Nordic Capacity Calculation Methodology Project (Nordic CCM)

Nordic CCM

External Parallel Run Market Report
Appendix for Week 33 of 2023

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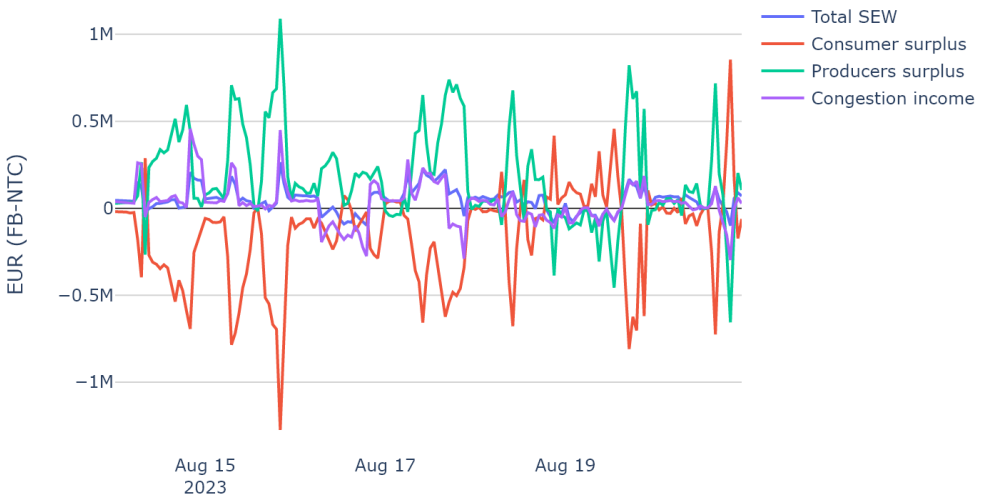
Domain validation

Energy Delivery Day:	Mon. 14.08.	Tue. 15.08.	Wed. 16.08.	Thu. 17.08.	Fri. 18.08.	Sat. 19.08.	Sun. 20.08.
Invalid/missing IGMs	10	0	0	0	0	0	15
Substituted IGMs	10	0	0	0	0	0	15
Invalid CGMs	8	0	0	0	0	0	0
FB domain back-up	18	0	0	0	0	0	0
FAV provision	4	0	0	2	0	2	0
Final domain acceptance (1 TSO =25%)	100%	100%	100%	100%	100%	100%	100%

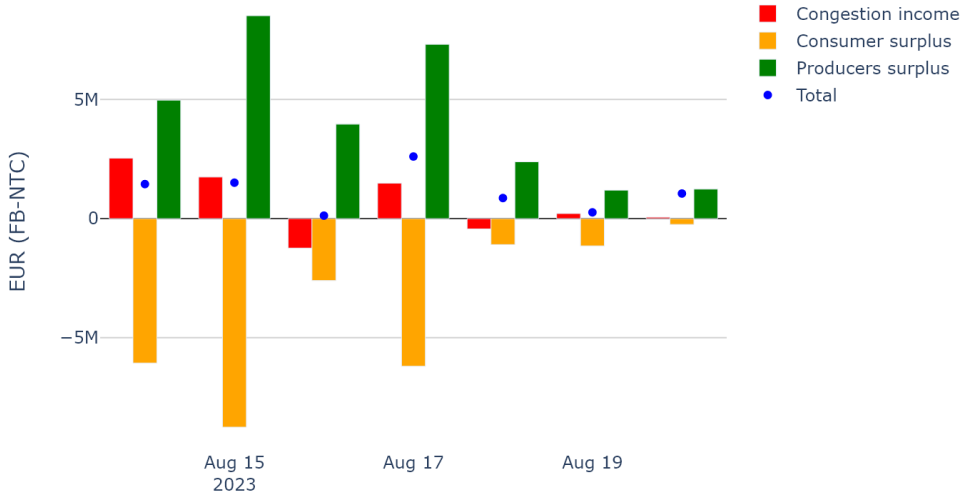
Socio Economic Welfare

Nordics

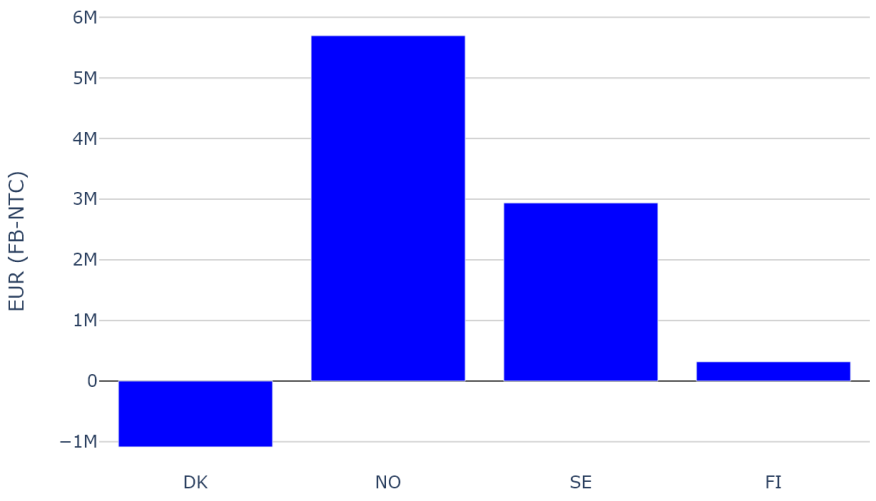
Hourly Nordic socio-economic welfare gain, FB-NTC



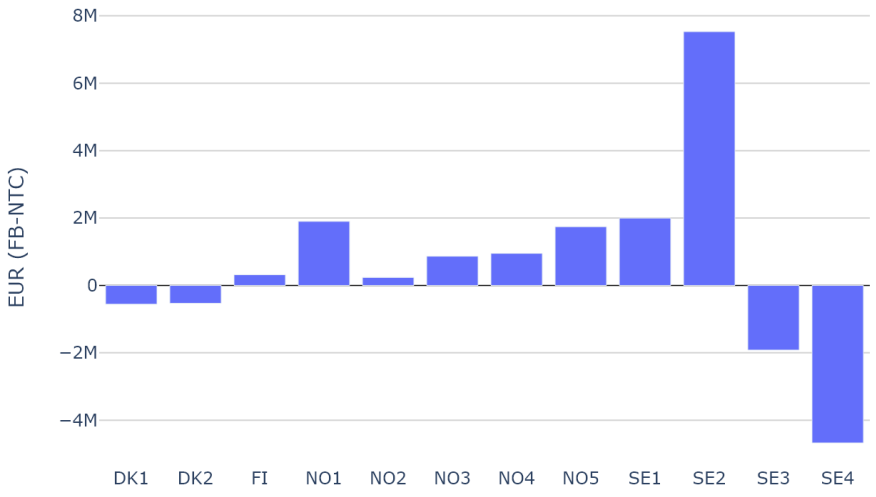
Nordics socio-economic welfare per stakeholder and day



Total Nordic socio-economic welfare per country

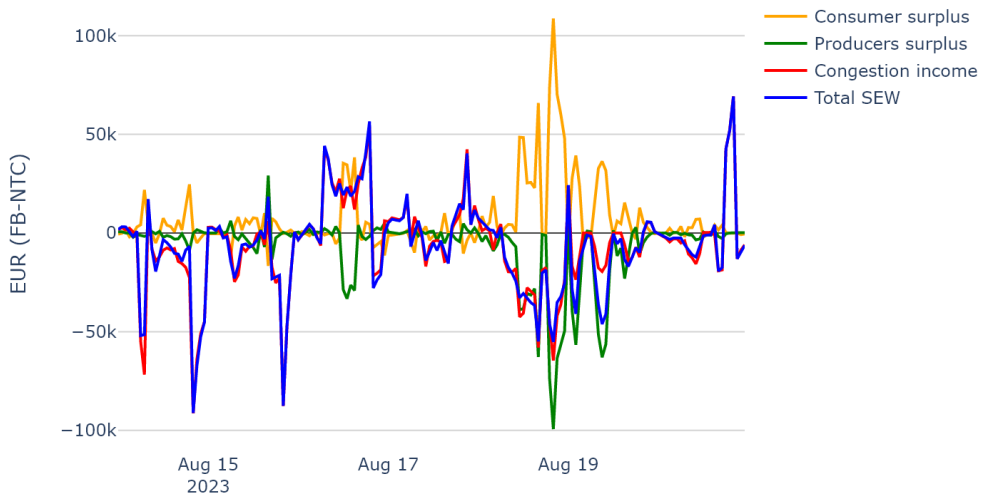


Socio economic welfaregain FB-NTC per BZ - Total_sew

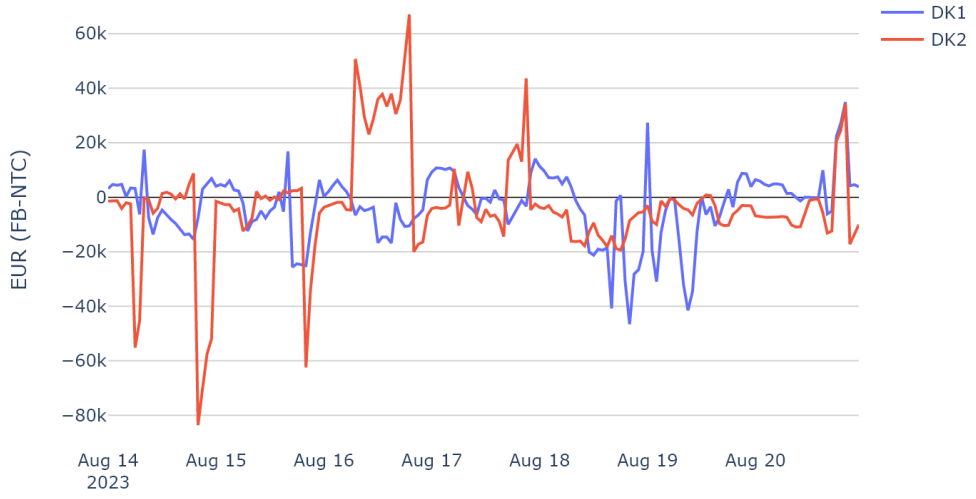


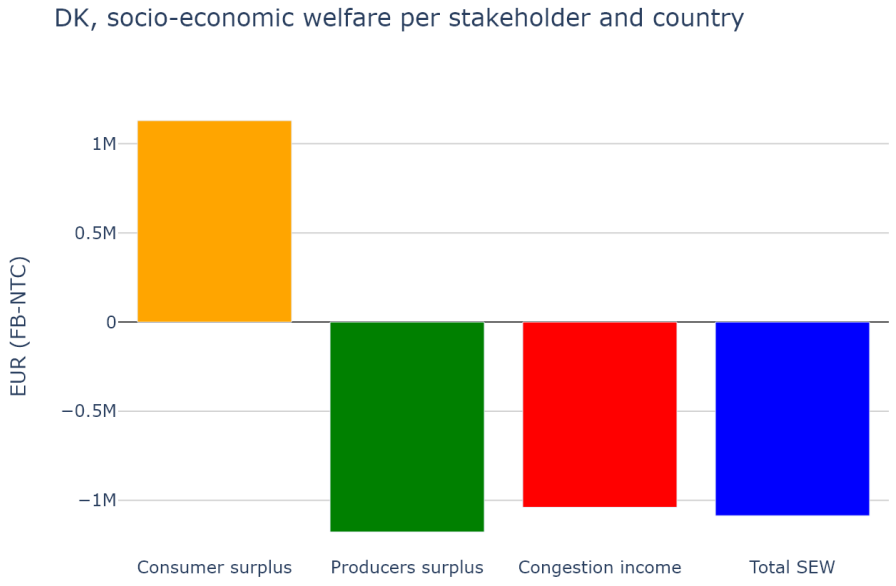
Denmark

DK, socio-economic welfare per stakeholder and country

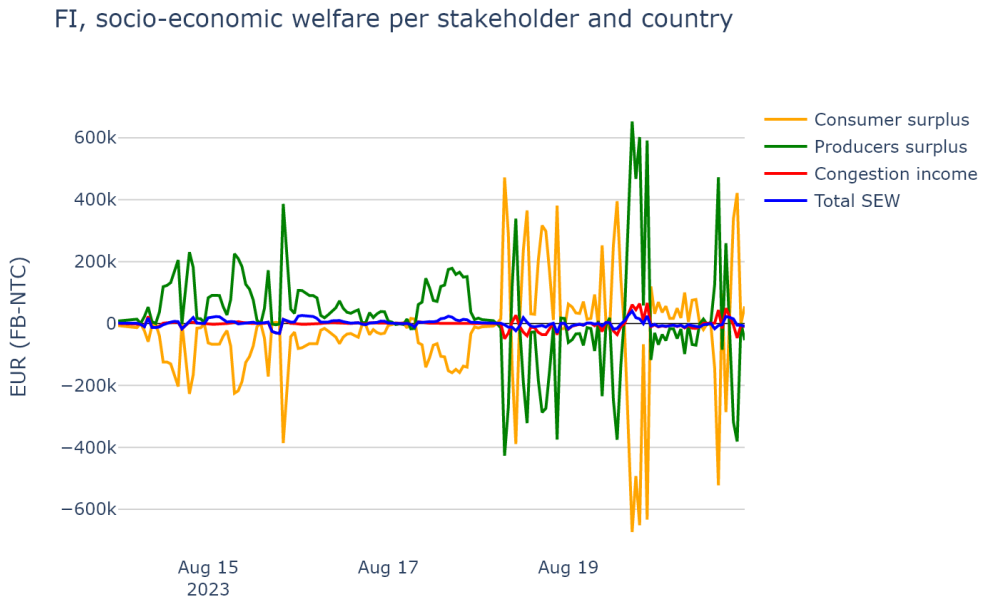


Total socio economic welfaregain FB-NTC per BZ in DK

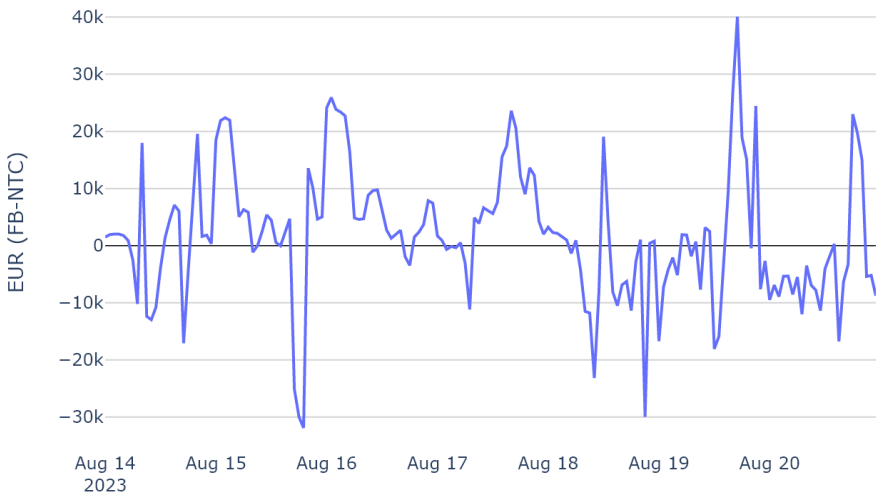



DK, socio-economic welfare per stakeholder and country
EUR (FB-NTC)
1M
0.5M
0
−0.5M
−1M
Consumer surplus
Producers surplus
Congestion income
Total SEW

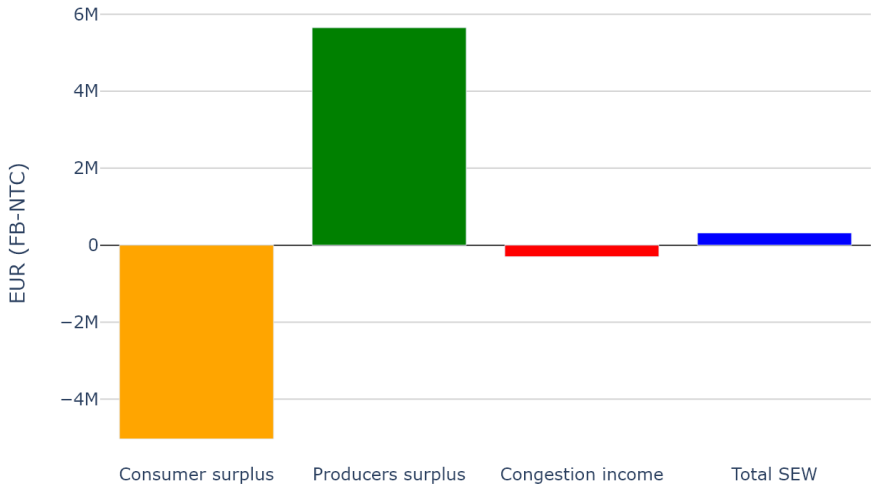
Finland


FI, socio-economic welfare per stakeholder and country
EUR (FB-NTC)
600k
400k
200k
0
−200k
−400k
−600k
Aug 15
2023
Aug 17
Aug 19
Consumer surplus
Producers surplus
Congestion income
Total SEW

