# 7. TSO reflections on Swedenergy's presentation

Nordic CCM Stakeholder Meeting

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Krishna Solberg

krishna.solberg@statnett.no

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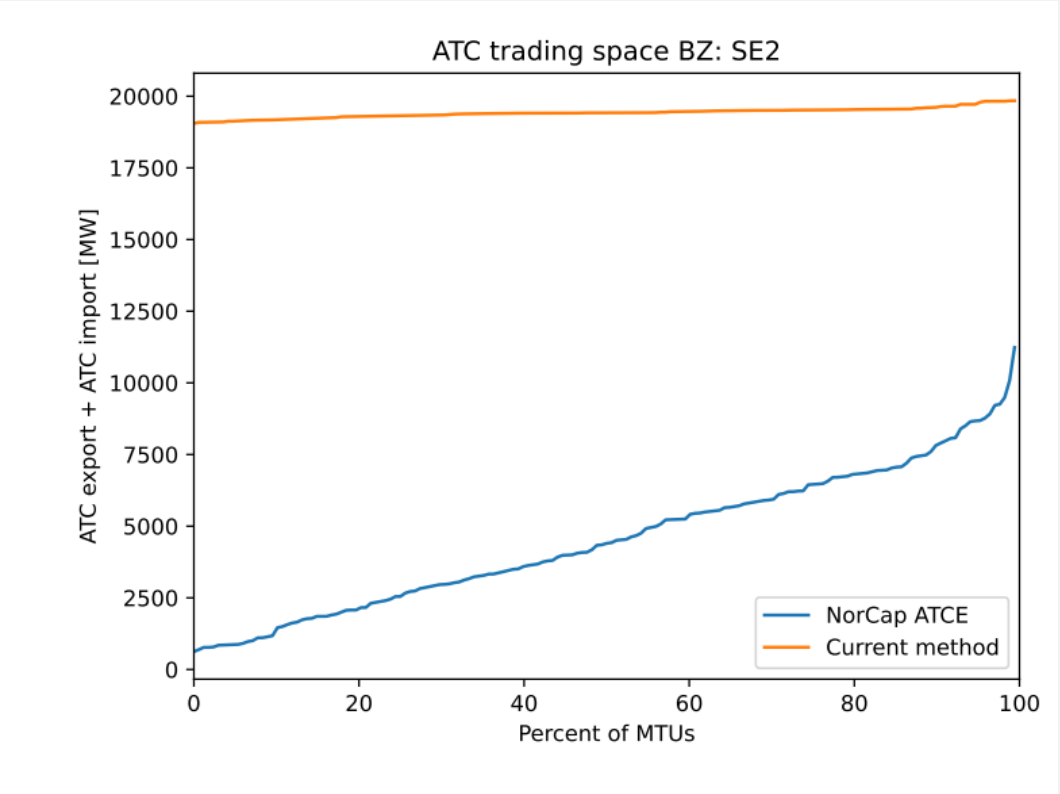
# Operational security and ID capacity

- The capacities given in SE2 are too high, and would result in substantial overloads in the Nordic grid if it was all utilized.
  - Would have to be dealt with in balancing, and it is not guaranteed that balancing could tackle this.
- The ATCE capacities also allow some overloads due to the RAM and PTDF relaxations, but they have been deemed manageable by the operators.

