

# 2023w18 ATC Extraction Results

Nordic RCC

June 14, 2023

## Comments to week 18 results

During week 18 a CNEC with 0 RAM was mistakenly included among the flow-based parameters for EDDs 2nd through 5th of May. This 0 RAM CNEC resulted in 0 NTC on NO4-SE1 border for those days. The presence of this CNEC also coincides with calculation failure for some MTUs during that interval. ATCE backup was triggered for the failed MTUs as is evident from the border NTC plots.

# 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.

5 MTUs where ATCE failed have been excluded from the statistics.

Bidding zone	#MTUs at max Export	#MTUs at max Import	#MTUs at lock-in
DK1	3	0	0
DK2	0	0	0
SE1	0	0	0
SE2	0	0	0
SE3	0	0	0
SE4	0	0	0
NO1	0	0	0
NO2	0	0	0
NO3	0	0	0
NO4	4	0	0
NO5	0	3	0
FI	2	0	0

# 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.

5 MTUs where ATCE failed have been excluded from the statistics.

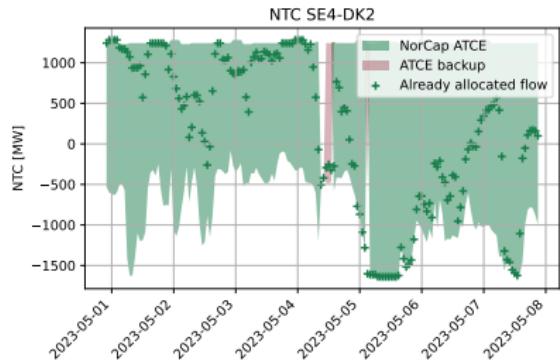
Border	#MTUs at lock-in
DK1-DK1_CO	4
DK1_CO-DK1	4
DK1A-SE3	1
SE3-DK1A	1
DK2-DK1	1
DK1-DK2	1
FI-SE3	3
SE3-FI	3
NO1-NO3	2
NO3-NO1	2
NO1A-NO5	2
NO5-NO1A	2

# 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
NO1-SE3	1
SE3-NO1	1
NO2-NO5	1
NO5-NO2	1
NO3-NO5	1
NO5-NO3	1
NO4-SE2	6
SE2-NO4	6
SE2-SE3	1
SE3-SE2	1

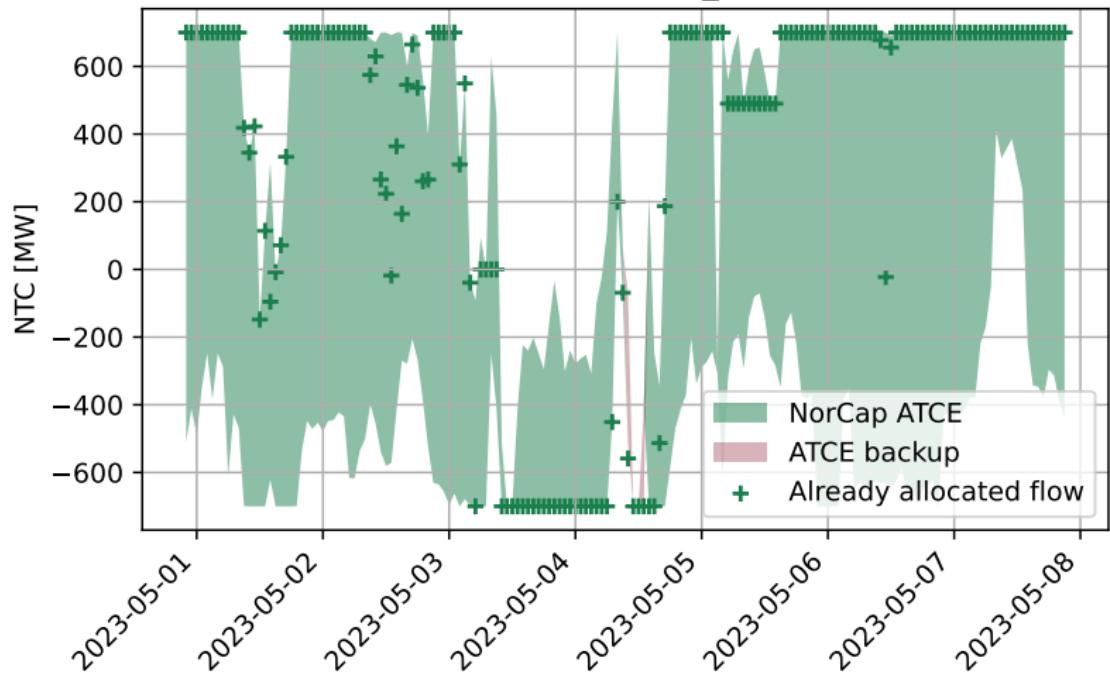
# Border NTC plots - Reader's guide



The colored area represents the possible exchange on this border and direction. The cross marks the simulated day ahead market coupling flows. Any colored area above the cross, means that intraday market will be able to increase exchange over the day ahead market coupling flows. Any colored area below the cross means that the intraday market will be able to trade against the day ahead market.

