

NORDIC RCC



DATA FOR EFFICIENT AND
RELIABLE POWER SUPPLY

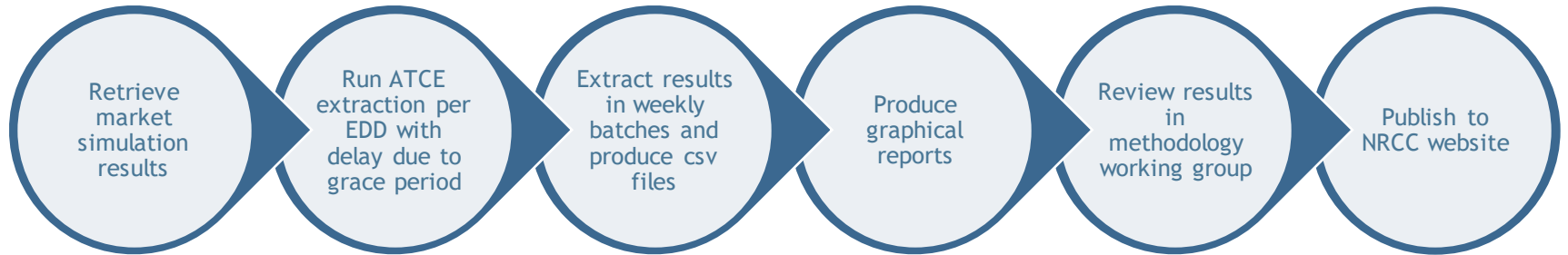
3. CCM Weekly process on ID during EPR

AGENDA

- Weekly process
- Introduction to ATCE data
- Bidding zone lock-in statistics
- Border plots
- Capacity duration curves
- Bidding zone trading space



WEEKLY PROCESS



WEEKLY PROCESS

1. Retrieve market simulation results (weekly w. 2 weeks delay due to grace period)
2. Run ATCE extraction per energy delivery day with delay due to grace period
3. Extract results in weekly batches and produce csv files
4. Produce graphical reports
5. Review results in methodology working group
6. Publish to [Simulation Results - Nordic Regional Coordination Centre \(nordic-ccr.net\)](https://www.nordic-ccr.net)

[External parallel run evaluation report - For assessment by the INNS of the Nordic CCR, as required by the Nordic Parallel CCM](#)

[Stakeholder consultation document and Impact Assessment for the Capacity Calculation Methodology Proposal for the Nordic CCR](#)

If you have any questions regarding the simulation results, please raise them via email at ccm@nordic-ccr.net.

External parallel run data

SF output data: physical flows, prices and net positions from simulation results of the Nordic flow-based market coupling.

EPR data on periods longer than a week

[EPR process log](#) (through 4th June 2024)

[Phenomena report](#) (revised 7 November 2023)

[Operational learning points](#) (updated 12 April 2024)

[Market Simulation Results week 50 \(2022\) - 19 \(2024\)](#)

2024 EPR data on weekly basis

WEEK 19

[Grid Constraint Matrix week 19](#)

WEEK 18

[CCM EPR Market report week 18](#)

[CCM EPR Market Appendix week 18](#)

[Grid Constraint Matrix week 18](#)

[ATCE graphical report week 18](#)

[ATCE results week 18](#)

Updates regarding data

3 Jun 2024: The ATCE Graphical Report for week 19 is delayed. It is expected to be uploaded by week 23, 2024.

26 Apr 2024: The industrial ATCE tool, i.e. the NorCap tool, is ready to facilitate the upcoming 6-month EPR. The relaxation parameters of the ATCE method are 2% PTDF relaxation, 0.01MW on allocation constraints and 10MW on CNEC relaxation. The TSOs use the industrial ATCE tool starting from week 17 to compute the energy delivery week 13. The results were published on Wednesday 24 April. Furthermore, the TSOs developed a prototype that is flexible for running the historical data in batch. The prototype tool follows the same IT specification as the industrial ATCE tool, yielding the same level of ATC ID results, but provides more flexibility to facilitate the batch rerun. The rerun results were published on Wednesday 24 April.

