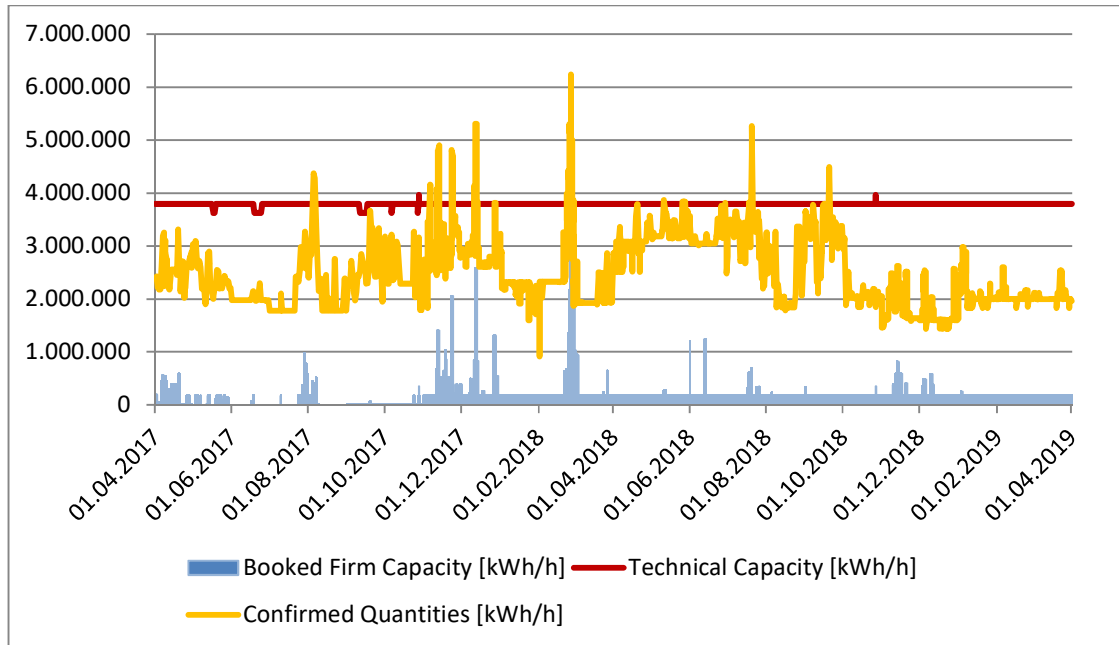
In addition, depending on the outcome of the analysis of the historical usage patterns an analysis of both the implementation and application of Congestion Management Procedures required by the CMP Guidelines and the possibility for and the actual use of capacity trading on the secondary market is performed. But as this analysis should not be an end in itself it is only performed if any sustained contractual congestion at the respective border is visible in the historic usage pattern.

a. Exit Danish market area – aggregated



As a summary no sustained congestion is visible in the historic analysis that would indicate the need for additional firm capacity for the Exit direction of the Danish market area. Therefore, no further analysis in respect to congestion management procedures and secondary marketing is performed.

b. Entry Trading Hub Europe - aggregated



Although the confirmed quantities exceeded several times the technical capacity for a short time no longer lasting capacity demand above the existing technical capacity did occur. For these reasons, no further analysis of congestion management procedures and secondary marketing is performed.

ii. Relations to GRIPS, TYNDP, NDPs

The latest national development plan (NDP) for Germany was published in March 2018. The NDP is legally binding. In the document there are no projects included, which will increase the capacity from Denmark to NCG or GASPOOL.

Neither the relevant Gas Regional Investment Plan nor the relevant TYNDP did identify a need for incremental capacity.

iii. Expected amount, direction and duration of demand for incremental capacity

The assessment of the demand for incremental capacity will be conducted by analyzing the technical capacity, the booked firm capacity and the non-binding demand indications received for the interconnection points of the relevant entry-exit system border.

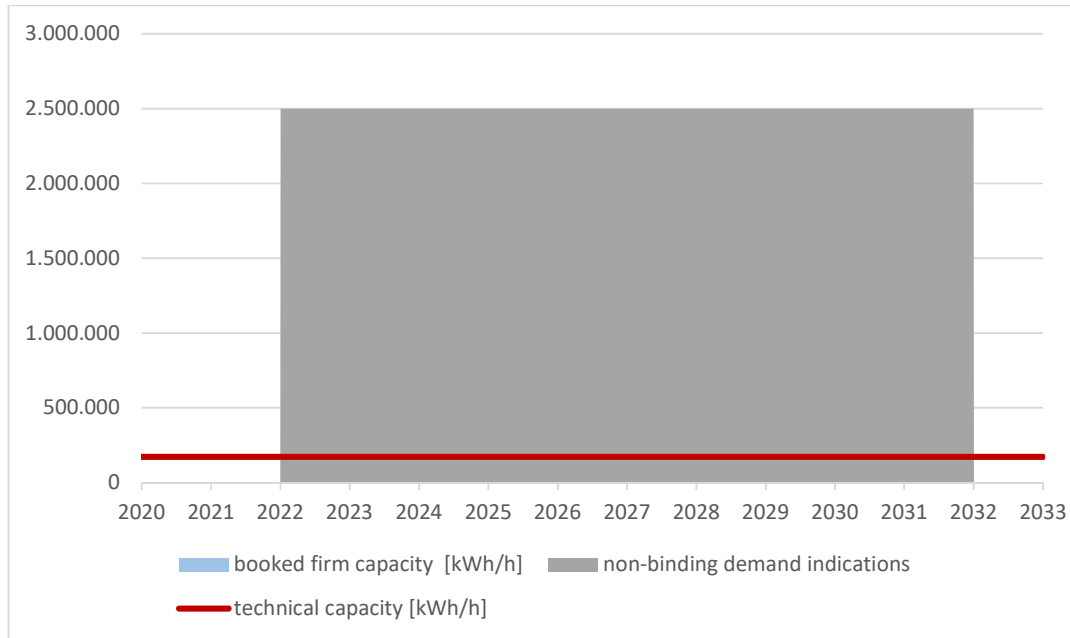
Projects currently under construction and planned projects are also considered according to ii. No capacity is booked so far at the concerned IPs on the German or Danish side of the market area border in the requested timeframe.

