



DA results from the external parallel run (EPR) of Nordic flow-based

SH Monthly meeting
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Agenda

1. Updates since last meeting & upcoming events
2. Background information on the EPR
3. EPR results week 3-6
 - Impacts on SEW, prices, flows, net positions, constraining CNECs
4. Specific hours



Upcoming events

- **Next monthly meeting:**
 - Monthly meeting on Tuesday 11/4, 9-11 CET covering the results for week 7-10.
 - Monthly meeting on **Wednesday 8/5**, 9-11 CET covering the results for week 11-14.
 - Note: Moved due to Christ's Ascension day.



Follow-up from the last hybrid SH meeting

- **To/from Bidding zones on all CNECs on JAO publication tool:**
 - It is currently not possible to provide bidding zone to and from values on the remaining CNECs.
 - This is under development and will be implemented in one of the coming updates.



Updated SVK FRM

- Svenska kraftnät has identified the FRM of 5% on all Swedish CNECs not to be a sufficient marginal to manage all market outcomes.
- In order to ensure operational security, Svenska kraftnät increases the FRM on 13 certain CNECs to 10%, starting from the 26th of February.
- The increased FRM means an increased marginal to cover for uncertainties, and the increase of the FRM means that the RAM of the CNEC is reduced proportionally to the FRM.
- The change gives better opportunity to validate the market outcome and reduces the risk of overloads.
- The Nordic CCM explains that the reliability marginal should be regularly evaluated, and this change of the FRM is a result of such an evaluation.



External parallel run (EPR)

- In EPR, the capacity calculation process for both FB and NTC is performed in parallel. Market results are available for:
 - NTC = actual day-ahead market coupling results, “production”
 - FB = simulated market coupling results with flow-based constraints
- Simulations are done on a weekly basis after a 2-week grace period, and the market report is published ~4 weeks after production.
- Goals of the EPR:
 - 1) Ensure that the capacity calculation process works
 - 2) Show the differences between FB and NTC capacity calculation methods
 - 3) Intended for market participants to become familiar with FB capacity calculation and the impacts FB may have on the market outcome
 - 4) “Learning by doing” for TSOs



The role of TSOs and EPR

- **Flow-based capacity calculation aims to enhance the use of current transmission capacities.**
 - The role of TSOs is to provide as much transmission capacity to the markets, as operationally secure, to ensure efficiency.
 - Other market participants are responsible for other segments of the day-ahead market; TSOs should not intervene or speculate in these.
- **EPR compares different capacity calculation methods but uses the same market coupling algorithm and same order books as in NTC.**
 - This enables a fair comparison of the two capacity calculation methods. It isolates the impacts solely from FB without further assumptions.
 - EPR is not a forecast of future prices and flows.
 - With higher capacity available, there may be other changes in the market after go-live, but these are not considered.
 - EPR is intended to show the impact if we would have used FB for any single day-ahead coupling instead of NTC.
- **Why we measure the SEW impact of FB?**
 - EPR is done the way NRAs and CACM require TSOs to perform it.*
 - Higher SEW **per MTU** indicates **higher or economically more efficient flows**
 - Higher SEW **over a long time** indicates **a trend of the above**

The report shall include at least the following, based on a per MTU level of granularity:

- A calculation of DA socio-economic effects (as measured by delta in consumers' surplus, producers' surplus and congestion income) from flow-based capacity calculation compared to the current capacity calculation method in use. The geographical area for this calculation shall be the Nordic market area plus neighboring countries if possible.
- If the accumulated DA socio-economic effect of flow-based is negative over any two-week period, the TSOs shall provide analysis and explain why this occurred.

* <https://www.fingrid.fi/globalassets/dokumentit/fi/tiedotteet/sahkomarkkinat/2020/paatos-cacm-suuntaviivojen-202-artiklan-mukaisen-nordic-kapasiteetin-laskenta-alueen-yhteisen-kapasiteetin-laskentamenetelman-muuttamisesta.pdf>



Summary of week 3-6, 2024



Social welfare change W3-6

- These 4 week can be split into 3 periods:
 - Period 1 with small or negative welfare changes
 - Period 2 with positive welfare changes
 - Period 3 with small or negative welfare changes
- Over the full period flow-based results in a higher SEW compared to NTC for the Nordic region, and for the whole market coupling region (SDAC) over all periods.
 - Total Nordic SEW change +9.5 M€
 - Total SEW change in the SDAC region +8.4 M€

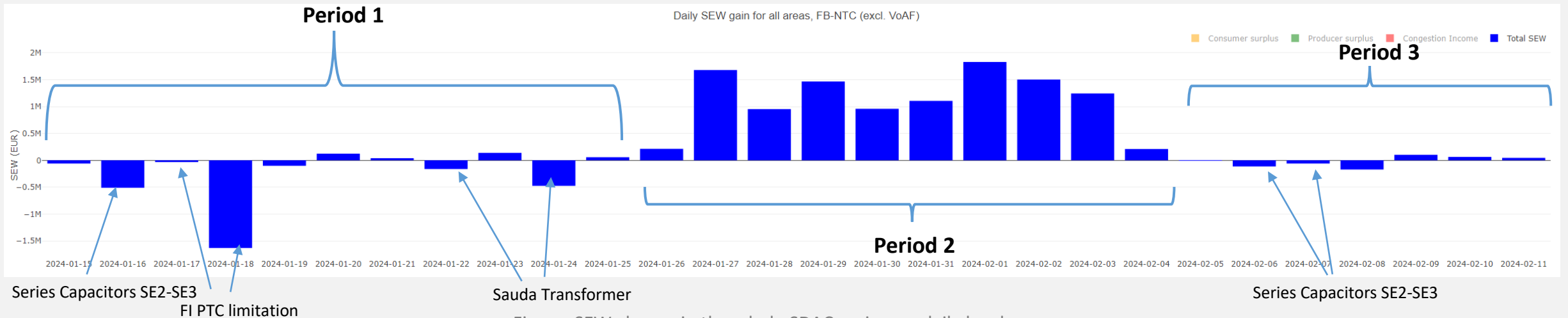
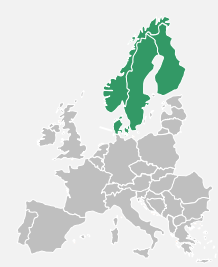


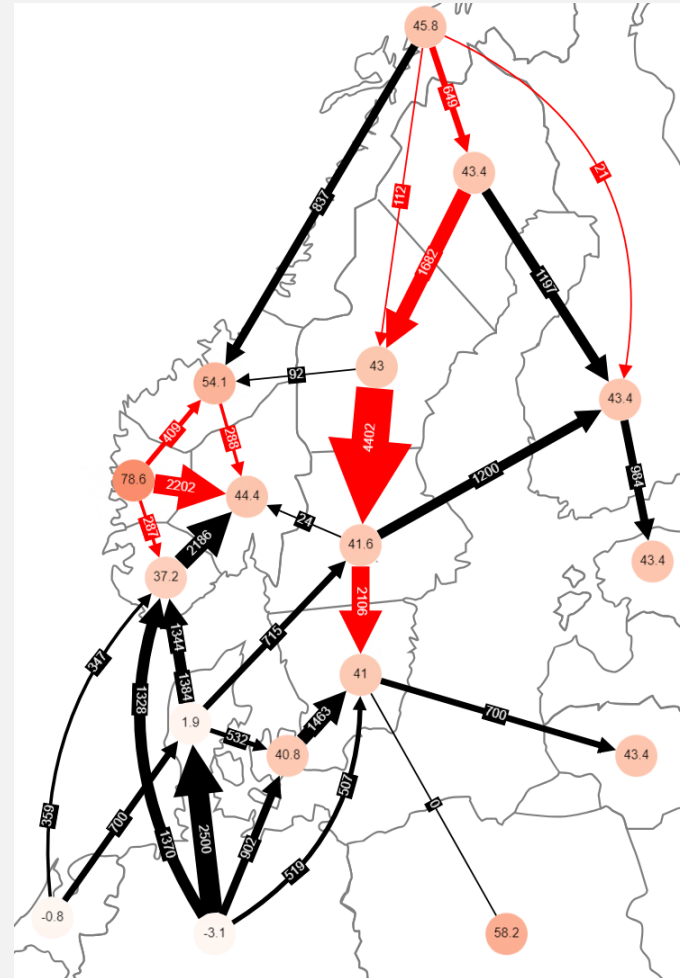
Figure: SEW change in the whole SDAC region on daily level



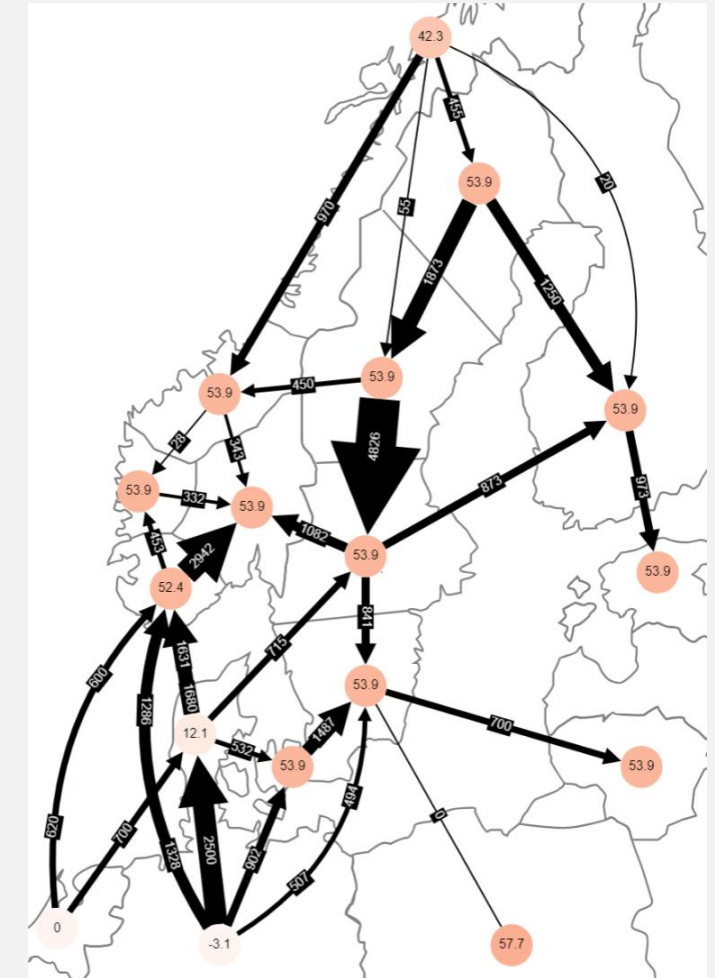
Sauda transformers

2023-12-24 MTU 10

- Sauda transformers are located in NO2
- During high import from the Continent and deficit of power in parts of NO5 and NO2, these transformers are very loaded (in both NTC and FB).
- In NTC, the operators use a lot of counter trade and grid splitting to avoid overloads.
- In flow-based, the model forces production in NO5, increasing the price, but avoiding overloads (and avoiding counter trade)
- We are still analyzing this case, but the operators seem happy with the FB solution.