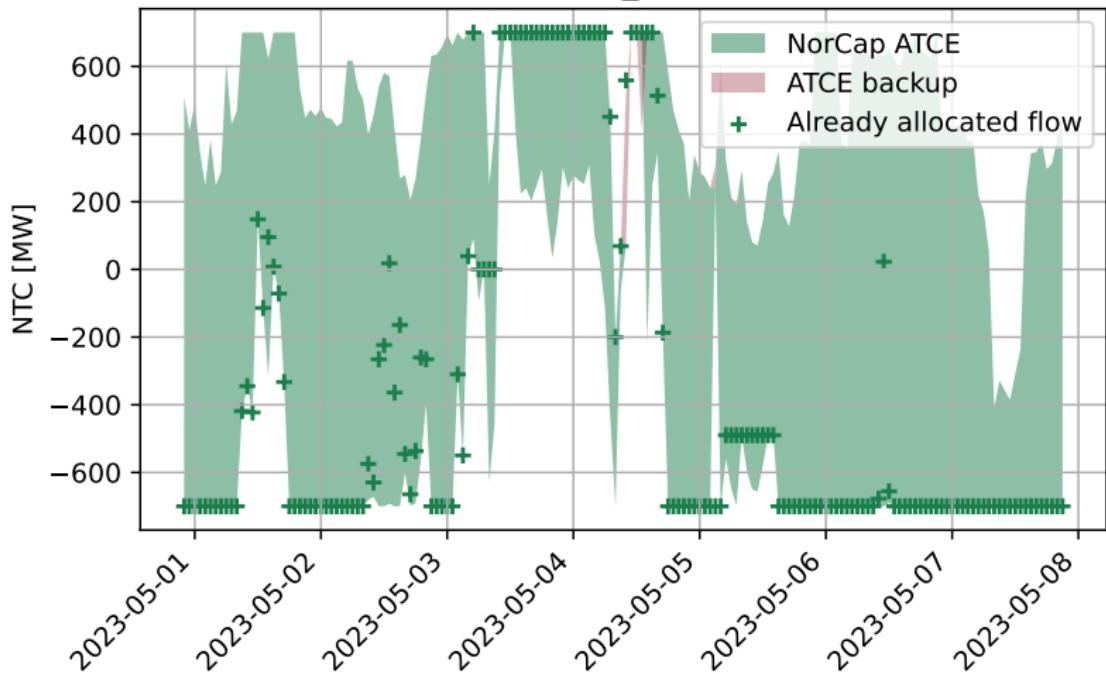
# DK1-DK1\_CO

NTC DK1-DK1\_CO

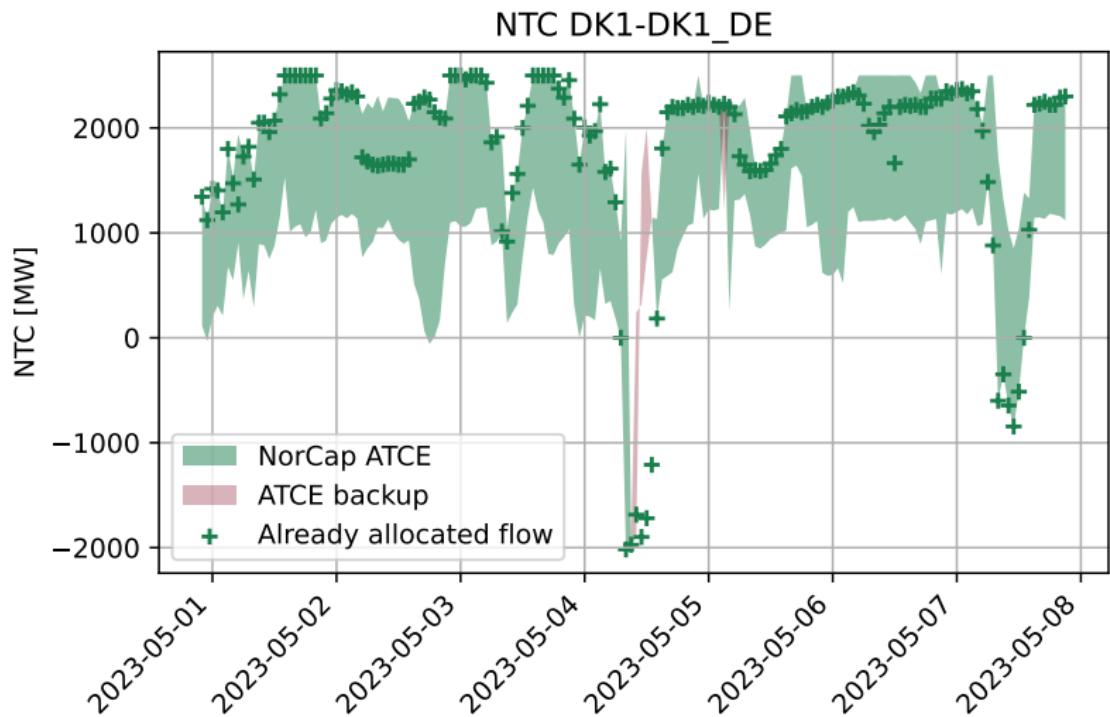


# DK1\_CO-DK1

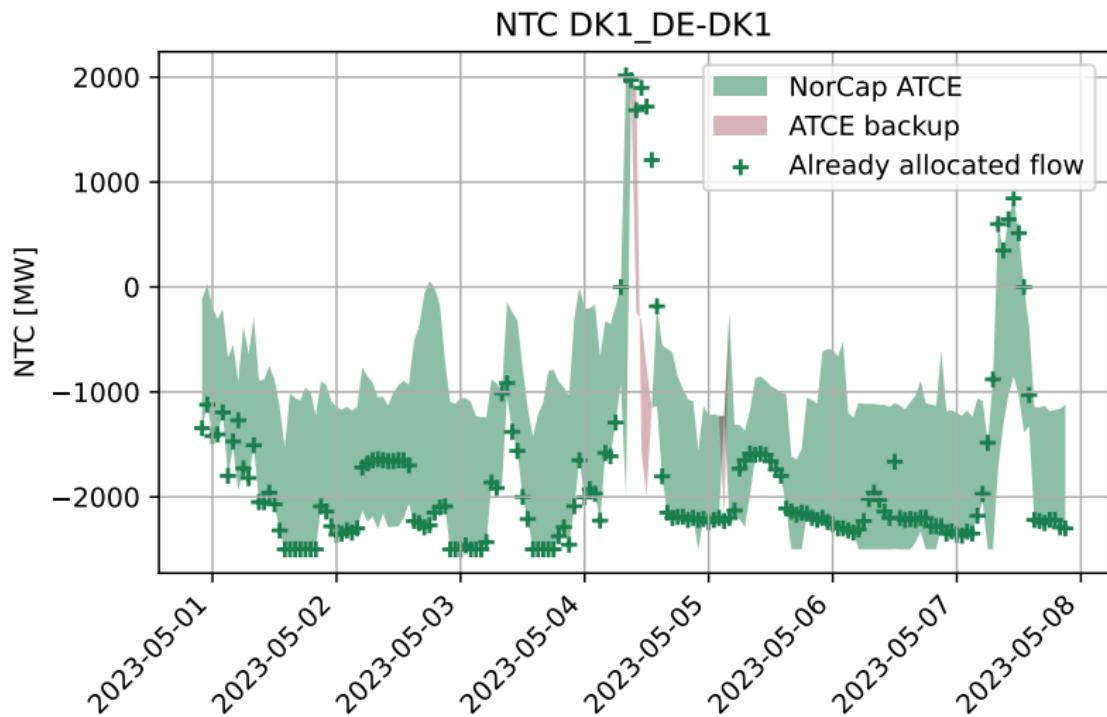
NTC DK1\_CO-DK1



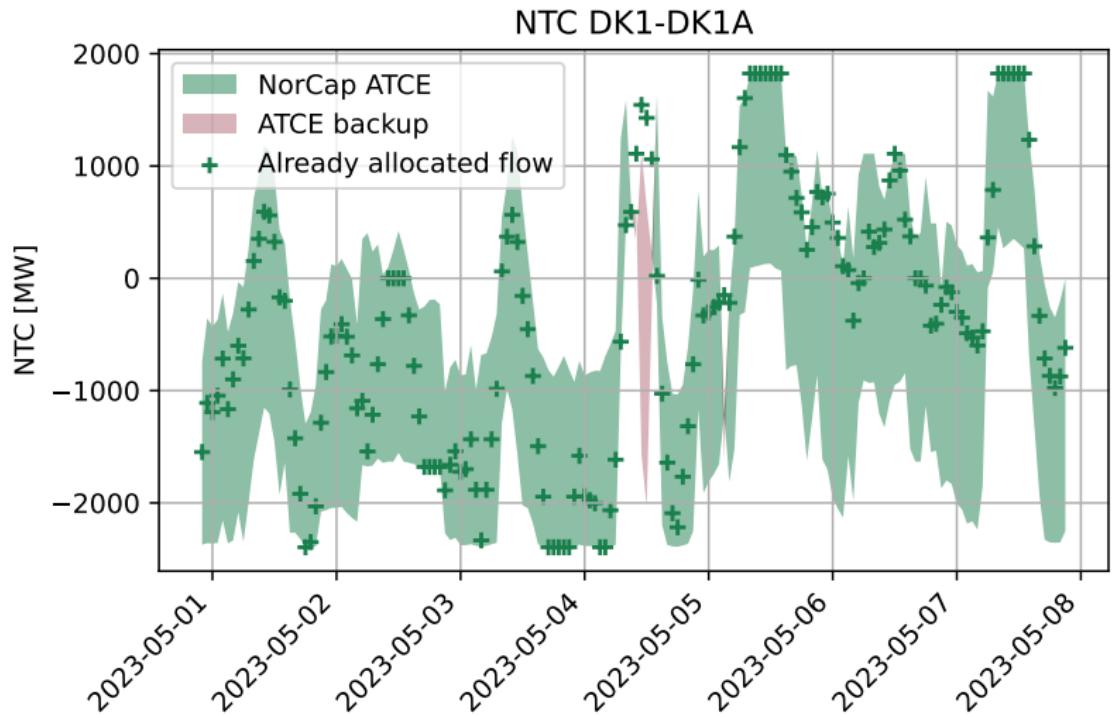
# DK1-DK1\_DE



# DK1\_DE-DK1

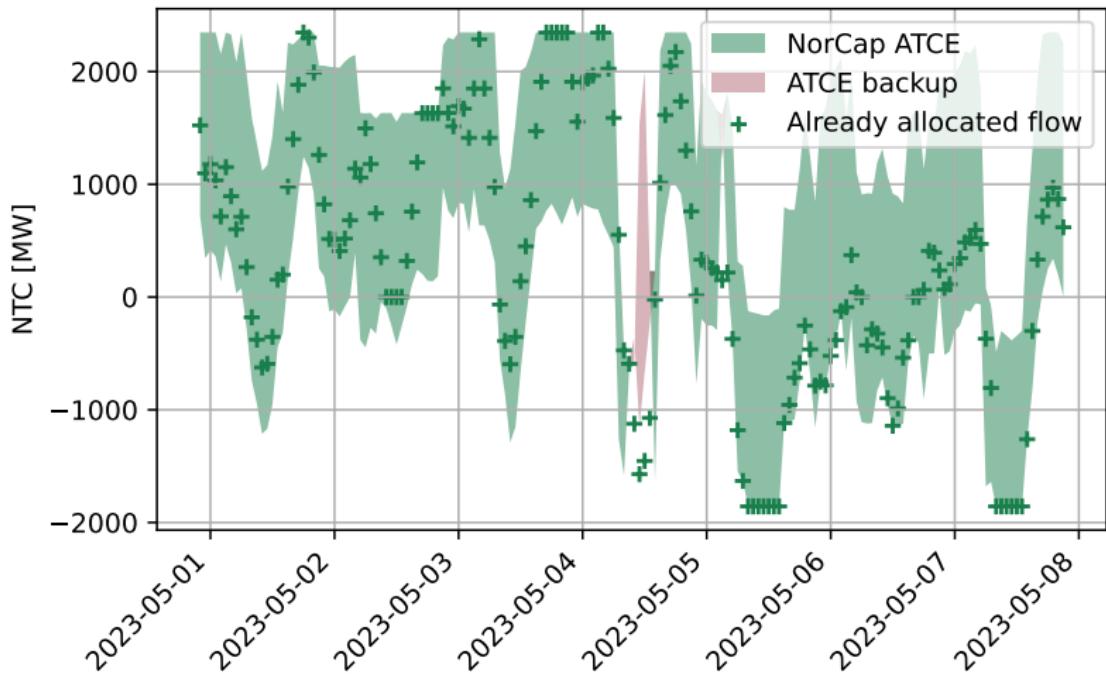