a. Exit Danish market area - aggregated



No capacity but an energy amount was stated in the non-binding demand for the Danish side which was recalculated for the purpose as comparability. In addition, no timeframe was stated for the Danish side as the capacity is available. Therefore, the non-binding demand is stated in the graph above until October 2032, which was the end date of the corresponding non-binding demand indication on the German side.

b. Entry Trading Hub Europe - aggregated



To determine whether a technical study is necessary, the criteria defined under Point C is checked. This check is carried out for each relevant entry-exit-system. In conclusion, a statement is made as to whether an incremental capacity project is initiated and whether technical studies need to be produced.

C. Conclusion for the (non)-initiation of an incremental capacity project/process

If a sustained expected demand for incremental capacity is identified on one side of the entry-exit-system border the involved TSOs deem it necessary to conduct technical studies. Depending on whether a demand for incremental capacity is identified on one or both sides of the border of the entry-exit system an incremental capacity project will be started on one or both sides of the specific entry-exit system. Deviations can occur only if there are justified individual instances.

If an incremental capacity project is initiated, then technical studies will be conducted for potentially all IPs of the respective entry-exits system border for which the project was initiated. The specific IPs and TSOs for which technical studies will be conducted will be determined in the Design phase according to Article 27 of NC CAM. Thereby economical aspects and aspects of grid topology will be considered.

For the entry-exit-systems addressed by this report the following conclusion for the (non)-initiation of an incremental capacity project/process is drawn:

a. Exit Danish market area

The charts provided in B iii a) clearly indicate that the sum of both booked firm capacity and demanded incremental capacity are lesser than the technical capacity available at the market area border.

Therefore, Energinet does not deem it necessary to start an incremental capacity project.

b. Entry Trading Hub Europe

The charts provided in B iii b) clearly indicate that the sum of both booked firm capacity and demanded incremental capacity are higher than the technical capacity available at the market area border. Based on the available capacity of 172 MWh/h³ and the non-binding demand of 2.500 MWh/h a demand for incremental capacity in the amount of 2.328 kWh/h is identified.

Therefore, Gasunie Deutschland Transport Services GmbH and Open Grid Europe do deem it necessary to start an incremental capacity project.

³ According to the German NDP 2018 an Entry capacity of 172 MWh/h (FZK) is available at the IP Ellund (OGE).

D. Provisional timeline

The involved TSOs have planned to conduct technical studies and the consultation of the draft project proposal according to the following provisional timeline:

| Start Date | End Date | Description |
|-----------------------|-------------|---|
| 21.10.2019 | | Start of design phase |
| 21.10.2019 | | Technical studies by TSOs |
| In calendar year 2020 | | Publication of consultation documents |
| In calendar year 2020 | | Public consultation |
| In calendar year 2020 | | Planning of offer levels by TSOs in close cooperation with NRAs |
| Q3/ Q4 2020 | Q1/ Q2 2021 | Approval and publication of the necessary parameters acc. to Art. 28 Para 1 NC CAM by NRAs |
| Q1/ Q2 2021 | 5.5.2021 | Adjustment of the offer levels according to NRA decision by the TSOs |
| 5.5.2021 | 5.5.2021 | Publication of the approved parameters and of a template of the contract(s) related to the capacity to be offered for the incremental project |
| 5.7.2021 | | Yearly auction/economic test |

The stated dates have provisional character and are therefore subject to change.

If the economic test was positive, the project will feed into the national development process.

E. Interim arrangements for the auction of existing capacity on the concerned IP(s)

The total duration of the non-binding demand indications with relevance for this Demand Assessment Report spans from gas year 2022/23 to gas year 2031/32. Therefore, the involved TSOs can auction all offer levels including incremental capacity according to Art. 11 Para 3 Sentence 1 of NC CAM. The involved TSOs will eventually auction offer levels including incremental capacity according to Art. 11 Para 3 Sentence 2 of NC CAM.

This will be determined and published in a timely manner before the relevant auction.

F. Fees

According to Article 26 (11) of Regulation (EU) 2017/459 transmission system operators may charge fees for activities which result from the transmission of non-binding demand indications. Whether to demand fees or not will be evaluated by the transmission system operators for every single incremental capacity cycle. The decision on this matter for one specific incremental capacity cycle has no significance on any following cycles.

For the incremental capacity cycle addressed by this report, the following regulations in respect to fees apply:

No fees have been charged by the involved TSOs for this cycle of incremental capacity.

G. Contact information

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