



WELCOME

# Workshop 3

# An intraday countertrade model



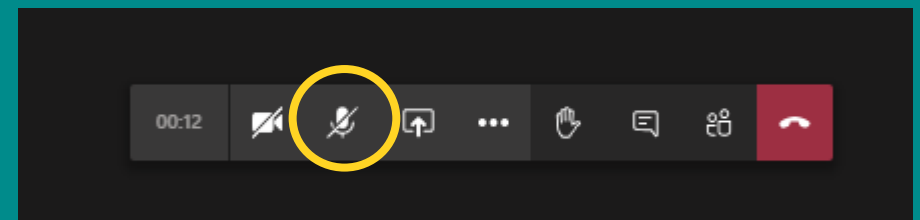
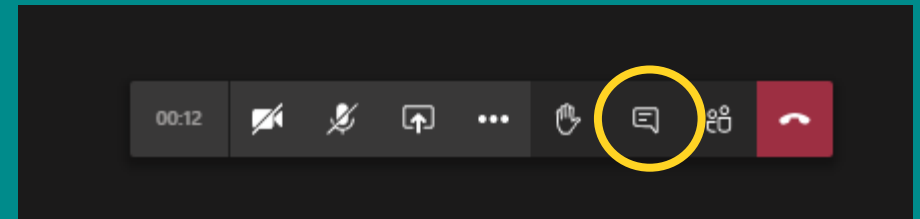
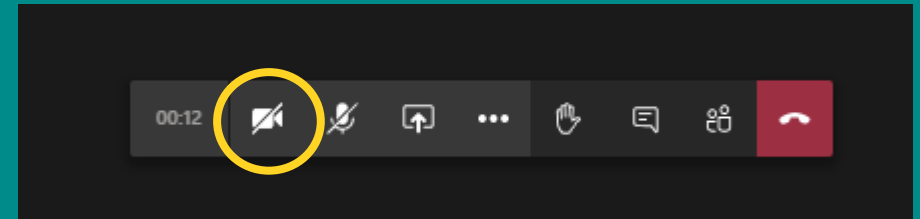
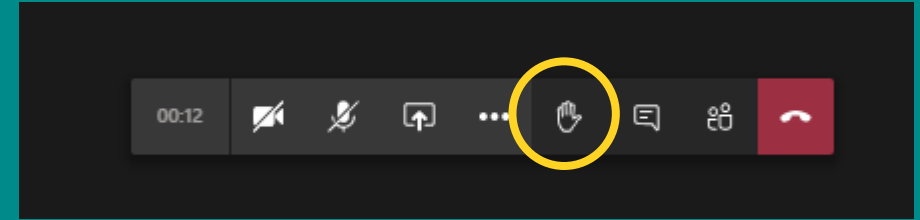


# QUESTIONS AND COMMENTS GUIDELINE

- After each agenda point we will open up for a "questions and comments session"
- During the presentations you can comment and give input in the chat box
- However, if you have questions which requires an answer, please raise your hand and wait to ask the question during the "Q&C"
- Questions asked in the chat must be repeated orally during the "Q&C" to receive an answer

# TECHNICAL GUIDELINES

- If you have a question or a comment, please use the "raise your hand" function in teams. We will make sure everyone gets speaking time
- Please turn off your camera whenever you are not speaking and please **turn it on whenever you are speaking**
- You can write comments in the chat box
- Please mute your microphone whenever you are not speaking



## SCOPE OF WORKSHOP 3

- The main purpose of the workshop is to get input on the design of an intraday model
- This third workshop was planned shortly after the second workshop to follow up on open ends, and to ensure time to get input on the set up of an intraday model



# Agenda



- Welcome
- Follow-ups from WS2
- Break
- Setup of an intraday model
- Sum up and further process

\*Q&A after each agenda topic

# SOCIO ECONOMIC WELFARE IS THE MAIN REASON TO CHANGE THE MODEL

As written in the workshop 2 memo, sent out before Christmas last year:  
*“The most fundamental argument in favour of an intraday model is that it is a socioeconomically superior model”*

# 70%

# Day-ahead / Intraday?

**Energinet WS**

2. February 2021

Peter Fausbøll

# The 70% issue:

**Big subject ...**  
**Not easy!**

NB: DUR has not discussed internally at director level yet, and will first decide finally, when we have a case.





L 158/54

EN

Official Journal of the European Union

REGULATION (EU) 2019/943 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL  
of 5 June 2019  
on the internal market for electricity  
(recast)

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,  
Having regard to the Treaty on the Functioning of the European Union, and in particular Article 194(2) thereof,



Publishing date: 18/12/2020

Document title: ACER Report on the Result of Monitoring the Margin Available for Cross-Zonal Electricity Trade in the EU in the First Semester of 2020



PUBLIC

RECOMMENDATION No 01/2019  
OF THE EUROPEAN UNION AGENCY FOR THE COOPERATION OF  
ENERGY REGULATORS

of 08 August 2019

on the implementation of the minimum margin available for cross-zonal trade pursuant to Article 16(8) of Regulation (EU) 2019/943



European Union Agency for the Cooperation of Energy Regulators • 1st European Union Agency for the Cooperation of Energy Regulators 3d • Edited • 3 days ago

Missed the ACER 70% target webinar?