Map: Price and flows from FB

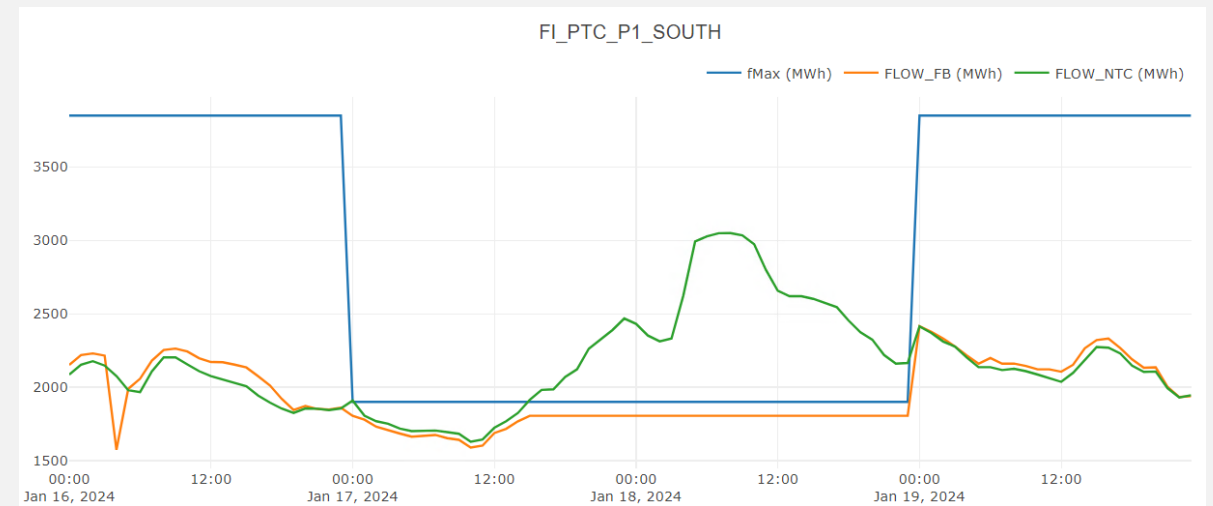


Map: Prices and flows from NTC



FI PTC limitation in FB

- Outage in Finland the 17th and 18th January.
- In FB, this causes a limitation (max flow of 1900 MW) on CNEC FI_PTC_P1_SOUTH. This also affects cross-border flows from SE1 to FI.
- In NTC, the limitation is not visible to the markets in the transmission capacity that was given to SE1-FI border. This is due to a change in switching that can change the topology in real time, which enables higher flows on P1 cut and on the SE1-FI border.
- The correct way to handle this in FB would have been to give the PTC limits assuming the switching change (topology change) can be used.
- This was the same limitation that occurred on the 8th and 9th January, but due to the grace period for the simulations the correct way of handling was not used.

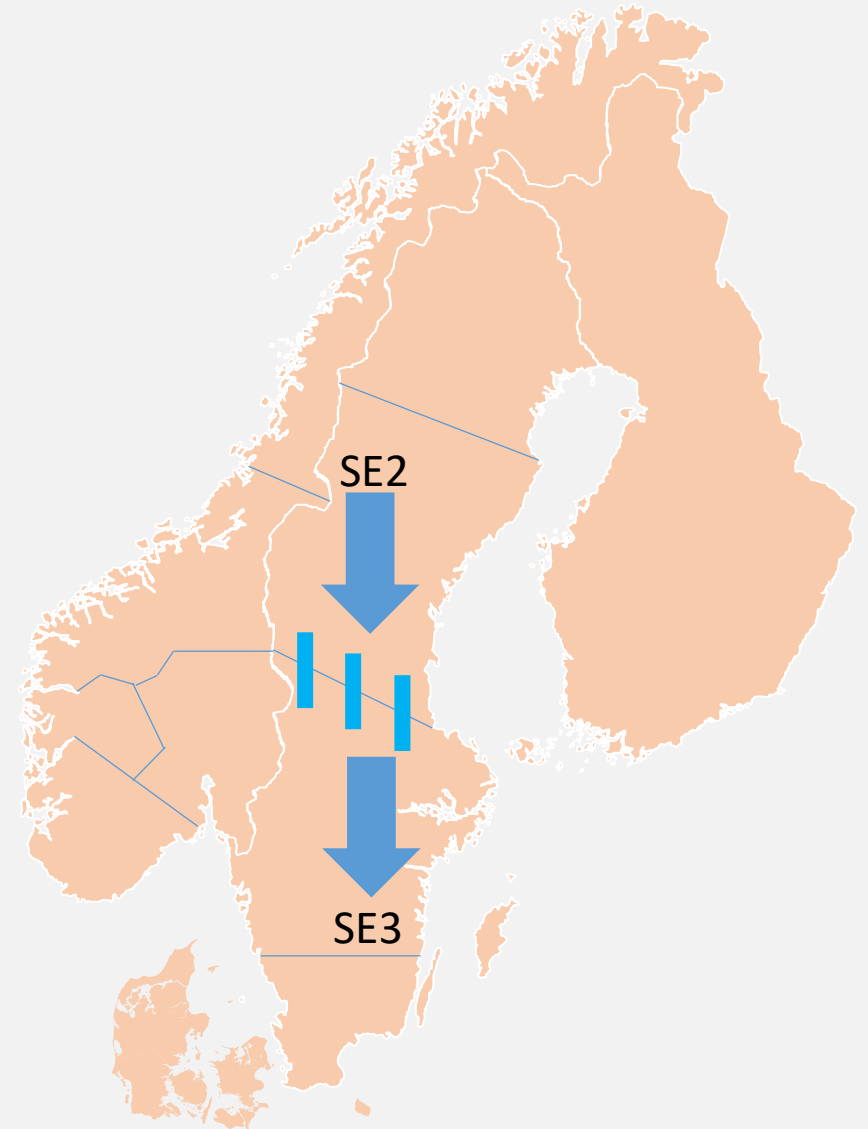




Series capacitors and countertrade on SE2-SE3

Series capacitors

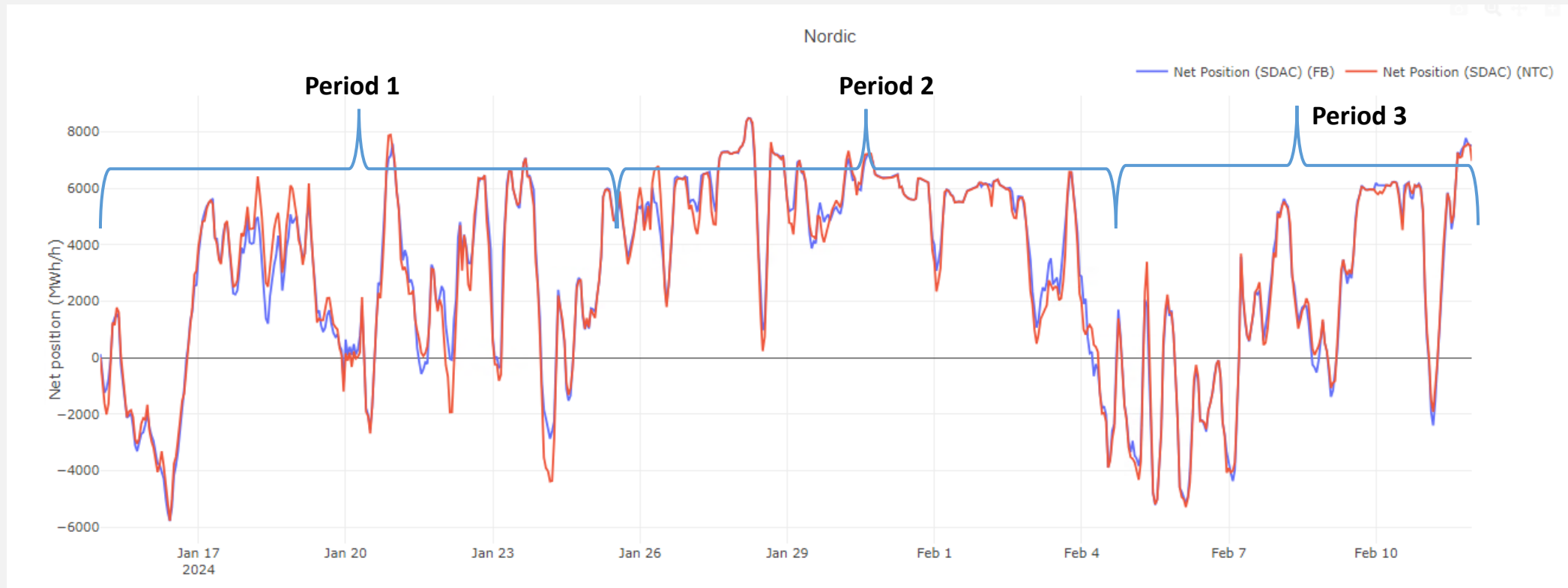
- Occasionally, the setup of the series capacitors on the SE2-SE3 border differ between FB and NTC
 - The configuration of the series capacitors have an impact on the flow on the border
 - When FB does not match the real configuration, the allowed flow on SE2-SE3 is lower than in NTC
- Svk FB process was improved last winter to better match the expected setup of the series capacitors.





Nordic Net Position W3-6

- The total Nordic NP change is 26 GWh.
 - Period 1: NP increases with 1 GWh from NTC to FB
 - Period 2: NP increases with 27 GWh from NTC to FB
 - Period 3: NP decreases with 2 GWh from NTC to FB





Nordic region in NTC in period 1 (15.-25.1.)

- For the first period, the prices in all areas decrease compared to the first weeks in January, partly due to rising temperatures.
- The highest prices are found in Finland and the Baltics, just as in the weeks before.
- Southern Nordics have similar prices to the continent, and the North has the lowest prices.
- Constraints in the grid:
 - Northern Nordics -> Southern Nordics
 - NO+SE+DK+DE-> FI and the Baltics + PL
- The Nordics was a net exporter towards the continent for this first period.