DK1-DK1A



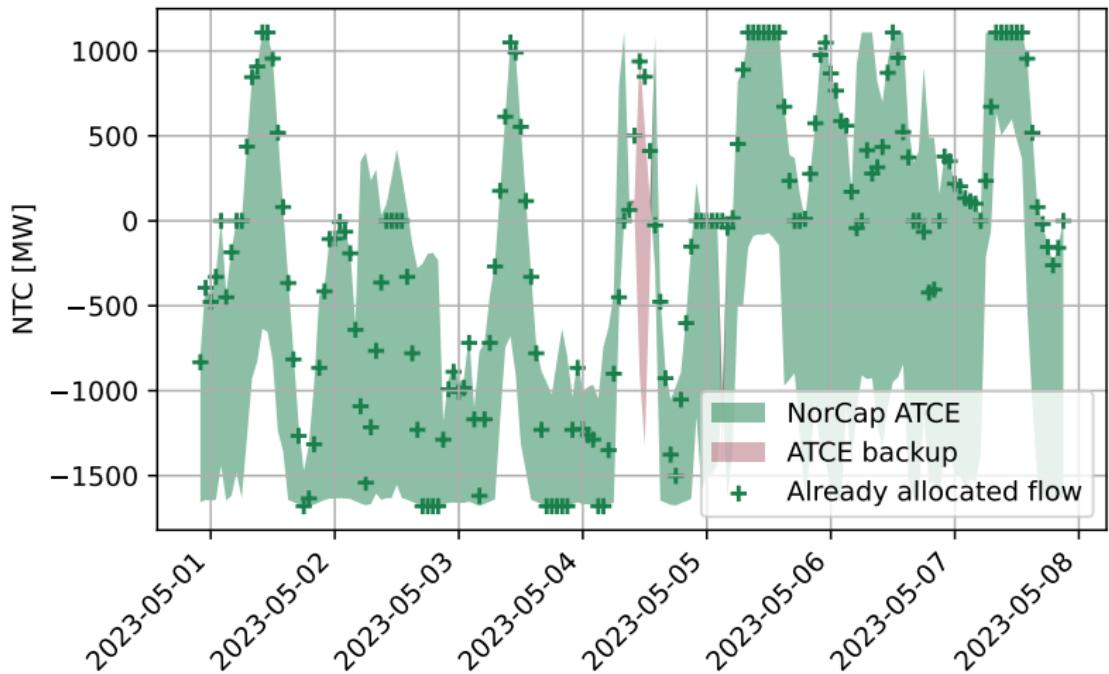
# DK1A-DK1

NTC DK1A-DK1



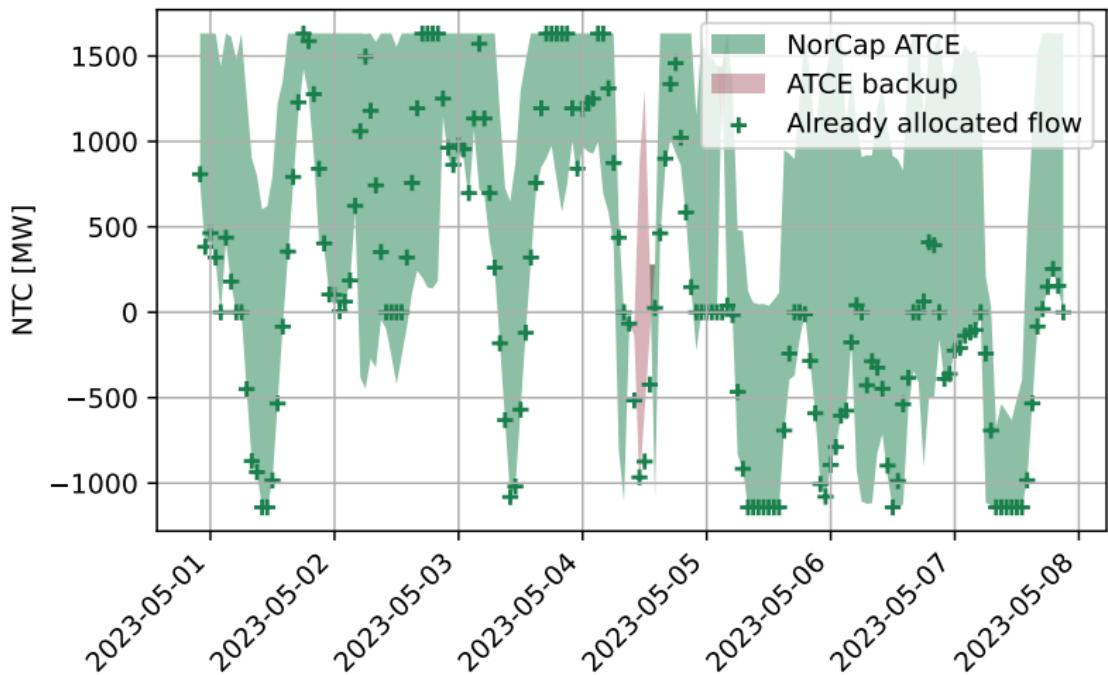
# DK1A-NO2

NTC DK1A-NO2



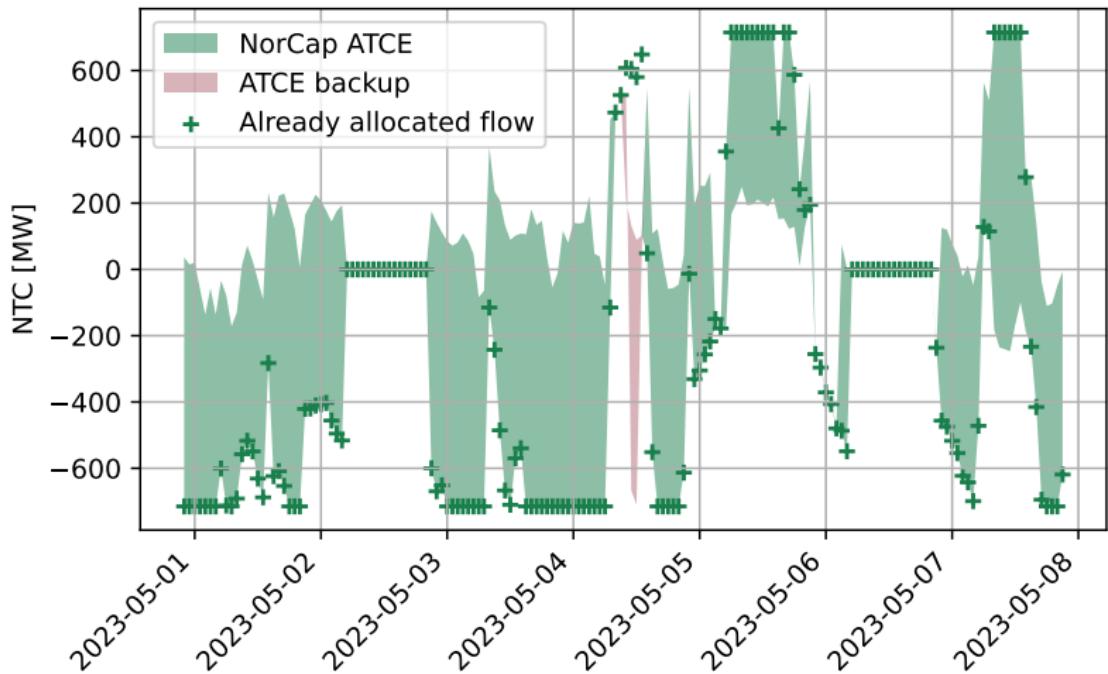
# NO2-DK1A

NTC NO2-DK1A



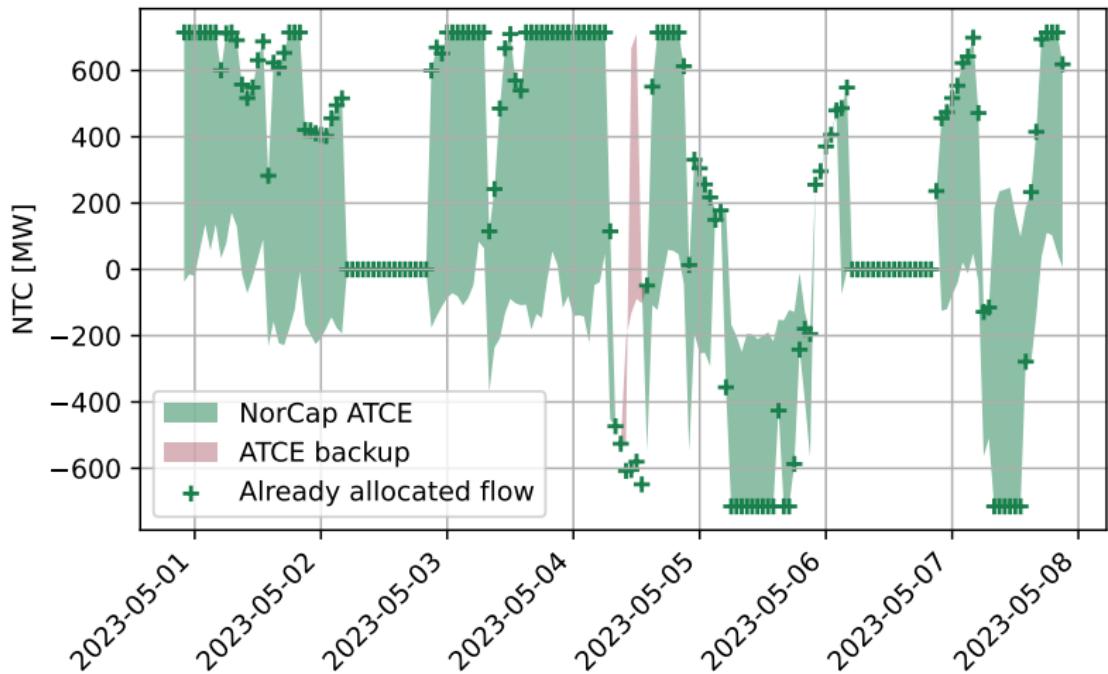
# DK1A-SE3

NTC DK1A-SE3