Total socio economic welfaregain FB-NTC per BZ in FI

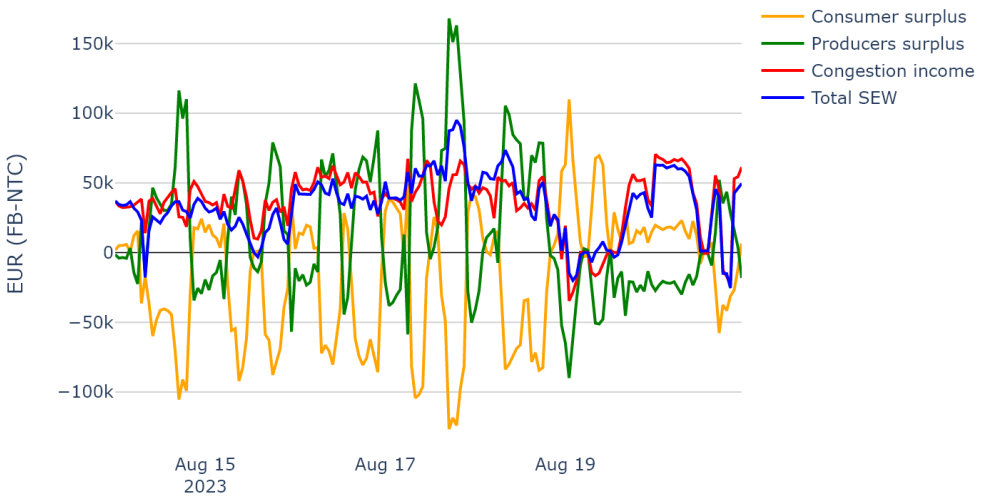


FI, socio-economic welfare per stakeholder and country

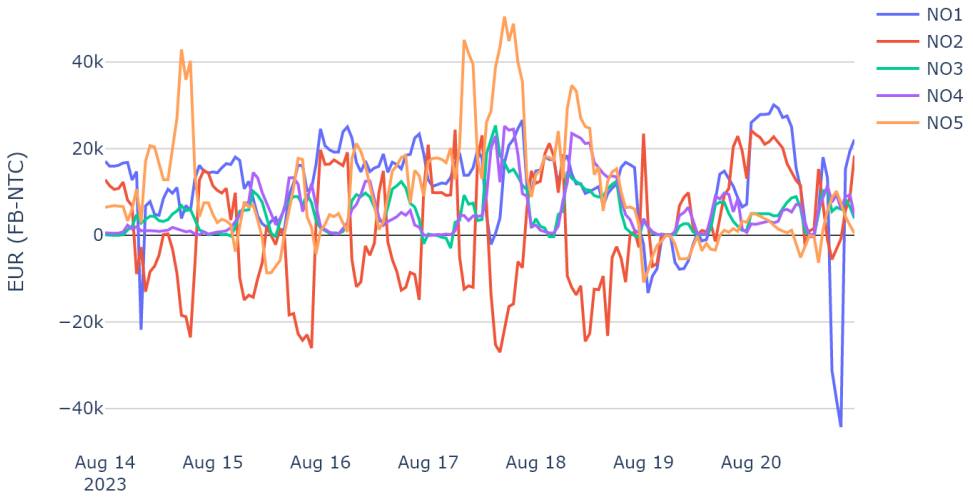


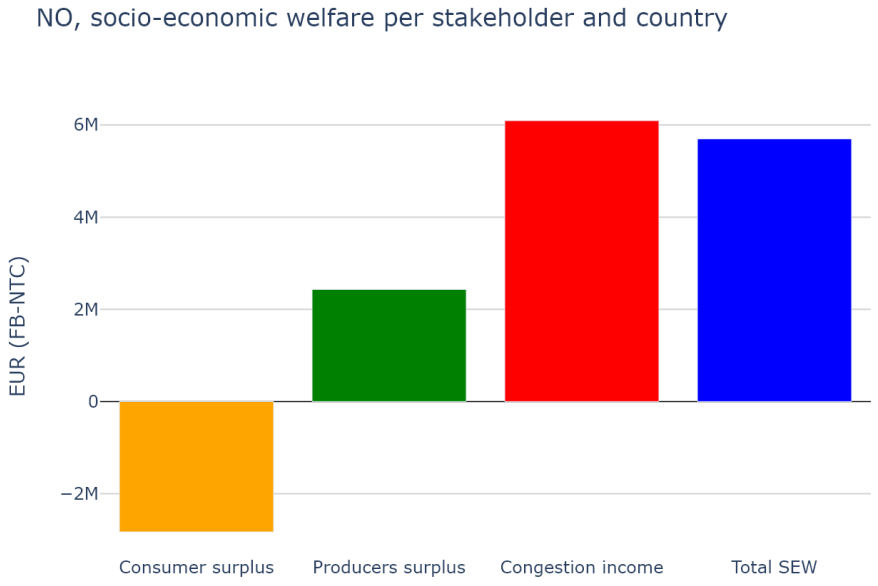
Norway

NO, socio-economic welfare per stakeholder and country

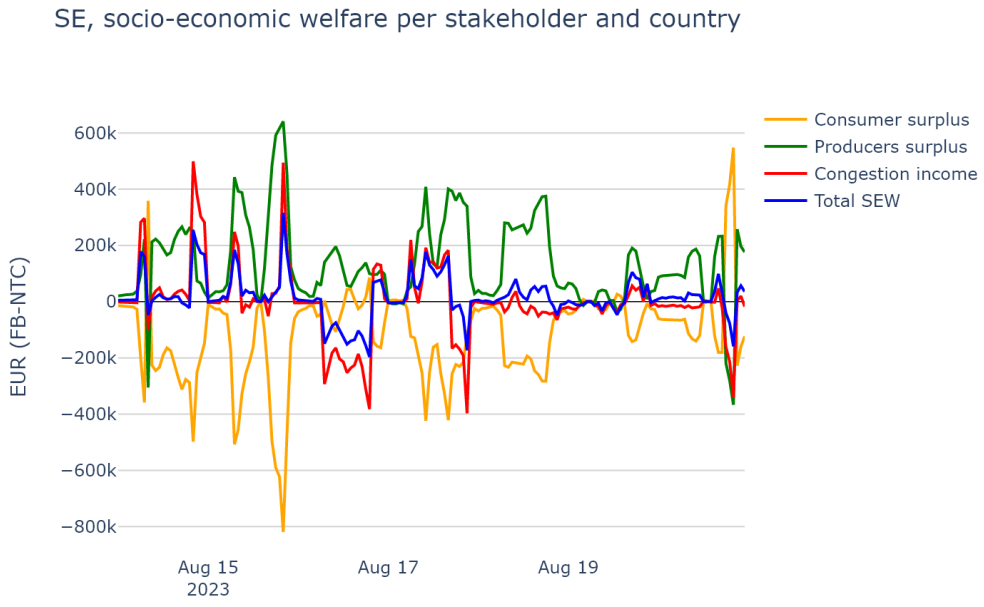


Total socio economic welfaregain FB-NTC per BZ in NO

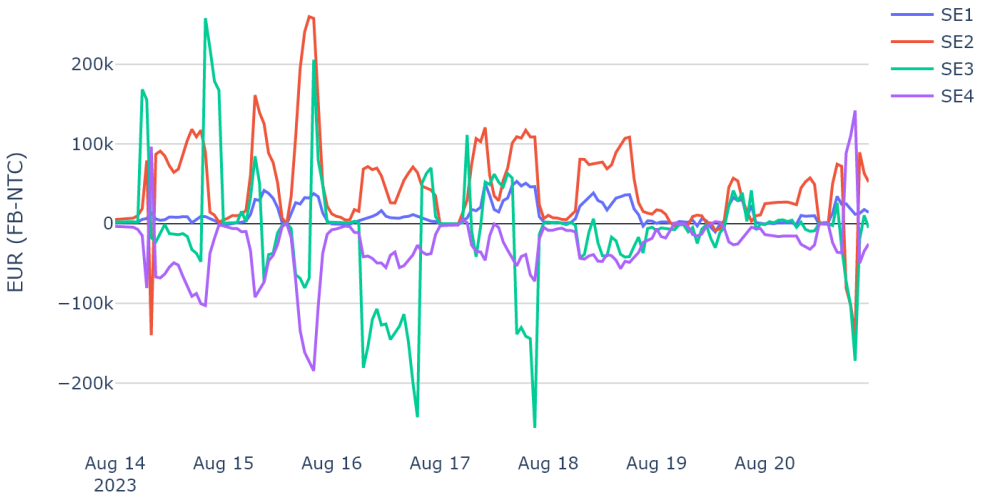



NO, socio-economic welfare per stakeholder and country
6M
4M
2M
0
−2M
EUR (FB-NTC)
Consumer surplus
Producers surplus
Congestion income
Total SEW

Sweden

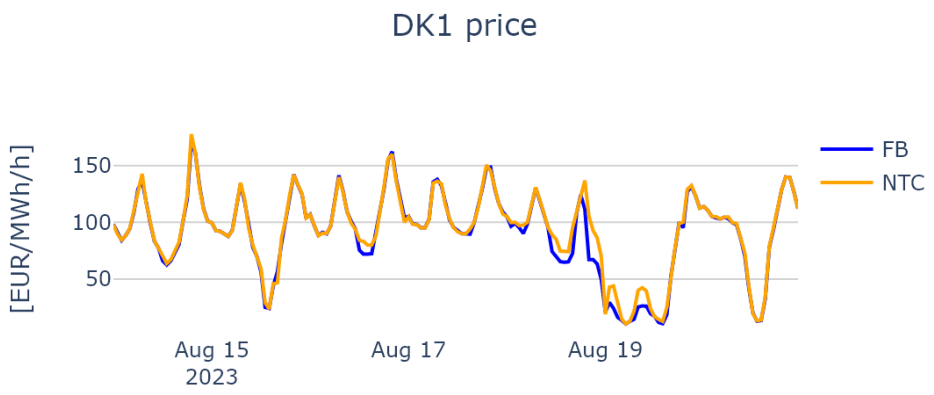

SE, socio-economic welfare per stakeholder and country
600k
400k
200k
0
−200k
−400k
−600k
−800k
EUR (FB-NTC)
Aug 15
2023
Aug 17
Aug 19
Consumer surplus
Producers surplus
Congestion income
Total SEW

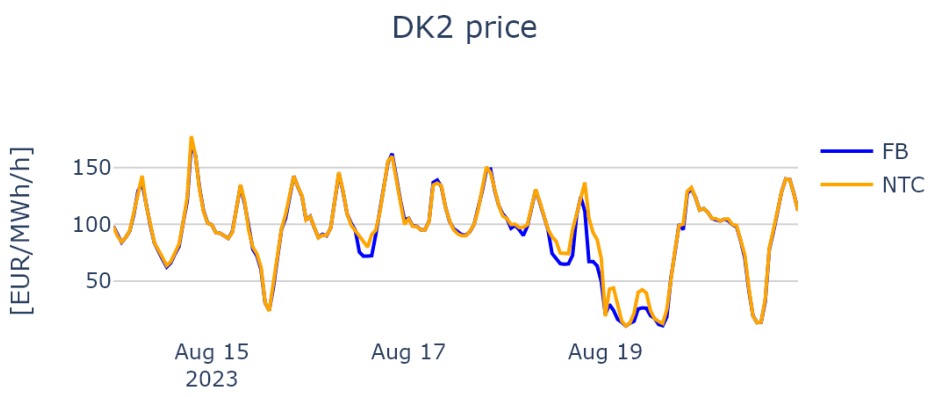
Total socio economic welfaregain FB-NTC per BZ in SE

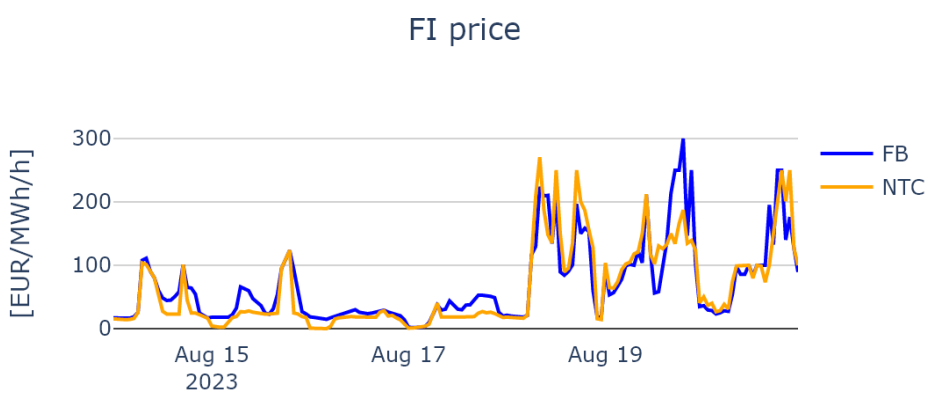


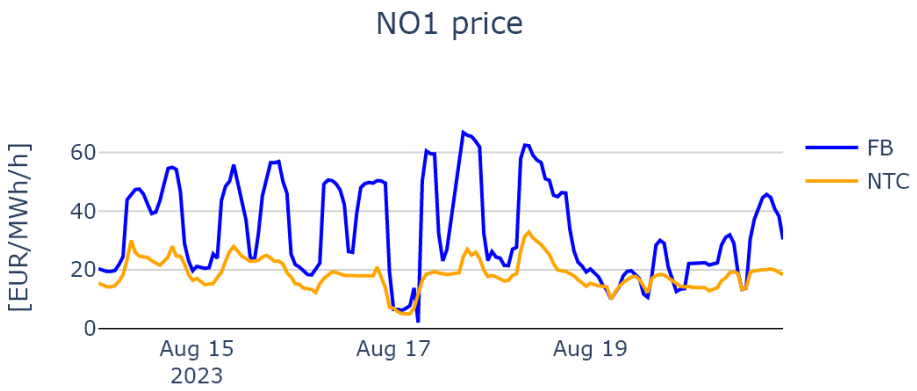
SE, socio-economic welfare per stakeholder and country