Check out the PPTs and video (which includes a lively Q&A) <https://lnkd.in/dnxXGCD>



## **ACER Recommendation 01/2019, p.8 (Monitoring in DA & ID):**

Article 16(8) of Regulation (EU) 2019/943 also mentions that the minimum capacity available for cross-zonal trade shall be determined in accordance with the CACM Regulation. Therefore, the calculation and monitoring of MACZT should only be conducted for timeframes which fall under Article 14 of the CACM Regulation, namely the day-ahead and intra-day timeframes.

## ACER Recommendation 01/2019, p.9 (Focus on DA & no delay):

### 4.3. Monitored timeframes

MACZT should in general be monitored for the day-ahead capacity calculation timeframe. When coordinated capacity calculation is implemented for the intraday timeframe and in some cases (deemed justified by regulatory authorities) where TSOs are unable to reach the MACZT target in the day-ahead timeframe, the intraday timeframe may also be taken into account in the monitoring of the MACZT target. TSOs should as much as possible avoid delaying the offering of high MACZT after the day-ahead timeframe, in order to avoid adversely affecting the internal electricity market (see Annex III for details). In order to define justified cases and whether additional capacity was effectively<sup>8</sup> provided in the intraday timeframe, this Recommendation may need to be updated once intraday coordinated capacity calculation is implemented.

MACZT should not be monitored for long-term timeframes, since the requirement of Article 16(8) of Regulation (EU) 2019/943 only refers to capacity determined in accordance with the CACM Regulation. Flows induced by nominations resulting from capacity allocation in long-term timeframes should however be taken into account when estimating MACZT.

## ACER Recommendation 01/2019, p.27 (DA & ID have to be coordinated across BZB):

First of all, capacity allocation is mostly determined by the CNECs with the lowest margin levels. In case TSOs do not simultaneously provide high MACZT, the capacity perceived by the market may be low for all timeframes. The table below describes a simplified example where one TSO (A) offers 10%<sup>48</sup> in DA and 70% in ID, whereas another TSO (B) offers 70% in DA and 10% in ID.

TSO	MACZT – DA	MACZT – ID
A	10%	70%
B	70%	10%

## ACER Recommendation 01/2019, p.13&18 (connection between DA and ID):

Applies for flow-based (target situation)

Similarly, for the intraday timeframe, the above formula becomes

$$\begin{aligned} MCCC_{FB}(CC\ MTU) &= RAM_{ID}(CC\ MTU) + F_{AAC,ID}(CC\ MTU) \\ &= RAM_{ID}(MTU) \\ &+ \sum_{b \in \text{coordination area}} PTDF_{z2z,b}(CC\ MTU) * AAC_{ID,b}(CC\ MTU) \end{aligned}$$

Where

$F_{AAC,ID}$	Margin for already allocated capacities resulting from capacity allocation in the previous timeframes (including long-term, DA, and previous ID timeframes)
$b$	Oriented bidding-zone border which belongs to the considered coordination area
$PTDF_{z2z,b}$	Zone-to-zone PTDF associated with the oriented bidding-zone border
$AAC_{ID,b}$	Already allocated and nominated capacities from the perspective of the intraday timeframe (i.e. the capacities allocated and nominated in the long-term, DA and previous ID timeframes) for the oriented bidding-zone border.

### 6.1. Monitoring MACZT on CNECs

Within a coordination area, for a given CNEC, timeframe and CC MTU, the test is defined by the following equation:

$$MACZT(CC\ MTU) = MCCC(CC\ MTU) + MNCC(CC\ MTU) \geq 70\% F_{max}(CC\ MTU)$$

## Comments

- ACER monitors 70 % in so far only in DA.
- NRAs monitor 70 % so far only in DA.
- ACER proposes that NRAs see to 70% according to principles in ACER report
- 70 % has been requirement from 1. January 2020
- No NRA has so far opened a case against their TSO for not following 70 % rule
- If 70 % capacity has been given to DA and allocated in DA (and 70% gives rise to bottleneck and need for countertrade), there is no capacity left for ID
- CCR Core CCM, written by ACER only apply 70% in DA.



# QUESTIONS & COMMENTS





70% RULE, DA



ID MODEL  
WILL LOWER  
DA PRICE



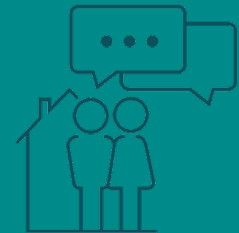
NO SUPPORT  
FOR NORDIC CT  
MODEL



SPECIAL  
REGULATION,  
AFTER 2022?



OBLIGATION  
TO HELP  
WITH CT?