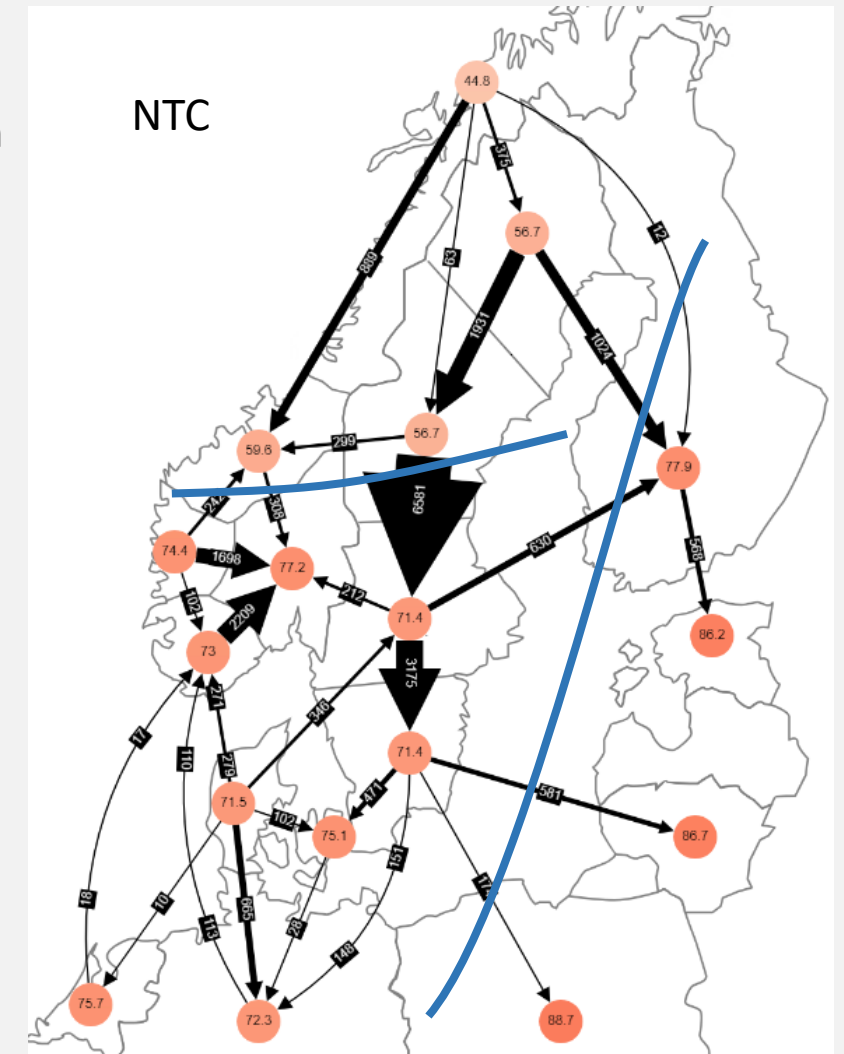


Figure: Average price in each BZ in NTC



Nordic region in NTC in period 3 (05.2. - 11.2)

- For the third period, the prices in all areas increase again compared to the previous periods, due to lower wind and higher consumption.
- The highest prices are found in Finland and the Baltics, just as in the weeks before.
- The rest of the Nordics have similar prices to the continent, besides NO4.
- Constraints in the grid:
 - NO4 -> the rest of the Nordics
 - NO+SE+DK+DE-> FI + the Baltics + PL
- The Nordics was a net exporter towards the continent for this third period, though on the first two days the Nordics were importing from the continent.

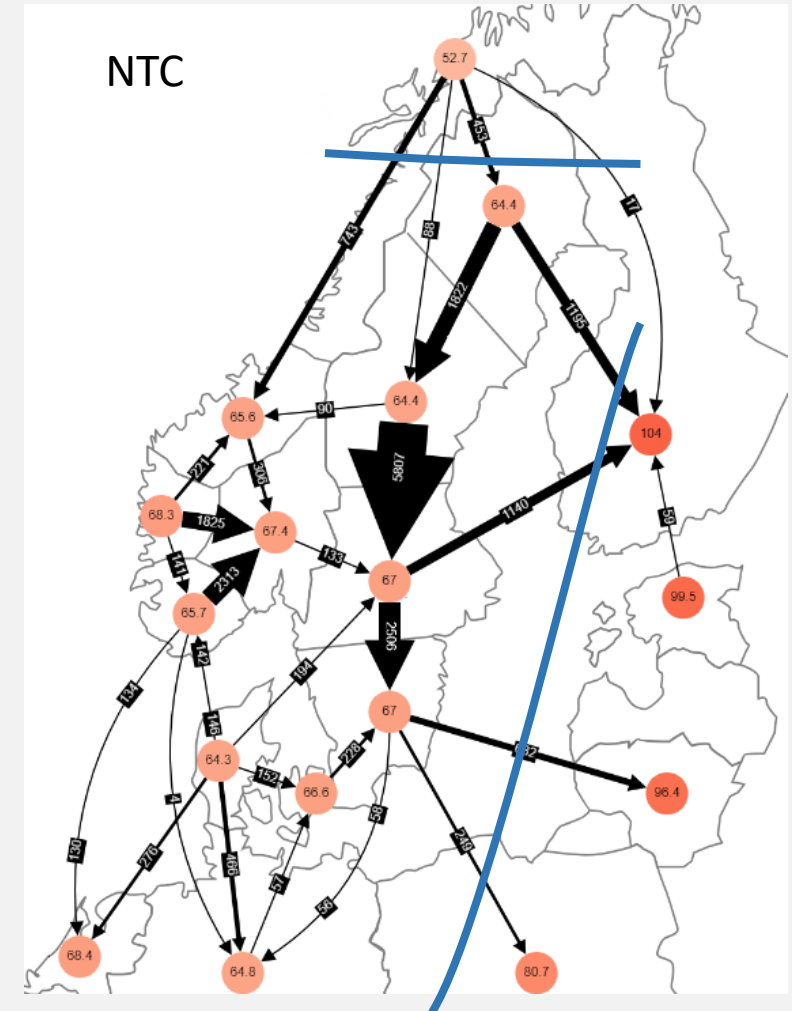


Figure: Average price in each BZ in NTC



Average prices in the Nordic region Period 1

For these weeks, there are Constraints between:

- the Baltics and the Nordics.
- North and South
 - The flow over these constraining elements was increased with 7 GWh.
 - The flow on FennoSkan FI->SE3 was increased on the 21.-23./1 which decreased the total flow from SE3->FI.

The price decreases with ~1-4 EUR/MWh in NO5, NO1, SE1 and SE2

The price increases in NO3, NO4, SE3, SE4 and FI with ~2-4 EUR/MWh

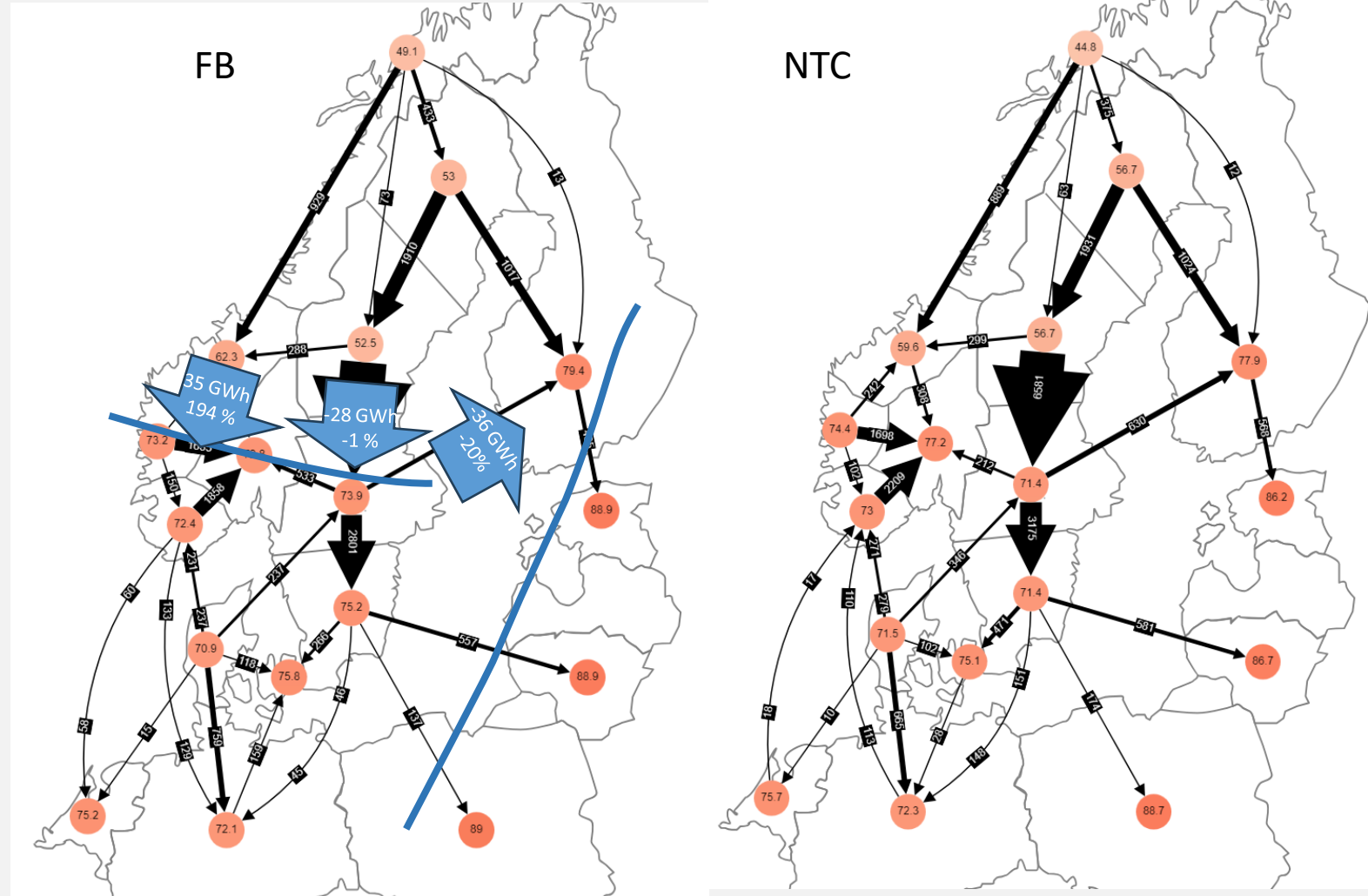


Figure: Average price in each BZ in FB and NTC. Arrows show the increased flow over constraining elements.