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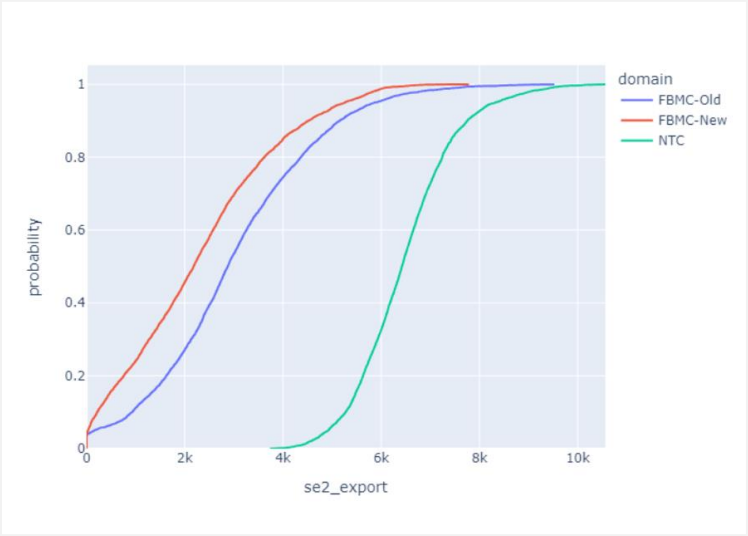
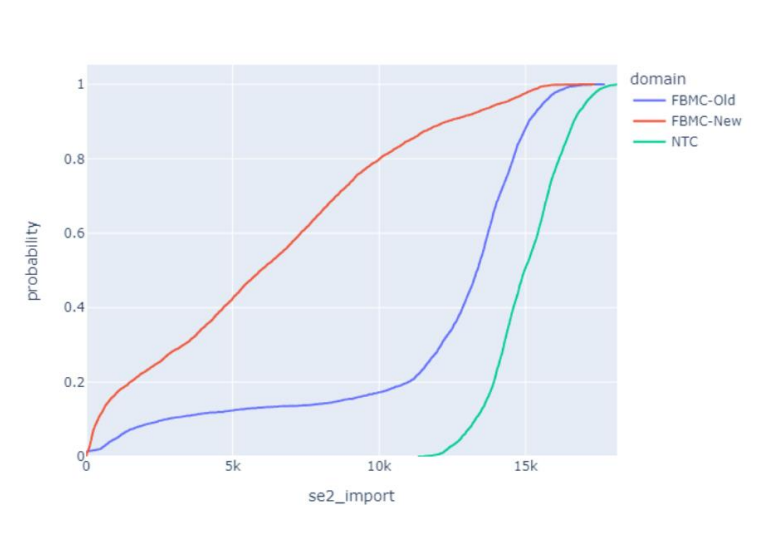
# Operational security and ID capacity

- Again, the capacities given in SE2 in both directions are not within the operationally secure limit
- Most of the time, there is still capacity of the bidding zone in both directions
- Same comments are applicable to SE3 and Se4

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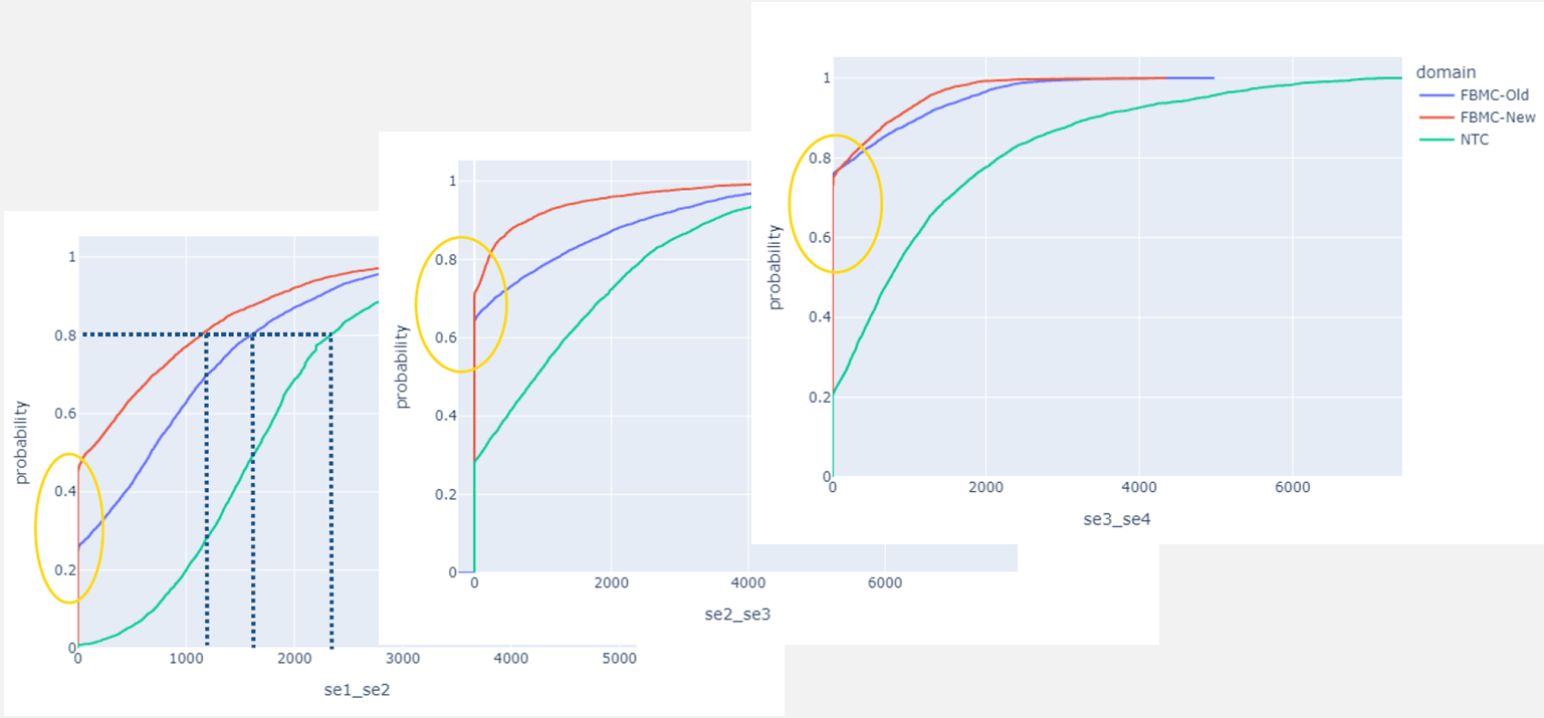
# Optimally allocated DA market outcome