AOB



# ID MODEL WILL LOWER DA PRICE

- 70 % increased day-ahead demand  
=> higher day-ahead price
- Countertrade increases supply  
=> Lower “countertrade price”
- Systematic price differences between time frames are unlikely in competitive markets  
=> Demand shift from day-ahead to countertrade markets
- Access for consumers and traders to countertrade energy will lead to lower DA price
  - Bad for producers
  - Good for consumers
- Energinet emphasis: Equal access to countertrade energy
- The resulting prices reflects the physics of the system



# QUESTIONS & COMMENTS





70% RULE, DA



ID MODEL  
WILL LOWER  
DA PRICE



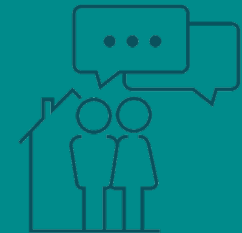
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AOB

# NORDIC CT MODEL

- In 2017 there was no support of a Nordic countertrade model - using Nordic mFRR special regulation bids.

Today:

- Statnett is considering implementing an intraday countertrade model using XBID, and do not think that planned CT should be done close to the operational hour
- Svenska kraftnät has not expressed support for a Nordic CT model
- Energinet: No improvement in socio economic welfare with a Nordic CT model compared to an intraday model



# QUESTIONS & COMMENTS

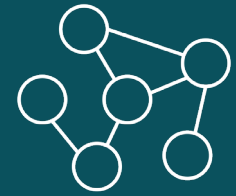




70% RULE



DA PRICE



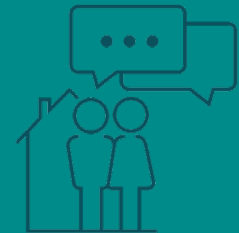
NORDIC CT  
MODEL



SPECIALREGU  
LATION, 2022



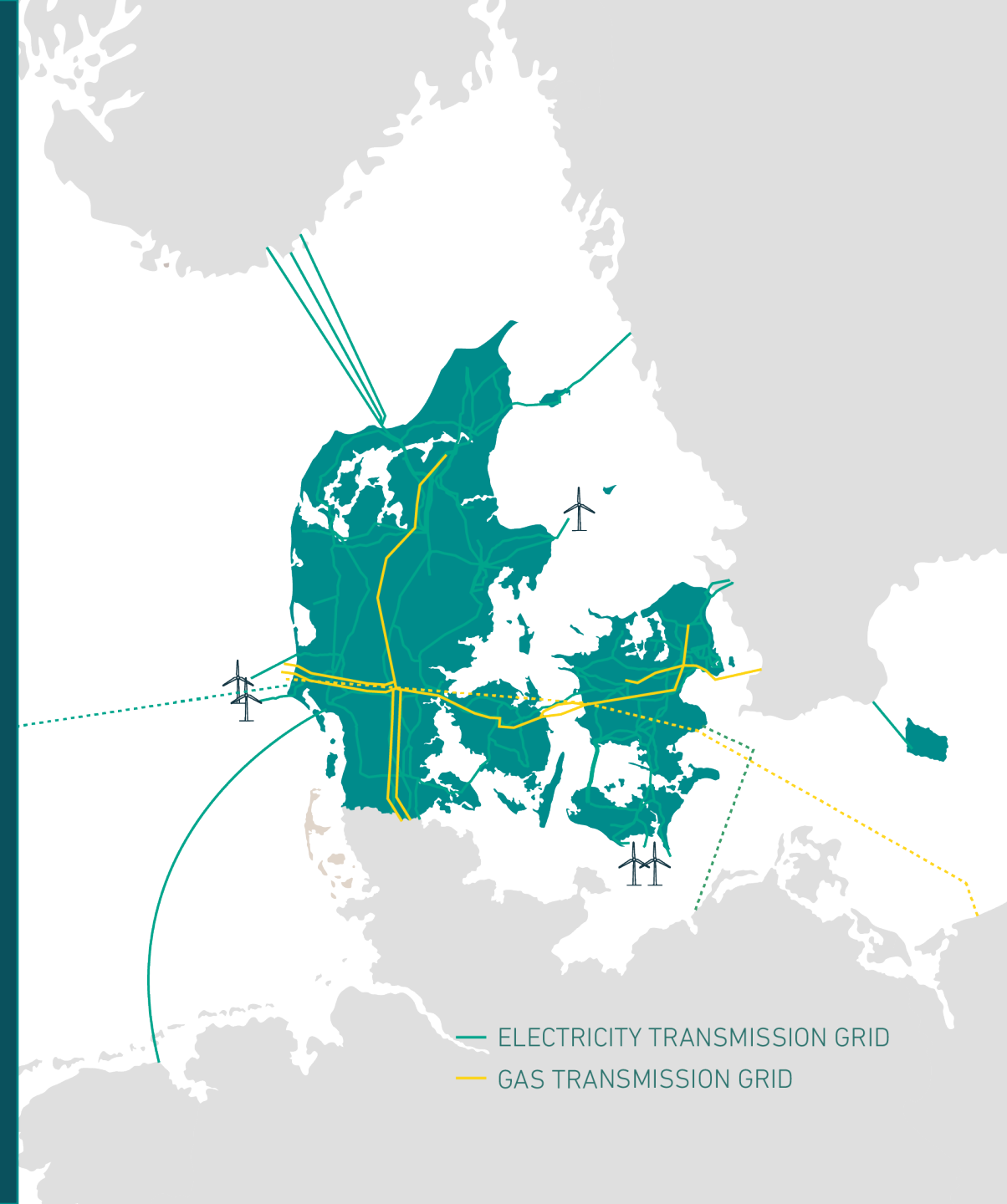
OBLIGATION  
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# SPECIAL REGULATION AFTER 2022

- Direct activation of mFRR as remedial actions for internal congestion management will be needed in the future
- A technical solution for this purpose after 2022 has not yet been designed
  - The solution (to be developed) may (or may not) make also “countertrade activations” technically possible.
  - It may trigger additional costs to transition to an intraday model after go-live of the Nordic AOF.