Impact on buy and sell volumes (FB-NTC) Period 1

- Biggest difference of demand is noted in SE2 and NO4, largest overall difference in NP is in SE2, NO3 and NO4
- Mostly the change in supply volumes that are impacting the changing net positions in the bidding zones

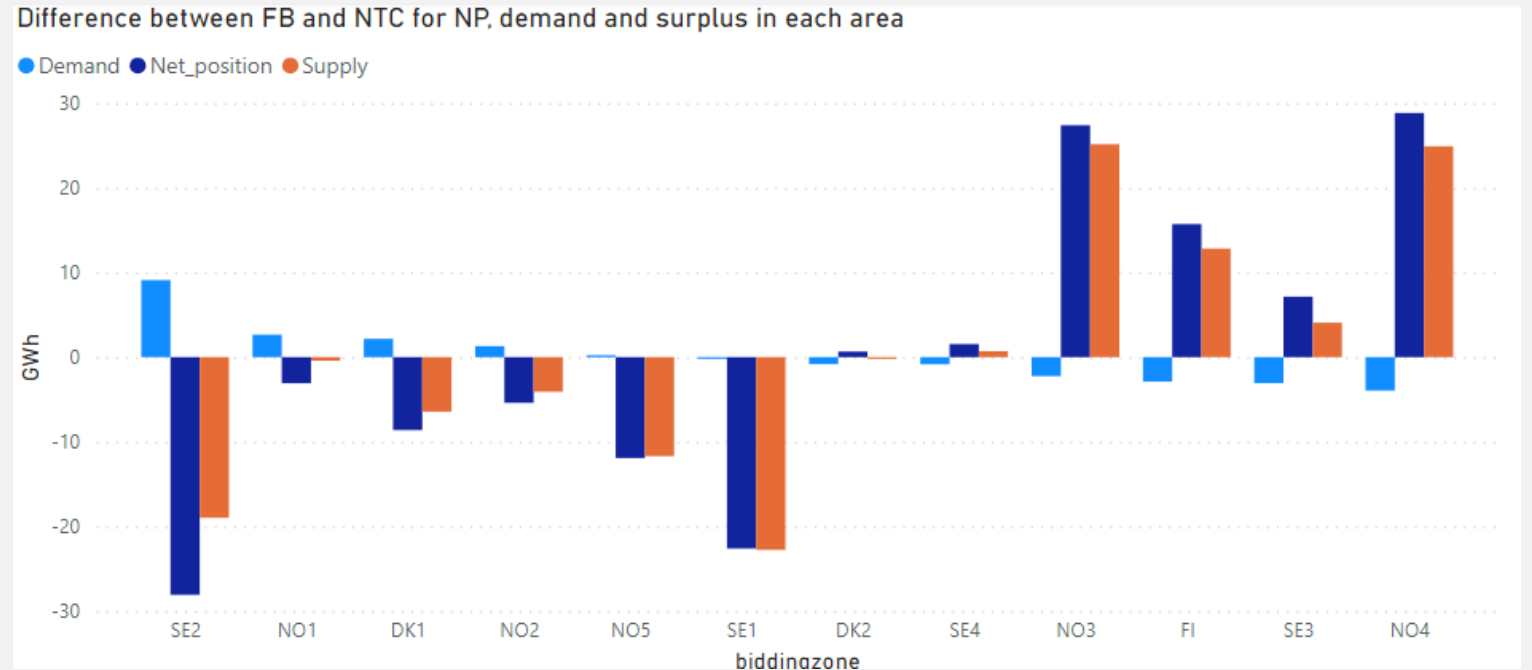


Figure: Demand and supply volumes difference (FB-NTC) and the corresponding net position change



Prices Period 1

- FB decreases the average prices in DK1, NO1, NO2, NO5 and northern Sweden and slightly increases them in the other bidding zones.
- The maximum prices decreased for FI, NO1, NO3, NO5 and northern Sweden, but increases for DK, NO1, NO4, SE3 and SE4.

Market prices

Rounded to nearest integer. Thousands separated by comma. Example: 1,234,567

Bidding zone	Min. price		Max. price		Avg. price		FB-NTC
	FB	NTC	FB	NTC	FB	NTC	
DK1	-2	0	158	150	71	71	-1
DK2	1	4	278	276	76	75	1
FI	5	4	217	276	79	78	2
NO1	21	5	152	276	73	77	-4
NO2	11	5	149	149	72	73	-1
NO3	27	8	107	129	62	60	3
NO4	12	8	104	126	49	45	4
NO5	41	47	137	136	73	74	-1
SE1	6	4	119	129	53	57	-4
SE2	5	4	117	129	52	57	-4
SE3	2	4	272	276	74	71	3
SE4	1	4	286	276	75	71	4

Table: Min, max and mean prices for all bidding zones in FB and NTC



Constraining CNECs in FB Period 1

- The CNECs with highest shadow prices are the CNECs on the border between SE2 & SE3
- High shadow prices indicate that more flow would have increased the total SDAC welfare.

Counts of hours with shadowprice (FB)

Thousands separated by comma and decimal separated by dot. Example: 1,234.56

↕CNEC	↕Count of hours	↕Average shadowprice	↕Total shadowprice
aa1f62d72a4542469efd7c04200ebc18	31	281.23	8,718.00
5b371d95995e451fb82df83eb87a097d	82	75.54	6,193.87
63044f426c204cd986df20e3ea37b083	48	77.76	3,732.56
13792_325 65% 420 Namsos-Ogndal + 30% 420 Namsos-Hofstad + 300 Tunnsjødal-Verdal	96	35.00	3,360.01
AC_Minimum_SE4_SP	148	20.48	3,030.95
2c6fc39e621d4eb2904ba4f5d320a561	155	19.13	2,964.90
eb6c0c2c2da3490986cde86666a2fd01	84	35.23	2,959.12
FI_PTC_RAC_SE1-FI	122	21.79	2,658.18
15351_126 95% Sauda T3 Transformator P + Sauda T2 Transformator P	16	152.30	2,436.81
FI_PTC_P1_SOUTH	34	67.04	2,279.26
DK1_NL_EXP	87	25.28	2,198.97
ebf8e847b3bf497c82d430b3ced4c08a	18	119.71	2,154.81
FI_PTC_SE1-FI_N04-FI	59	32.54	1,920.03
FI_RAC_SE1-FI_VUENNONKOSKI-PETAJASKOSKI_OLG3_SIPS	16	92.15	1,474.48
FI_PTC_FI_EL_EXPORT	58	25.10	1,456.03
AC_Minimum_NO2_ND	80	16.56	1,325.12
AC_Maximum_DK2_KO	91	14.47	1,316.45
AC_Maximum_SE4_BC	59	22.15	1,306.60
f5ddead2e90b4ad4a09333cf04ec2c23	39	32.10	1,251.92
AC_Minimum_SE3_FS	46	20.98	965.29

Table: Top 25 aggregated shadow prices on CNEC level



SEW Impact on bidding zone level Period 1

- The impact on the different parts of the SEW from FB differs between the Nordic bidding zones.
- Largest positive total SEW change in NO1 and SE3.
- Negative difference in SEW is observed in DK2, NO2, NO5, SE1 and SE4.
- FB results in a gain for consumers in NO1, NO2, NO5, SE1 and SE2 while the producers in SE3, SE4, NO4 and FI experience the largest gain with FB compared to NTC.

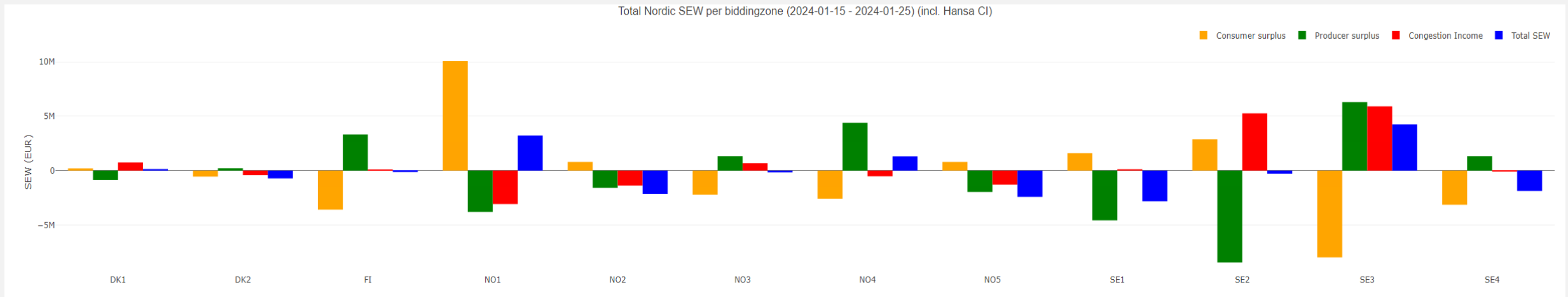


Figure: SEW change per stakeholder in CCR Nordic per BZ



Average prices in the Nordic region Period 2

For these weeks, there are Constraints between:

- the Baltics and the Nordics
- Northern Nordics and Southern Nordics
 - The flow over these constraints increased with from 560 to 906 GWh