	A	B	C	D	E	F	G
1	MTU	Backup	NL-DK1	NL-DK1	NL-DK1	NL-DK1	DK1-N
2	MTU	Backup	NTC_initial	NTC_final	AAC	ATC	NTC_i
3	2024-04-25T22:00Z	FALSE	700	700	-700	1400	
4	2024-04-25T23:00Z	FALSE	700	700	-462.4	1162.4	
5	2024-04-26T00:00Z	FALSE	700	700	237.6	462.4	
6	2024-04-26T01:00Z	FALSE	700	700	-306.9	1006.9	
7	2024-04-26T02:00Z	FALSE	700	700	-700	1400	
8	2024-04-26T03:00Z	FALSE	700	700	-669.9	1369.9	
9	2024-04-26T04:00Z	FALSE	700	700	-608.9	1308.9	
10	2024-04-26T05:00Z	FALSE	700	700	-700	1400	
11	2024-04-26T06:00Z	FALSE	700	700	-700	1400	
12	2024-04-26T07:00Z	FALSE	700	700	-547.5	1247.5	
13	2024-04-26T08:00Z	FALSE	700	700	-700	1400	
14	2024-04-26T09:00Z	FALSE	700	700	-700	1400	
15	2024-04-26T10:00Z	FALSE	700	700	0	700	
16	2024-04-26T11:00Z	FALSE	700	700	0	700	
17	2024-04-26T12:00Z	FALSE	700	700	0	700	
18	2024-04-26T13:00Z	FALSE	700	700	0	700	
19	2024-04-26T14:00Z	FALSE	700	700	0	700	
20	2024-04-26T15:00Z	FALSE	700	700	700	0	
21	2024-04-26T16:00Z	FALSE	700	700	700	0	
22	2024-04-26T17:00Z	FALSE	700	700	524.1	175.9	
23	2024-04-26T18:00Z	FALSE	700	700	401.4	298.6	
24	2024-04-26T19:00Z	FALSE	700	700	700	0	
25	2024-04-26T20:00Z	FALSE	700	700	700	0	
26	2024-04-26T21:00Z	FALSE	700	700	0	700	
27							
28							

- One file per EDD
- Dual headers: Border direction and quantity (E.g. NL-DK1, AAC)
- NTC_initial and NTC_final are NTCs before and after operator adjustments in NorCap. Operator adjustment are not performed in NorCap and the values (final and initial) are hence equal
- AAC is equal to already allocated flow on bidding zone borders, as opposed to the current use of scheduled exchange
- NTC_final, AAC and ATC are reported for all border directions
- Linesets will not have an NTC_initial values as they are calculated based on NTC_finals of their “child” borders
 - (e.g. $NTC_final(SE3-SE3A) = NTC_final(SE3-NO2) + NTC_final(SE3-DK1)$)
- The timestamp in the MTU column marks the start of the MTU in UTC time format
- The Backup column indicates if results are produced by the ATCE backup procedure. False means that Backup was not used. The backup procedure is to set $NTC=AAC$ and $ATC=0$ for all border directions. This would in operation be followed by manual adjustments or local capacity provision from TSOs local systems
- Names on bidding zone borders were recently updated to be more aligned with the names used on transparency platform and Xbid/NEMOs.

ATCE GRAPHICAL REPORT #1

Bidding zone lock-in statistics

An area operates at maximum export when the sum of ATC on all exporting directions of that area is less than 1MW.

An area operates at maximum import when the sum of ATC on all importing directions of that area is less than 1MW.

An area operates in lock-in if during the same MTU it is operating at both maximum export and maximum import.

Bidding zone	#MTUs at max Export	#MTUs at max Import	#MTUs at lock-in
DK1	0	0	0
DK2	0	0	0
FI	0	20	0
NO1	0	0	0
NO2	0	0	0
NO3	7	0	0
NO4	39	27	0
NO5	2	17	0
SE1	24	0	0
SE2	12	8	0
SE3	0	0	0
SE4	0	0	0

- A bidding zone operating at maximum export means that all available export capacity was allocated in day-ahead clearing.
- A bidding zone operating at maximum import means that all available import capacity was allocated in day-ahead clearing
- A bidding zone is considered to be in a lock-in situation if it cannot trade itself away from the day-ahead market outcome. This may be associated with an operational risk and number of occurrences per week is reported in the right-most column.