- All borders here are usually fully utilized in the DA market outcome.
- Thus, there is limited capacity in the market direction for many hours due to max flow.
- Also, there might be other borders to trade in SE1, SE2 and SE3 even if the capacity here is low.

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# Answers to stakeholder questions

- Is it only due to that capacity is used more efficiently in the DA compared to NTC?
  - TSO reflection: As stated previously, there are three primary reasons for the lower capacities in ATCE: 1. Higher utilization and optimized flows in DA; 2. ATCE takes into account all flow scenarios (likely and unlikely) that can occur based on the given capacity; 3. ATCE takes into consideration loop flows which increase operational security.
- What XB-capacity will be given in the opposite direction from the DA-results? In the case of intuitive flows? In the case of non-intuitive flows?
  - TSO reflection: The cross-border capacity given in the opposite direction depends on how it affects the CNECs. The ATCE approach maximizes cross-border capacity of all borders while maintaining operationally acceptable situations. The relevant data are published for the stakeholders to perform detailed analyses. To be specific, the ID capacities of both directions are published. Interested stakeholders can first identify the opposite DA market direction. Then, one can further specify if they are intuitive or not. The TSOs will not limit capacities in the opposite direction of non-intuitive flows.

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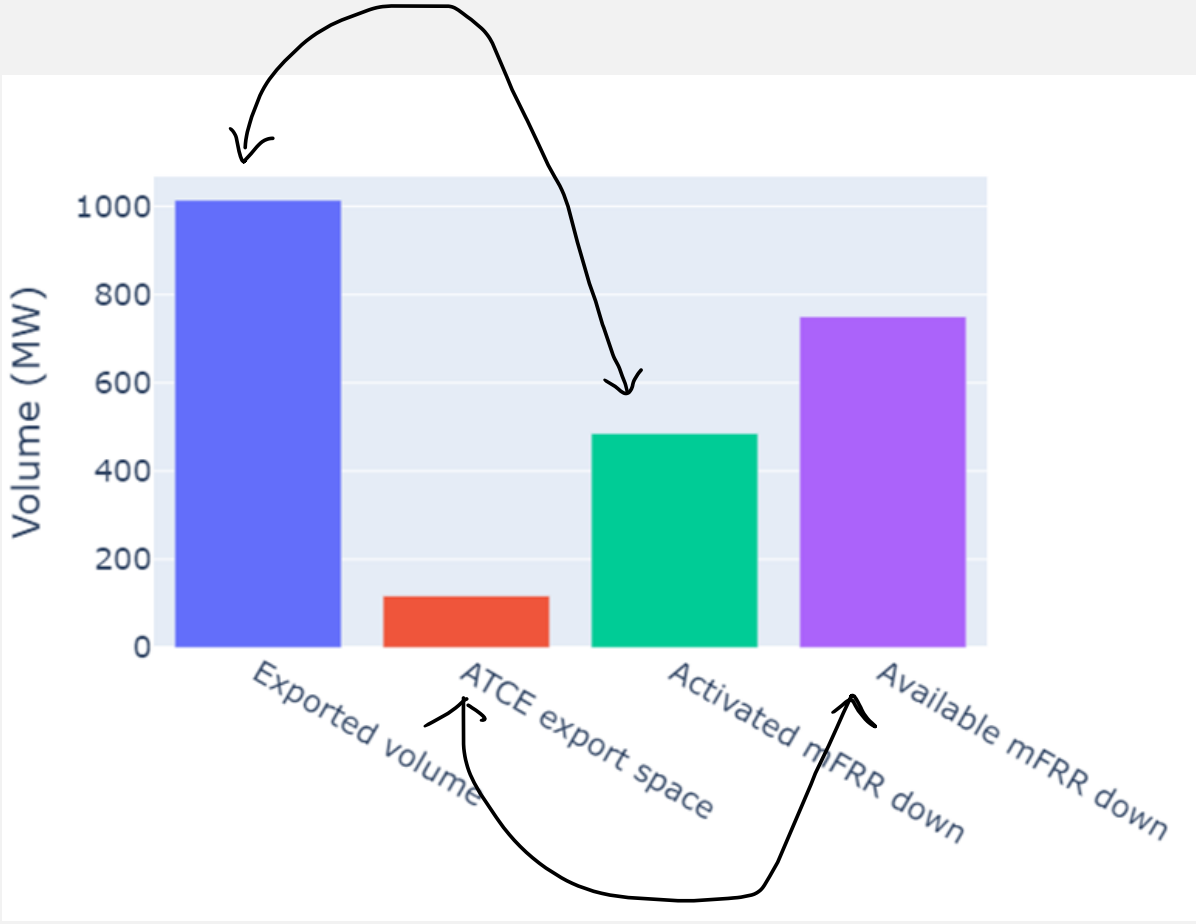
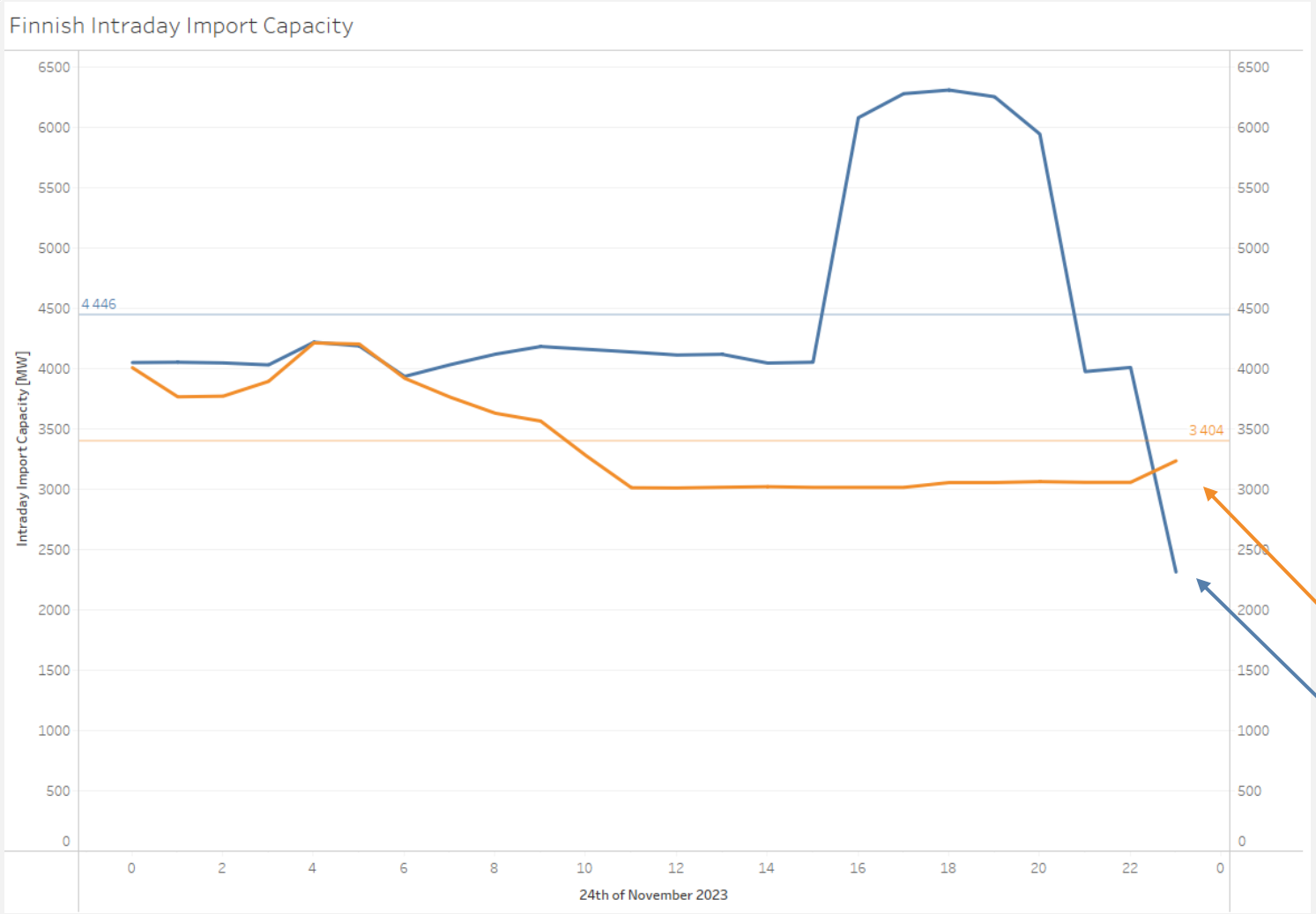
# SE2, 2023-11-24