# QUESTIONS & COMMENTS



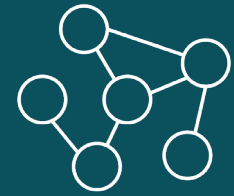




70% RULE



DA PRICE



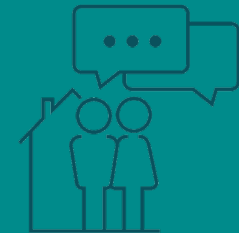
NORDIC CT  
MODEL



SPECIALREGU  
LATION, 2022



OBLIGATION  
TO HELP  
WITH CT?



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# OBLIGATION TO HELP WITH CT?

- Electricity Market Regulation Articles 16(4) and 16((8)(a)): Countertrade is a key tool to ensure minimum 70% transmission capacity
- Countertrade allows the most efficient management of relevant internal German congestions
- EU regulations generally aim at ensuring market efficiency
- However, systematic countertrade impacts Danish day-ahead prices.
  - Reduced countertrade => reduced impact
  - Reduced countertrade => reduced efficiency
- Energinet position
  - Ensure efficiency => Help neighbouring TSOs
  - Energinet would expect the same from other TSOs



# QUESTIONS & COMMENTS





70% RULE



DA PRICE



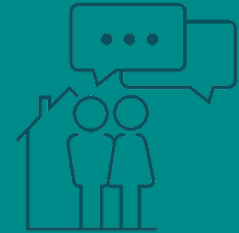
NORDIC CT  
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LATION, 2022



OBLIGATION  
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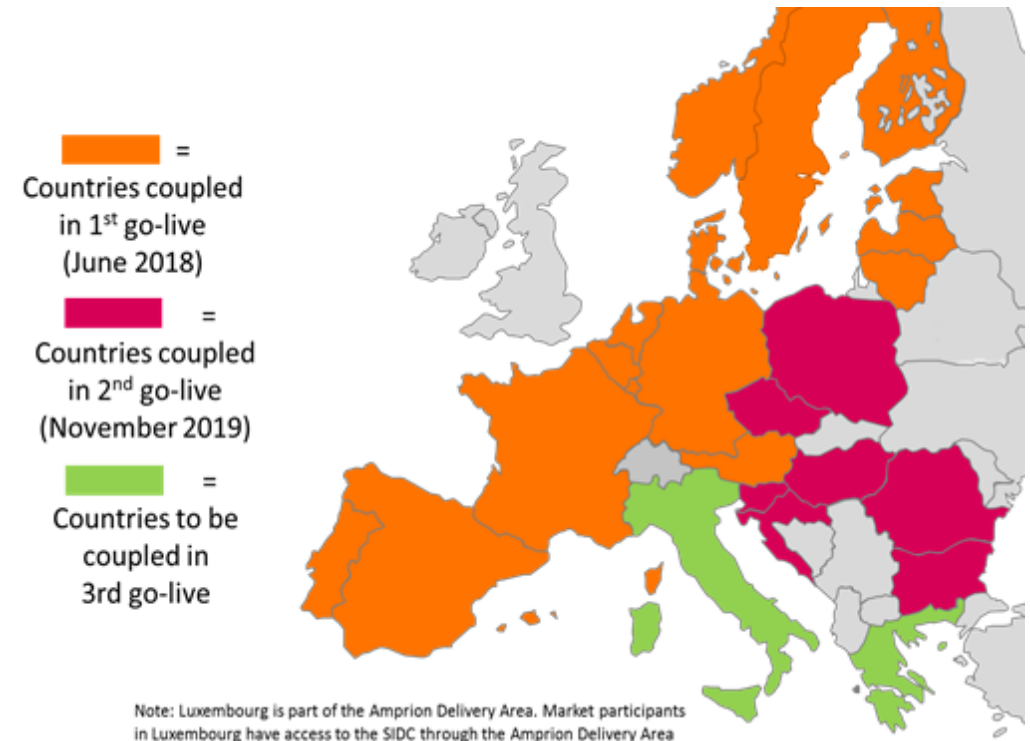
BREAK