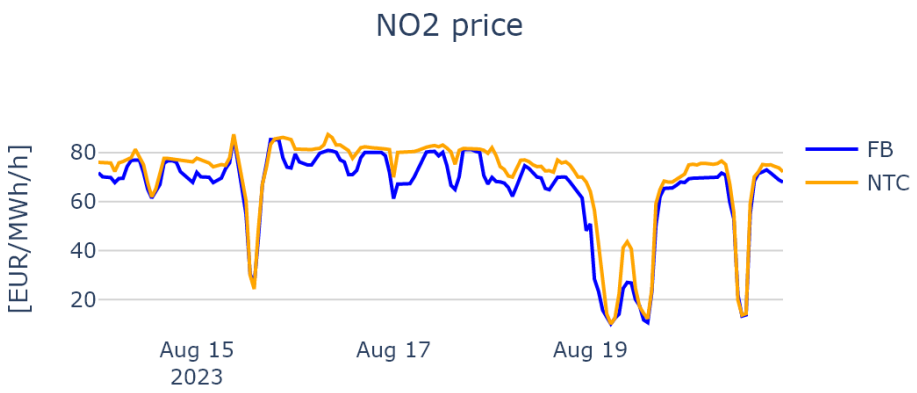
Prices

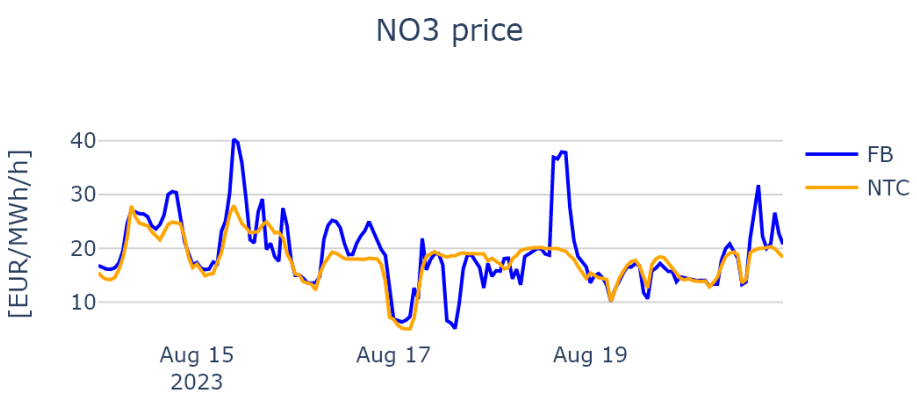

DK1 price
[EUR/MWh/h]
150
100
50
Aug 15
2023
Aug 17
Aug 19
FB
NTC

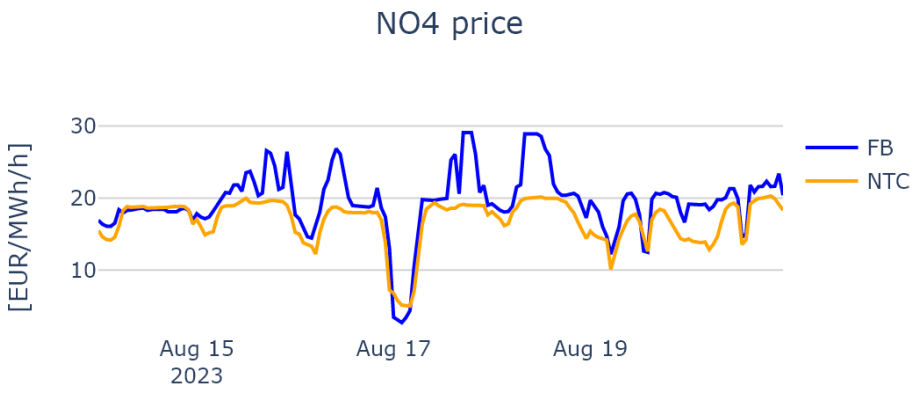

DK2 price
[EUR/MWh/h]
150
100
50
Aug 15
2023
Aug 17
Aug 19
FB
NTC

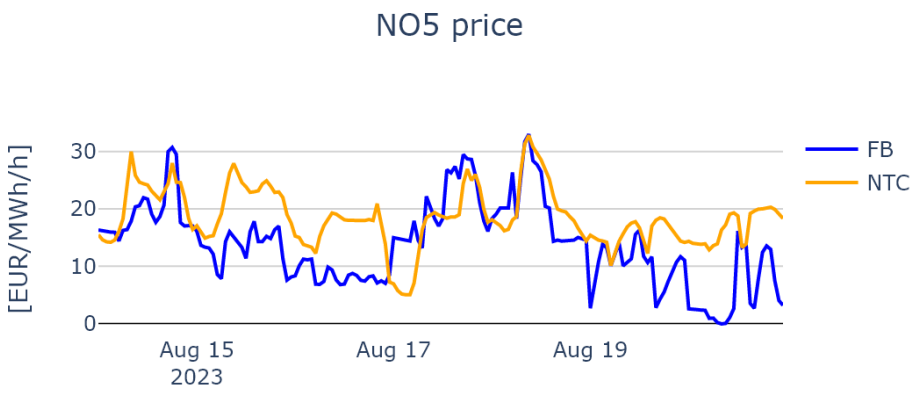

FI price
[EUR/MWh/h]
300
200
100
0
Aug 15
2023
Aug 17
Aug 19
FB
NTC

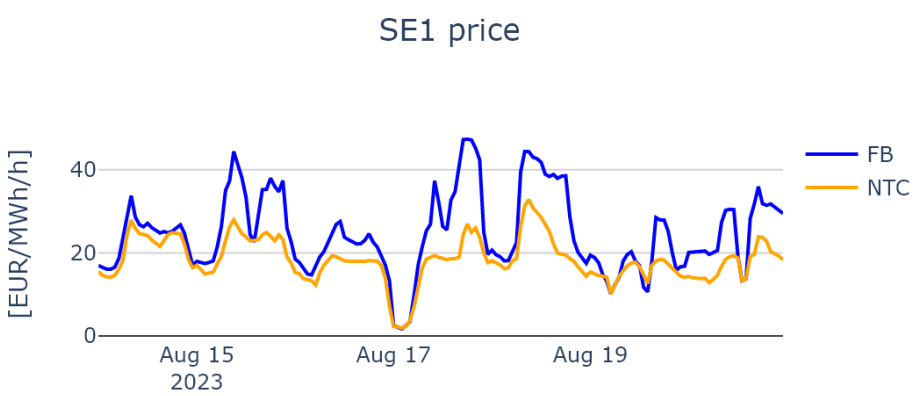

NO1 price
[EUR/MWh/h]
60
40
20
0
Aug 15
2023
Aug 17
Aug 19
FB
NTC

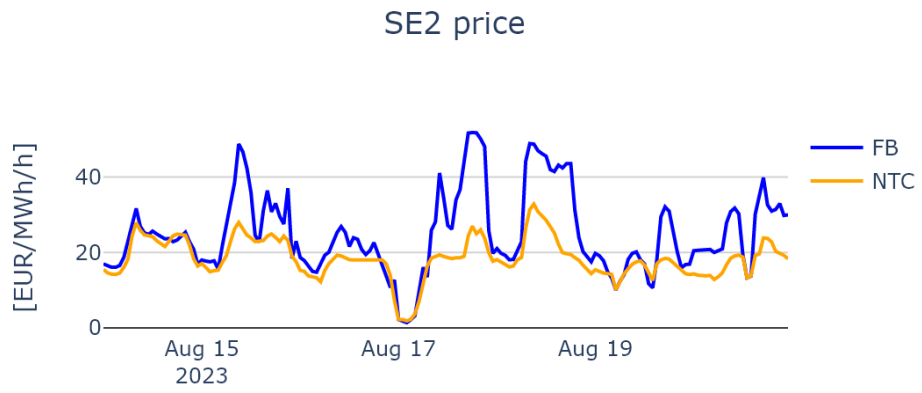

NO2 price
[EUR/MWh/h]
80
60
40
20
Aug 15
2023
Aug 17
Aug 19
FB
NTC

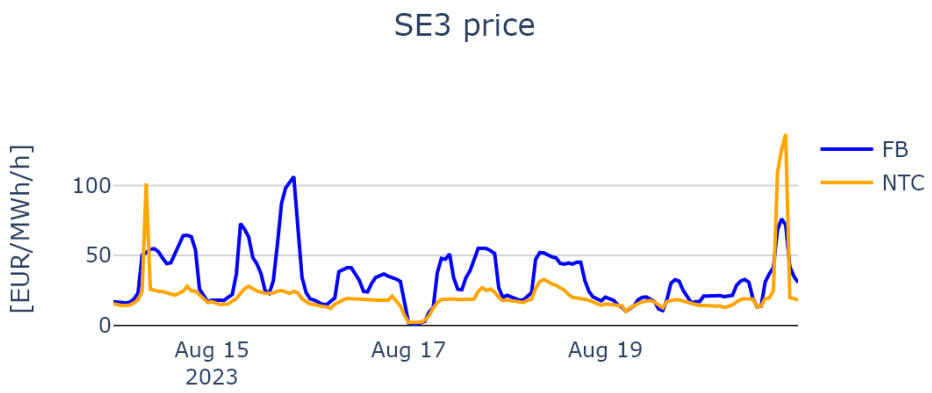

NO3 price
[EUR/MWh/h]
40
30
20
10
Aug 15
2023
Aug 17
Aug 19
FB
NTC

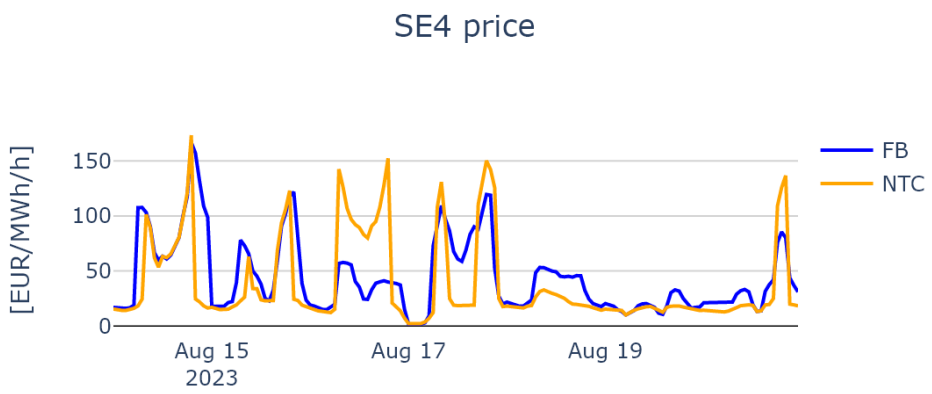

NO4 price
[EUR/MWh/h]
30
20
10
Aug 15
2023
Aug 17
Aug 19
FB
NTC


NO5 price
[EUR/MWh/h]
30
20
10
0
Aug 15
2023
Aug 17
Aug 19
FB
NTC


SE1 price
[EUR/MWh/h]
40
20
0
Aug 15
2023
Aug 17
Aug 19
FB
NTC

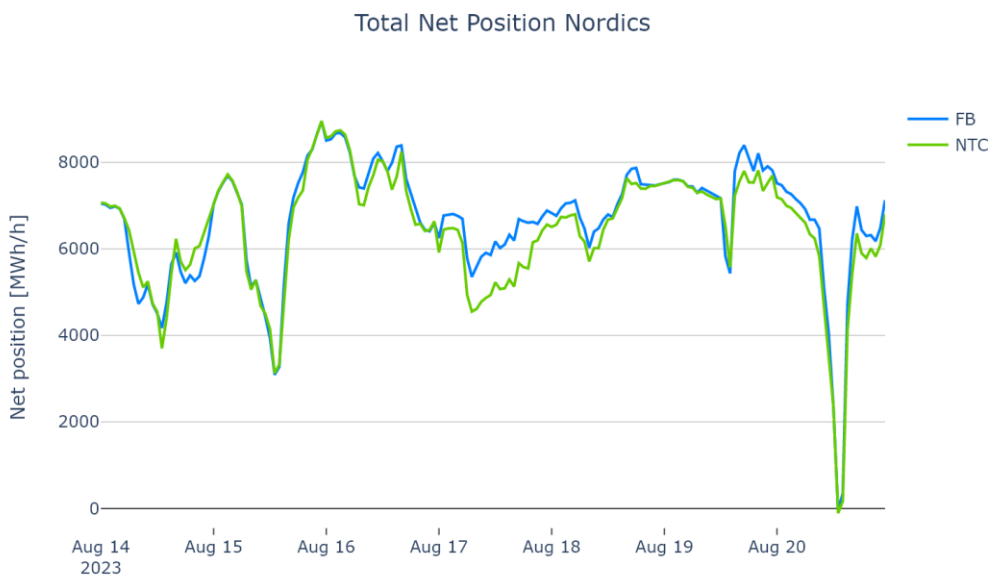

SE2 price
[EUR/MWh/h]
40
20
0
Aug 15
2023
Aug 17
Aug 19
FB
NTC

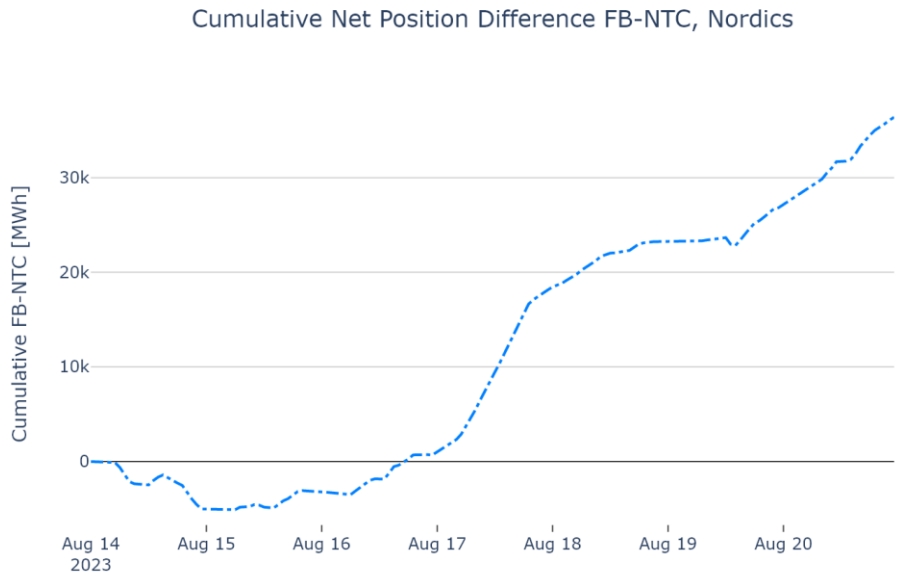

SE3 price
[EUR/MWh/h]
100
50
0
Aug 15
2023
Aug 17
Aug 19
FB
NTC


SE4 price
[EUR/MWh/h]
150
100
50
0
Aug 15
2023
Aug 17
Aug 19
FB
NTC

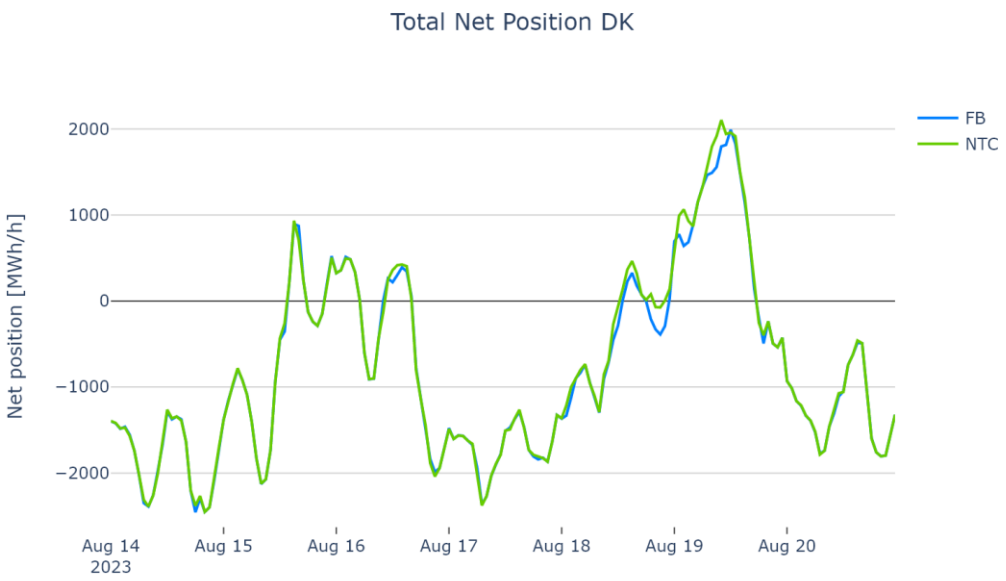
Net positions

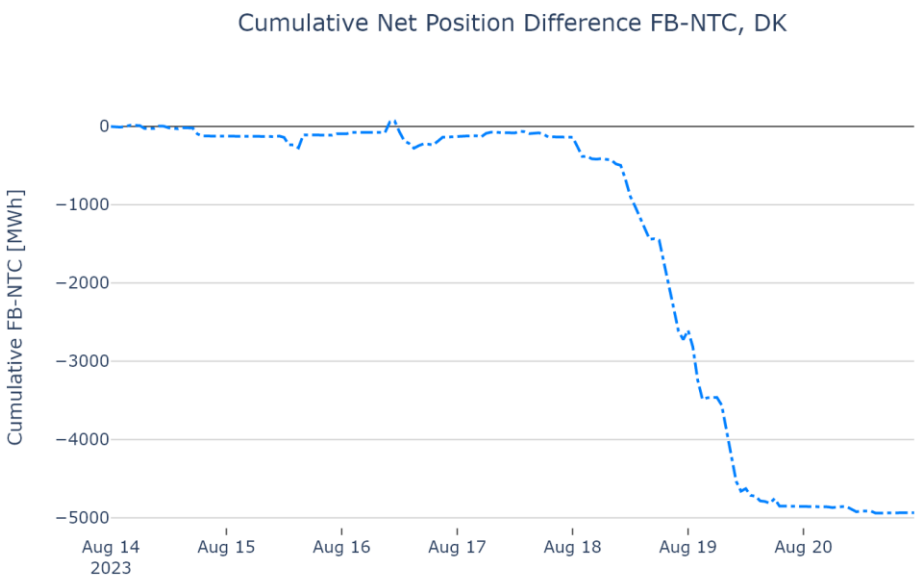
Nordics

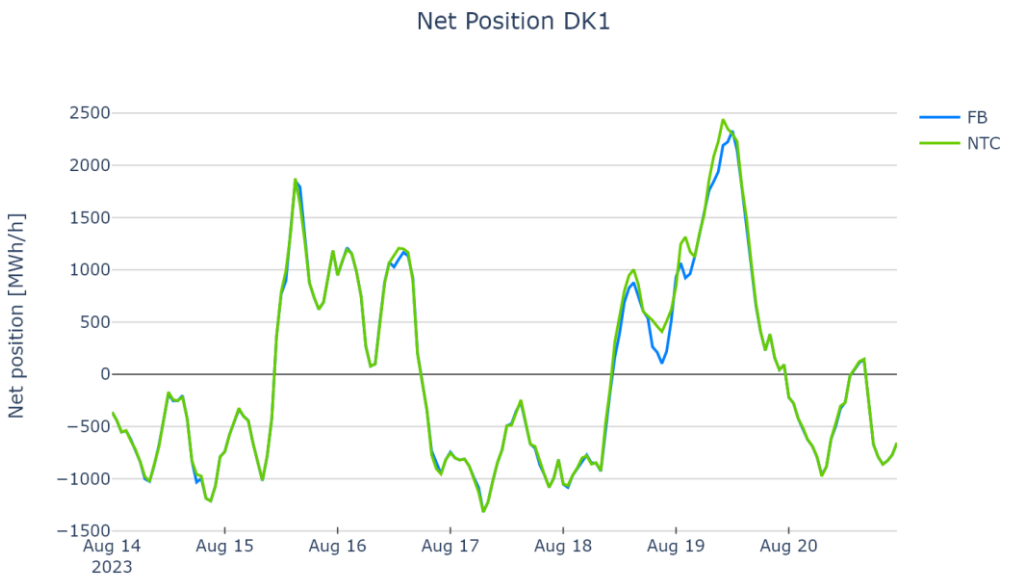


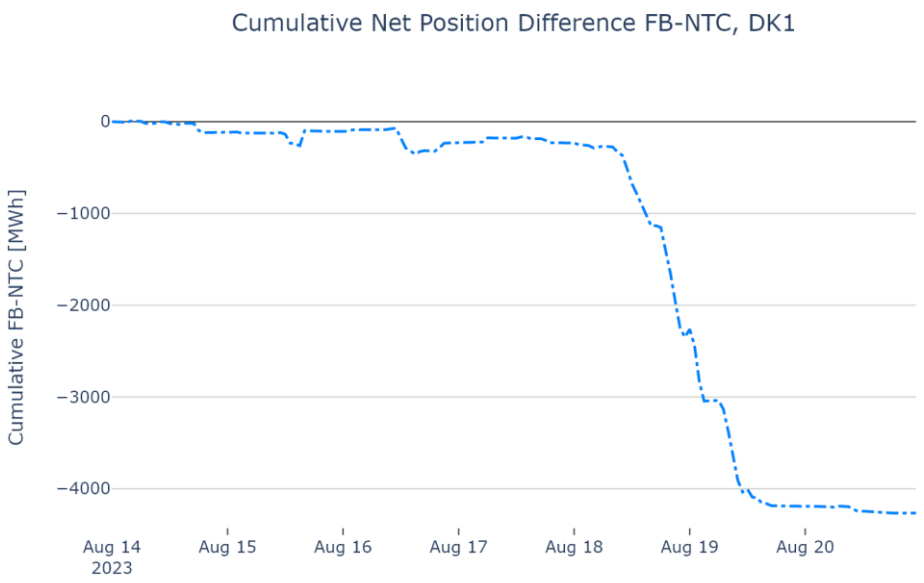


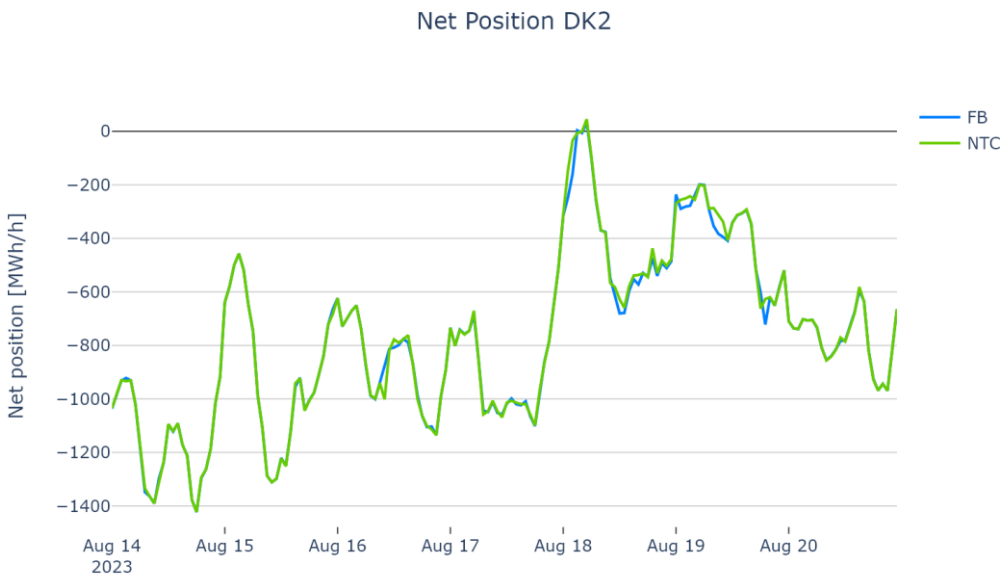
Denmark

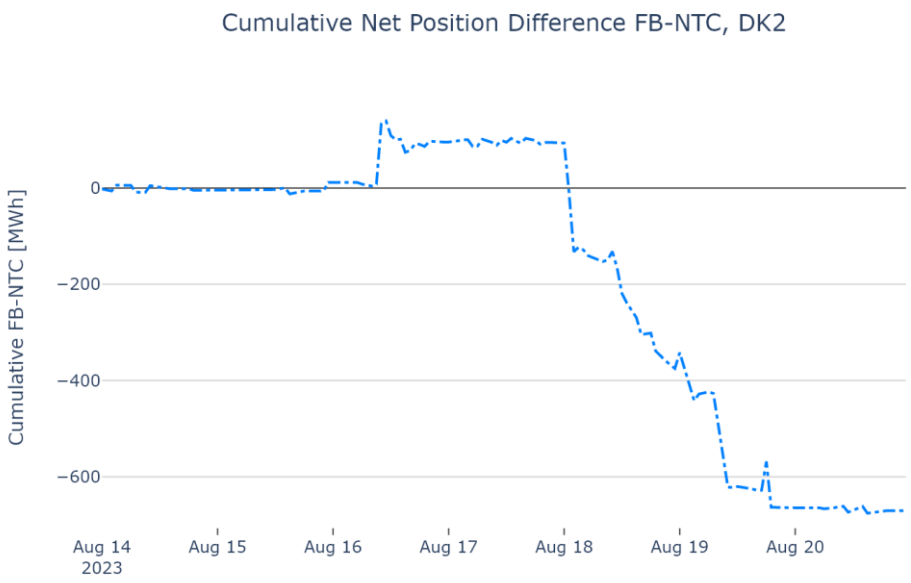

Total Net Position DK
FB
NTC
Net position [MWh/h]
2000
1000
0
−1000
−2000
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20