- The ATCE results indicate that the Finnish importing needs can be faciliated at the ID timeframe.
- SE2 in the ATCE results does not faciliate as much as it did in the NTC world. However, from the system balancing perspective, the sufficient Finnish importing capacity allows other bidding zone to facilitate more.



# Black Friday event (24 November 2023) in Finland
# Available Intraday Capacities




- Throughout the day, ATCE methodology gave approximately same or more import capacity to Finnish bidding zone than the current NTC methodology except for the last hour of the day.
- During the hours 15 – 21 more capacity was given especially for Fennoskan, but also SE1-FI had more intraday capacity for all hours of the day.

Intraday Capacity, Current NTC methodology

Intraday Capacity, ATCE methodology

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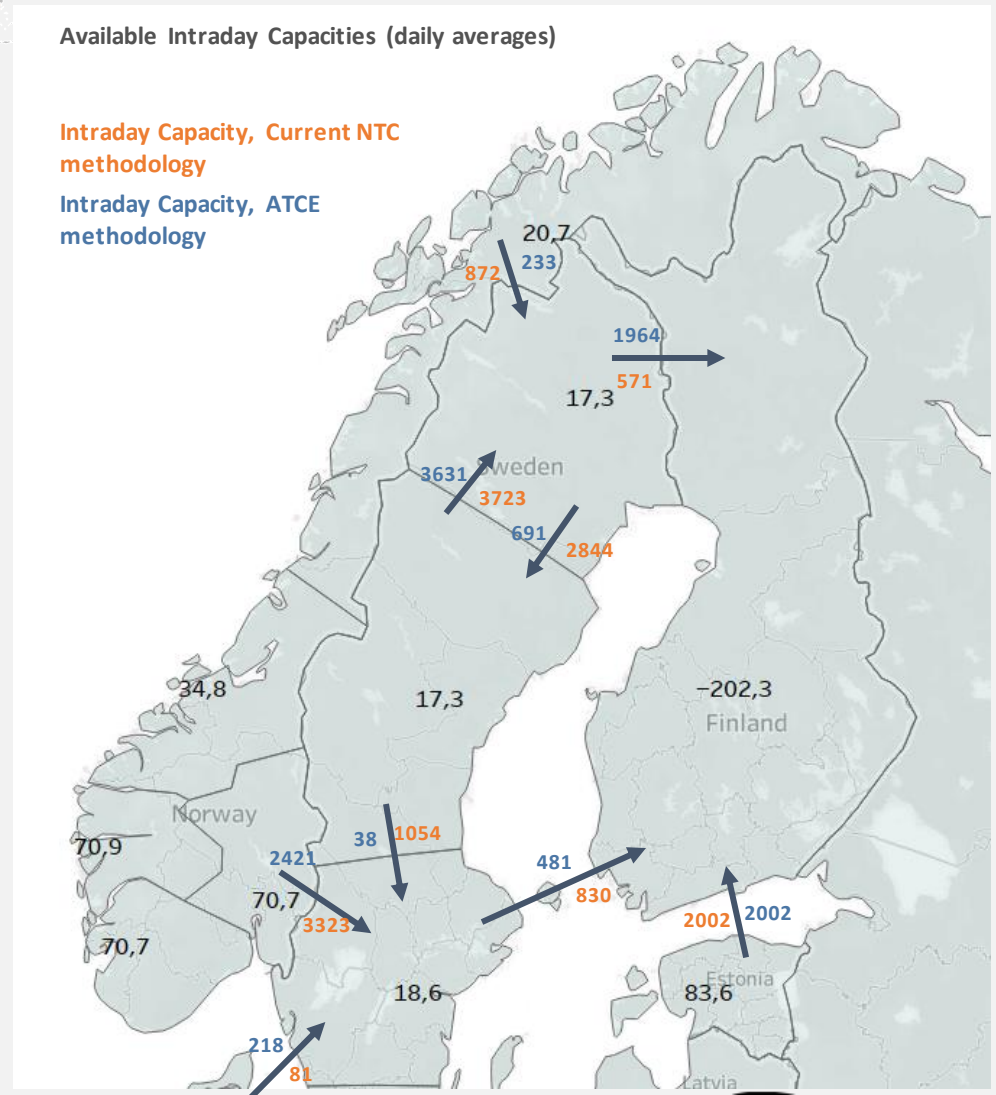
# Available Intraday Capacities