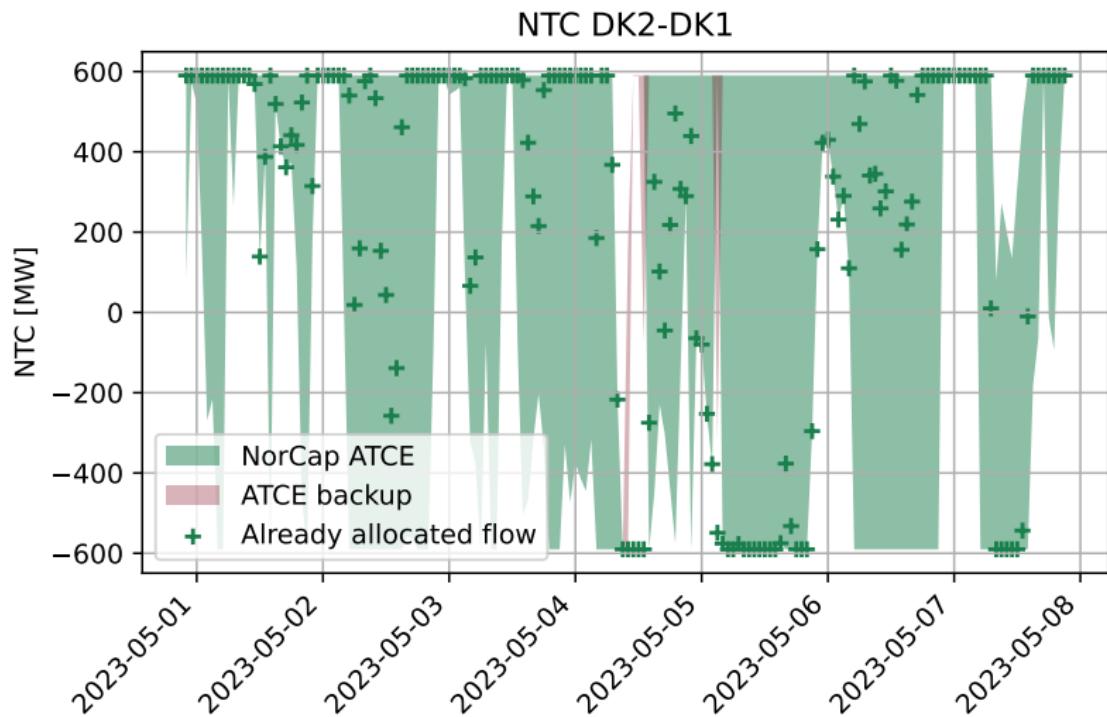


# SE3-DK1A

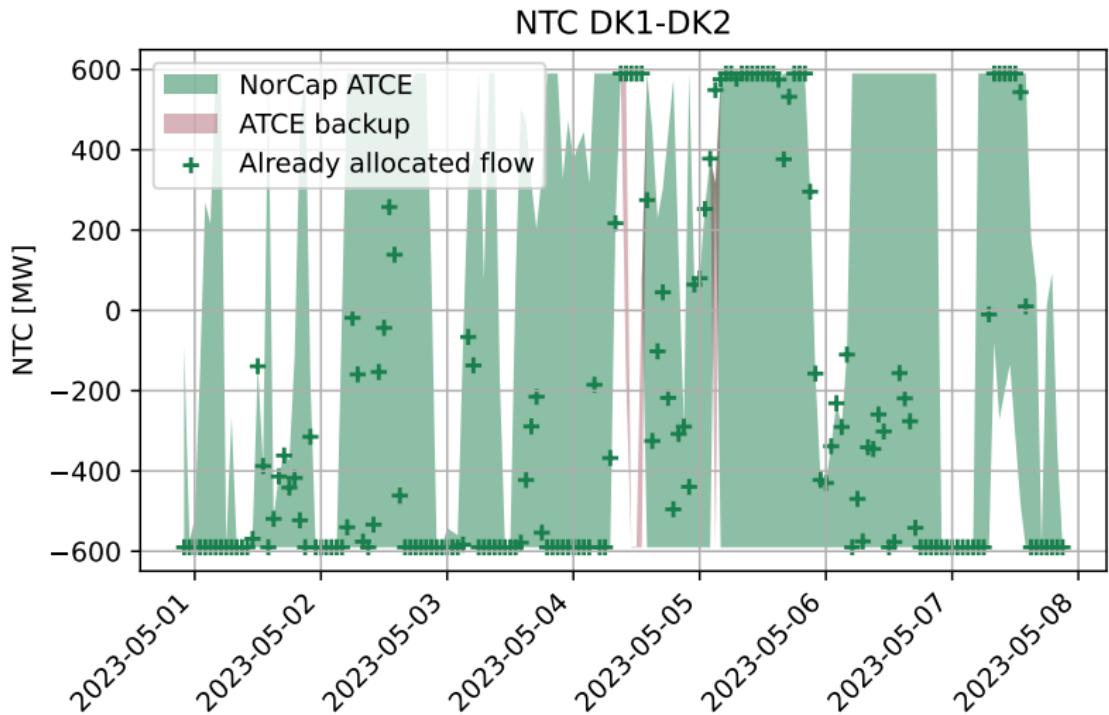
NTC SE3-DK1A



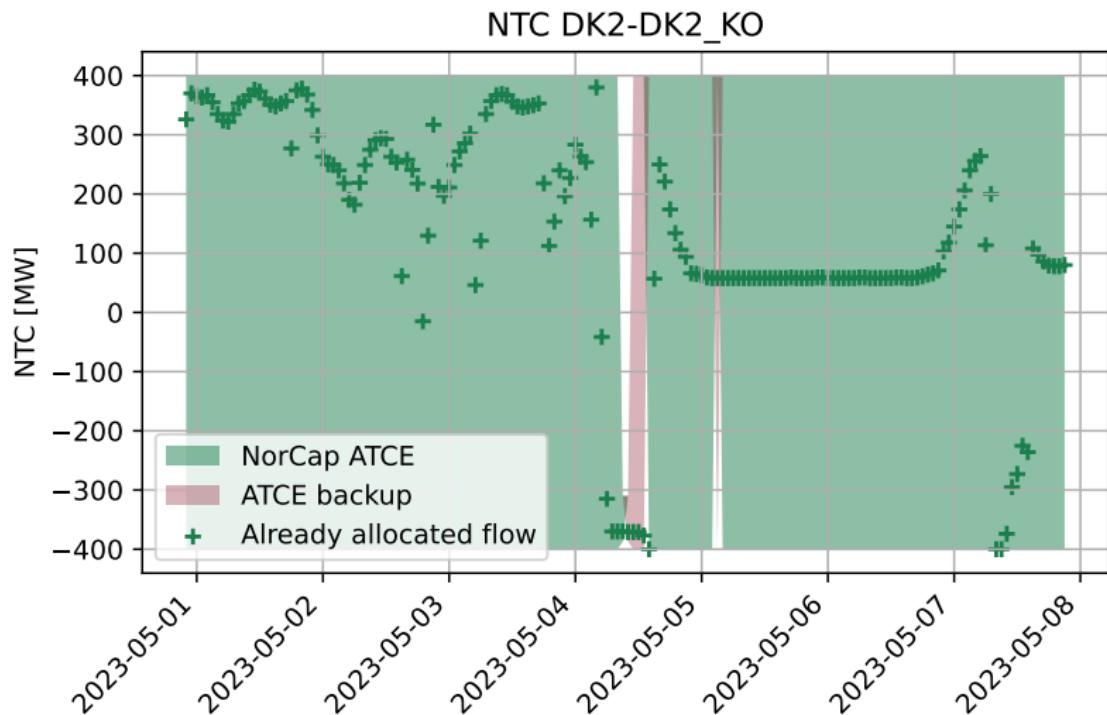
# DK2-DK1



# DK1-DK2

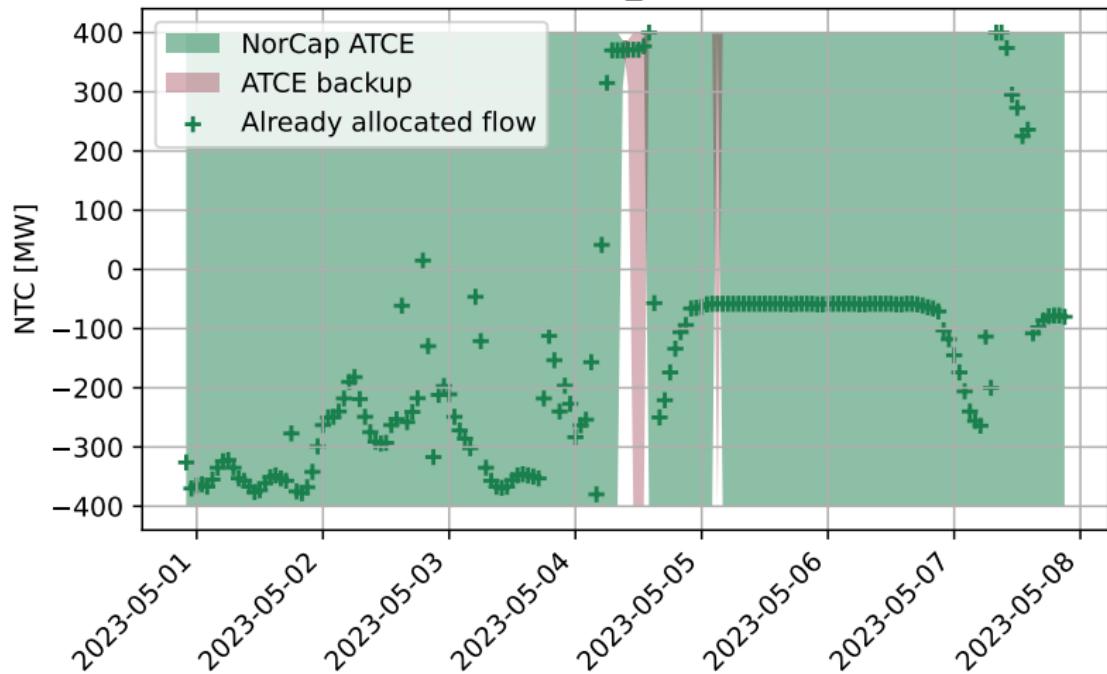


# DK2-DK2\_KO



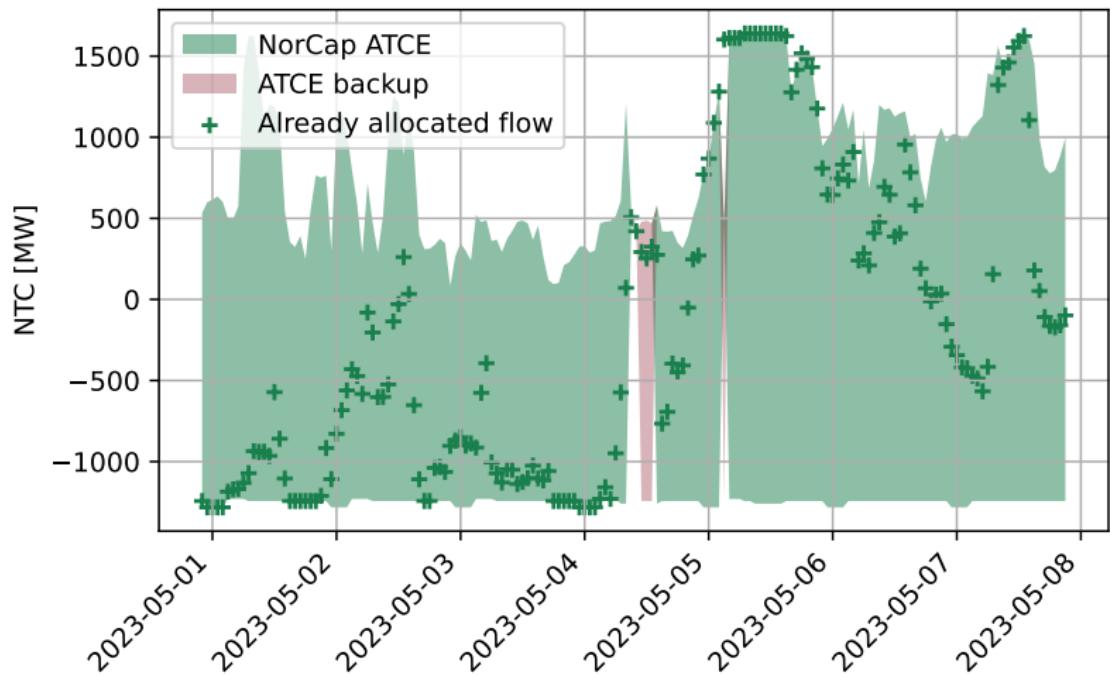
# DK2\_KO-DK2

NTC DK2\_KO-DK2