Cumulative Net Position Difference FB-NTC, DK
Cumulative FB-NTC [MWh]
0
−1000
−2000
−3000
−4000
−5000
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

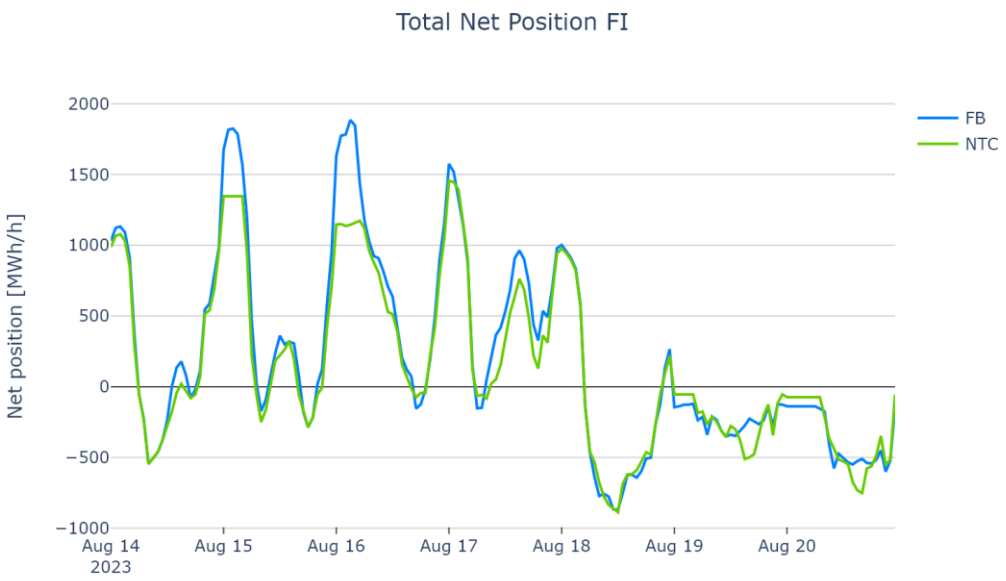

Net Position DK1
Net position [MWh/h]
2500
2000
1500
1000
500
0
−500
−1000
−1500
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20
FB
NTC

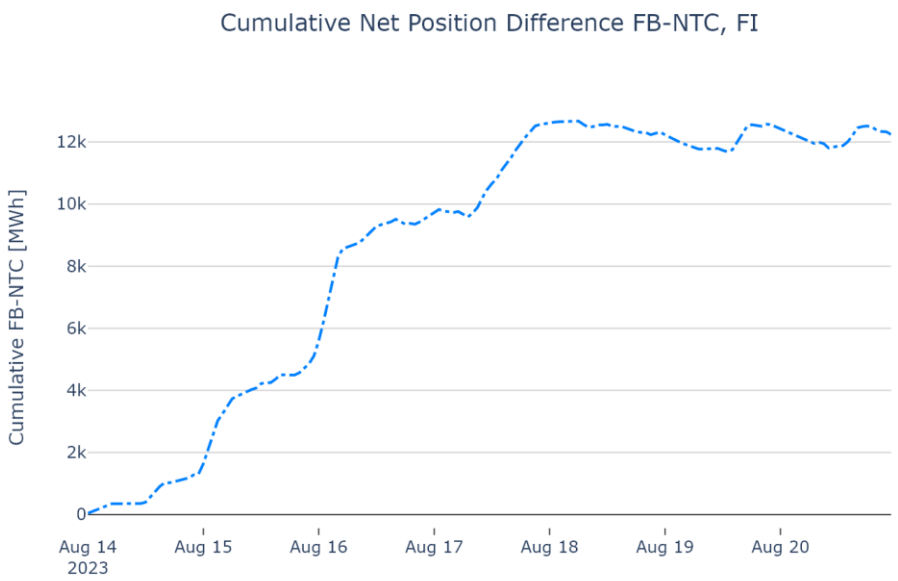

Cumulative Net Position Difference FB-NTC, DK1
Cumulative FB-NTC [MWh]
0
−1000
−2000
−3000
−4000
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20


Net Position DK2
FB
NTC
Net position [MWh/h]
0
−200
−400
−600
−800
−1000
−1200
−1400
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

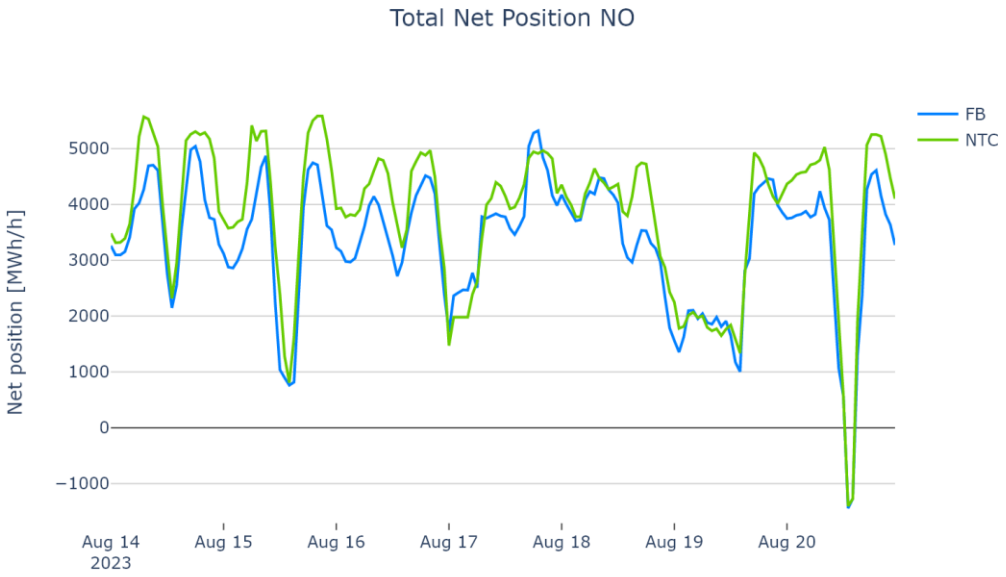

Cumulative Net Position Difference FB-NTC, DK2
Cumulative FB-NTC [MWh]
0
−200
−400
−600
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

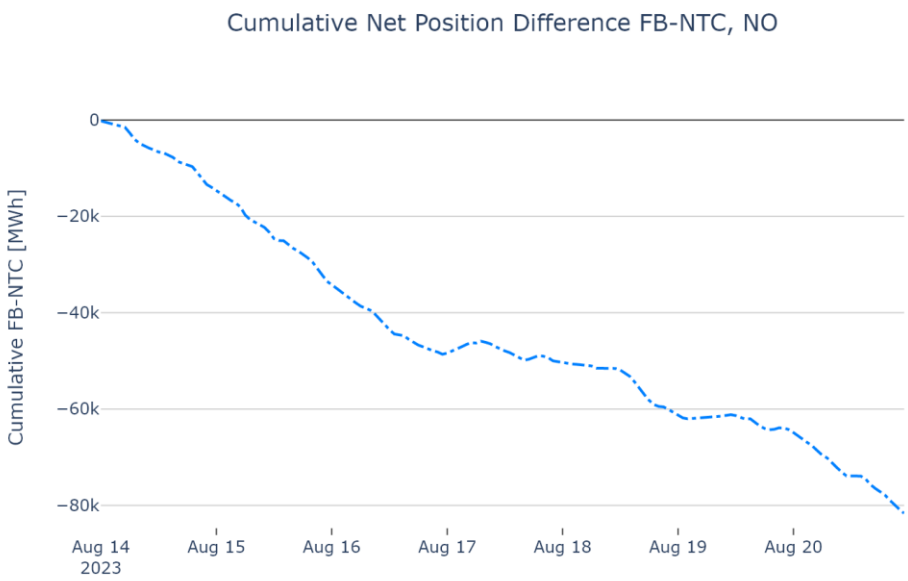
Finland

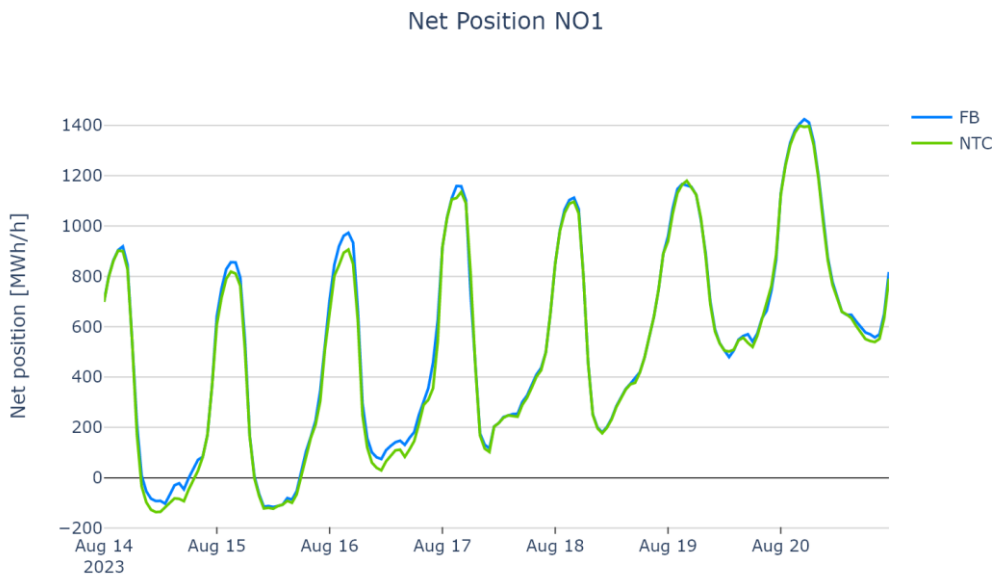

Total Net Position FI
Net position [MWh/h]
2000
1500
1000
500
0
−500
−1000
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20
FB
NTC

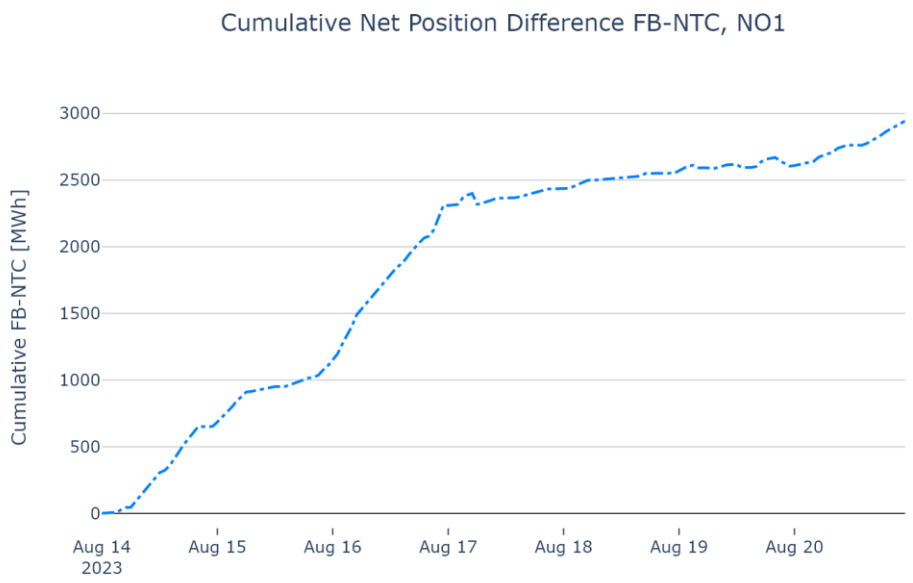

Cumulative Net Position Difference FB-NTC, FI
Cumulative FB-NTC [MWh]
12k
10k
8k
6k
4k
2k
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

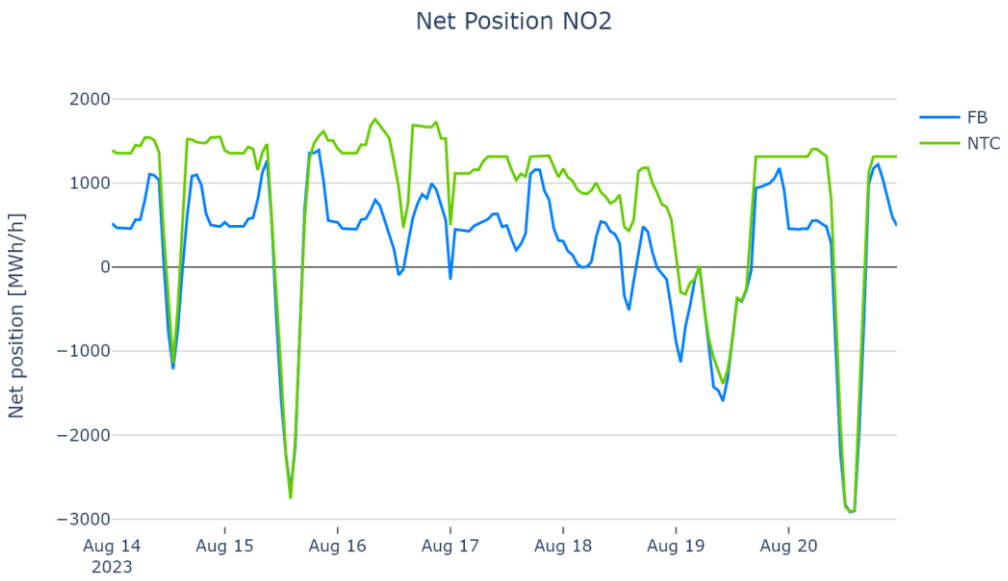
Norway

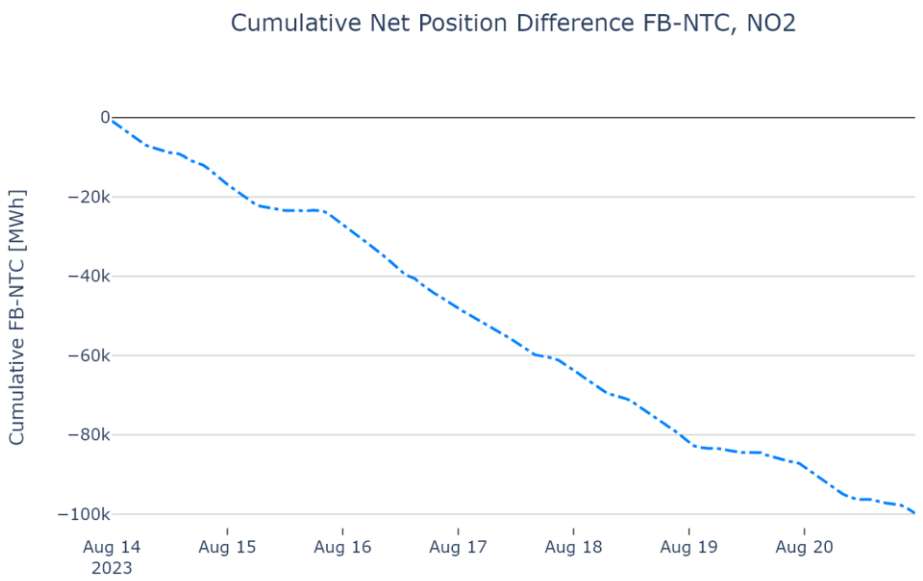

Total Net Position NO
FB
NTC
Net position [MWh/h]
5000
4000
3000
2000
1000
0
−1000
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

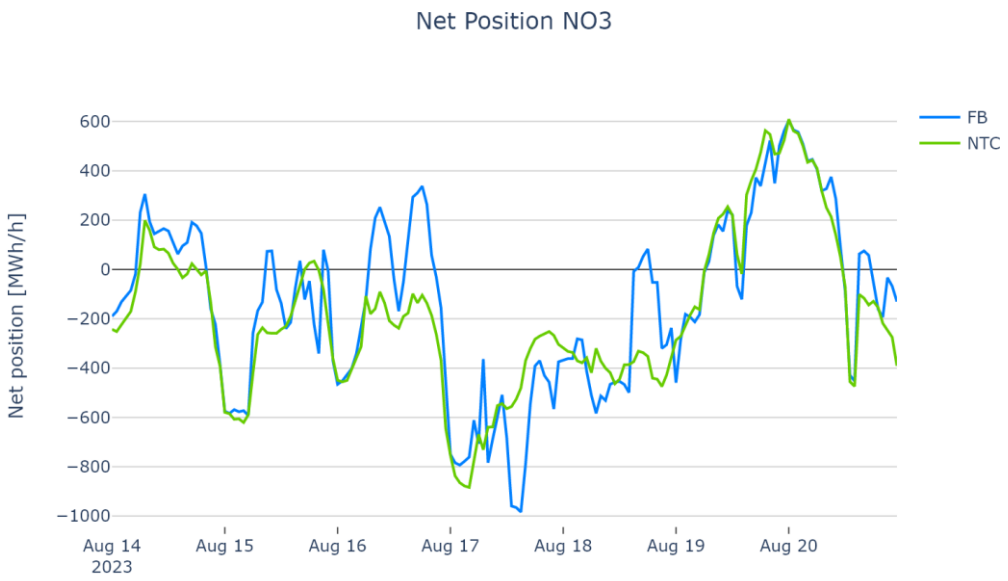

Cumulative Net Position Difference FB-NTC, NO
Cumulative FB-NTC [MWh]
0
−20k
−40k
−60k
−80k
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