The price decreases with ~2-6 EUR/MWh in DK1, NO1, NO2 and NO5

The prices increases the most in FI, SE4 and NO3 with up to 10 EUR/MWh

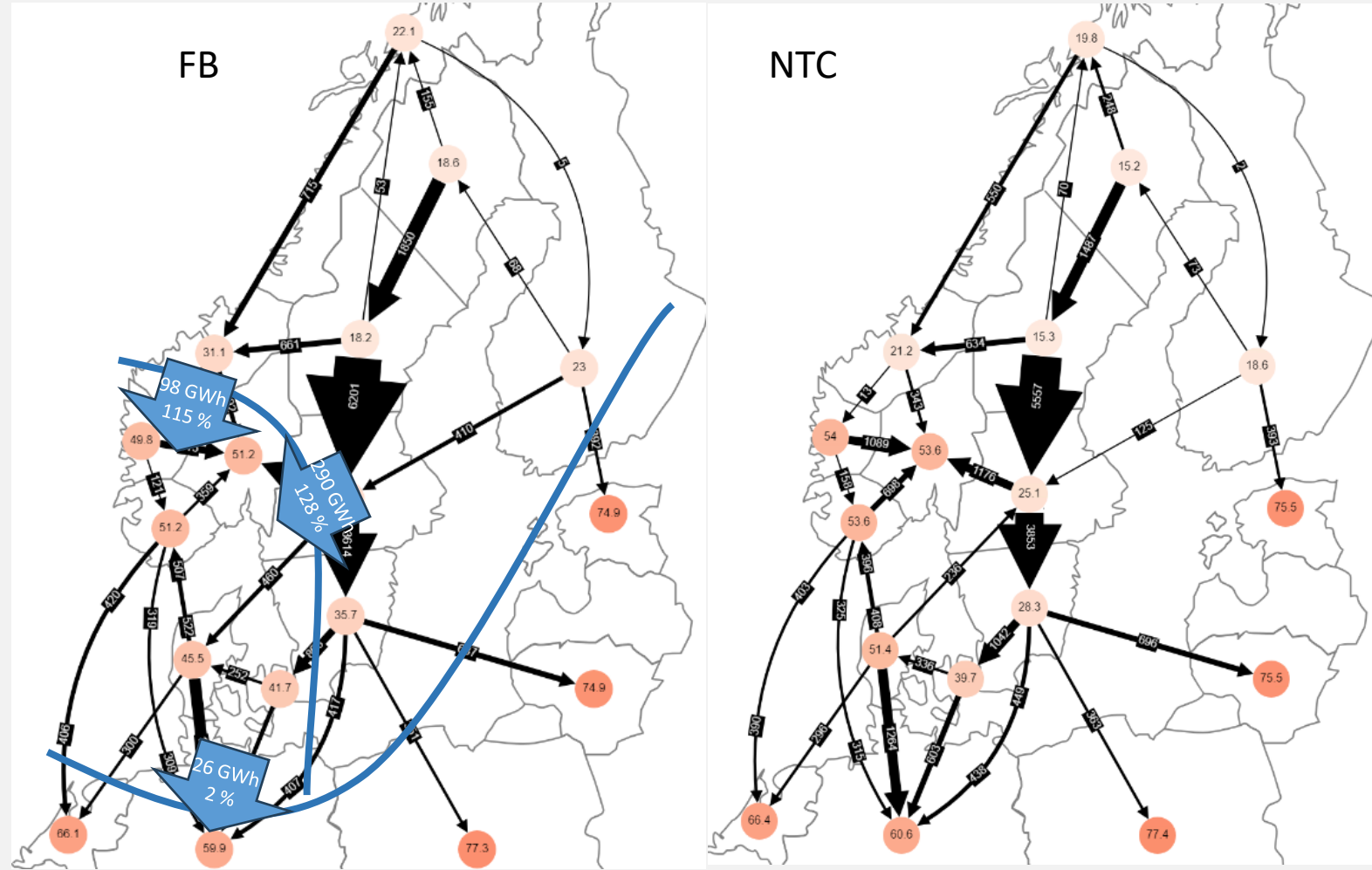


Figure: Average price in each BZ in FB and NTC. Arrows show the increased flow over constraining elements.



Impact on buy and sell volumes (FB-NTC) Period 2

- Biggest difference of demand is noted in SE2 and NO4, largest overall difference in NP is in SE2, NO3 and NO4
- Mostly the change in supply volumes that are impacting the changing net positions in the bidding zones

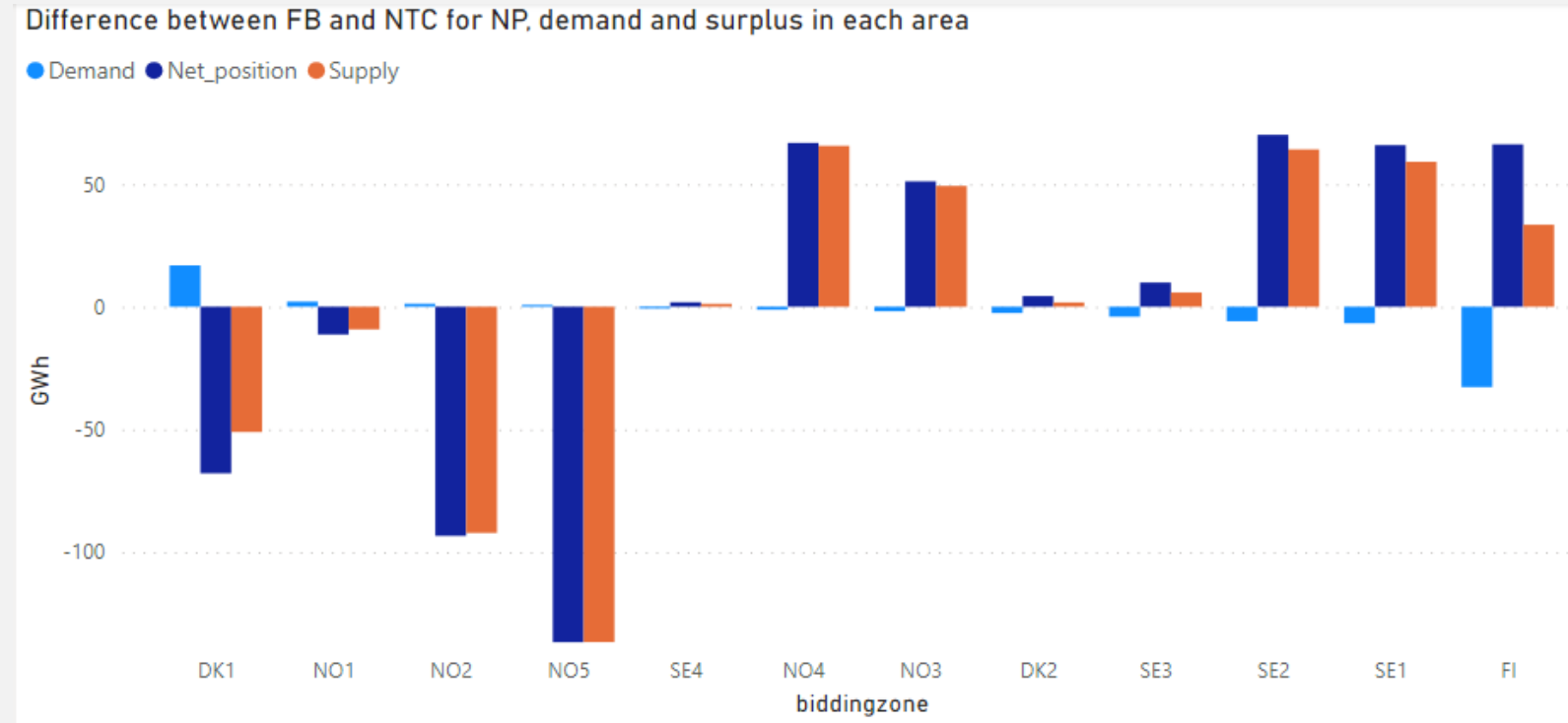


Figure: Demand and supply volumes difference (FB-NTC) and the corresponding net position change



Prices Period 2

- FB decreases the average prices in DK1, NO1, NO2 and NO5 and slightly increases them in the other bidding zones.
- The maximum prices decreased for NO1, NO2, NO5 and SE3, but increases for NO3, SE1, SE2

Market prices

Rounded to nearest integer. Thousands separated by comma. Example: 1,234,567

Bidding zone	Min. price		Max. price		Avg. price		FB-NTC
	FB	NTC	FB	NTC	FB	NTC	
DK1	0	0	126	127	45	51	-6
DK2	0	0	126	127	42	40	2
FI	-2	-2	146	146	23	19	4
NO1	1	0	67	123	51	54	-2
NO2	1	0	68	123	51	54	-2
NO3	3	3	54	48	31	21	10
NO4	6	3	41	40	22	20	2
NO5	3	37	64	68	50	54	-4
SE1	-1	-2	64	53	19	15	3
SE2	-2	-2	64	53	18	15	3
SE3	-4	-2	81	123	28	25	3
SE4	-5	-2	126	127	36	28	7

Table: Min, max and mean prices for all bidding zones in FB and NTC



Constraining CNECs in FB Period 2

- The CNECs with highest shadow prices are the CNECs for HVDCs and few internal CNECs in Sweden and Denmark
- High shadow prices indicate that more flow would have increased the total SDAC welfare.

Counts of hours with shadowprice (FB)

Thousands separated by comma and decimal separated by dot. Example: 1,234.56

↕CNEC	↕Count of hours	↕Average shadowprice	↕Total shadowprice
FI_PTC_FI_EL_EXPORT	163	55.67	9,075.01
AC_Minimum_SE4_SP	168	37.58	6,313.80
ACLineSegment ENDK DK1 E_FOU-MOSV 1 F Terminal : F	73	84.09	6,138.92
2c6fc39e621d4eb2904ba4f5d320a561	144	41.05	5,911.04
8cb682e3597e4cdd8a01ef1b51e8c0ac	135	34.01	4,591.11
AC_Minimum_DK2_KO	176	25.00	4,400.02
AC_Minimum_SE4_BC	123	34.12	4,196.81
5b371d95995e451fb82df83eb87a097d	25	143.92	3,597.90
AC_Minimum_SE4_NB	82	42.74	3,504.77
AC_Minimum_FI_EL	63	53.75	3,386.56
AC_Minimum_NO2_ND	167	20.06	3,349.36
AC_Minimum_NO2_NK	139	17.40	2,418.99
DK1_NL_EXP	117	19.80	2,316.37
15291_10 40% 420 Moskog-Høyanger + 300 Øvre Vinstra-Fåberg	64	34.98	2,238.56
95471208ee54440688398b4931935828	64	33.02	2,113.42
0469673b77a74012bc8fdefeec2006eb	63	33.13	2,087.38
15291_10 40% 420 Viklandet-Ørskog + 300 Øvre Vinstra-Fåberg	36	46.67	1,680.21
63044f426c204cd986df20e3ea37b083	15	100.63	1,509.38
DK2_SV_IMP	110	13.07	1,438.09
1096fc921980413e9502fddceec26900	46	29.84	1,372.72

Table: Top aggregated shadow prices on CNEC level



SEW Impact on bidding zone level Period 2

- The impact on the different parts of the SEW from FB differs significantly between the Nordic bidding zones.
- Largest positive total SEW change in SE2 and SE3.
- Negative difference in SEW is observed in DK2, NO5 and SE4.
- FB results in a gain for consumers in NO1, NO2, NO5 and DK1 while the producers in Sweden, NO3 and FI experience the largest gain with FB compared to NTC.