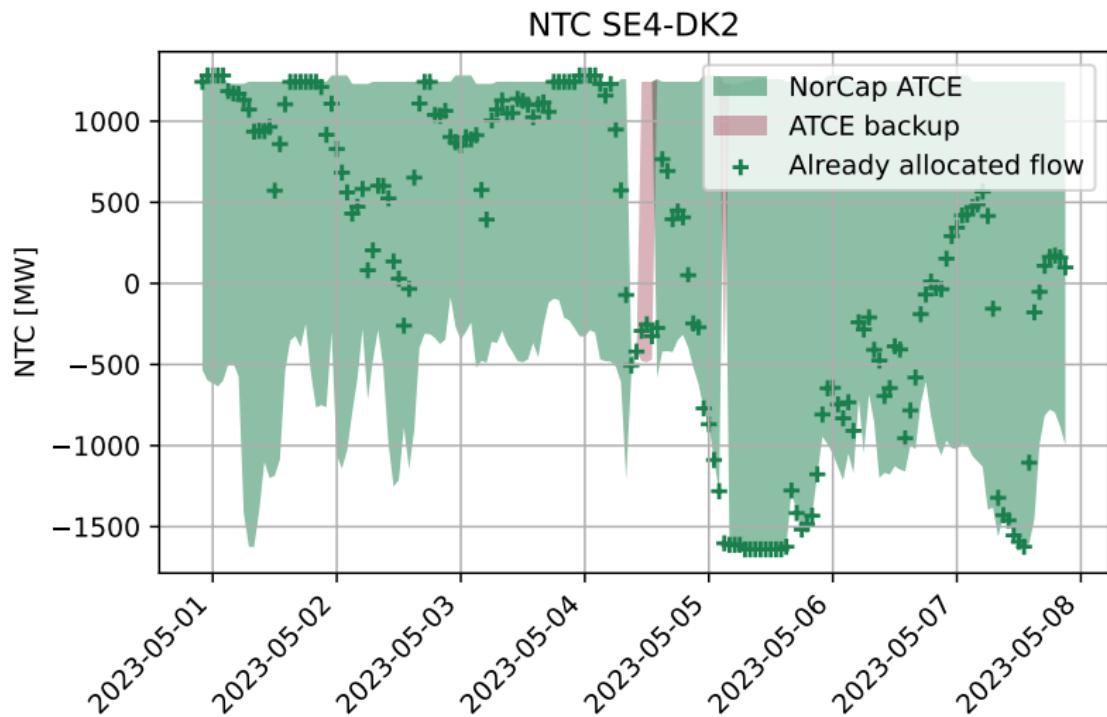


# DK2-SE4

NTC DK2-SE4

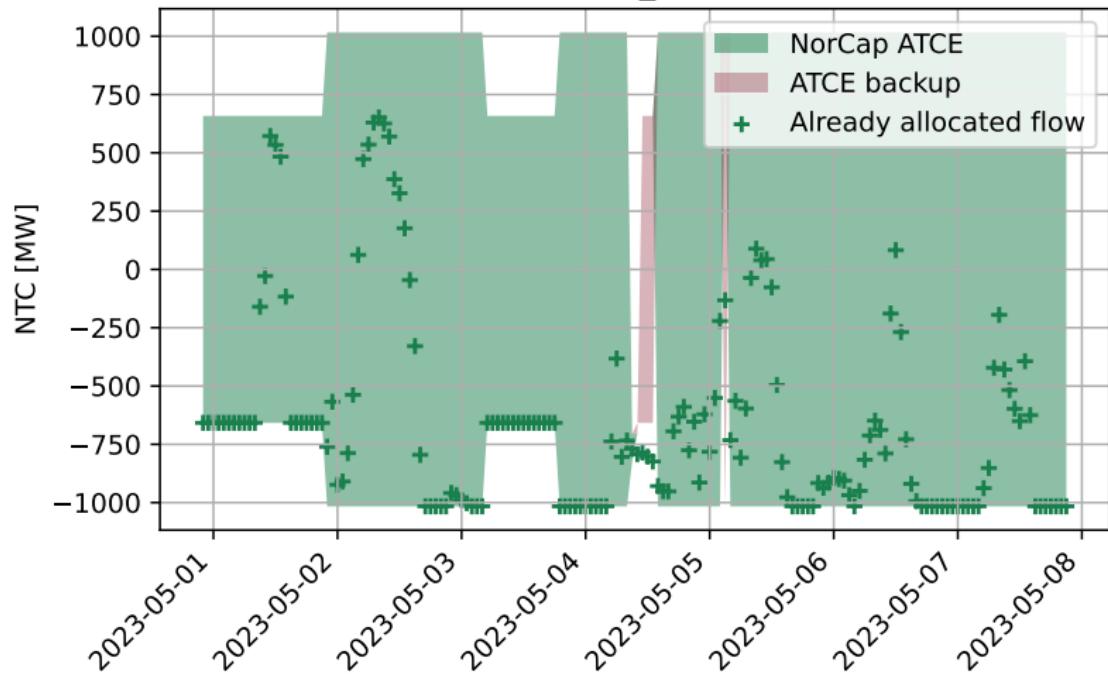


# SE4-DK2

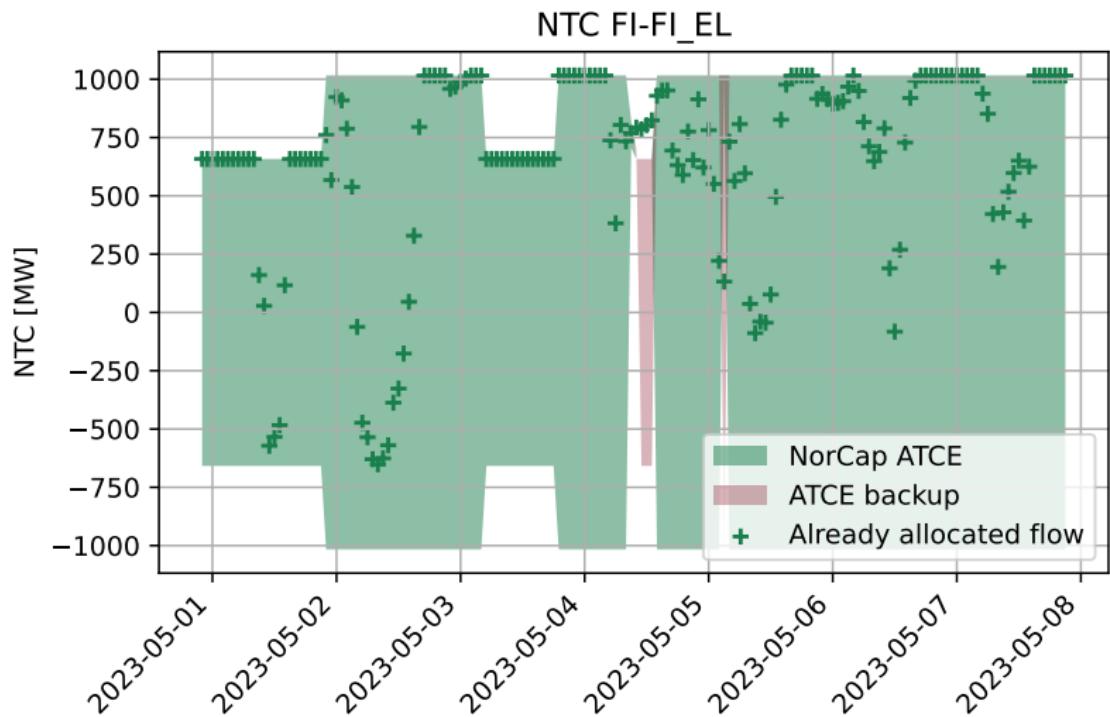


# FI\_EL-FI

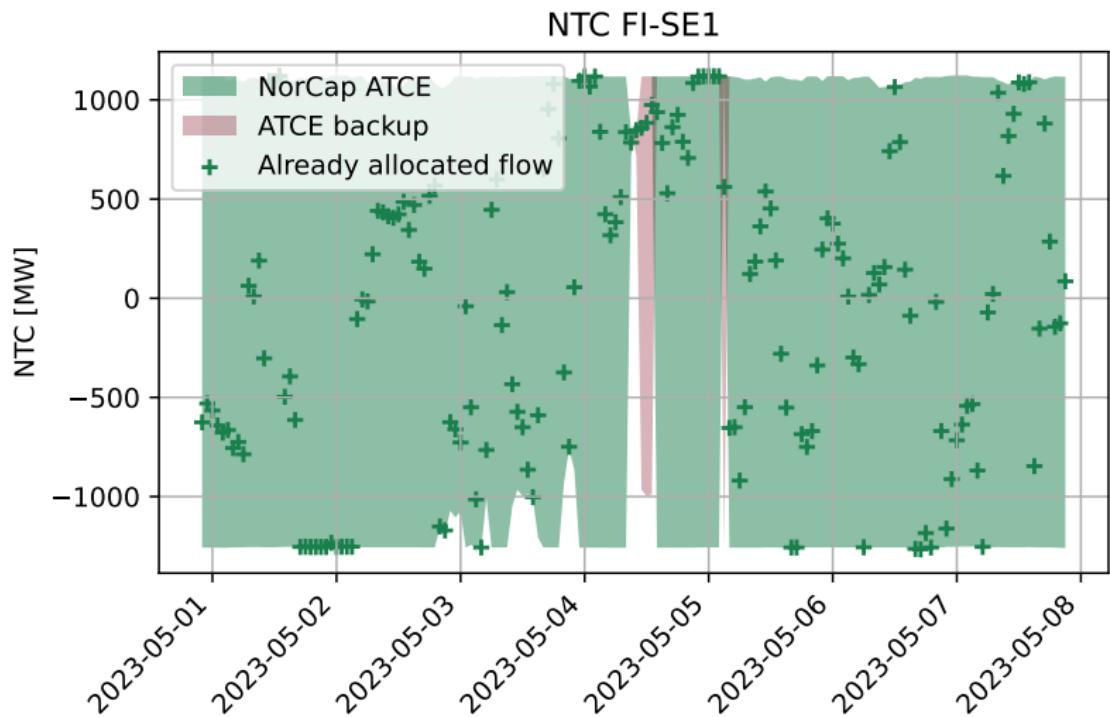
NTC FI\_EL-FI



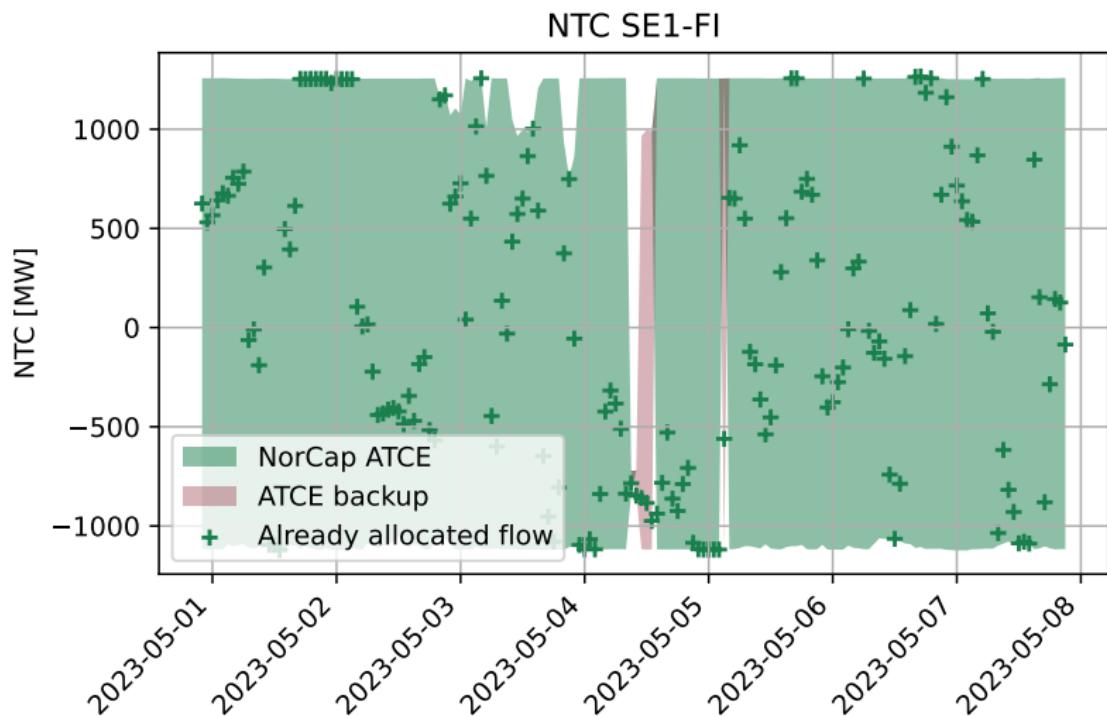
# FI-FI\_EL



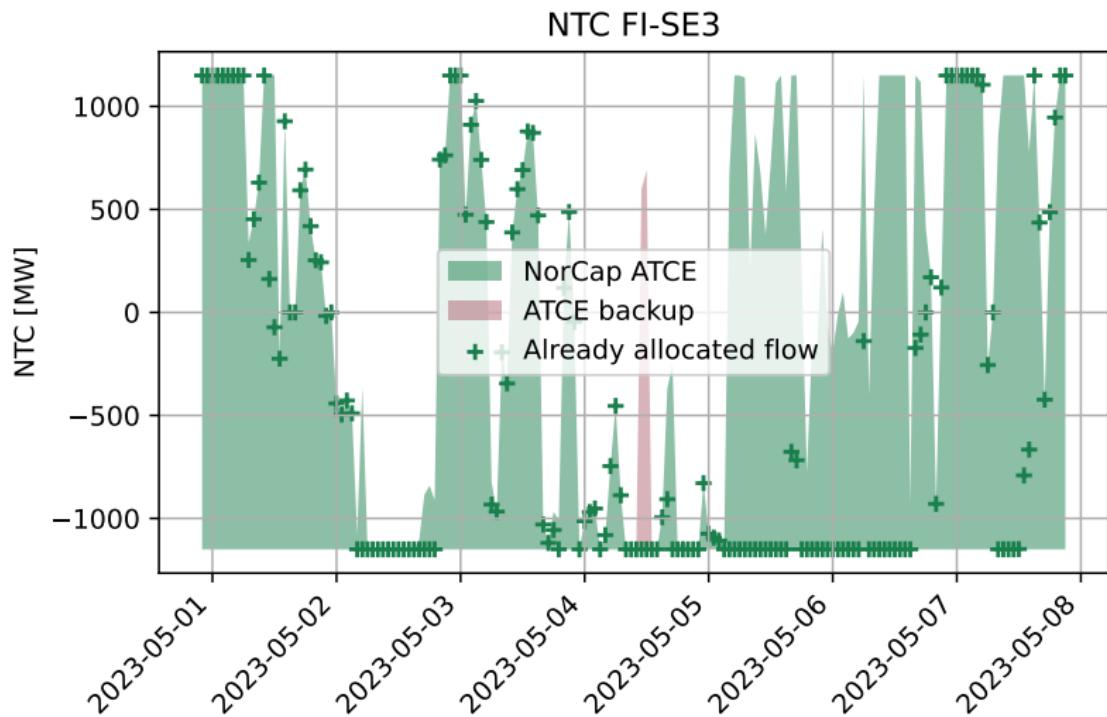