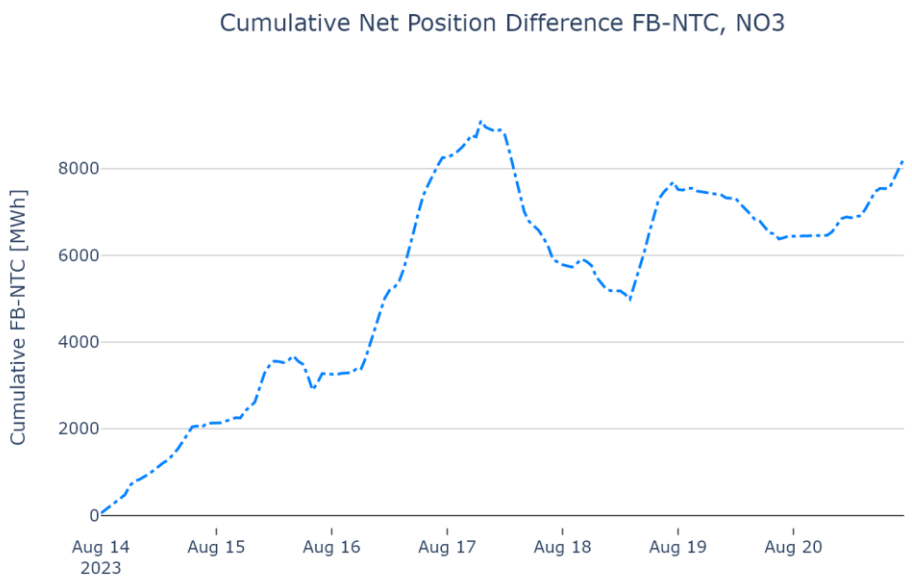

Net Position NO1
FB
NTC
Net position [MWh/h]
1400
1200
1000
800
600
400
200
0
−200
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

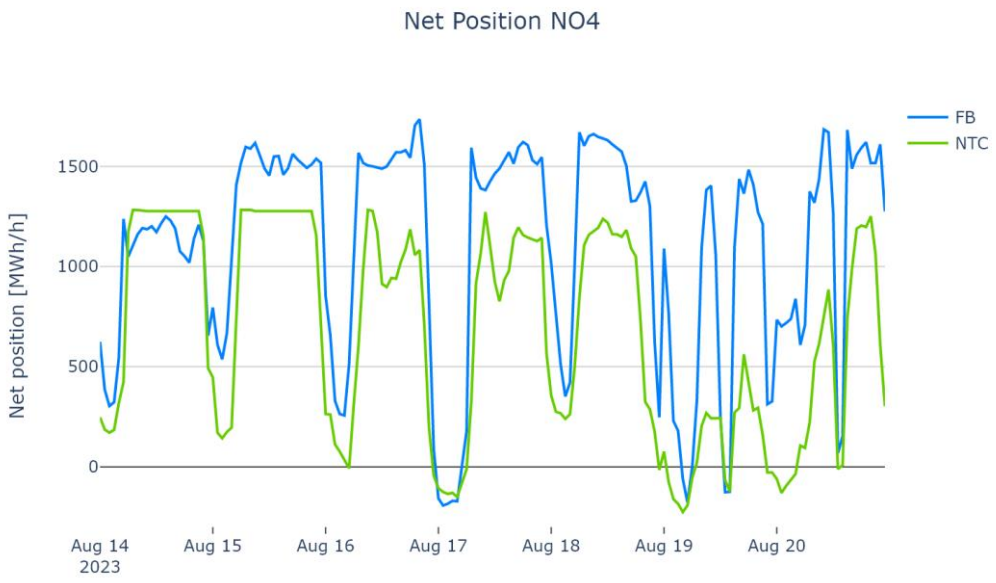

Cumulative Net Position Difference FB-NTC, NO1
Cumulative FB-NTC [MWh]
3000
2500
2000
1500
1000
500
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

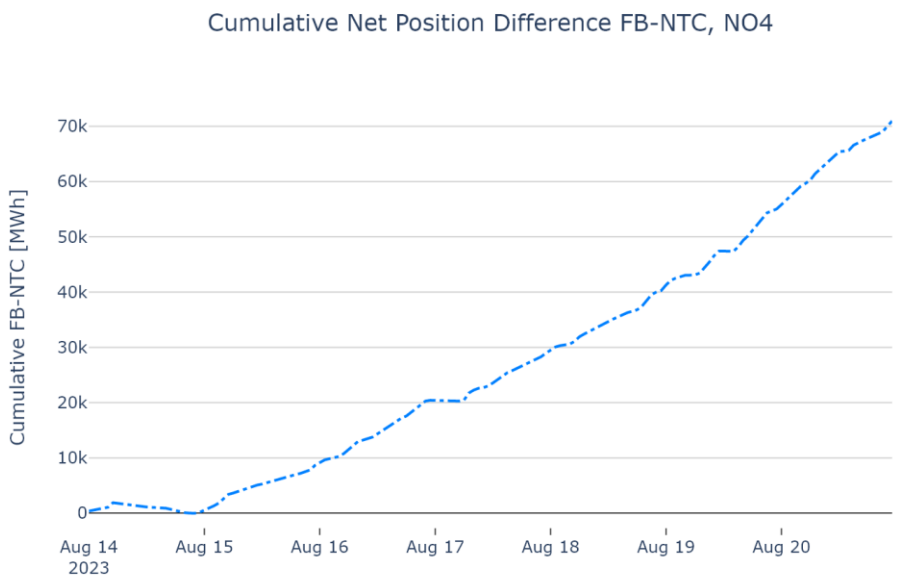

Net Position NO2
Net position [MWh/h]
2000
1000
0
−1000
−2000
−3000
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20
FB
NTC

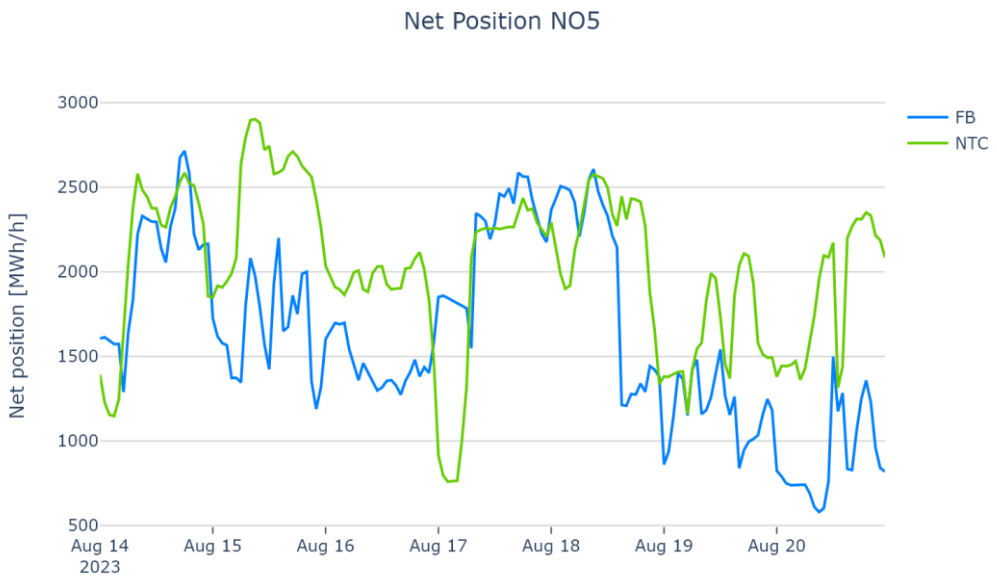

Cumulative Net Position Difference FB-NTC, NO2
Cumulative FB-NTC [MWh]
0
−20k
−40k
−60k
−80k
−100k
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

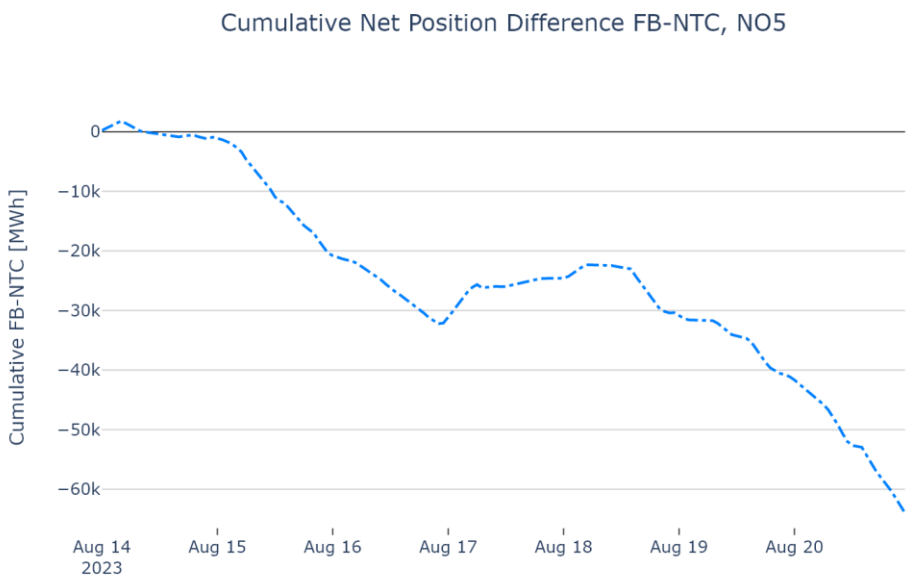

Net Position NO3
FB
NTC
Net position [MWh/h]
600
400
200
0
−200
−400
−600
−800
−1000
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20


Cumulative Net Position Difference FB-NTC, NO3
Cumulative FB-NTC [MWh]
8000
6000
4000
2000
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

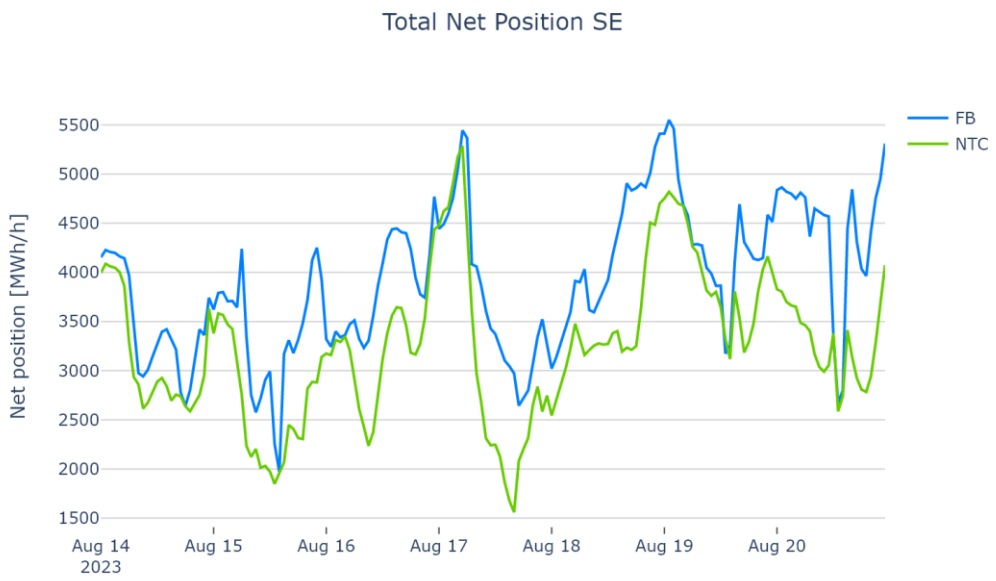

Net Position NO4
FB
NTC
Net position [MWh/h]
1500
1000
500
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

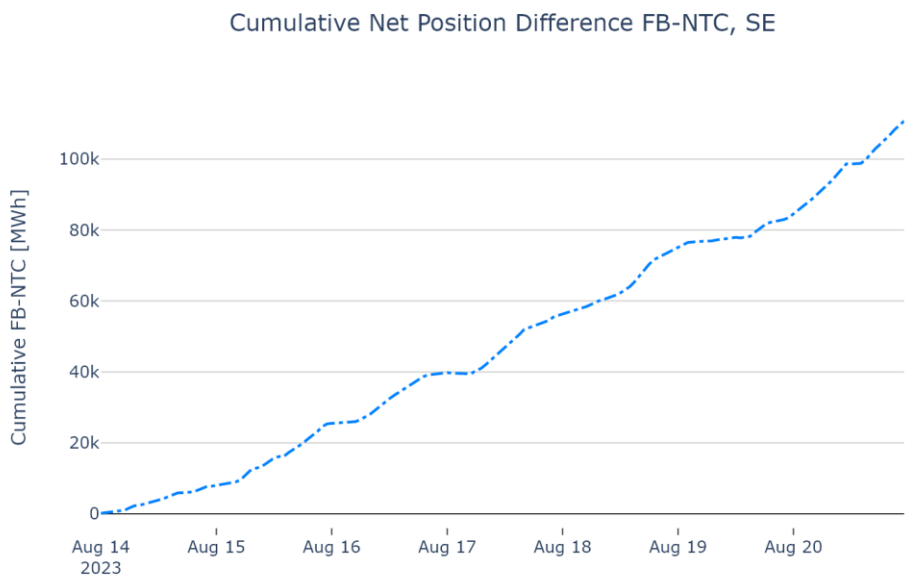

Cumulative Net Position Difference FB-NTC, NO4
Cumulative FB-NTC [MWh]
70k
60k
50k
40k
30k
20k
10k
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

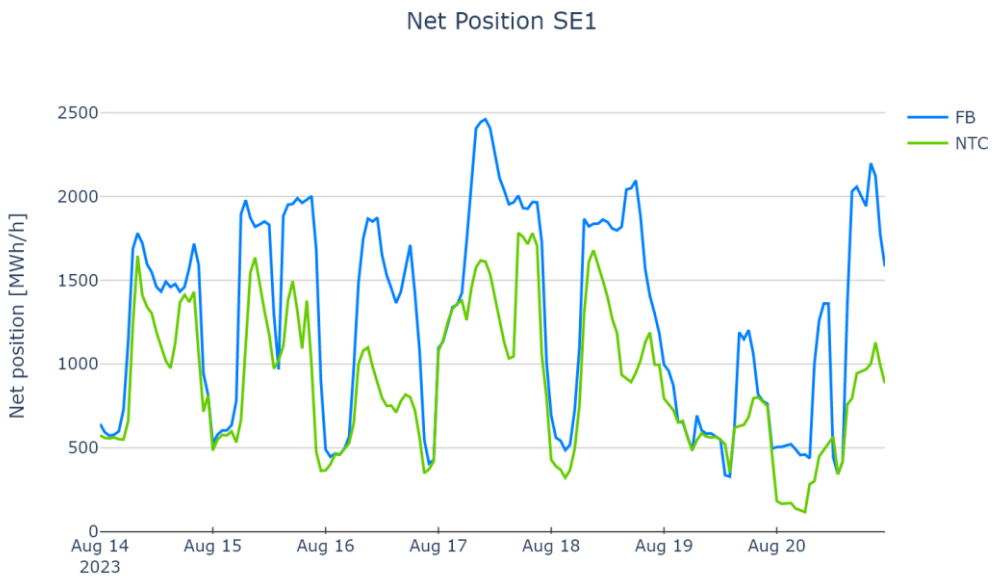

Net Position NO5
Net position [MWh/h]
3000
2500
2000
1500
1000
500
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20
FB
NTC

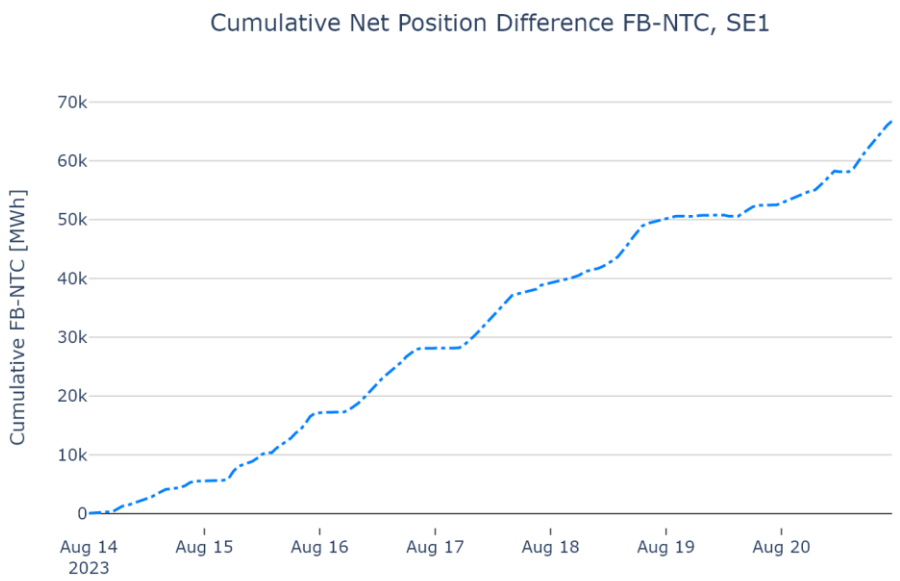

Cumulative Net Position Difference FB-NTC, NO5
Cumulative FB-NTC [MWh]
0
−10k
−20k
−30k
−40k
−50k
−60k
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