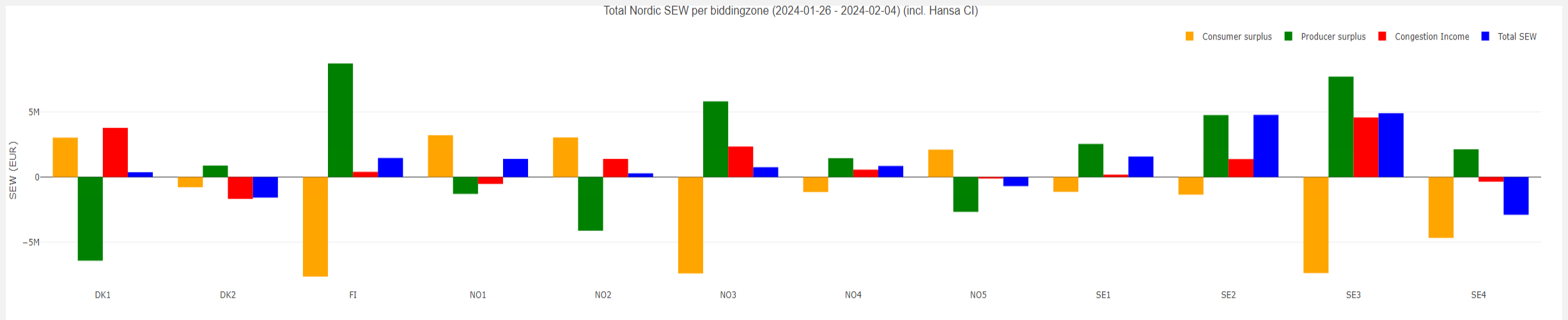


Figure: SEW change per stakeholder in CCR Nordic per BZ



Average prices in the Nordic region Period 3

For these weeks, there are constraints between:

- the Baltics and the Nordics
- Sweden and Finland
- NO4 and SE1/NO3
 - The flow to both NO4 and SE1 is increased

Prices change few EUR/MWh in all bidding zones except NO4, where the price is increased by 9 EUR/MWh

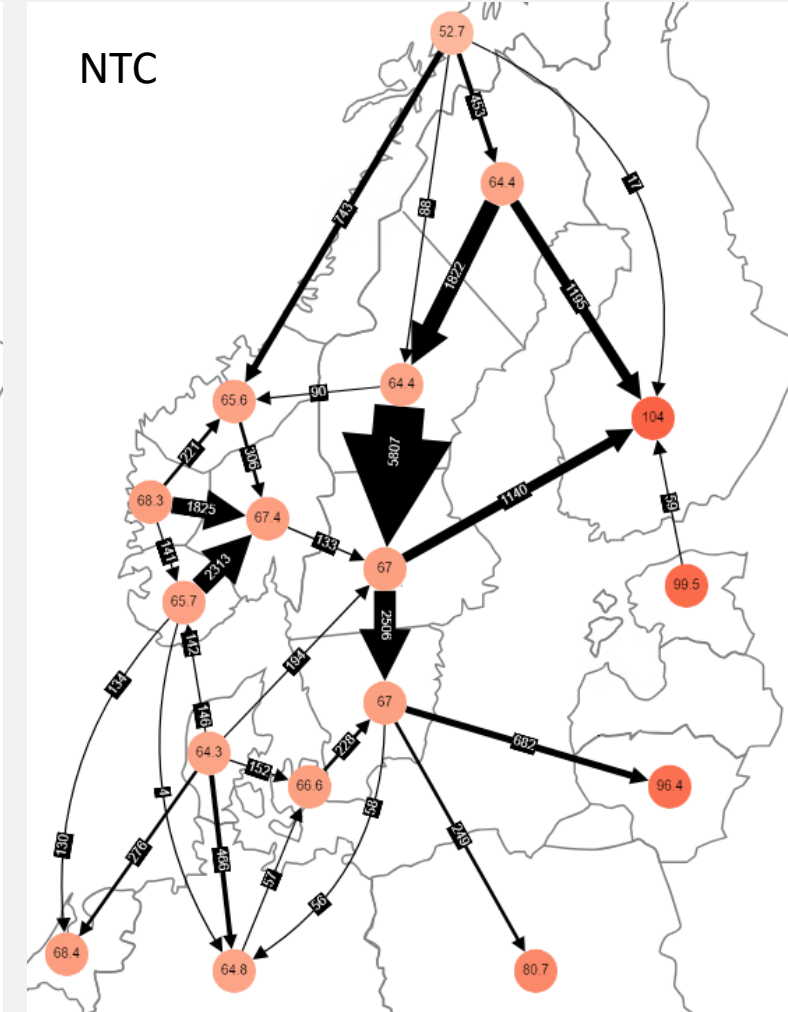
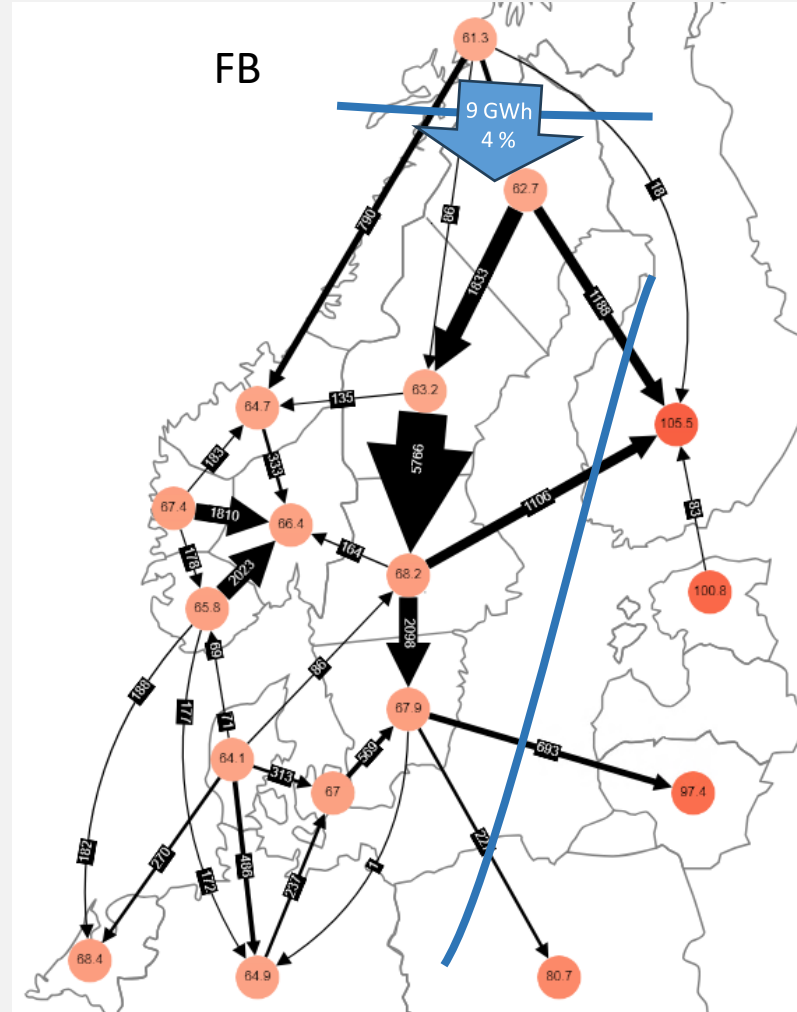


Figure: Average price in each BZ in FB and NTC. Arrows show the increased flow over constraining elements.



Impact on buy and sell volumes (FB-NTC) Period 3

- Biggest difference of demand is noted in FI and NO4, largest overall difference in NP is in SE2, NO3 and NO4
- Mostly the change in supply volumes that are impacting the changing net positions in the bidding zones

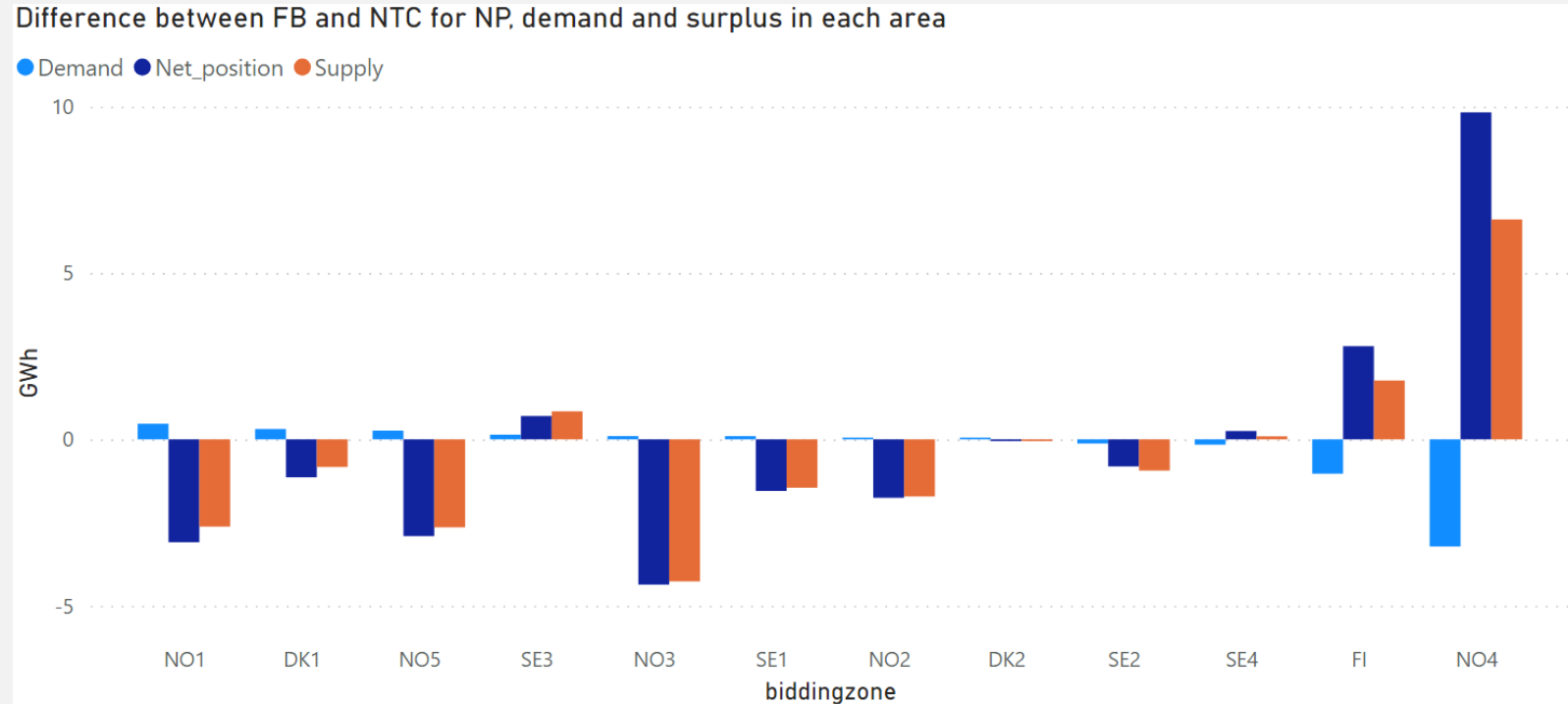


Figure: Demand and supply volumes difference (FB-NTC) and the corresponding net position change



Prices Period 3

- Prices very similar in all areas except NO4, where average price is increased.
- The maximum prices decreased for DK1, NO1, NO2, NO4, NO5 and northern Sweden, but increases for DK2, SE3 and SE4.