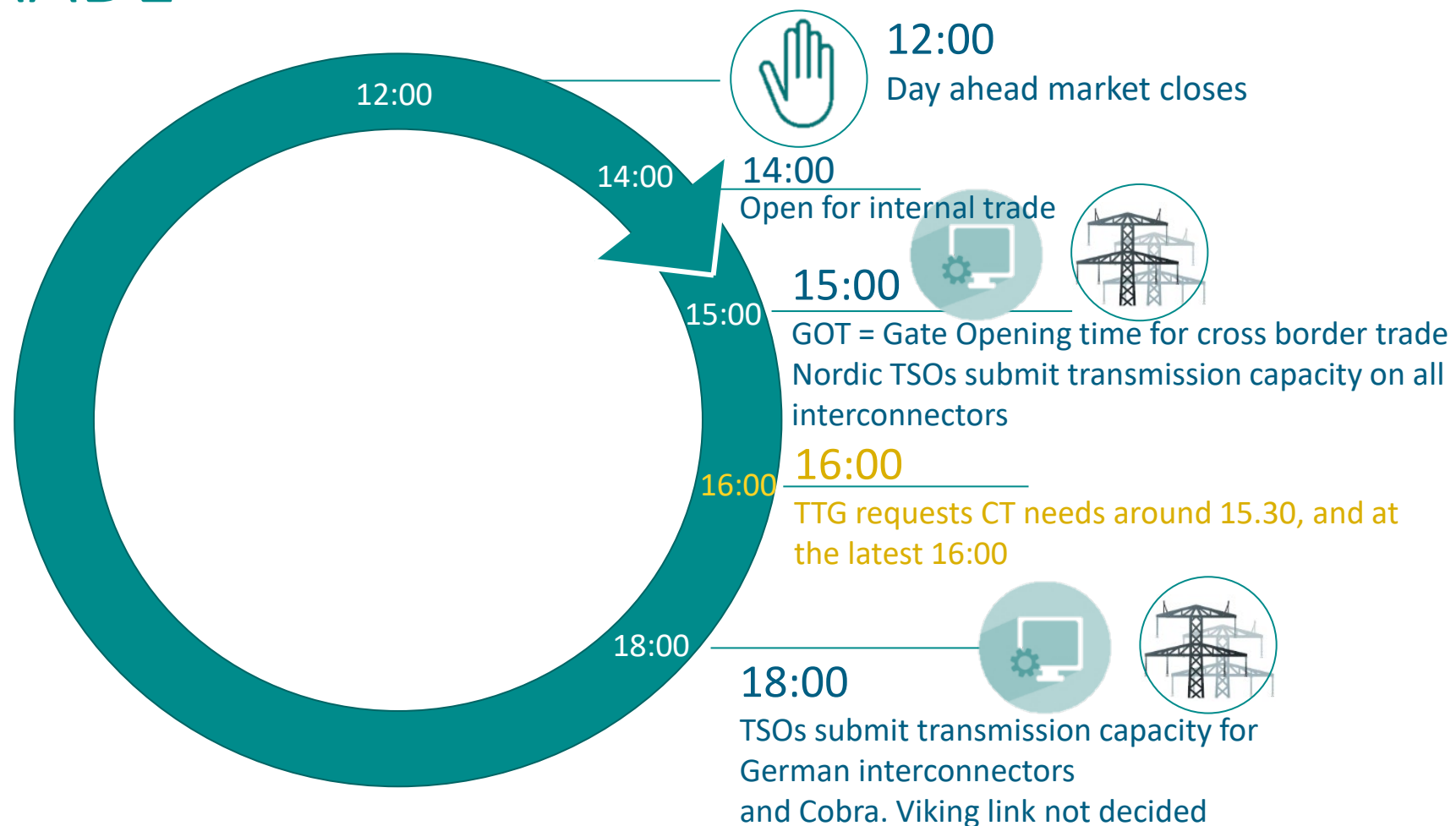
# INTRADAY CONTINUOUS TRADING

Currently 21 countries active in XBID/SIDC.

- Bids in a bidding zone are either matched within the bidding zone or by orders submitted in any other bidding zone as far as transmission capacity is available
- First come first serve and pay-as-bid
- GCT = Gate closure time is one hour before operational hour
- Energinet would place buy and/or sell bids into the SIDC in DK1 and DK2, depending on the need for up- or down regulation in each BZ.



# TIMINGS IN THE INTRADAY MARKET & COUNTERTRADE

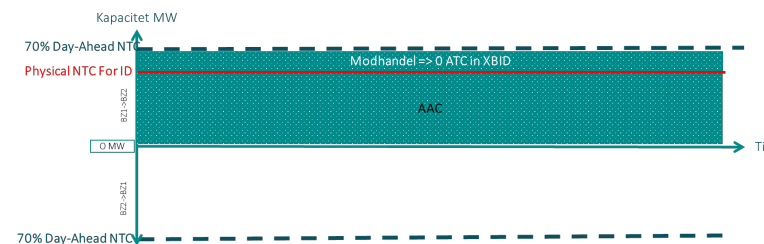
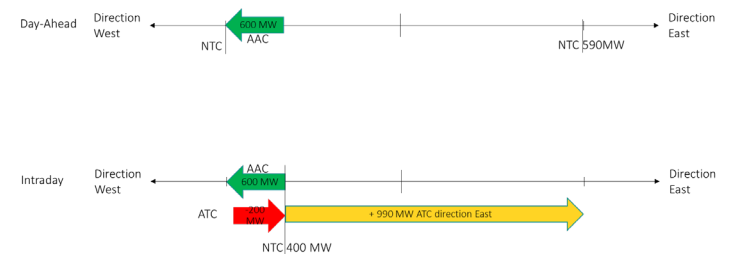


# COUNTERTRADING IN INTRADAY

**Step 1:** Surplus capacity allocated to the day-ahead market will lead to negative available transferable capacity (ATC) in the intraday market. This only allows trade in the opposite direction of the day-ahead flow.