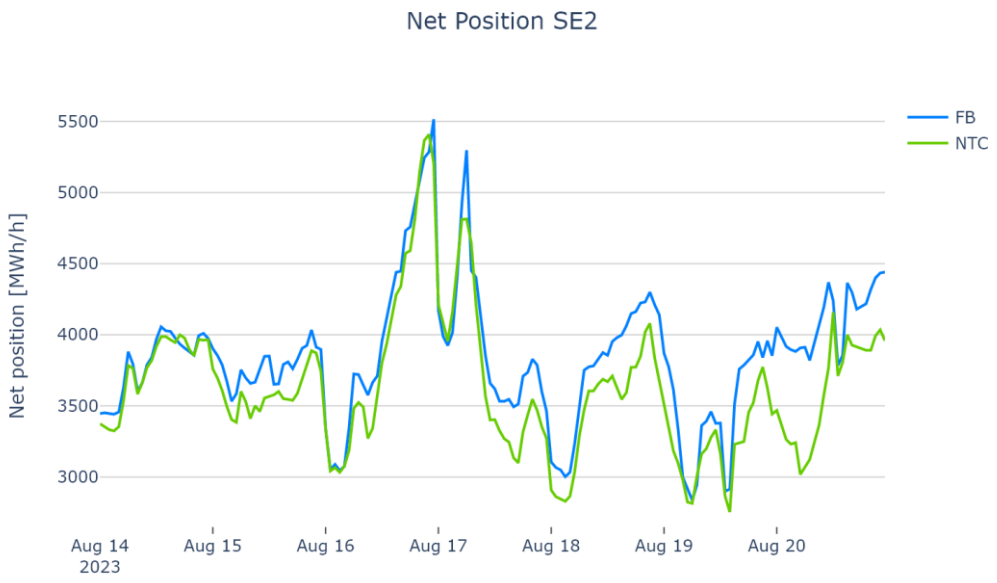
Sweden

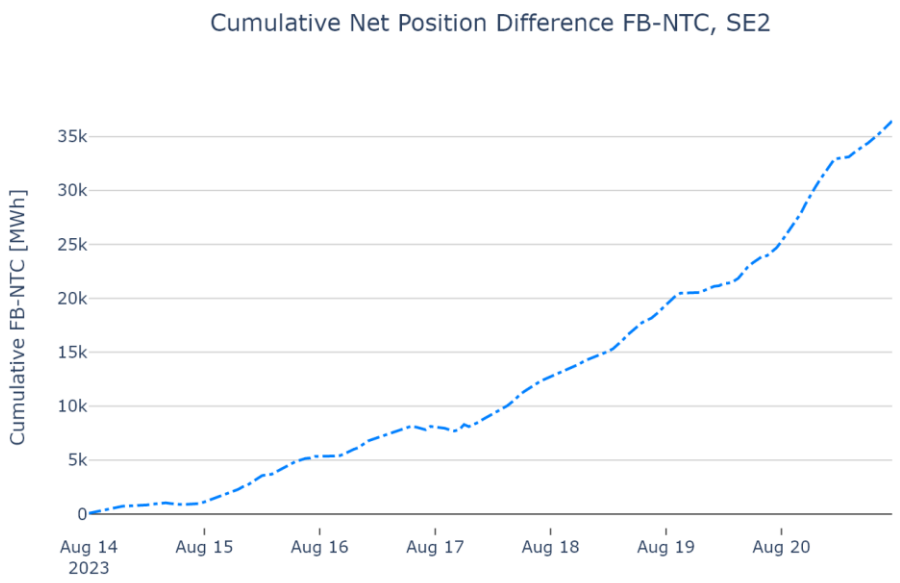

Total Net Position SE
FB
NTC
Net position [MWh/h]
5500
5000
4500
4000
3500
3000
2500
2000
1500
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

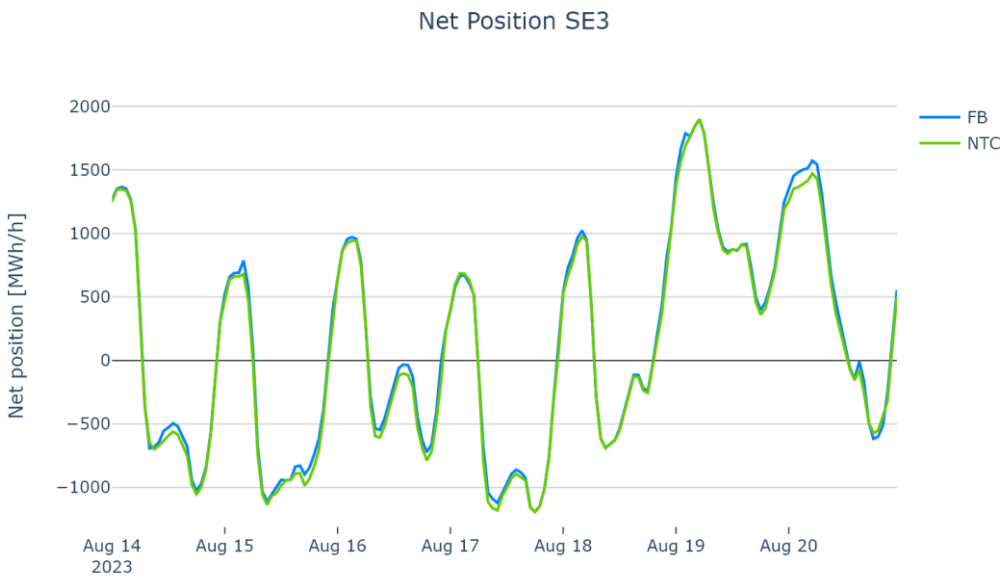

Cumulative Net Position Difference FB-NTC, SE
Cumulative FB-NTC [MWh]
100k
80k
60k
40k
20k
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

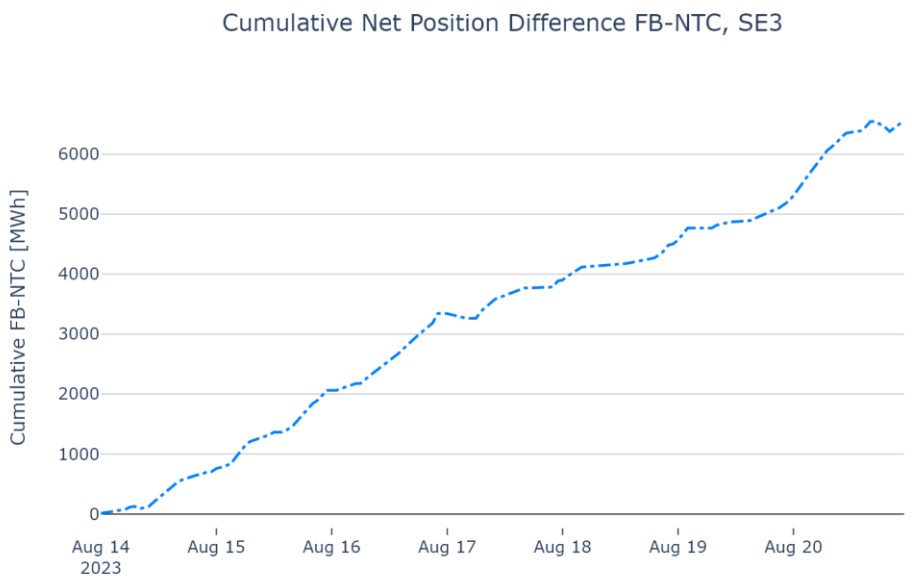

Net Position SE1
Net position [MWh/h]
2500
2000
1500
1000
500
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20
FB
NTC

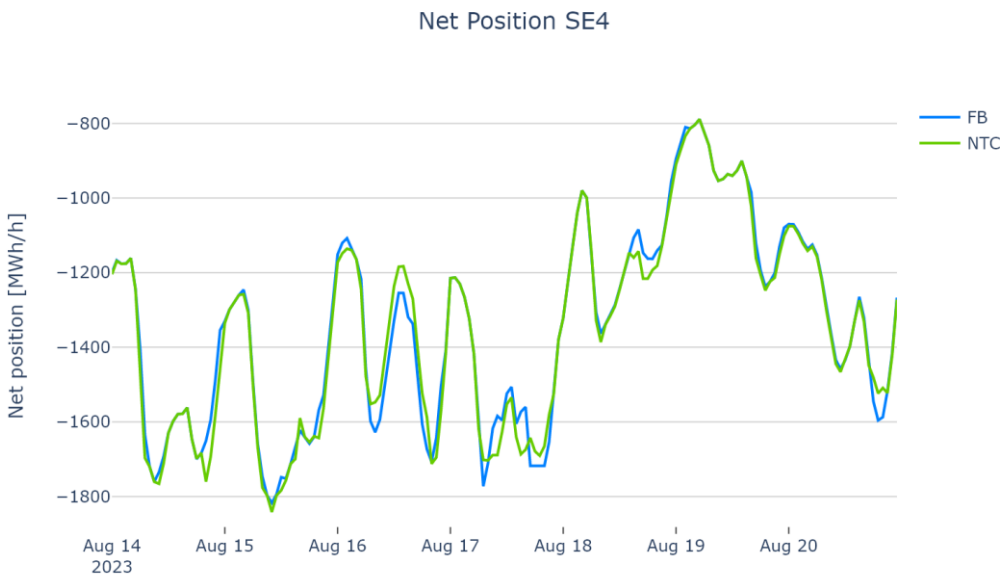

Cumulative Net Position Difference FB-NTC, SE1
Cumulative FB-NTC [MWh]
70k
60k
50k
40k
30k
20k
10k
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

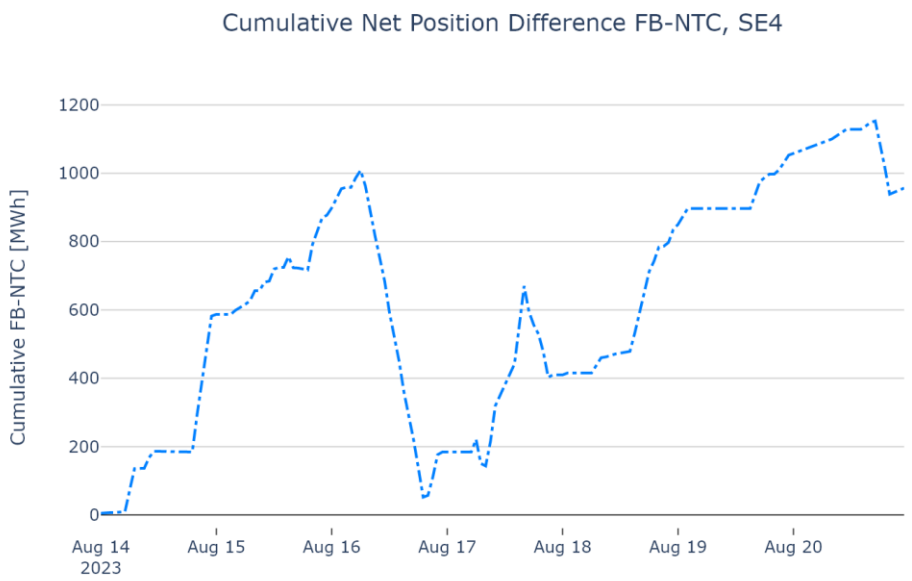

Net Position SE2
FB
NTC
Net position [MWh/h]
5500
5000
4500
4000
3500
3000
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20


Cumulative Net Position Difference FB-NTC, SE2
Cumulative FB-NTC [MWh]
35k
30k
25k
20k
15k
10k
5k
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20


Net Position SE3
Net position [MWh/h]
2000
1500
1000
500
0
−500
−1000
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20
FB
NTC

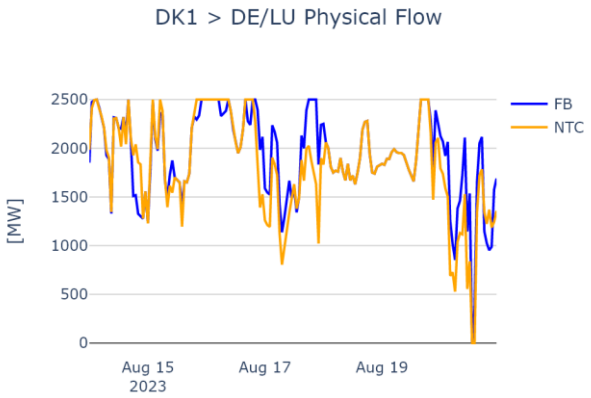

Cumulative Net Position Difference FB-NTC, SE3
Cumulative FB-NTC [MWh]
6000
5000
4000
3000
2000
1000
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

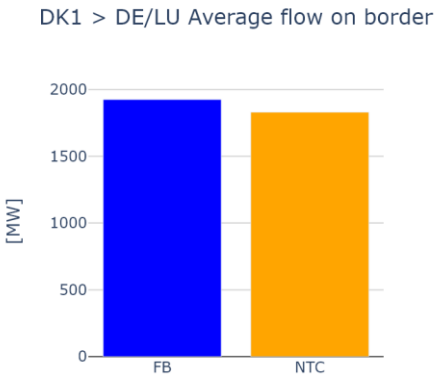

Net Position SE4
FB
NTC
Net position [MWh/h]
−800
−1000
−1200
−1400
−1600
−1800
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

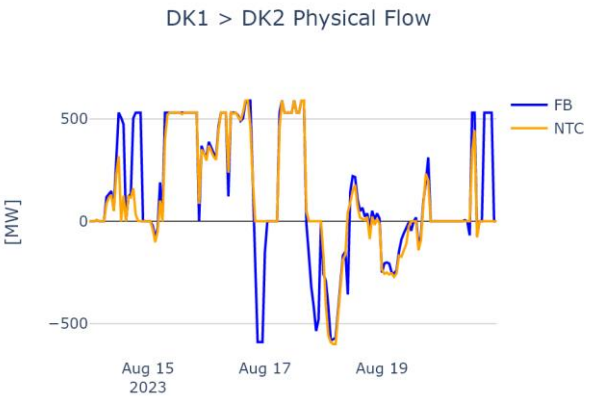

Cumulative Net Position Difference FB-NTC, SE4
Cumulative FB-NTC [MWh]
1200
1000
800
600
400
200
0
Aug 14
2023
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20

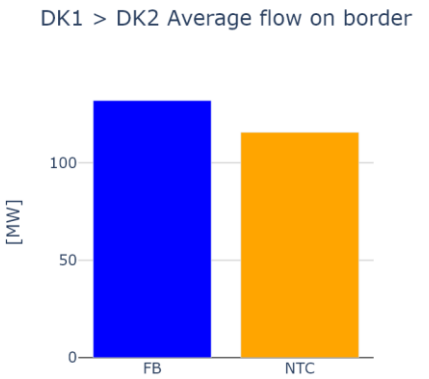
Border flow

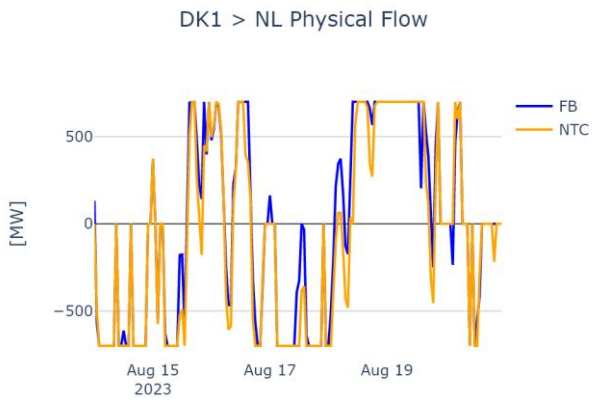
The flows present here, both in FB and NTC, represent the physical flow on the lines and are calculated as the product of the NP and the PTDF matrix. When comparing the NTC-results in this report with those present in the DA market there will be a difference as the DA flows are calculated without the use of PTDF matrixes and therefore the flow from DA will not yield the same result.

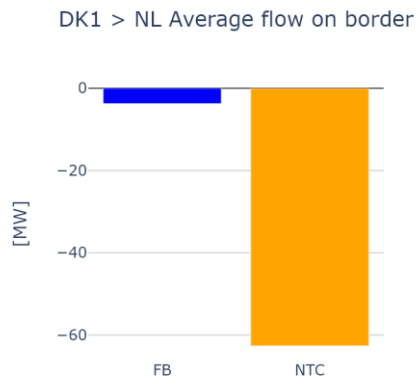


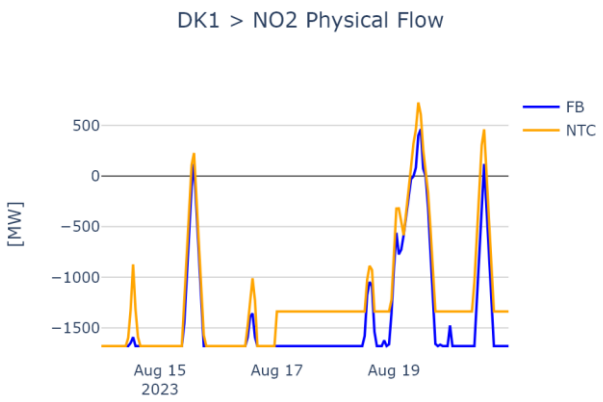


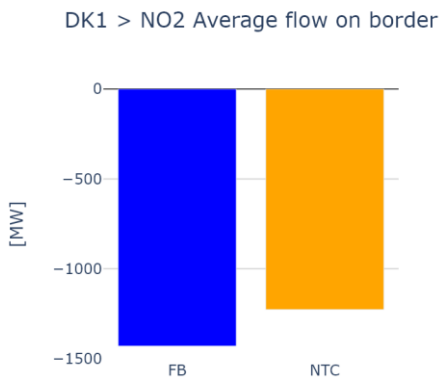


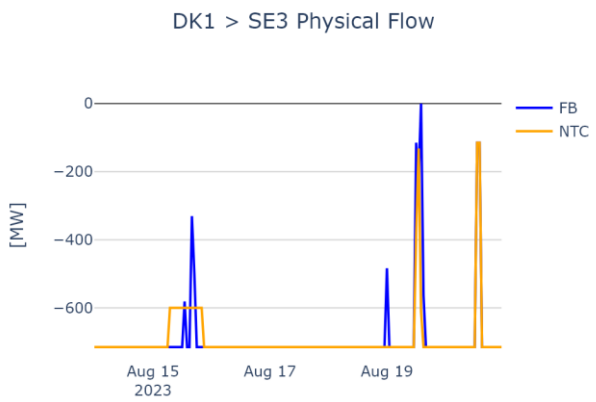


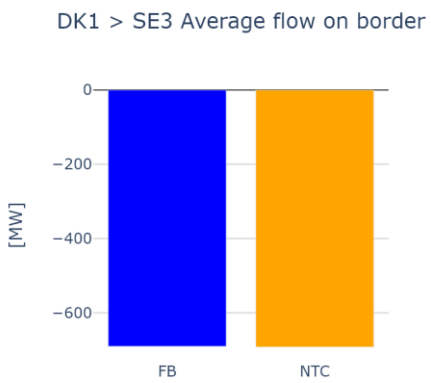

DK1 > NL Physical Flow
FB
NTC
[MW]
500
0
−500
Aug 15
2023
Aug 17
Aug 19


DK1 > NL Average flow on border
[MW]
0
−20
−40
−60
FB
NTC

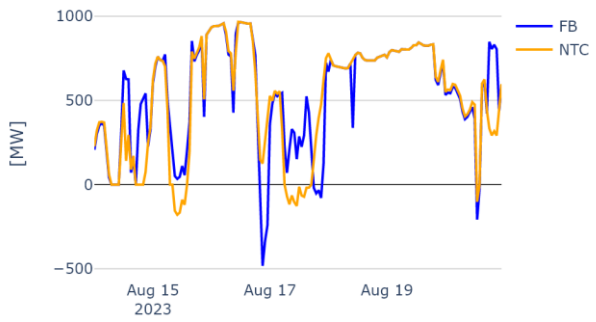

DK1 > NO2 Physical Flow
FB
NTC
[MW]
500
0
−500
−1000
−1500
Aug 15
2023
Aug 17
Aug 19