Market prices

Rounded to nearest integer. Thousands separated by comma. Example: 1,234,567

Bidding zone	Min. price		Max. price		Avg. price		
	FB	NTC	FB	NTC	FB	NTC	FB-NTC
DK1	0	0	134	136	64	64	0
DK2	10	5	139	136	67	67	0
FI	12	5	250	250	106	104	2
NO1	21	5	125	133	66	67	-1
NO2	22	5	125	132	66	66	0
NO3	26	36	117	117	65	66	-1
NO4	19	20	108	117	61	53	9
NO5	41	43	124	133	67	68	-1
SE1	12	5	103	117	63	64	-2
SE2	12	5	106	117	63	64	-1
SE3	11	5	141	136	68	67	1
SE4	11	5	141	136	68	67	1

Table: Min, max and mean prices for all bidding zones in FB and NTC



Constraining CNECs in FB Period 3

- The CNECs with highest shadow prices are the CNECs in/out of Finland, cut 2 and HVDC interconnectors to the continent
- High shadow prices indicate that more flow would have increased the total SDAC welfare.

* For some MTUs the shadow price is unrealistic high due to multiple constraints at once. The value does not represent the increased SEW of increasing the RAM in these cases, However this issue does not impact the market solution. The TSO are investigating a fix to solve this.

Counts of hours with shadowprice (FB)

Thousands separated by comma and decimal separated by dot. Example: 1,234.56

CNEC	Count of hours	Average shadowprice	Total shadowprice
AC_Minimum_DK2_SB *	14	719.70	10,075.76
FI_PTC_SE1-FI_NO4-FI	116	46.76	5,424.00
AC_Minimum_SE3_FS	87	51.44	4,475.51
2c6fc39e621d4eb2904ba4f5d320a561	107	35.01	3,745.60
FI_RAC_SE1-FI_VUENNONKOSKI-PETAJASKOSKI_OLG3_SIPS	23	158.36	3,642.36
63044f426c204cd986df20e3ea37b083	41	85.10	3,489.04
15351_334.372 76% Sauda T3 Transformator P + Sauda T2 Transformator P	14	93.32	1,306.50
f5ddead2e90b4ad4a09333cf04ec2c23	41	27.75	1,137.61
AC_Minimum_SE4_NB	45	24.94	1,122.27
AC_Maximum_FI_EL	26	39.11	1,016.83
0469673b77a74012bc8fdefe2006eb	71	13.94	989.68
DK1_NL_EXP	72	10.35	745.21
AC_Maximum_SE4_BC	60	11.68	700.68
AC_Maximum_DK2_KO	68	9.49	645.10
ebf847b3bf497c82d430b3ced4c08a	12	52.42	629.02
AC_Minimum_NO2_ND	57	10.91	621.74
AC_Minimum_SE4_SP	38	12.60	478.69
FI_PTC_FI_EL_EXPORT	27	15.72	424.54
15351_334.372 66% Sauda T2 Transformator P + Sauda T3 Transformator P	3	127.50	382.51
AC_Maximum_NO2_NK	23	14.19	326.35

Table: Top aggregated shadow prices on CNEC level



SEW Impact on bidding zone level Period 3

- The impact on the different parts of the SEW from FB differs significantly between the Nordic bidding zones.
- Largest positive total SEW change in NO1 and SE3.
- Negative difference in SEW is observed in DK2, NO2, NO3, NO5, SE1 and SE4.
- FB results in a gain for consumers in DK1, NO1, NO2, NO3, NO5, SE1 and SE2 while the producers in SE3, NO4 and FI experience the largest gain with FB compared to NTC.

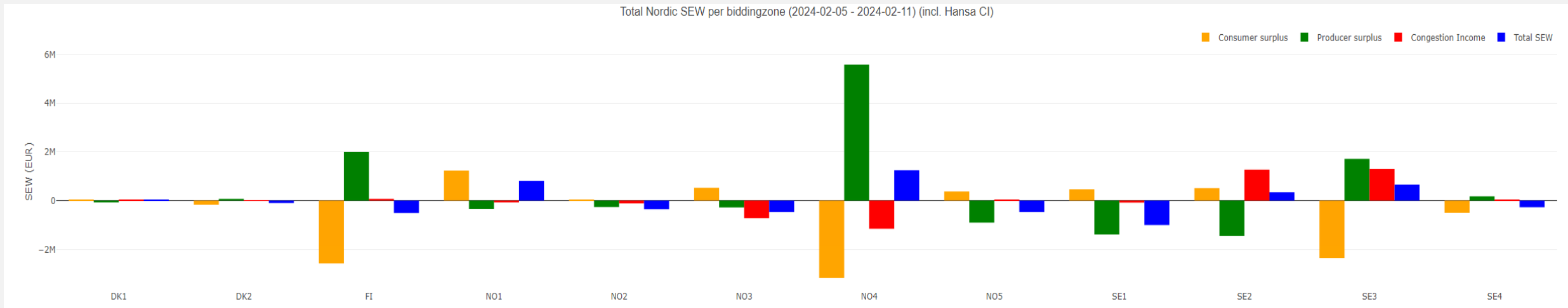


Figure: SEW change per stakeholder in CCR Nordic per BZ



Specific hour walkthrough



Walk through specific hours and periods

22. January 0:00-6:00
Circular flow through FI and SE

27. January 0:00-6:00
Highest SEW gain for the period

16. January 7:00-9:00
Large price change in NO1

29. January 16:00-19:00
Increased East-West flow

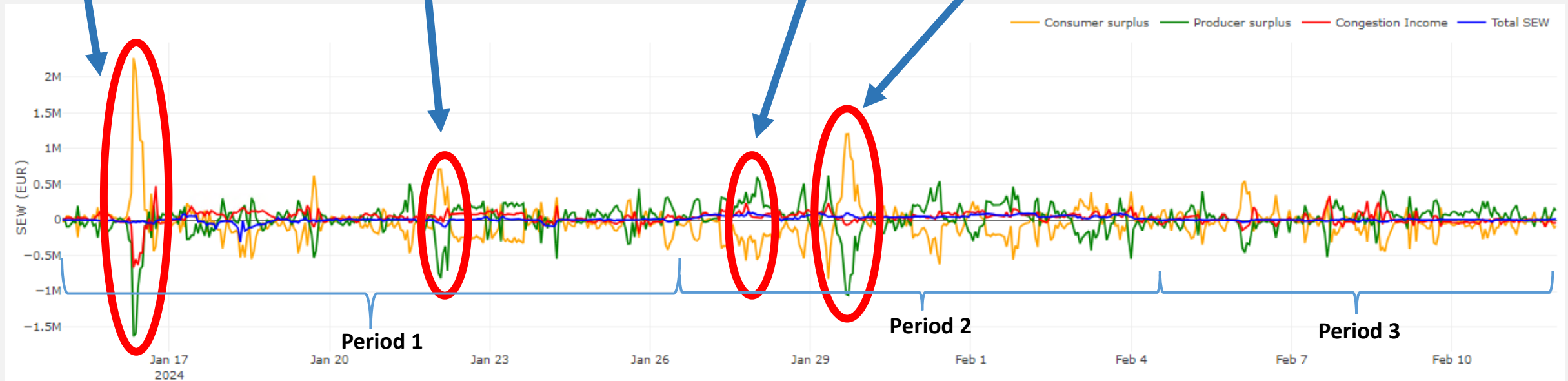
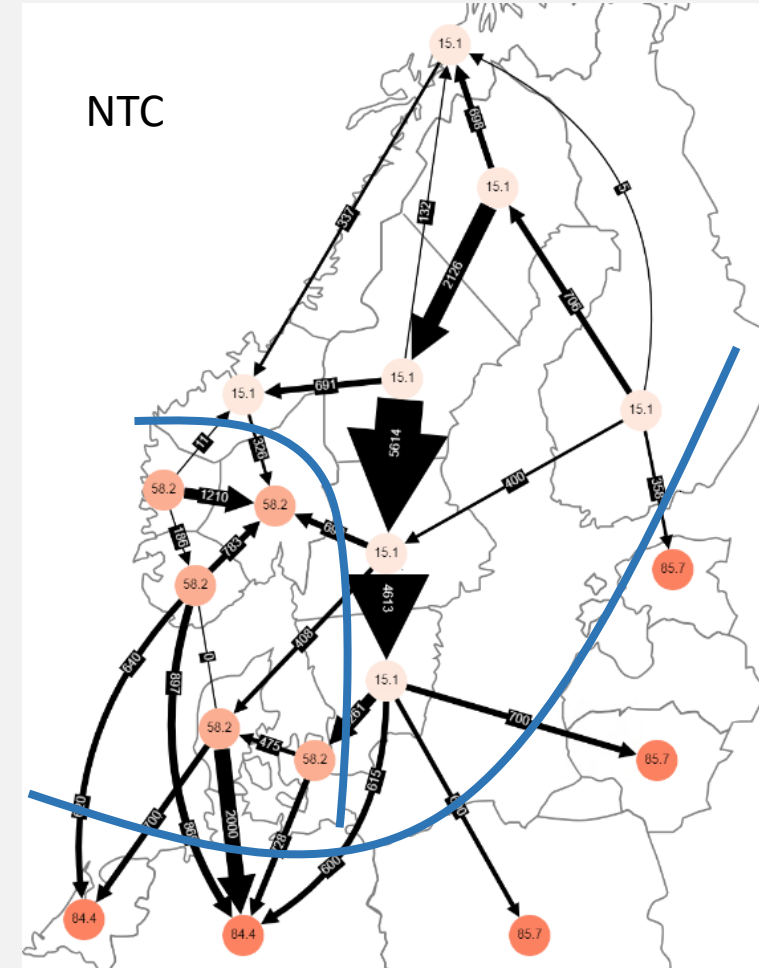
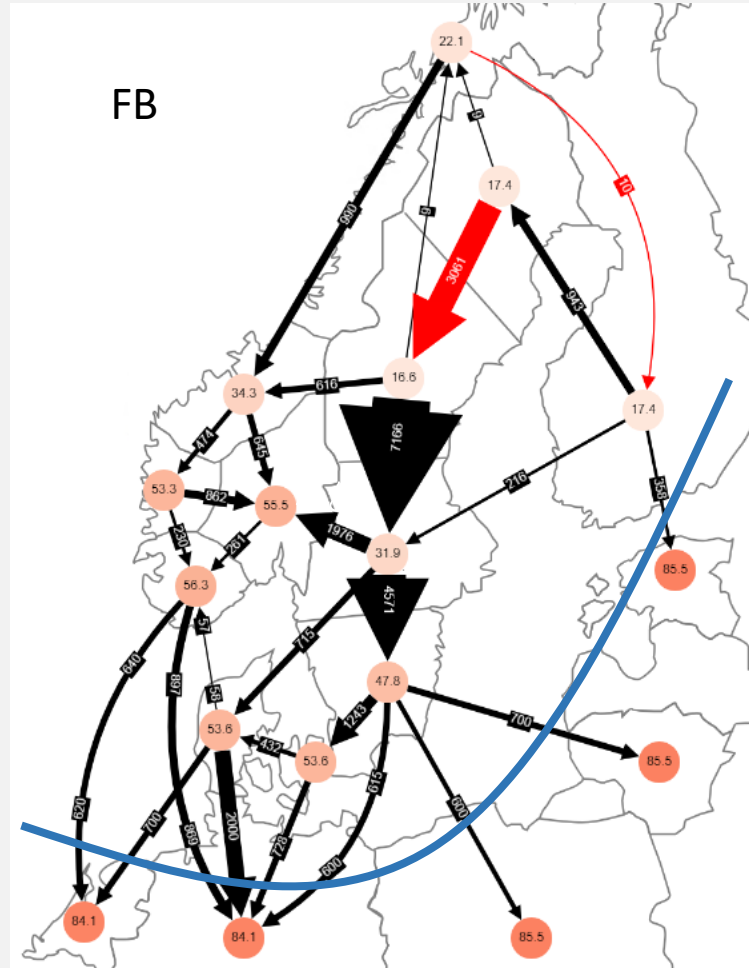