**Step 2:** TSO-TSO trade is a separate schedule only between the TSOs that is aggregated with the commercial schedules, thereby securing countertrade on the border as well as the allowed physical allocation. The schedule change in the delivery hour then creates an imbalance on each side of the interconnector.

**Step 3:** Energinet (or a BRP) settle the above mentioned-imbalance created by the TSO-TSO trade by placing sell- or buy bids, on each their respective side of the border in the intraday market



DK1	DE
TSO Buy	
	TSO sell



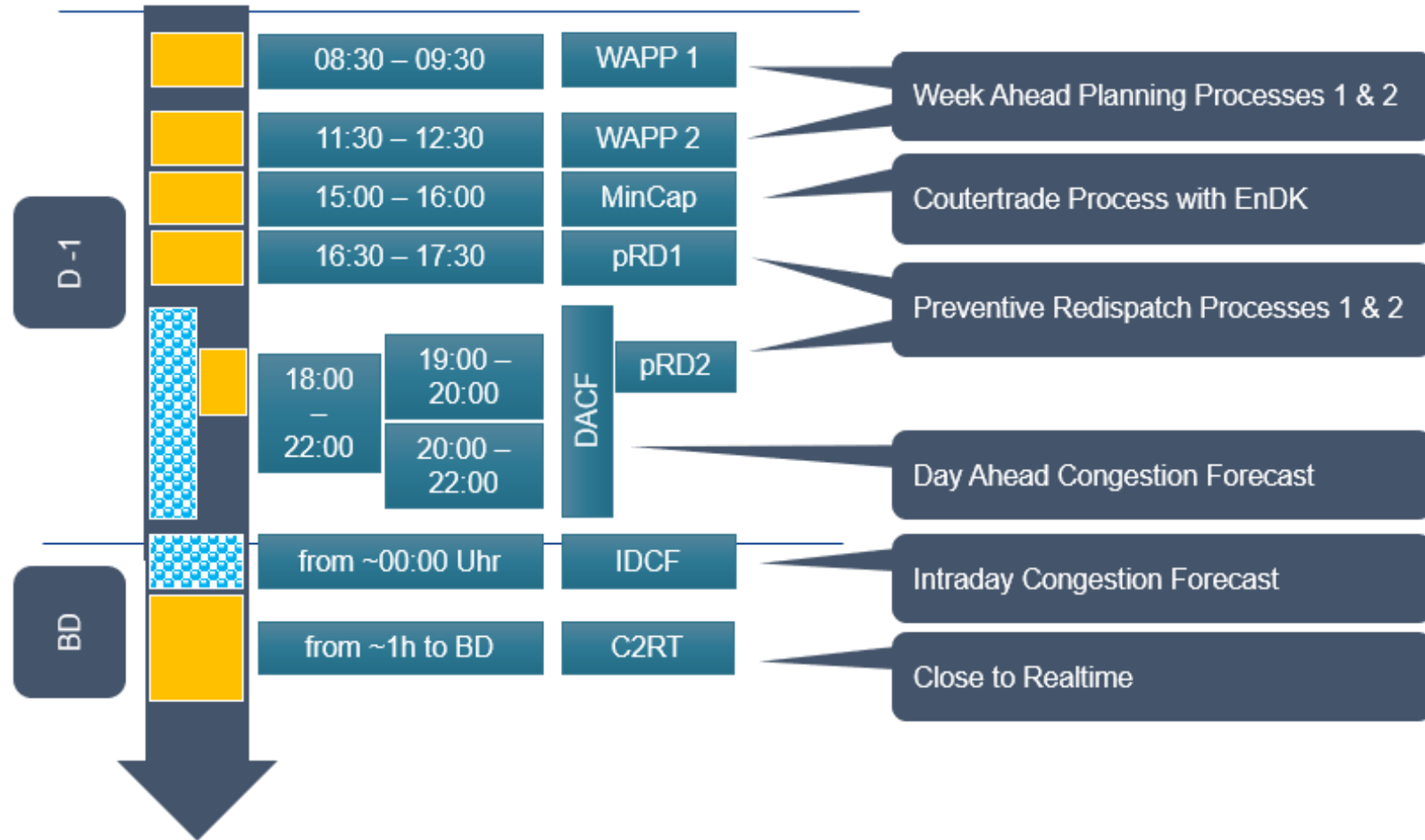


External Presentations

TenneT



# Overview – Operational Planning Processes at TTG



# Grid-Expansion Projects TTG (12/2020)



- 380-kV-Leitung / Umspannwerk
- 380-kV-Interkonnektor
- 220-kV-Leitung / Umspannwerk
- 220-kV-Interkonnektor
- 110-kV-Umspannwerk
- Gleichstrom-Interkonnektor
- - - → Gleichstrom-Interkonnektor im Bau
- Offshore-Netzanbindung
- - - - Offshore-Netzanbindung in Planung oder im Bau
- Offshore-Konverterstation / Umspannwerk