- For some borders, the ATCE methodology gave much less capacity than the current NTC methodology (SE1-SE2, SE2-SE3).
- However, for most critical borders, the difference between the given capacities was relatively small (SE2-SE1, NO1-SE3) or larger than with current methodology (SE1-FI).
- Based on these values, it could be assumed, that extreme market situation like this, could also have been able to handle after the Flow based market coupling.

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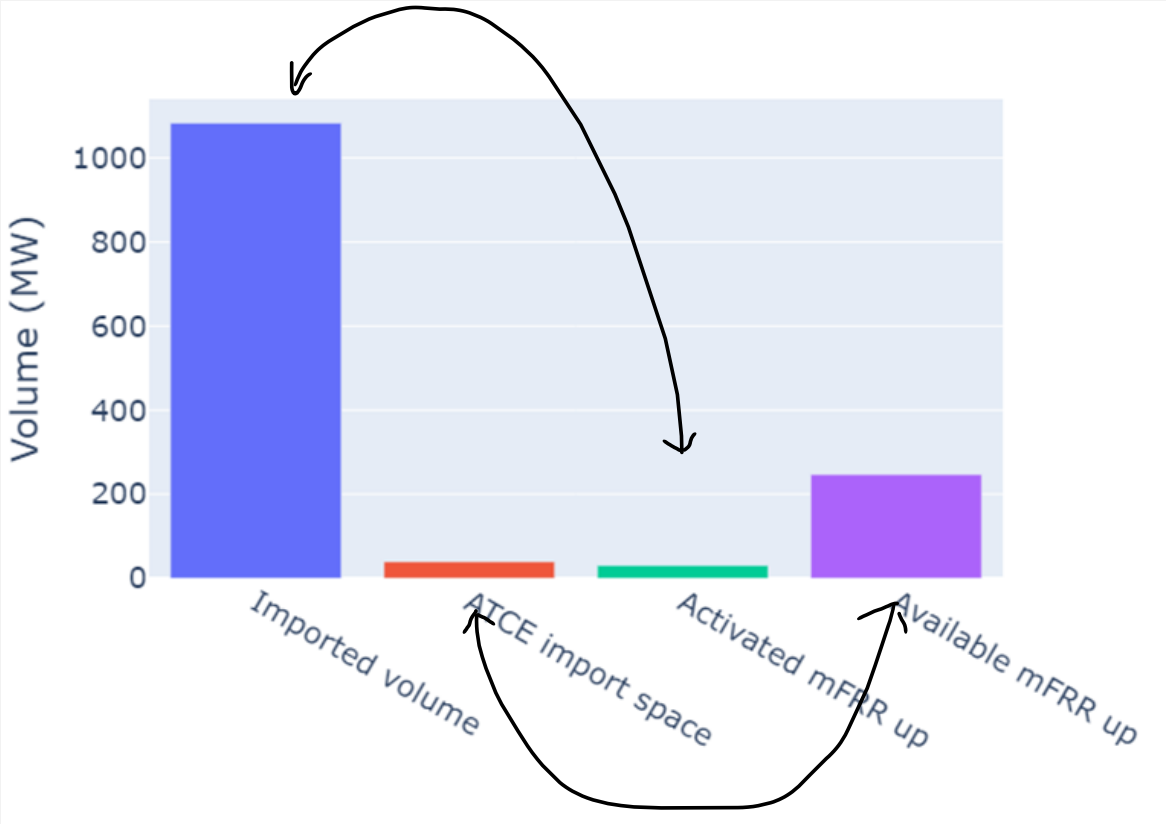
# SE3, 2023-11-25