# FI-SE1



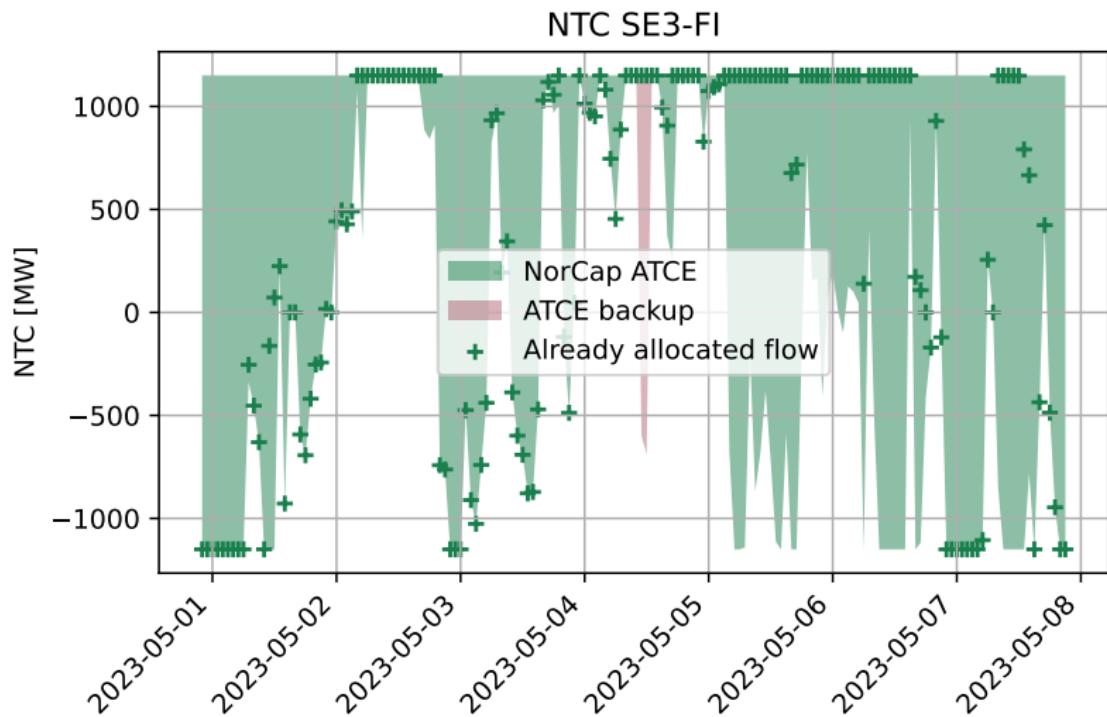
# SE1-FI



# FI-SE3

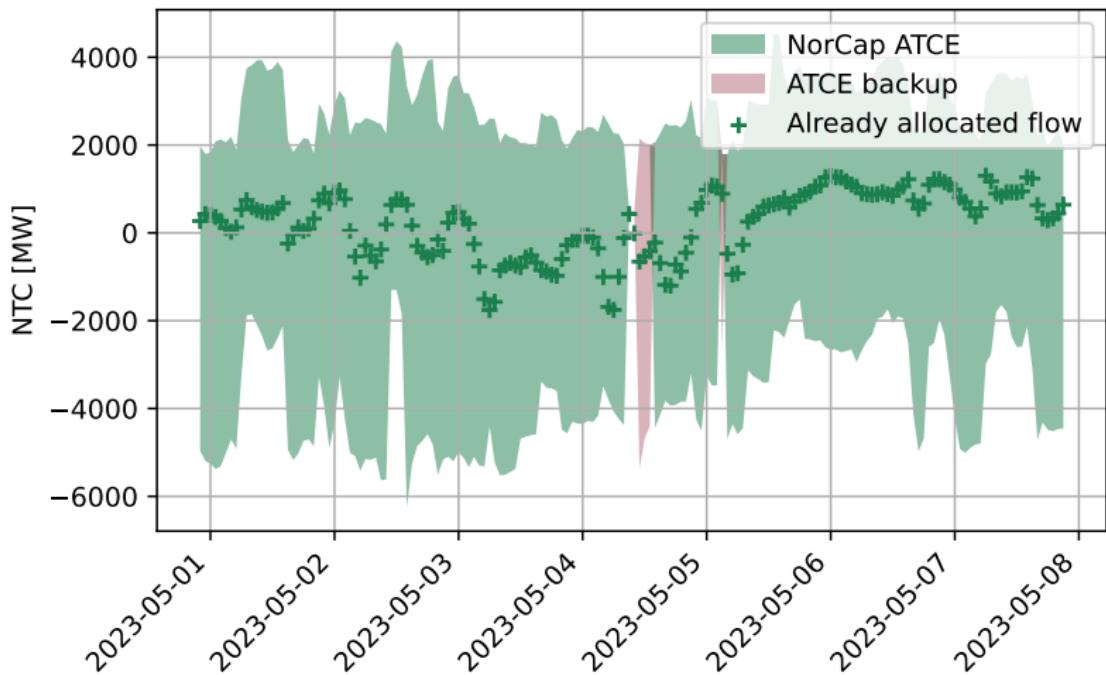


# SE3-FI

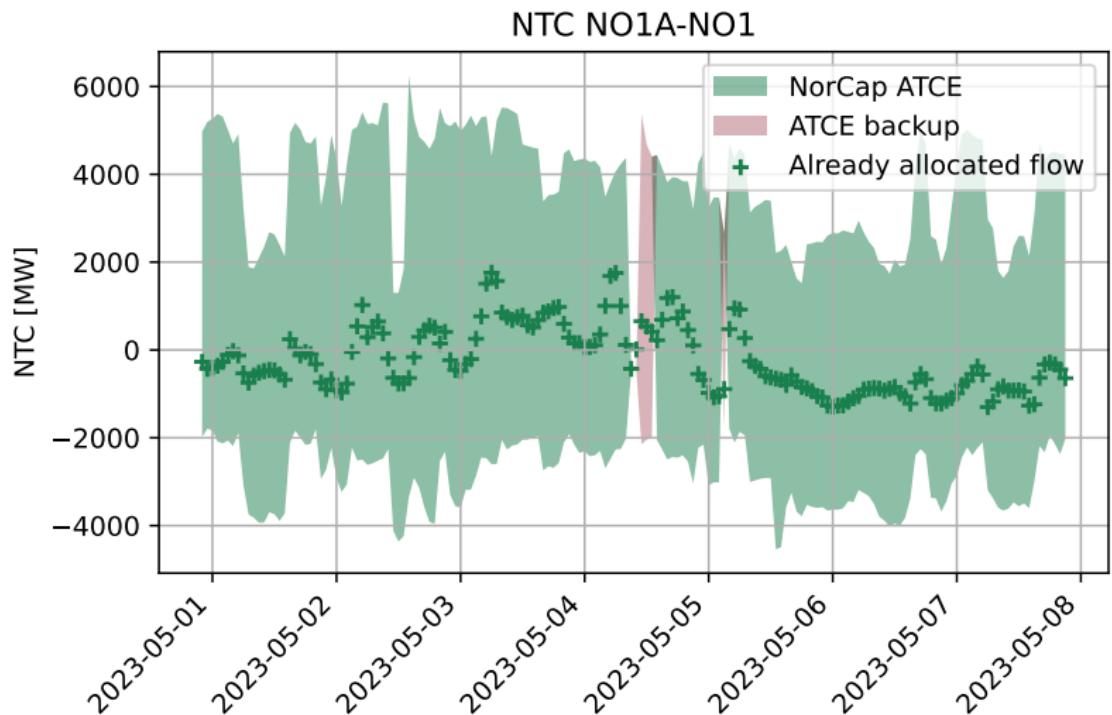


# NO1-NO1A

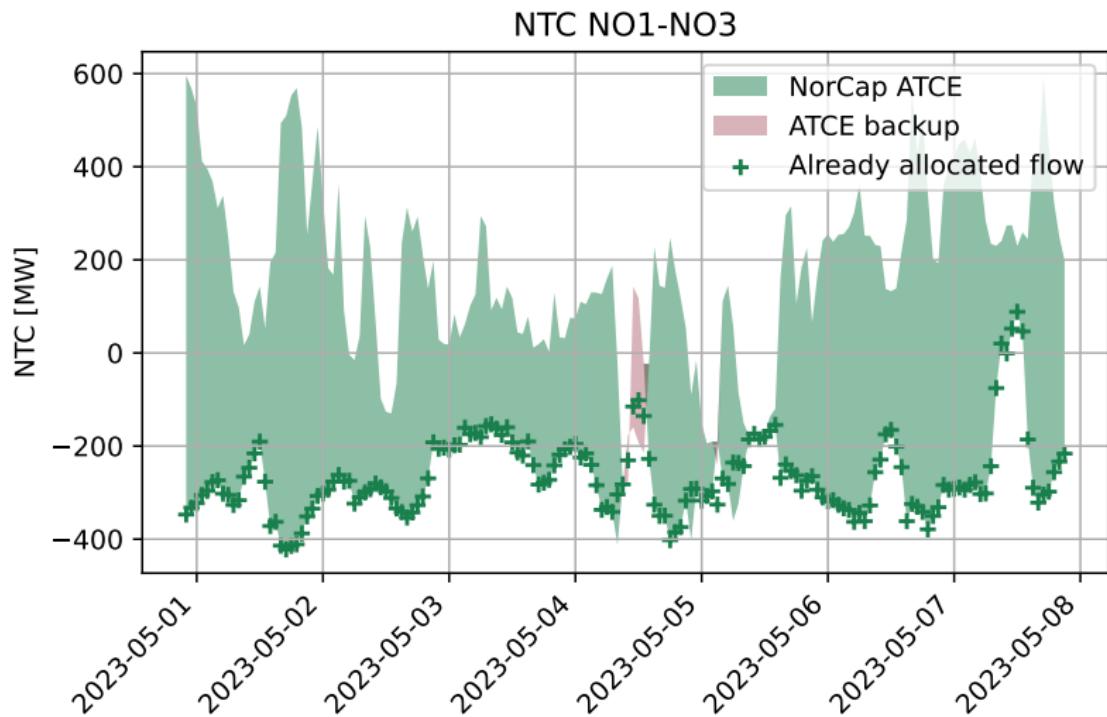
NTC NO1-NO1A



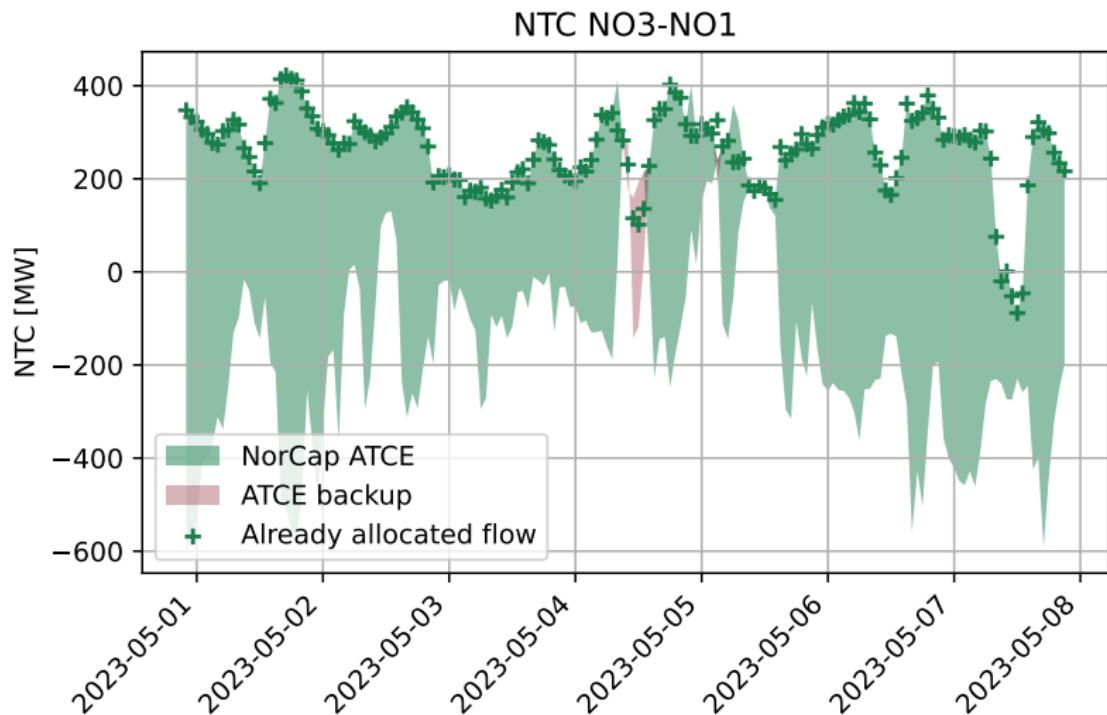