## Further Grid Expansion Projects

- 1 A300 Brunsbüttel – Dänemark (Energinet.dk)
- 2 A320 Audorf – Kassø (Energinet.dk)  
(in Betrieb seit 10/2020)
- 3 A370 Brunsbüttel – Stade/West
- 4 A340 Hamburg\_Nord – Dollem  
(in Betrieb seit 10/2019)
- 5 A230 Halbemond – Emden/Ost
- 6 A210 Emden/Ost – Conneforde
- 7 A225 Wilhelmshaven 2 – Conneforde
- 8 A400 Conneforde – Unterweser & Elsfleth/West –  
Ganderkesee bzw. Niedervieland
- 9 A270 Dollern – Elsfleth/West
- 10 A410 Conneforde – Sottrum
- 11 A500 Dollern – Ovenstädt
- 12 A380 Krümmel – Wahle
- 13 A420 Mehrum – Landesbergen
- 14 A130 Wahle – Wolmirstedt
- 15 A510 Ovenstädt – Bechterdissen
- 16 A600 Wolmirstedt – Mehrum/Nord
- 17 A150 Twistetal – Vieselbach
- 18 A610 Borken – Gießen/Nord
- 19 A610 Borken – Karben
- 20 Altenfeld – Grafenrheinfeld
- 21 A050 Grafenrheinfeld – Kupferzell
- 22 A030 Redwitz – Schwandorf
- 23 A080 Oberbachern – Ottenhofen
- 24 A040 Altheim – St. Peter

# Grid-Expansion Projects TTG (12/2020)



## Underground lines (confirmed)

- 1 A310 Ostküstenleitung (Genehmigung)
- 2 A220 Wilhelmshaven – Conneforde (kurz vor Inbetriebnahme)
- 3 A260 Dörpen – Niederrhein (Bau)
- 4 A240 Conneforde – Cloppenburg – Merzen (Genehmigung)
- 5 A280 Ganderkesee – St. Hülfe (Bau)
- 6 A250 Stade – Landesbergen (Genehmigung & Bau je nach Abschnitt)
- 7 A120 Wahle – Mecklar (Bau)
- 8 A140, BBPIG Nr. 17, Mecklar – Bergheinfeld/West
- 9 A070, BBPIG Nr. 41, Raitersaich – Altheim
- 10 BBPIG Nr. 32, Teilabschnitte Pleinting – Bundesgrenze sowie Simbach – Pirach

## Onshore DC lines (planned)

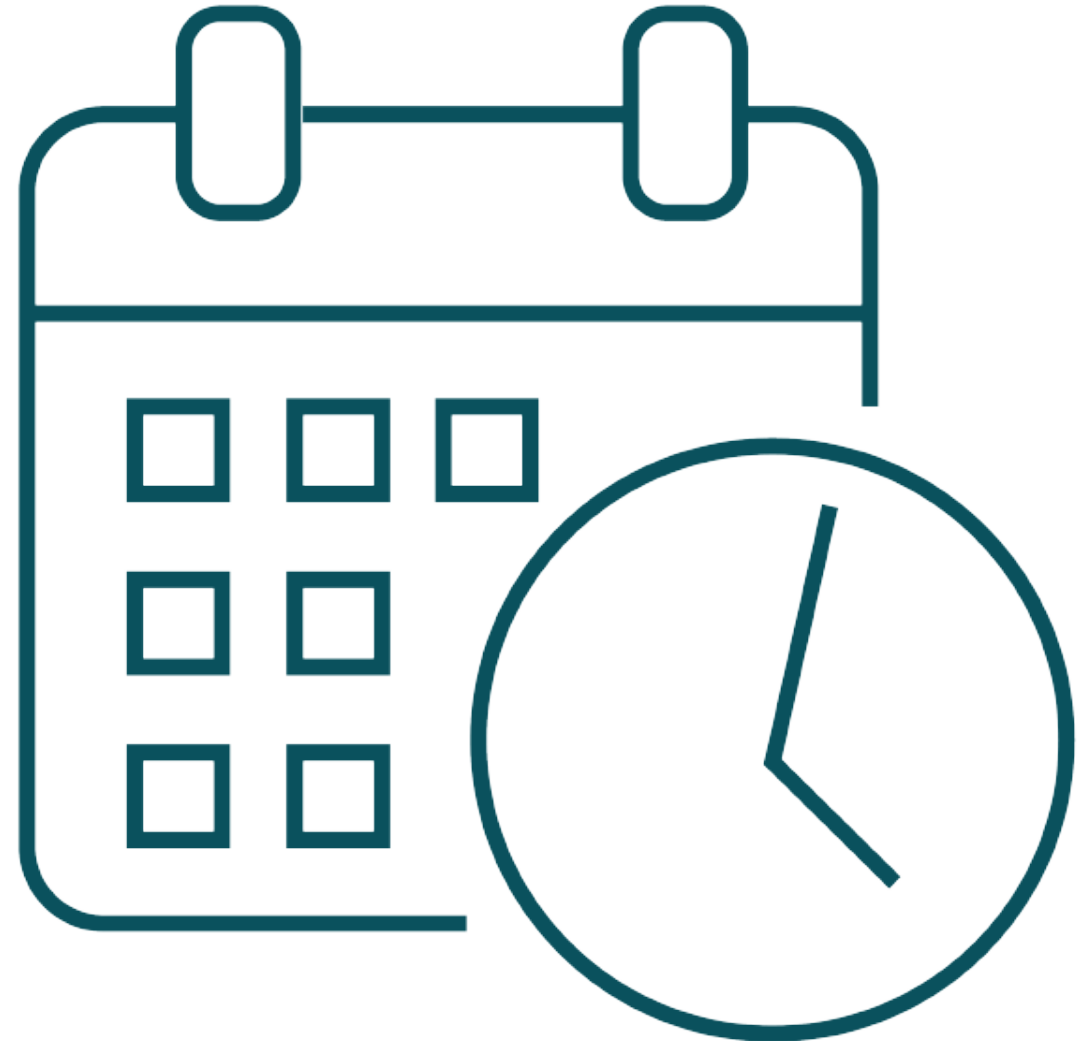
- A100 SuedLink – Bestehend aus zwei Vorhaben:
- 1 Brunsbüttel – Großgartach;
  - 2 Wilster – Bergheinfeld/West
- Planungsziel ist die Umsetzung der beiden SuedLink-Vorhaben auf einer Stammstrecke.
- A060 SuedOstLink:
- 3 Wolmirstedt – Isar (HGÜ)