- Unplanned outage, Forsmark 3
- Spot price 87.03 EUR
- Imbalance price 100 EUR

- TSO reflection:
- How to handle this case in the ID timeframe, in essence, is a market design question, i.e. related to the reserve dimensioning and how much the ID market should handle the imbalance caused incidents, e.g. the trip of the large nuclear power plant.
  - The ID ATC from ATCE results at ID gate opening is bounded by the leftover capacity from the DA FB market outcome.
  - The CCM project will further align with the Nordic Balancing Model project and provide feedback to the stakeholders.



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## Soliga och blåsiga dagar är en utmaning i sommar

När sommaren kommer med sol och varma fläktar har kontrollrummet på Svenska kraftnät både gamla och nya utmaningar att hantera. Elförsörjningen ska säkras även när det finns elproduktion, när det görs avbrott för underhåll eller när det är risk för skogsbrand.

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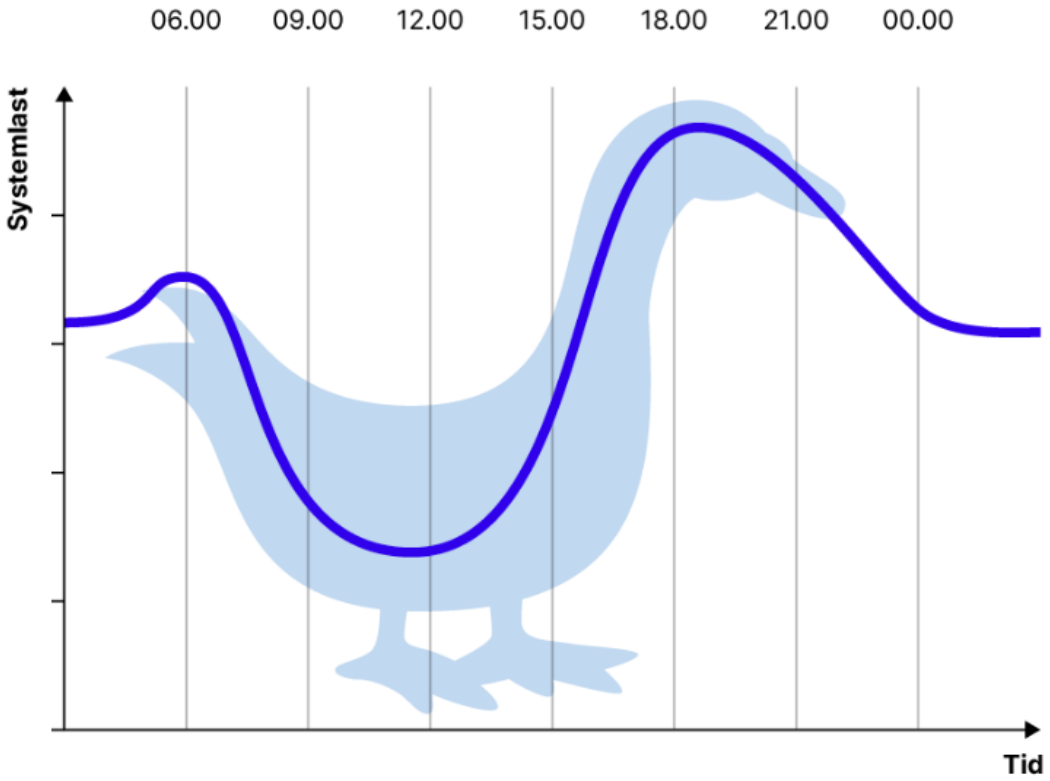
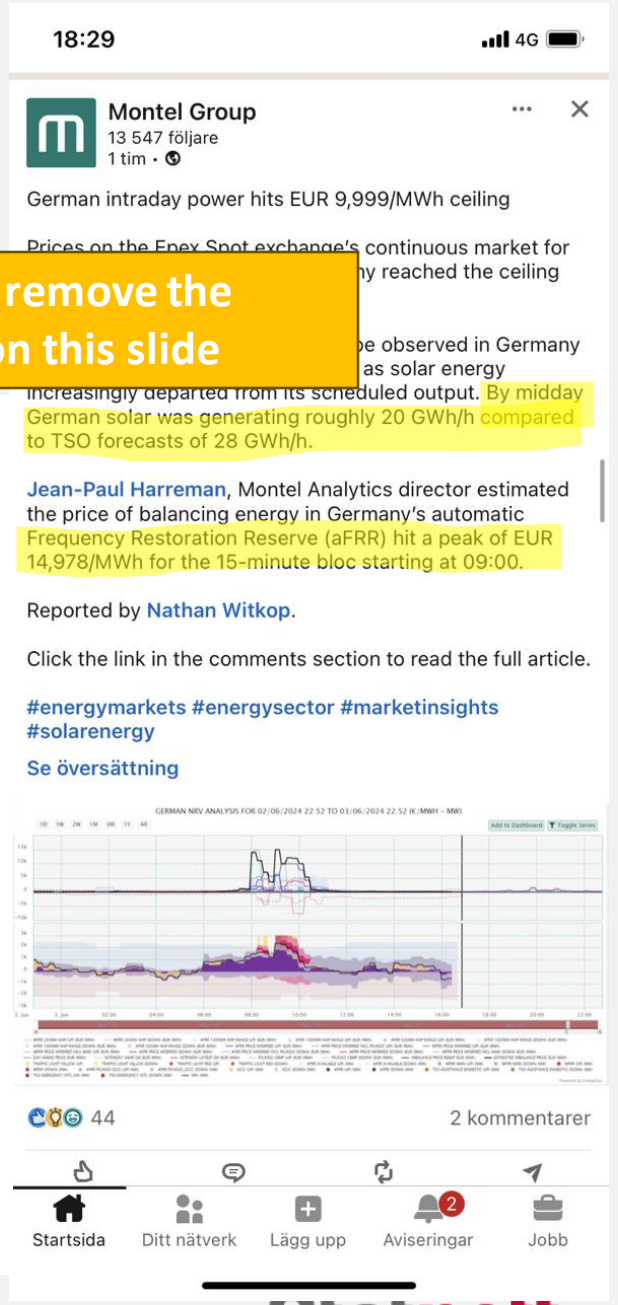
**Propose to remove the reflection on this slide**

- This will happen anyway, regardless of ATCE
- The TSOs will handle these changes internally
- NBM are also aware of this.



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# Discussion

- What are the NRAs reflections from this presentation?
- Are flowbased DA results robust enough to leave this little capacity to ID without increasing the need for TSOs to balance the system?
  - TSO reflection: The flowbased DA results are robust enough, considering the robust processes at the TSOs, Nordic RCC, NEMOs, and content-wise is more operationally secure than today's NTC capacities. For the ID market facilitation to the balancing needs, we are currently performing analyses with the NBM project and will inform the stakeholders when the results are available.
- There is an obvious risk that TSOs starts to reserve more capacity för balancing needs, what are your views on this?
  - TSO reflection: We will inform the stakeholders after aligning with the NBM project.
- How does higher balancing cost reflect on SEW?
  - TSO reflection: For the EPR, the SEW of the DA market is the reference for analysis. Balancing costs are not in the scope of the EPR and thus not included in the EPR. The balancing cost is the outcome of the solution of addressing the balancing needs. As the solution of addressing the balancing needs are being investigated as the TSOs, we will address this question after aligning with the NBM project.
  - It is assumed that there will be fewer balancing needs when FB goes live due to higher operational security. Part of the mFRR/redispatch activated today is most likely to remedy overloads appearing because of too generous DA/ID capacities. These costs are assumed to be reduced with FB DA and ATCE.