DK1 > NO2 Average flow on border
[MW]
0
−500
−1000
−1500
FB
NTC

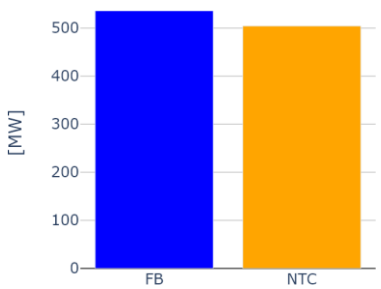

DK1 > SE3 Physical Flow
FB
NTC
[MW]
0
−200
−400
−600
Aug 15
2023
Aug 17
Aug 19


DK1 > SE3 Average flow on border
[MW]
0
−200
−400
−600
FB
NTC

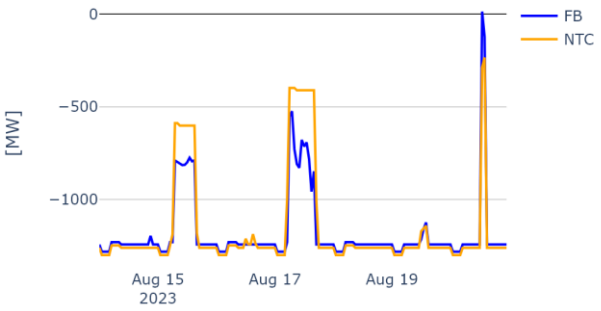
DK2 > DE/LU Physical Flow



DK2 > DE/LU Average flow on border

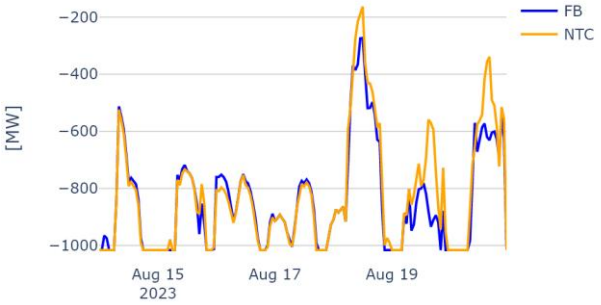


DK2 > SE4 Physical Flow

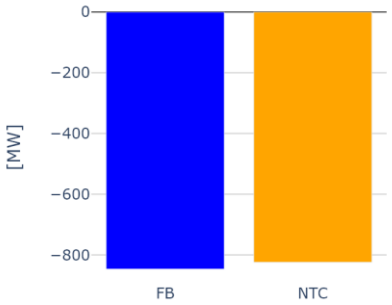


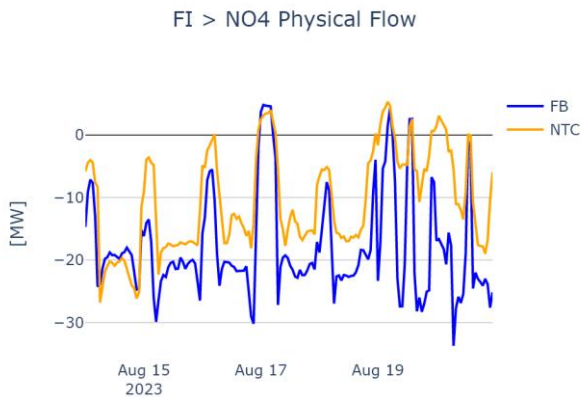
DK2 > SE4 Average flow on border

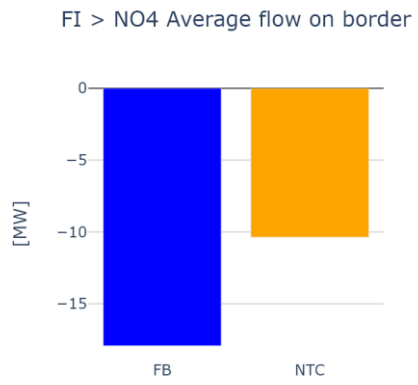
EE > FI Physical Flow

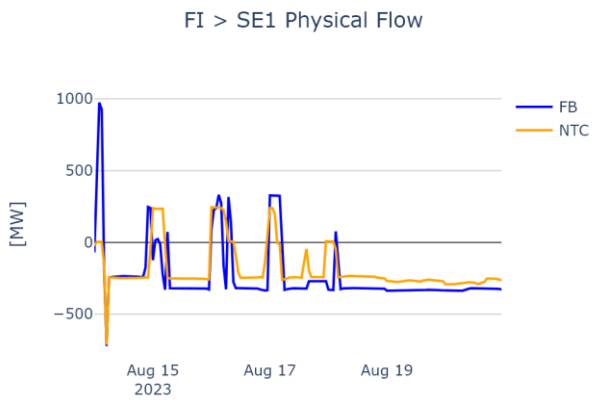


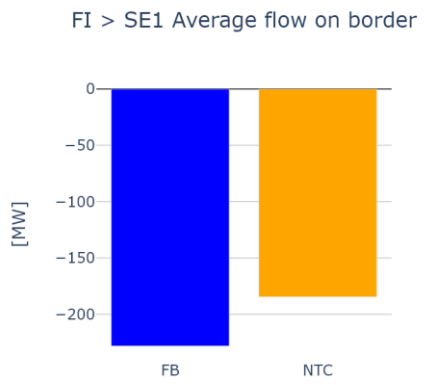
EE > FI Average flow on border

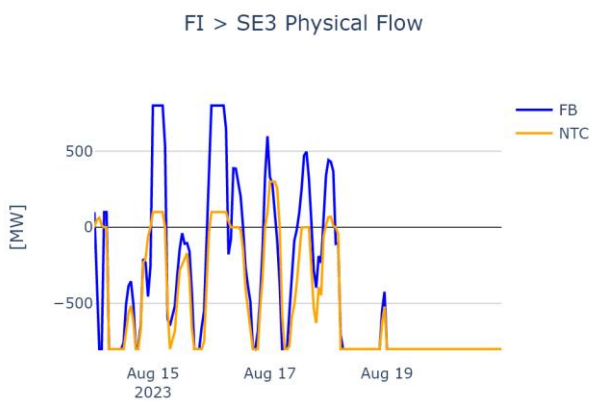


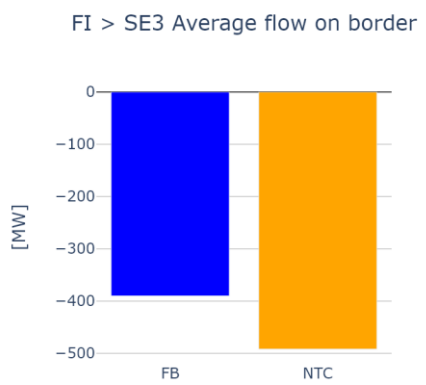

FI > NO4 Physical Flow
FB
NTC
[MW]
0
−10
−20
−30
Aug 15
2023
Aug 17
Aug 19

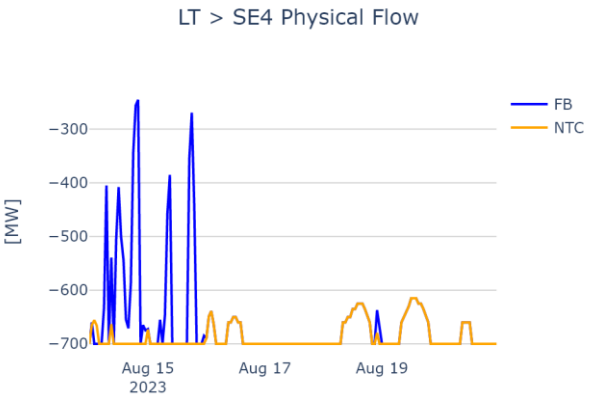

FI > NO4 Average flow on border
[MW]
0
−5
−10
−15
FB
NTC

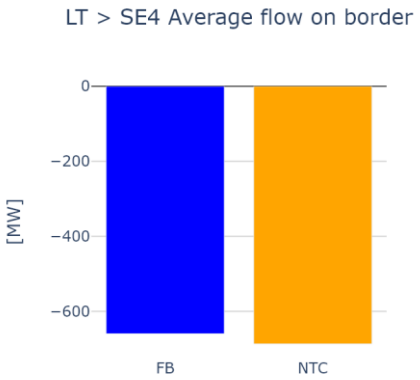

FI > SE1 Physical Flow
FB
NTC
[MW]
1000
500
0
−500
Aug 15
2023
Aug 17
Aug 19

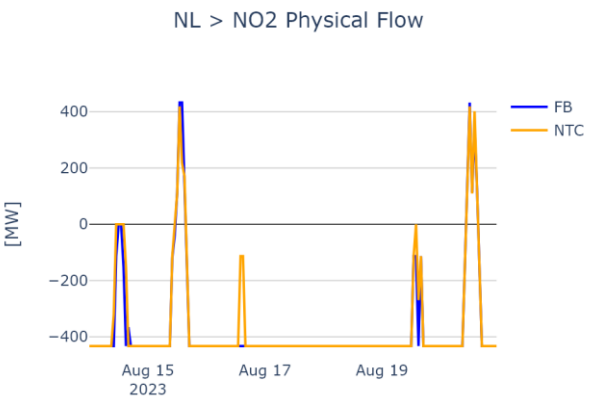

FI > SE1 Average flow on border
[MW]
0
−50
−100
−150
−200
FB
NTC

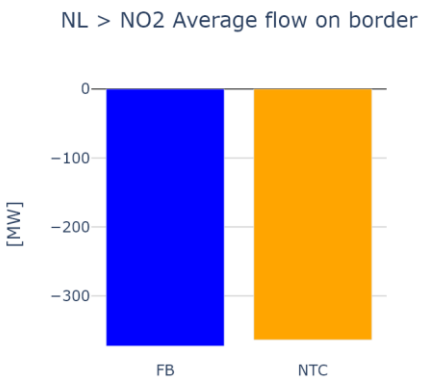

FI > SE3 Physical Flow
FB
NTC
[MW]
500
0
−500
Aug 15
2023
Aug 17
Aug 19

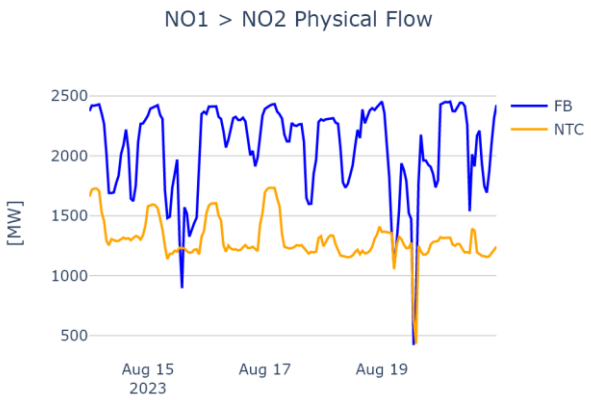

FI > SE3 Average flow on border
[MW]
0
−100
−200
−300
−400
−500
FB
NTC

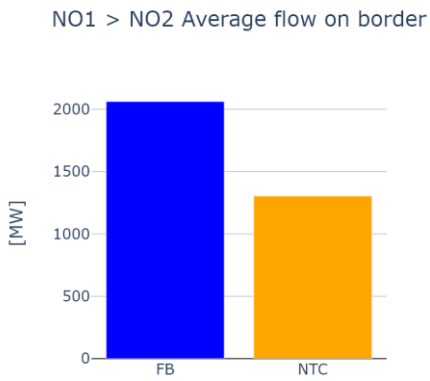

LT > SE4 Physical Flow
FB
NTC
[MW]
−300
−400
−500
−600
−700
Aug 15
2023
Aug 17
Aug 19

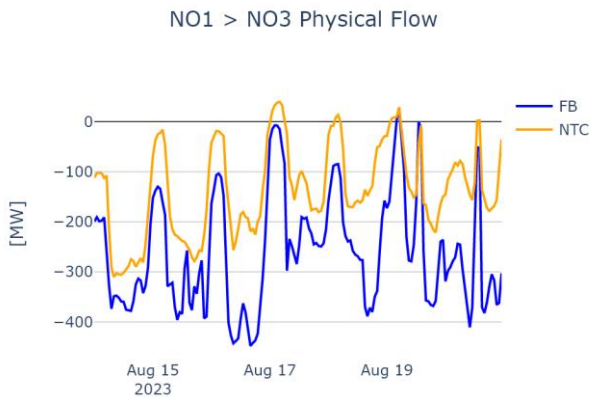

LT > SE4 Average flow on border
[MW]
0
−200
−400
−600
FB
NTC

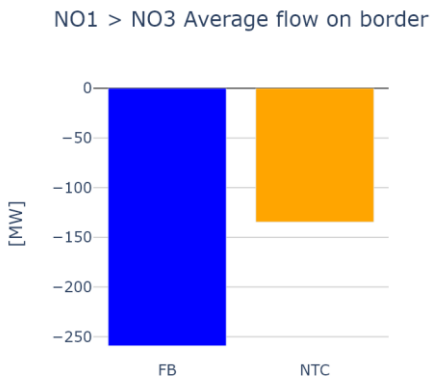

NL > NO2 Physical Flow
FB
NTC
[MW]
400
200
0
−200
−400
Aug 15
2023
Aug 17
Aug 19


NL > NO2 Average flow on border
[MW]
0
−100
−200
−300
FB
NTC


NO1 > NO2 Physical Flow
FB
NTC
[MW]
2500
2000
1500
1000
500
Aug 15
2023
Aug 17
Aug 19


NO1 > NO2 Average flow on border
[MW]
2000
1500
1000
500
0
FB
NTC


NO1 > NO3 Physical Flow
FB
NTC
[MW]
0
−100
−200
−300
−400
Aug 15
2023
Aug 17
Aug 19


NO1 > NO3 Average flow on border
[MW]
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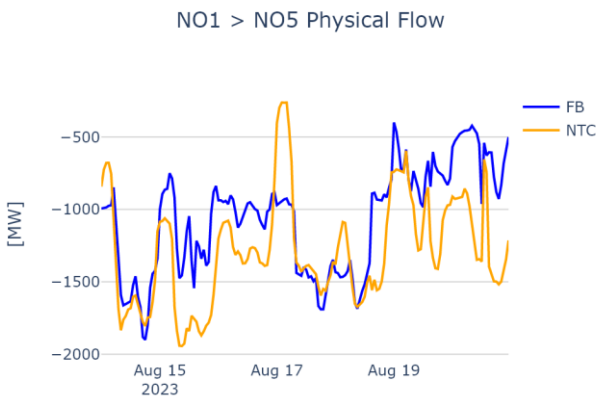
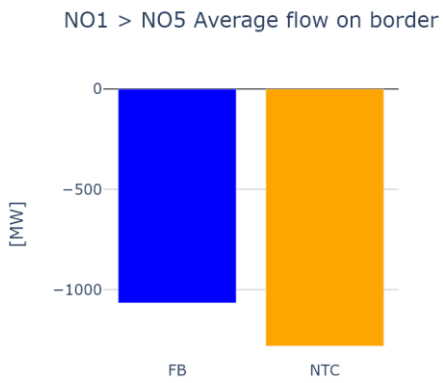
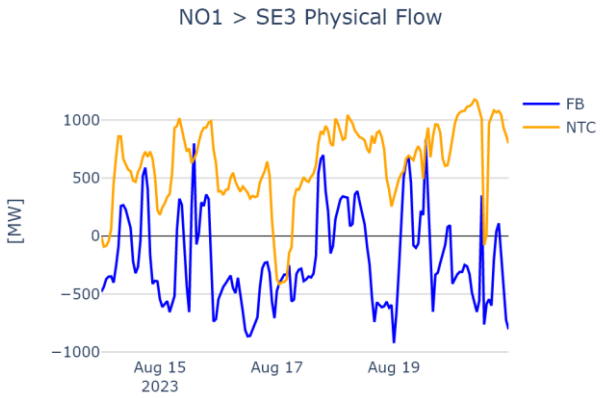
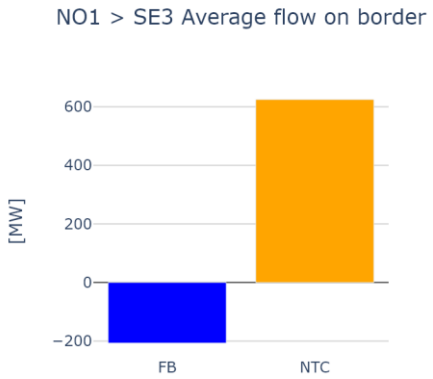
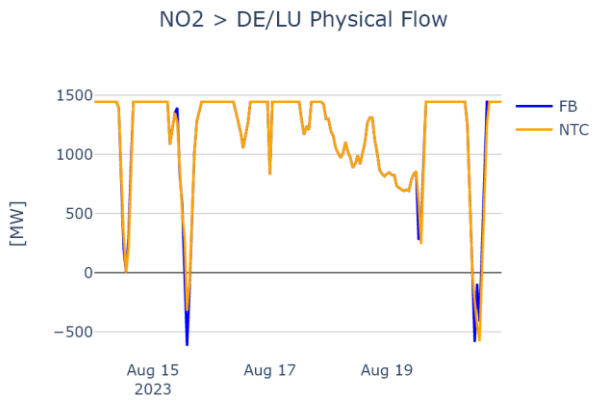
−200
−250
FB
NTC