Figure: Change in welfare for the period (FB-NTC)



27/1 H20-21

- This is the MTU with the highest SEW gain for all 3 periods.
- High Nordic Net Position of 7239 MWh
- Significant price spreads between Northern and Southern Nordic in both NTC and FB.
- Full flow to the continent in both NTC and FB.
- Flow-based enable a higher flow over the constraining elements.





Circular flow between SE-FI on January 22nd, MTU 1-6

Example: MTU3

- The circular flow can be split into multiple flows:

FI_FS -> FI -> SE1 -> SE2 -> SE3 -> SE3_FS

- FI is importing on FennoSkan, so the NP in FI_FS will be positive.
- SE3 is exporting on FennoSkan, so the NP in SE3_FS will be negative.
- The total NP change in the system is zero as the NP of FI_FS is equal to - SE3_FS.
- Only the VBZ for FI_FS and SE3_FS has an impact on the CNECs.
- The relieving effect of a circular flow can therefore be found by investigating the Zone-To-Zone PTDF value, when importing in FI_FS and exporting in SE3_FS:

$$ZtZ \text{ FI_FS-SE3_FS} = ZtS \text{ FI_FS} - ZtS \text{ SE3_FS}$$

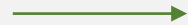
JAO_CNEC_Name	Shadow Price	Effect from circular flow ZtZ FI_FS -> SE3_FS
15351_372 76% Sauda T3 Transformator P + Sauda T2 Transformator P	190,66	-0,0031
46227fc896eb4807bef06c30f3b209a6	33,59	-0,0329
AC_Minimum_NO2_ND	22,98	0,0000
AC_Minimum_SE4_SP	18,30	0,0000
AC_Minimum_SE4_NB	18,07	0,0000
AC_Minimum_FI_EL	16,30	0,0000
13792_325 420 Kristiansand-Arendal + 420 Kristiansand-Kvinesdal + 420 Kristiansand- Brokke + Kristia	2,50	0,0000
FI_PTC_RAC_FI-SE1	1,69	1,0000
AC_Minimum_SE3_KS	0,60	0,0000
DK1_DK_EXP	0,03	0,0000



Circular flow between SE-FI on January 22nd, MTU 1-6

Example: MTU3

The circular flow has a relieving effect on the 2 most constraining CNECs for this MTU.



The circular flow is limited by the CNEC between FI->SE1.



This applies for MTU 1-6 on the 22/1.

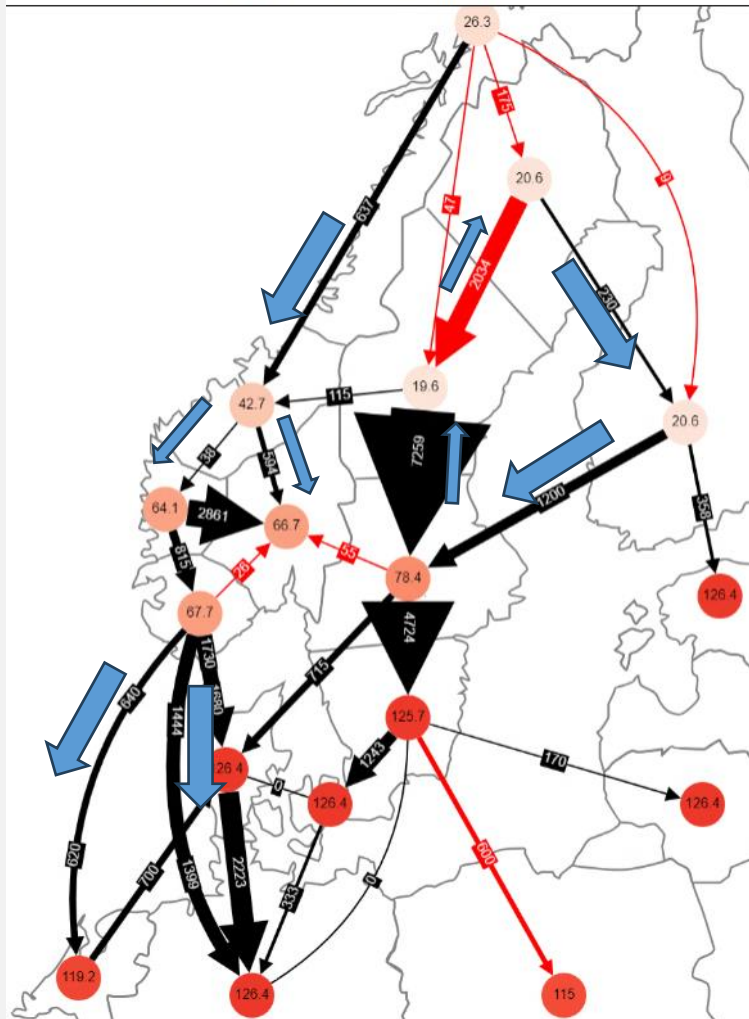
JAO_CNEC_Name	Shadow Price	Effect from circular flow ZtZ FI_FS -> SE3_FS
15351_372 76% Sauda T3 Transformator P + Sauda T2 Transformator P	190,66	-0,0031
46227fc896eb4807bef06c30f3b209a6	33,59	-0,0329
AC_Minimum_NO2_ND	22,98	0,0000
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13792_325 420 Kristiansand-Arendal + 420 Kristiansand-Kvinesdal + 420 Kristiansand-Brokke + Kristia	2,50	0,0000
FI_PTC_RAC_FI-SE1	1,69	1,0000
AC_Minimum_SE3_KS	0,60	0,0000
DK1_DK_EXP	0,03	0,0000



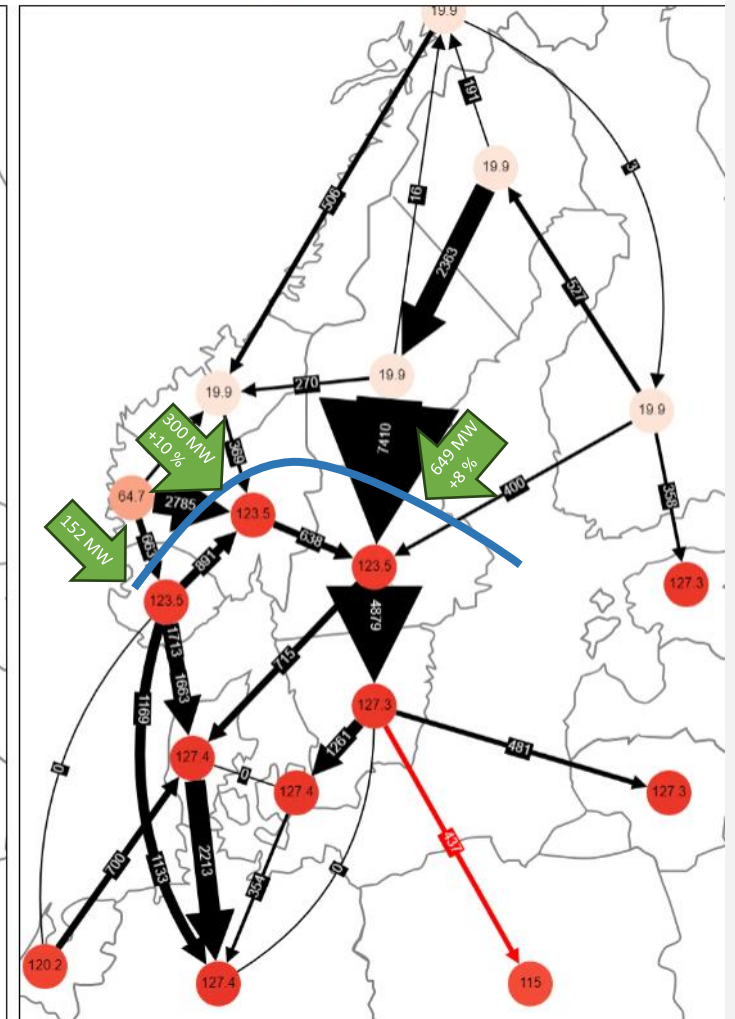
January 29th, MTU 17-20

- Increased flow through Finland and from Northern Sweden decreasing prices in Southern Sweden and Norway
- Slightly reduced flow on SE2>SE3 due to border CNEC limiting flow too much.

FB 2024-01-29 17:00-18:00 (AAF flow)



NTC 2024-01-29 17:00-18:00 (AAF flow)





Questions?

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Statnett



Thank you!

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