# NO1A-NO1



# NO1-NO3

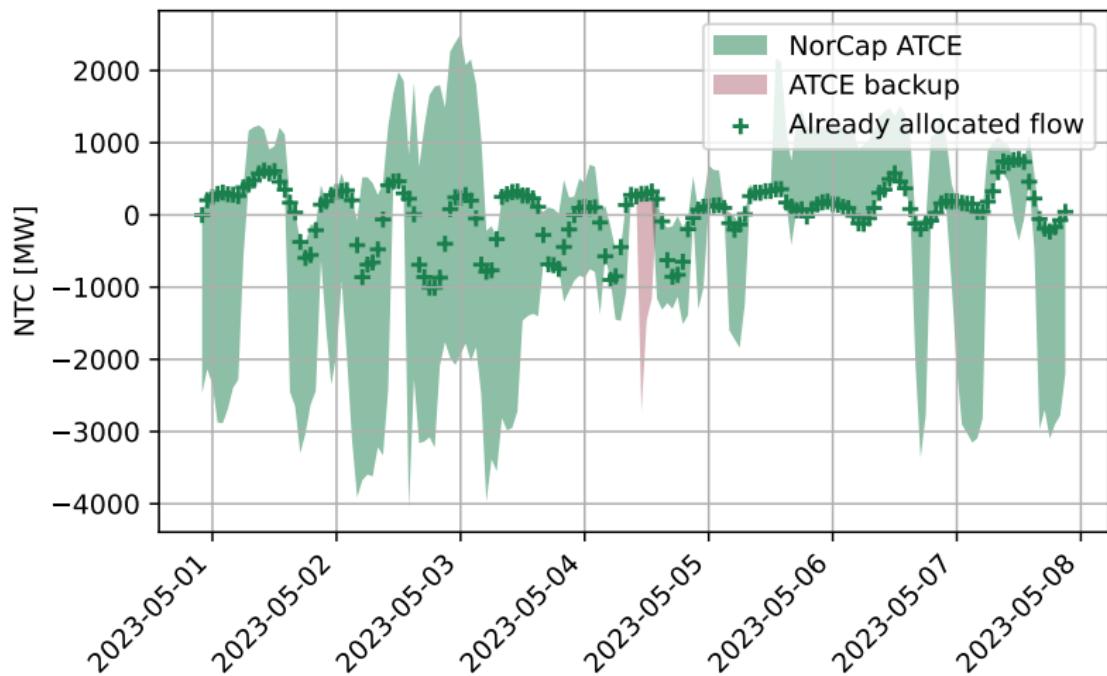


# NO3-NO1



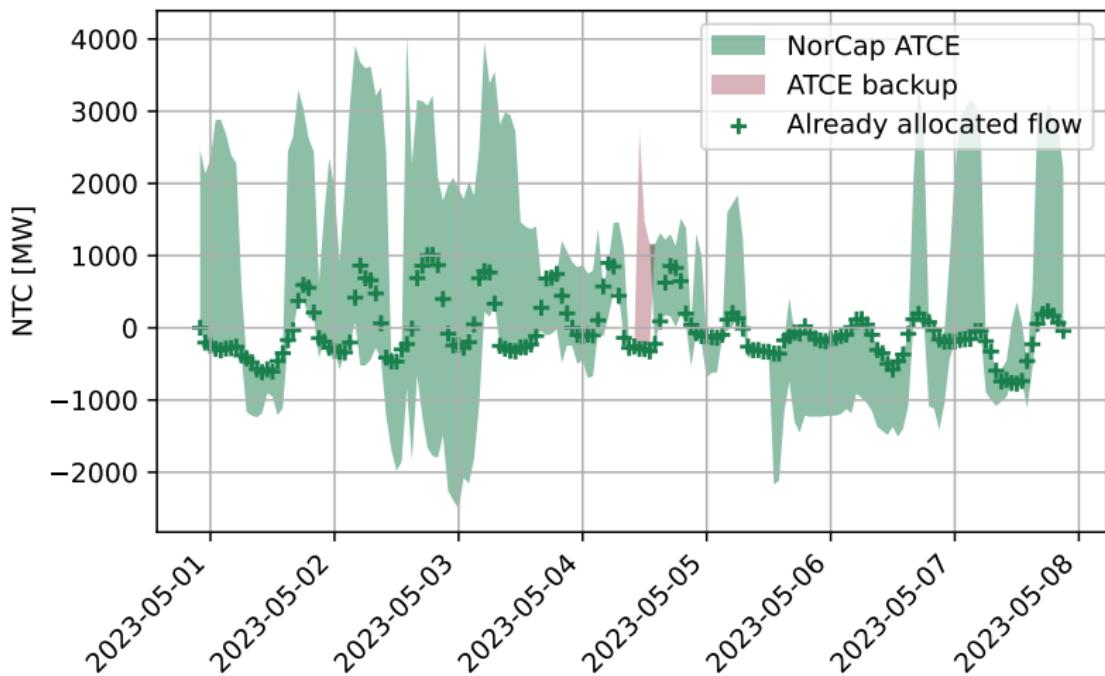
# NO1A-NO5

NTC NO1A-NO5



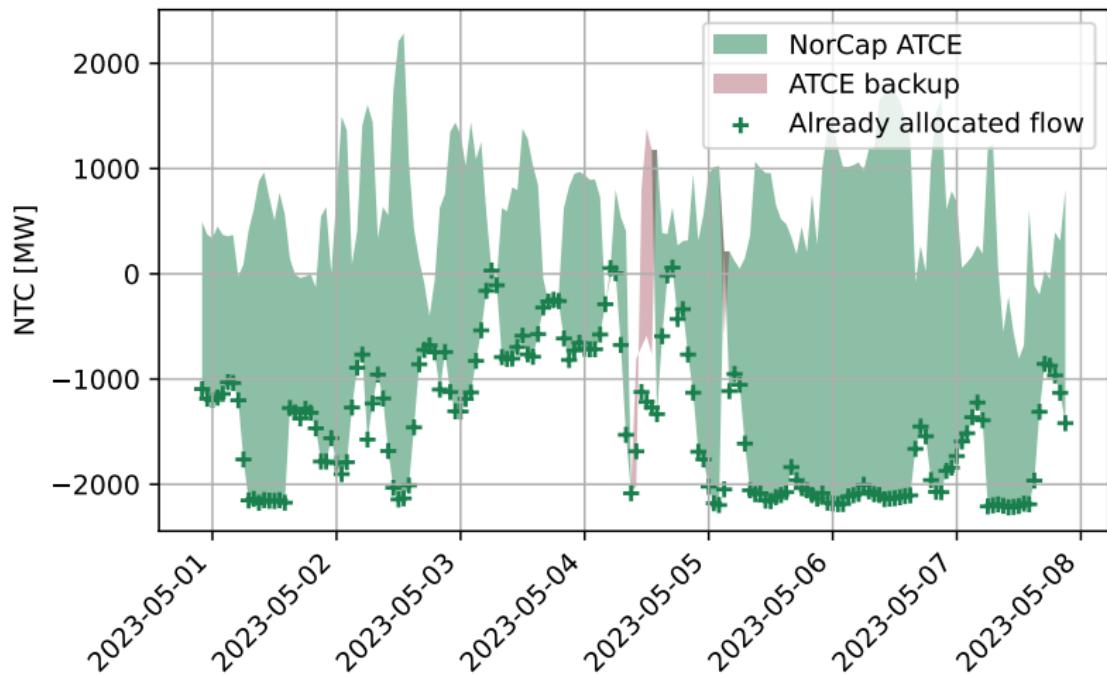
# NO5-NO1A

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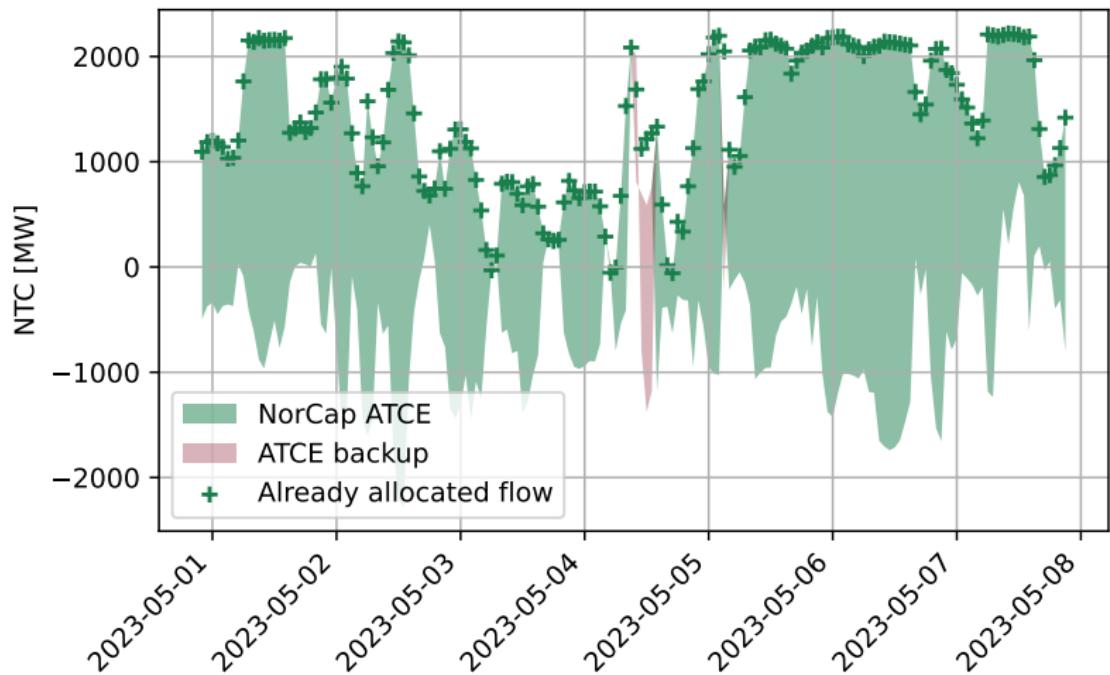
# NO1-SE3