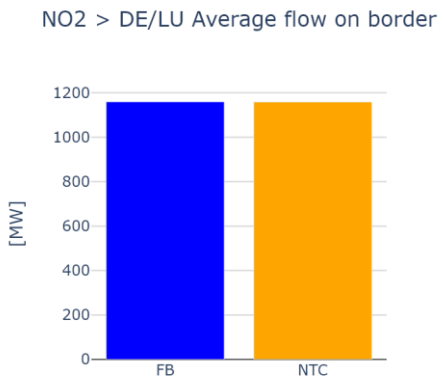

NO1 > NO5 Physical Flow
FB
NTC
[MW]
−500
−1000
−1500
−2000
Aug 15
2023
Aug 17
Aug 19

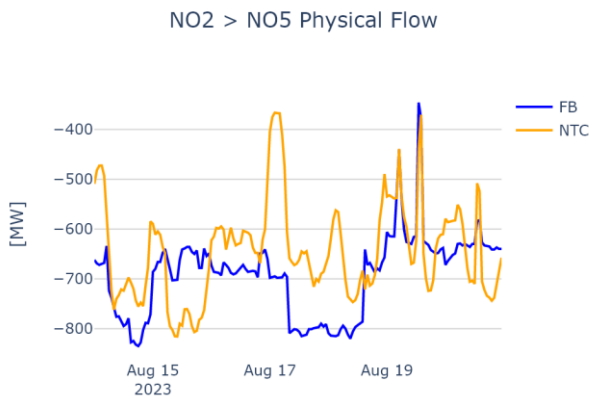

NO1 > NO5 Average flow on border
[MW]
0
−500
−1000
FB
NTC

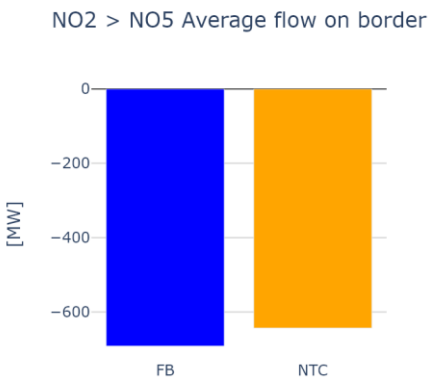

NO1 > SE3 Physical Flow
FB
NTC
[MW]
1000
500
0
−500
−1000
Aug 15
2023
Aug 17
Aug 19

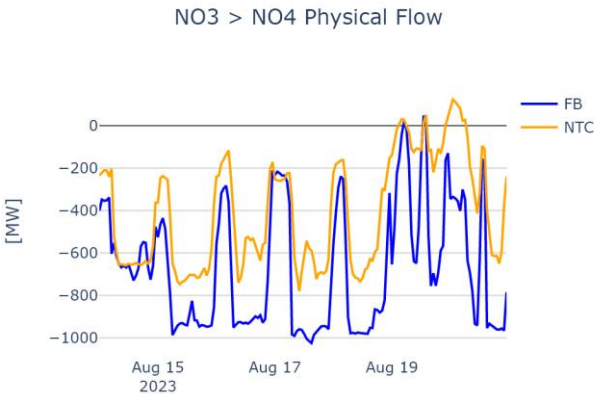

NO1 > SE3 Average flow on border
[MW]
600
400
200
0
−200
FB
NTC

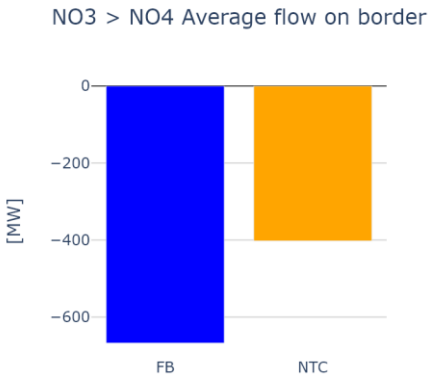

NO2 > DE/LU Physical Flow
1500
1000
500
0
−500
[MW]
Aug 15
2023
Aug 17
Aug 19
FB
NTC


NO2 > DE/LU Average flow on border
1200
1000
800
600
400
200
0
[MW]
FB
NTC

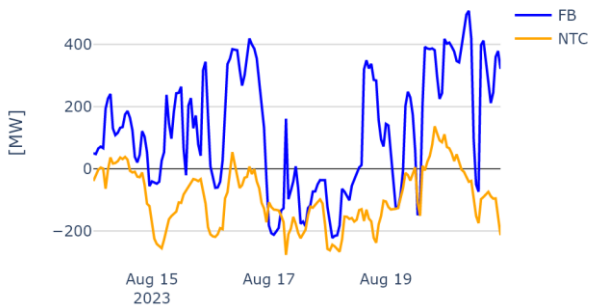

NO2 > NO5 Physical Flow
−400
−500
−600
−700
−800
[MW]
Aug 15
2023
Aug 17
Aug 19
FB
NTC


NO2 > NO5 Average flow on border
0
−200
−400
−600
[MW]
FB
NTC

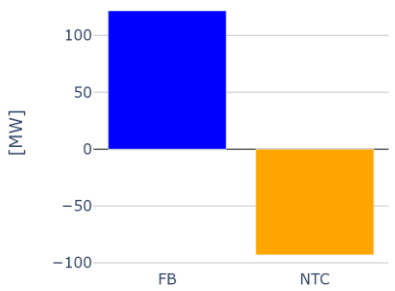

NO3 > NO4 Physical Flow
0
−200
−400
−600
−800
−1000
[MW]
Aug 15
2023
Aug 17
Aug 19
FB
NTC


NO3 > NO4 Average flow on border
0
−200
−400
−600
[MW]
FB
NTC

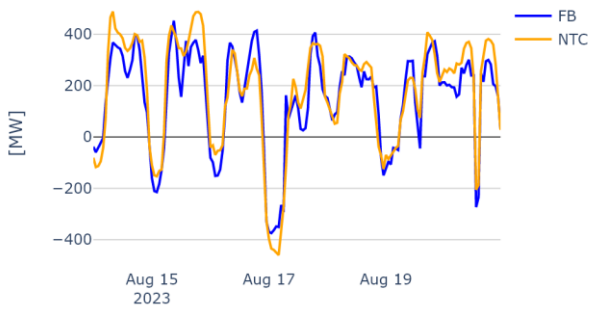
NO3 > NO5 Physical Flow



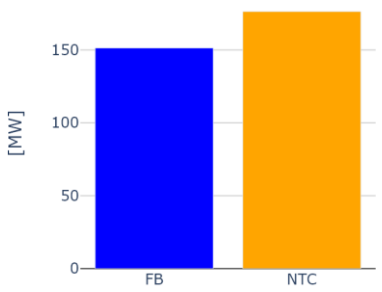
NO3 > NO5 Average flow on border



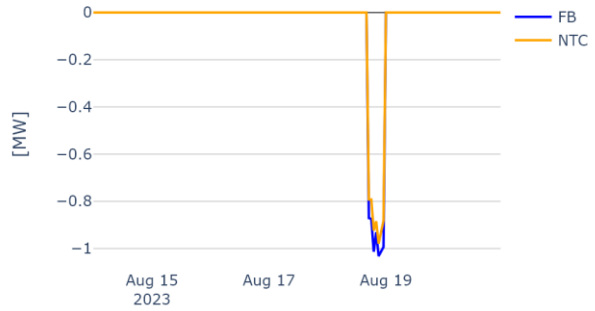
NO3 > SE2 Physical Flow



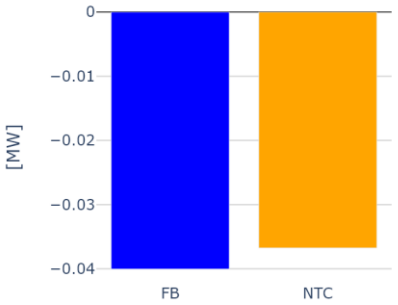
NO3 > SE2 Average flow on border

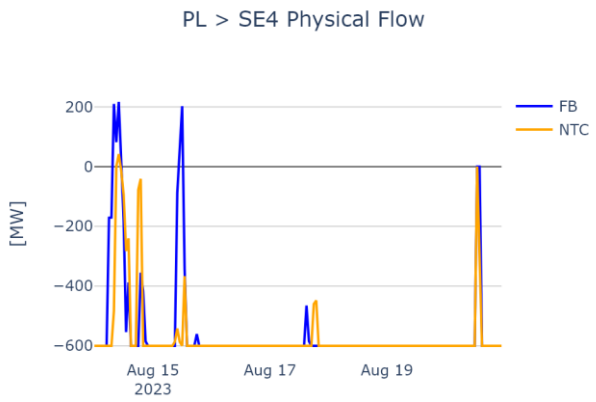


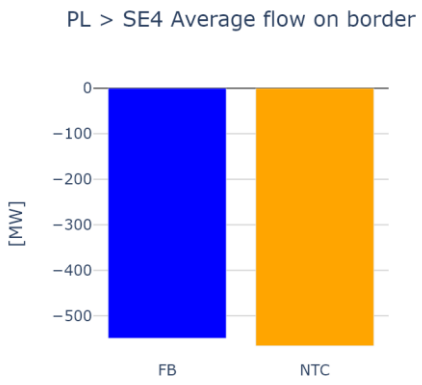
NO4 > SE2 Physical Flow

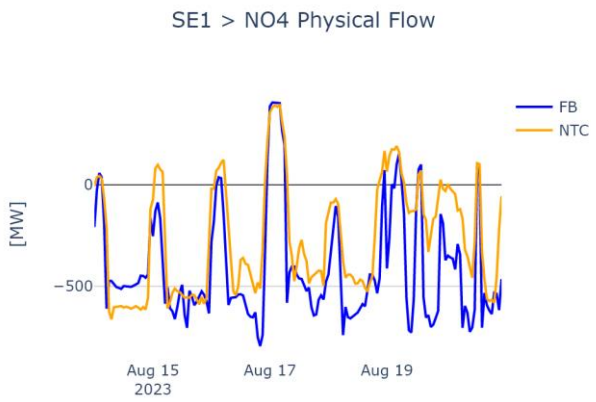


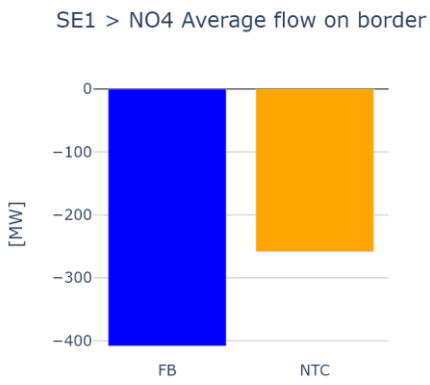
NO4 > SE2 Average flow on border

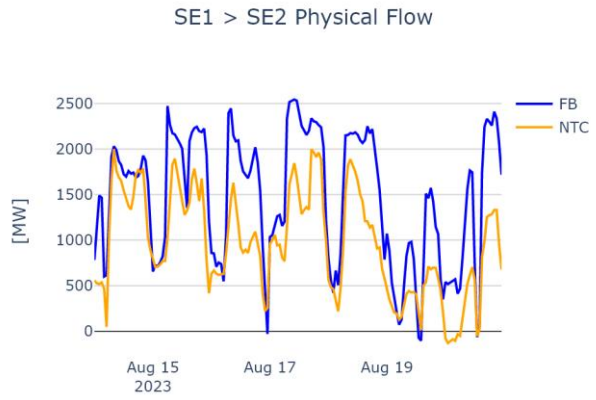


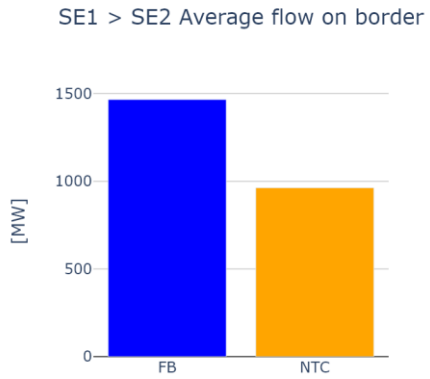

PL > SE4 Physical Flow
200
0
−200
−400
−600
[MW]
Aug 15
2023
Aug 17
Aug 19
FB
NTC


PL > SE4 Average flow on border
0
−100
−200
−300
−400
−500
[MW]
FB
NTC

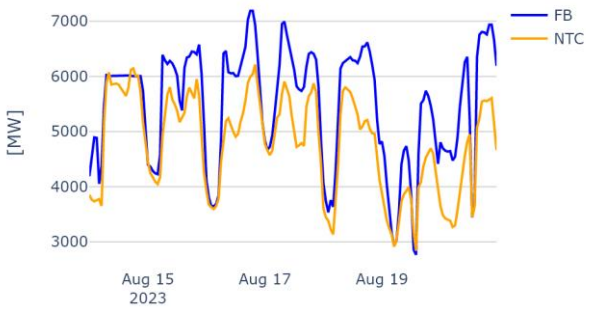

SE1 > NO4 Physical Flow
0
−500
[MW]
Aug 15
2023
Aug 17
Aug 19
FB
NTC


SE1 > NO4 Average flow on border
0
−100
−200
−300
−400
[MW]
FB
NTC

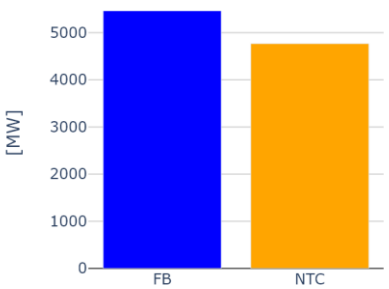

SE1 > SE2 Physical Flow
2500
2000
1500
1000
500
0
[MW]
Aug 15
2023
Aug 17
Aug 19
FB
NTC


SE1 > SE2 Average flow on border
1500
1000
500
0
[MW]
FB
NTC

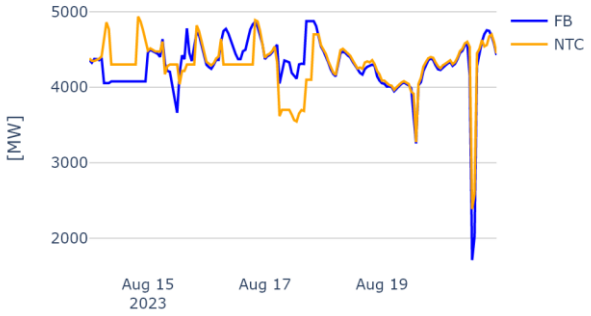
SE2 > SE3 Physical Flow



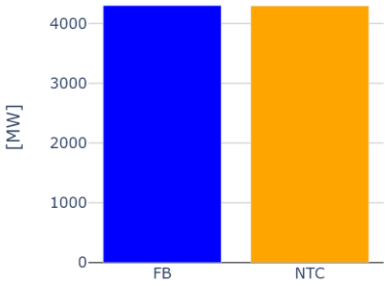
SE2 > SE3 Average flow on border



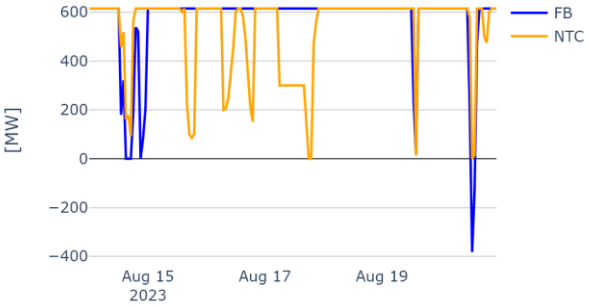
SE3 > SE4 Physical Flow



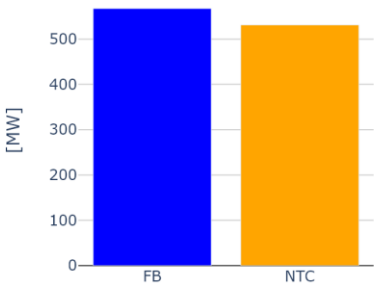
SE3 > SE4 Average flow on border



SE4 > DE/LU Physical Flow



SE4 > DE/LU Average flow on border



Flows per border (FB)

Values are rounded to the nearest integer.

Border	Congestion Income (total)	Avg. Price Spread
DK1 > DE/LU	2958555	9
DK1 > DK2	37789	0
DK1 > NL	1068694	9
DK1 > NO2	6701841	26
DK1 > SE3	6966685	58
DK2 > DE/LU	1162902	9
DK2 > SE4	9687195	47
EE > FI	2676533	16
FI > NO4	170514	44
FI > SE1	2326069	44
FI > SE3	4881693	36
LT > SE4	8277788	72
NL > NO2	2127678	33
NO1 > NO2	11616323	32
NO1 > NO3	737475	14
NO1 > NO5	3733461	20
NO1 > SE3	193286	3
NO2 > DE/LU	6822229	35
NO2 > NO5	5999165	51
NO3 > NO4	-45953	0
NO3 > NO5	-370968	-8
NO3 > SE2	228622	6
NO4 > SE2	-55	0
PL > SE4	6025912	60
SE1 > NO4	499280	5
SE1 > SE2	120696	0
SE2 > SE3	8531864	8
SE3 > SE4	7898099	11
SE4 > DE/LU	5550548	56

Non-Intuitive flows (FB)

Values are rounded to the nearest integer.

Border	Pct. of non-intuitive flows	Negative congestion income	Avg. price spread for non-intuitive flows
DK1 > DE/LU	0	0	0
DK1 > DK2	7	-56	0
DK1 > NL	1	-125	0
DK1 > NO2	8	-88719	-6
DK1 > SE3	2	-3478	-2
DK2 > DE/LU	20	-2376	0
DK2 > SE4	0	0	0
EE > FI	0	0	0
FI > NO4	6	-840	-37
FI > SE1	6	-470	-1
FI > SE3	26	-86138	-5
LT > SE4	10	-2463	0
NL > NO2	1	-363	-1
NO1 > NO2	0	0	0
NO1 > NO3	4	-1707	-2
NO1 > NO5	5	-53569	-7
NO1 > SE3	30	-81034	-5
NO2 > DE/LU	1	-4983	-17
NO2 > NO5	0	0	0
NO3 > NO4	62	-327521	-4
NO3 > NO5	85	-372060	-10
NO3 > SE2	26	-26431	-3
NO4 > SE2	4	-55	-10
PL > SE4	7	-24832	-5
SE1 > NO4	15	-9463	-1
SE1 > SE2	30	-187308	-2
SE2 > SE3	6	-44481	-1
SE3 > SE4	4	-2075	0
SE4 > DE/LU	0	0	0