ATCE GRAPHICAL REPORT #2

Border lock-in statistics

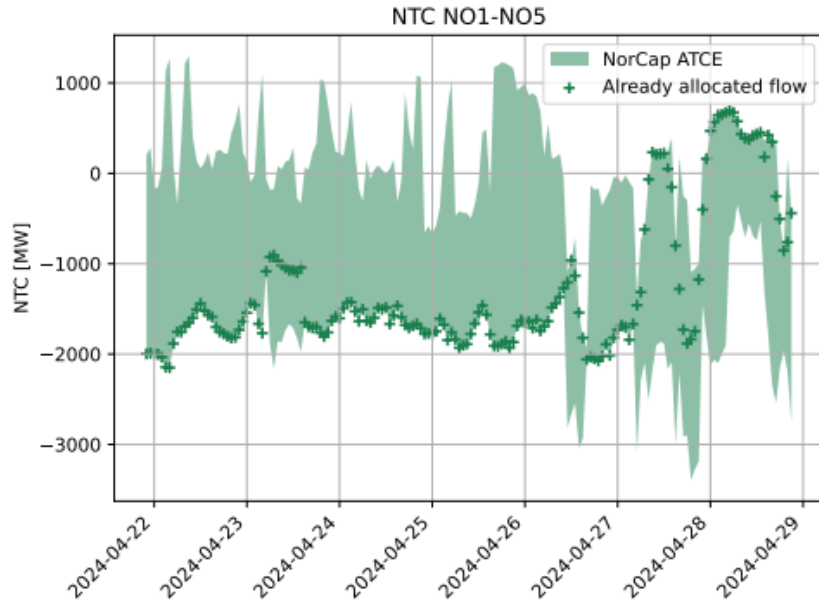
A bidding zone border is operating in a lock-in situation, if at a given MTU, the ATC of the bidding zone border is smaller than 1MW in both forward and reverse trading direction.

Border	#MTUs at lock-in
DK1-SE3	34
SE3-DK1	34
FI-SE3	3
SE3-FI	3
NO3-NO4	7
NO4-NO3	7
NO3-SE2	6
SE2-NO3	6
NO4-SE2	6
SE2-NO4	6
SE2-SE3	2
SE3-SE2	2

- A border is considered to be in a lock-in situation if, for the same MTU the ATC in forward and backward flow direction is smaller than 1MW.
- This does not pose an operational risk and may simply be due to an outage of the border.

ATCE GRAPHICAL REPORT #3

NO1-NO5

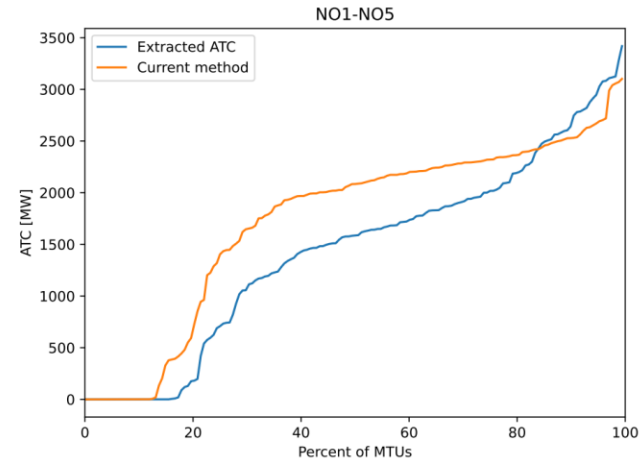


- The green area represents the possible exchange on the given border direction. The upper bound being NTC in the forward trading direction and lower bound is -1 times NTC in the opposite border direction.
- The cross marks the simulated day-ahead market coupling flows.
- Any green area above the cross, means that the intraday market will be able to increase exchange over the day-ahead market coupling flows.
- Any green area below the cross means that the intraday market will be able to trade against the day-ahead market

ATCE GRAPHICAL REPORT #4

- ATC duration curves per bidding zone border is obtained by sorting ATCs from lower to higher values.
- The reference (Current method) is obtained from ENTSO-E transparency platform as intraday offered capacity at intraday gate-opening.
- Note: For borders between the Nordics and external capacity calculation regions, the reference data from transparency platform includes the occasional capacity reductions from non-Nordic TSOs. These are not included in the ATCE results published under EPR, as published results are representing only Nordic network limitations. This can lead to a slight misrepresentation of available capacity with the current method, on external borders in the graphical reports