# WHEN

When will Countertrading be performed in intraday?

Different designs are possible. E.g.:

- 15.00: All countertrade volumes will be sold/bought (only Nordic capacities provided in Intraday)
- 18.00: All countertrade volumes will be sold/bought (all capacities are available)
- Continuous trading every hour
- A certain part of the volumes are traded at GOT (or 18.00 when all capacities are there) and then some of the volumes are sold continuously.



# HOW

- At what time should CT be requested by adjacent TSOs?
- How can we ensure netting of countertrade requests on different borders?
- Are the CT volumes firm once agreed to, or once the volumes have been traded?
- Volumes to be published?
- Publication of TSO max.-price – if any?
- Publication of rules guiding the CT amounts
- Hourly or block bids (maybe an advantage regarding ramping) ?

## Input from Energi Norge:

- Non-symmetric socio-economic consequences from over- or underestimating countertrade volume
- Mechanism to re-release capacity when more information is available



# WHO - ENERGINET OR A BRP

Energinet has a preference to subcontract

## Pro Energinet trading

Confidential information (if any) will be kept internally

An automatic script might do the trick, however erecting Chinese walls might be needed if not all information is published

Saving costs of tender every 1-3 years

**Either way, it must be compliant with transparency regulation and REMIT**

## Pro BRP trading

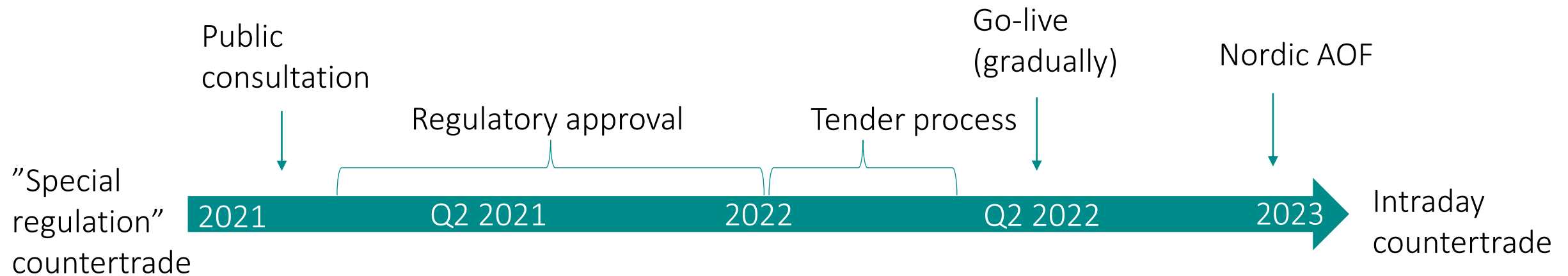
Allegations of market abuse towards Energinet is less likely

BRPs are experts and have automatized processes in place → low price

Ensure more clarity on roles and responsibilities – it's not Energinet's core competence



# IMPLEMENTATION OF THE INTRADAY MODEL





# QUESTIONS & COMMENTS





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Finally

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# SUM UP AND FURTHER PROCESS