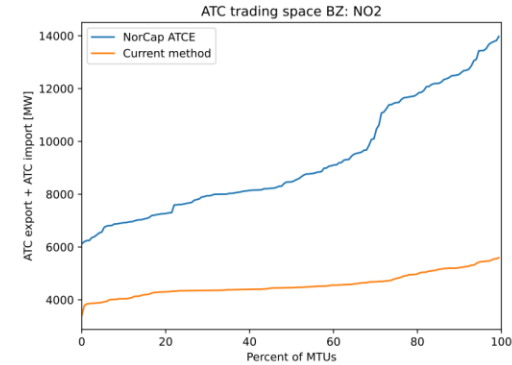
NO1-NO5 ATC duration curves



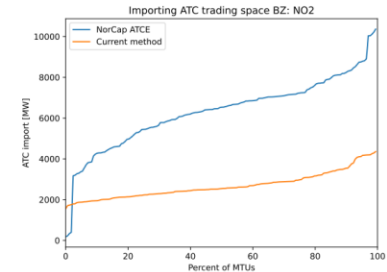
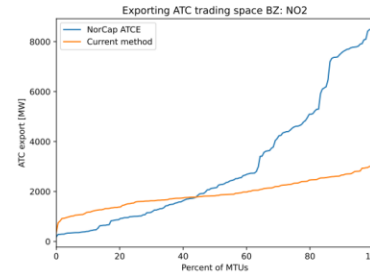
ATCE GRAPHICAL REPORT #5

- The duration curve "Total trading space" shows the sum of import and export capacity (ATC) per MTU for a given bidding zone.
- The values are sorted from smallest to largest trading space.
- A reference curve (Current method) is provided based on data on capacity offered at intraday gate-opening available at the ENTSO-E transparency platform
- The same data is also reported as directional trading spaces, i.e. divided in a graph for export and for import capacities, respectively.

NO2 - Total trading space



NO2 - Directional trading space



IMPLICIT ALLOCATIONS - INTRADAY - OC EVOLUTION

- Entso-e transparency platform
- [Data view \(entsoe.eu\)](https://entsoe.eu)
- A view that shows ID capacities between gate opening and closing

MTU	Update timestamp					
	Initial 30.04.2024 13:45:00.560	01.05.2024 00:00:00.000	01.05.2024 04:00:00.000	01.05.2024 08:00:00.000	01.05.2024 12:00:00.000	01.05.2024 16:00:00.000
2024-05-01 00:00:00	600	604	604	604	604	604
2024-05-01 01:00:00	600	596	596	596	596	596
2024-05-01 02:00:00	600	515	498	498	498	498
2024-05-01 03:00:00	600	485	501	501	501	501
2024-05-01 04:00:00	600	600	560	560	560	560
2024-05-01 05:00:00	600	600	640	640	640	640
2024-05-01 06:00:00	600	600	495	515	515	515
2024-05-01 07:00:00	0	148	275	330	330	330
2024-05-01 08:00:00	0	0	0	25	25	25
2024-05-01 09:00:00	109	11	89	320	320	320
2024-05-01 10:00:00	619	616	624	600	600	600
2024-05-01 11:00:00	581	584	577	600	600	600
2024-05-01 12:00:00	489	445	451	464	600	600
2024-05-01 13:00:00	666	698	701	709	600	600
2024-05-01 14:00:00	463	431	423	439	600	600
2024-05-01 15:00:00	456	462	466	448	498	453
2024-05-01 16:00:00	429	376	372	404	299	376
2024-05-01 17:00:00	417	322	327	327	348	209
2024-05-01 18:00:00	0	8	12	21	308	507
2024-05-01 19:00:00	600	765	768	759	746	600
2024-05-01 20:00:00	600	435	432	441	454	600
2024-05-01 21:00:00	244	451	450	422	600	600
2024-05-01 22:00:00	617	749	750	778	600	600
2024-05-01 23:00:00	0	0	0	0	0	5

THANK YOU

Questions?



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