NTC NO1-SE3



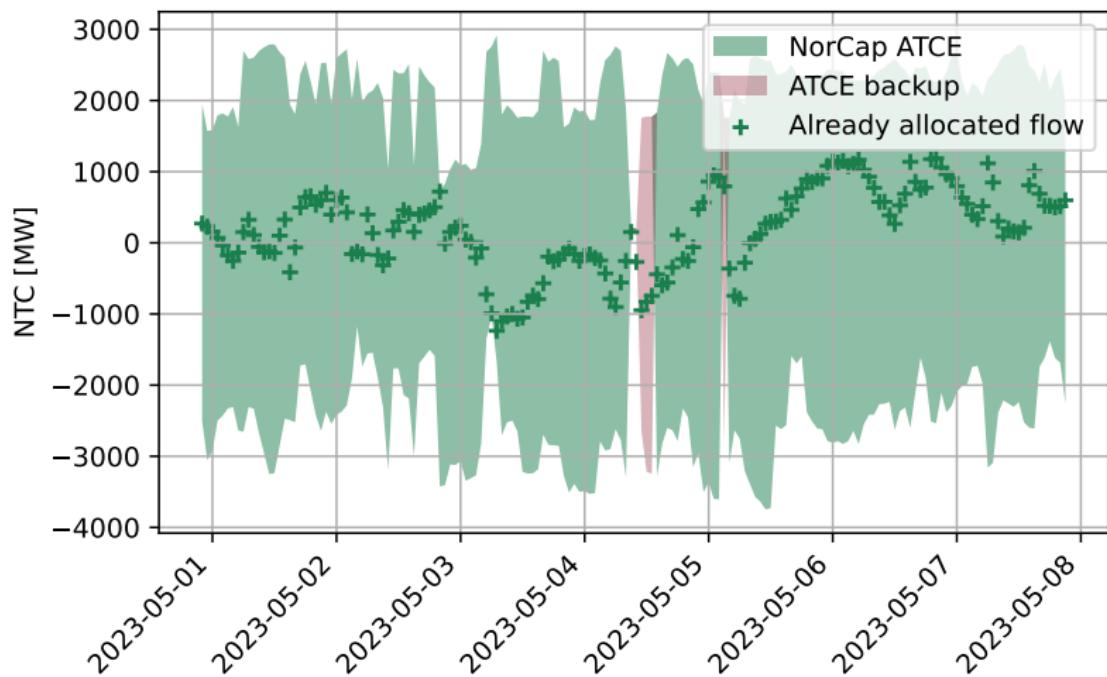
# SE3-NO1

NTC SE3-NO1

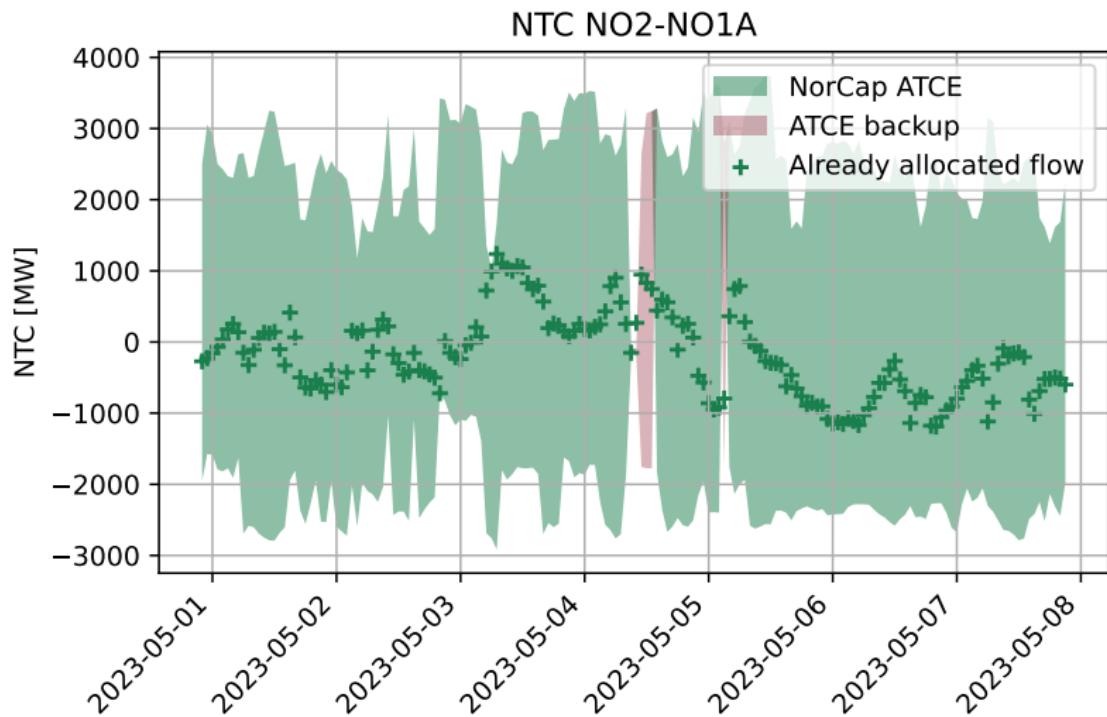


# NO1A-NO2

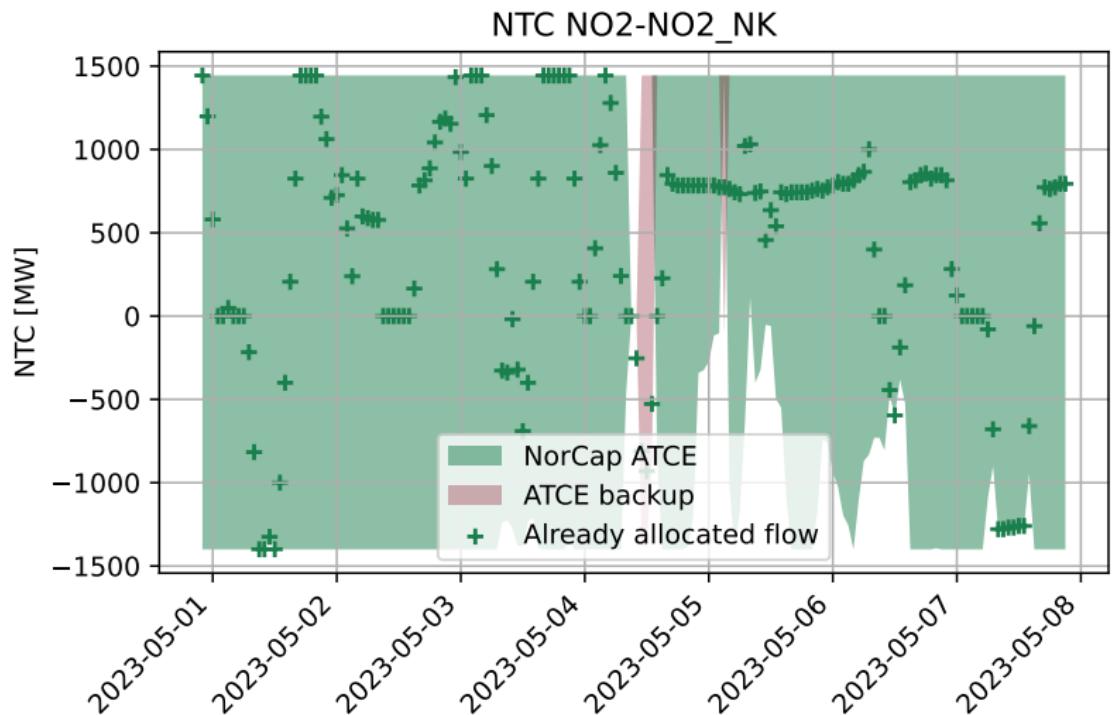
NTC NO1A-NO2



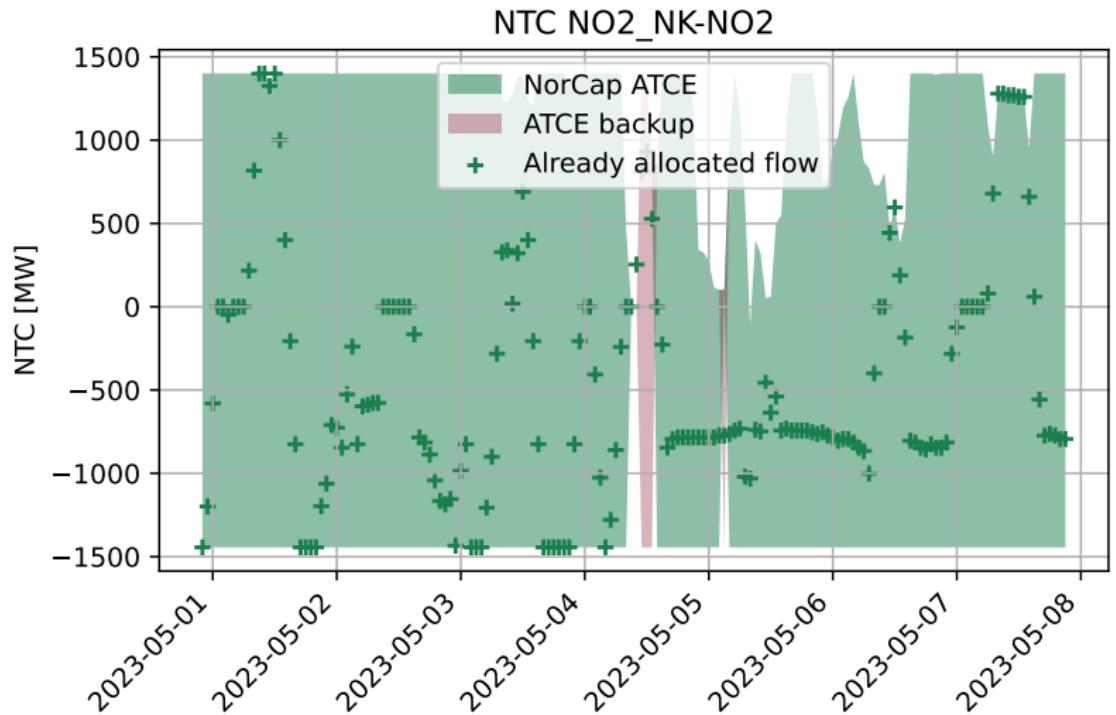
# NO2-NO1A



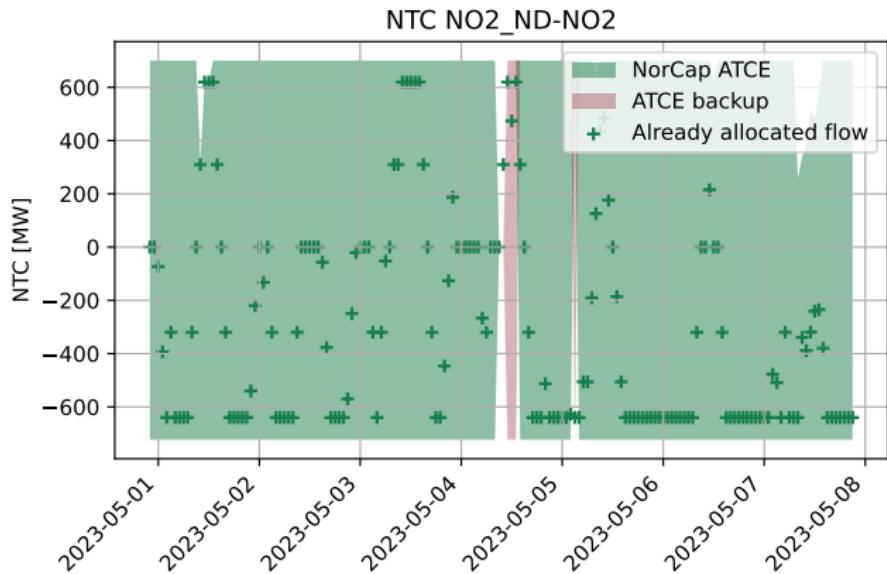
# NO2-NO2\_NK



# NO2\_NK-NO2

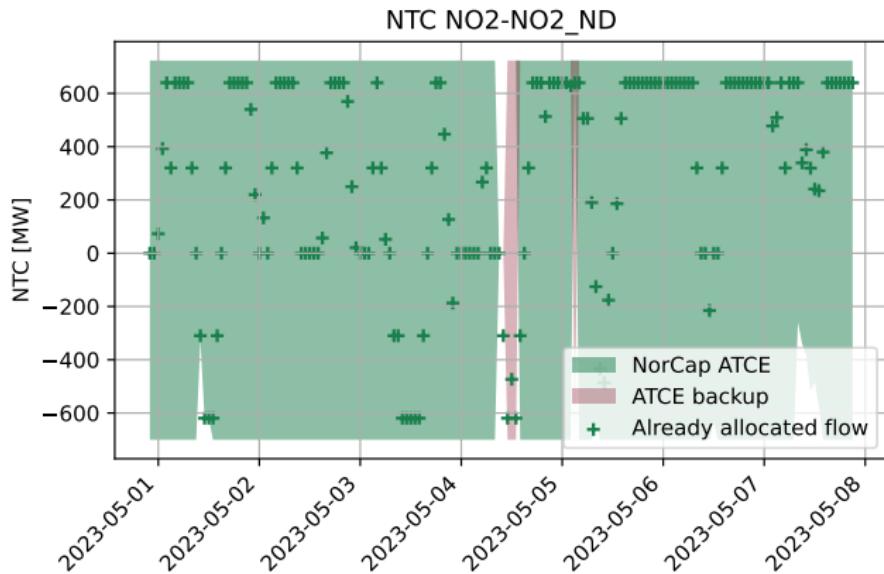


# NO2\_ND-NO2



Note: NTC for NorNed includes 3.1% capacity reserved for losses. These will be subtracted in a future revision.

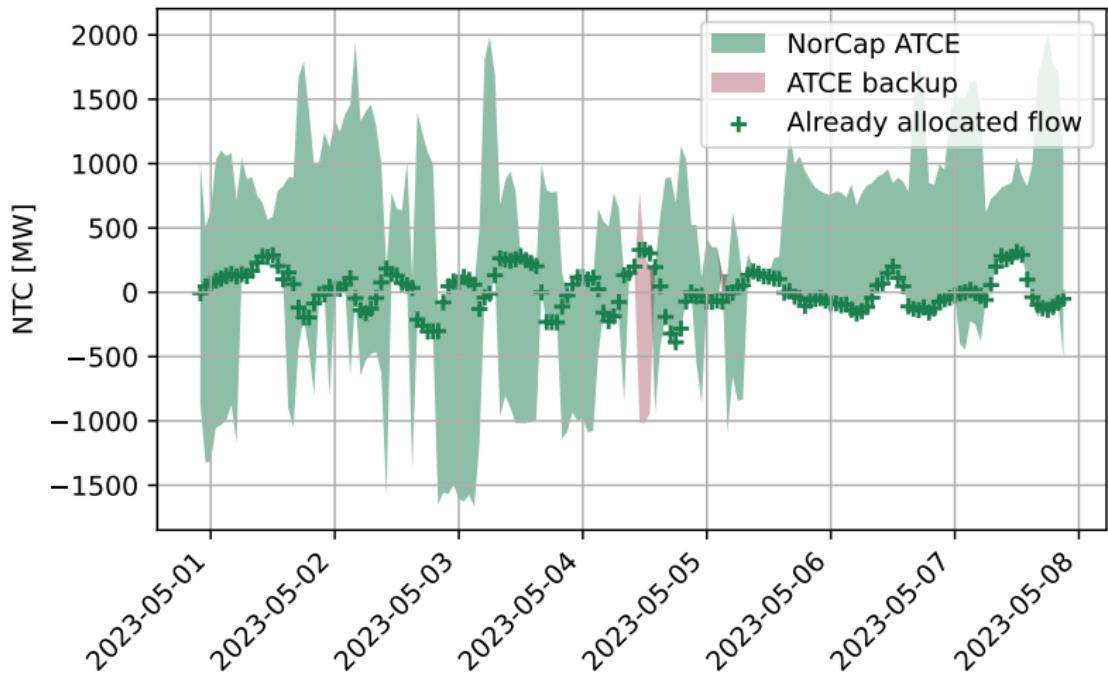
# NO2-NO2\_ND



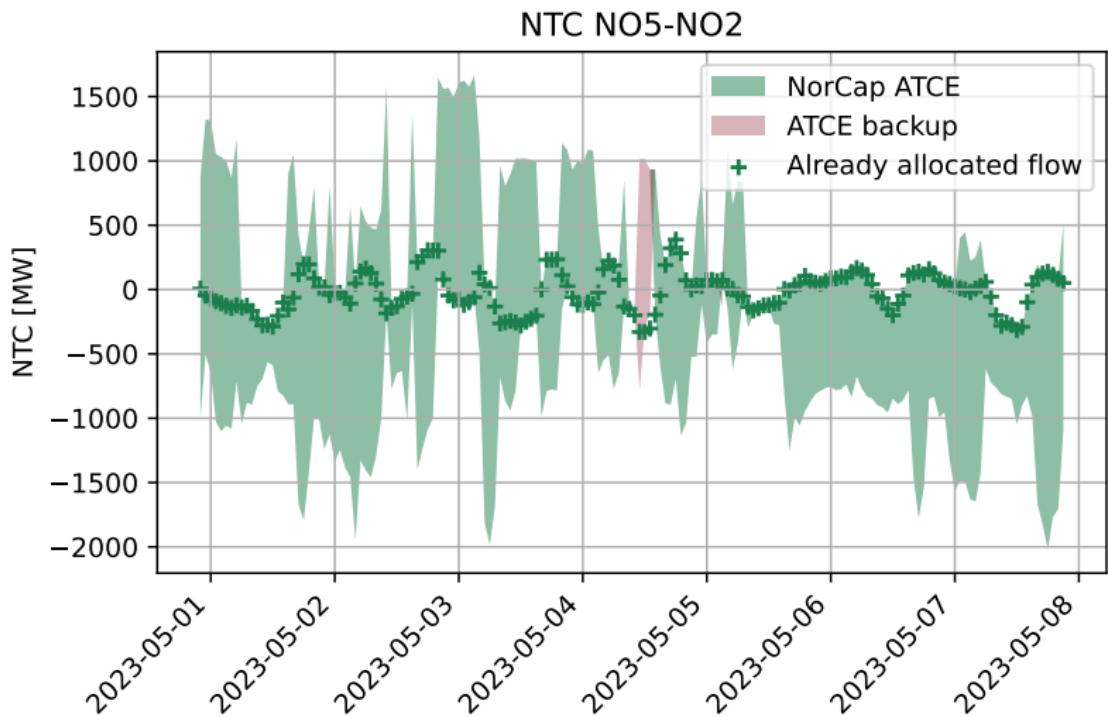
Note: NTC for NorNed includes 3.1% capacity reserved for losses. These will be subtracted in a future revision.

# NO2-NO5

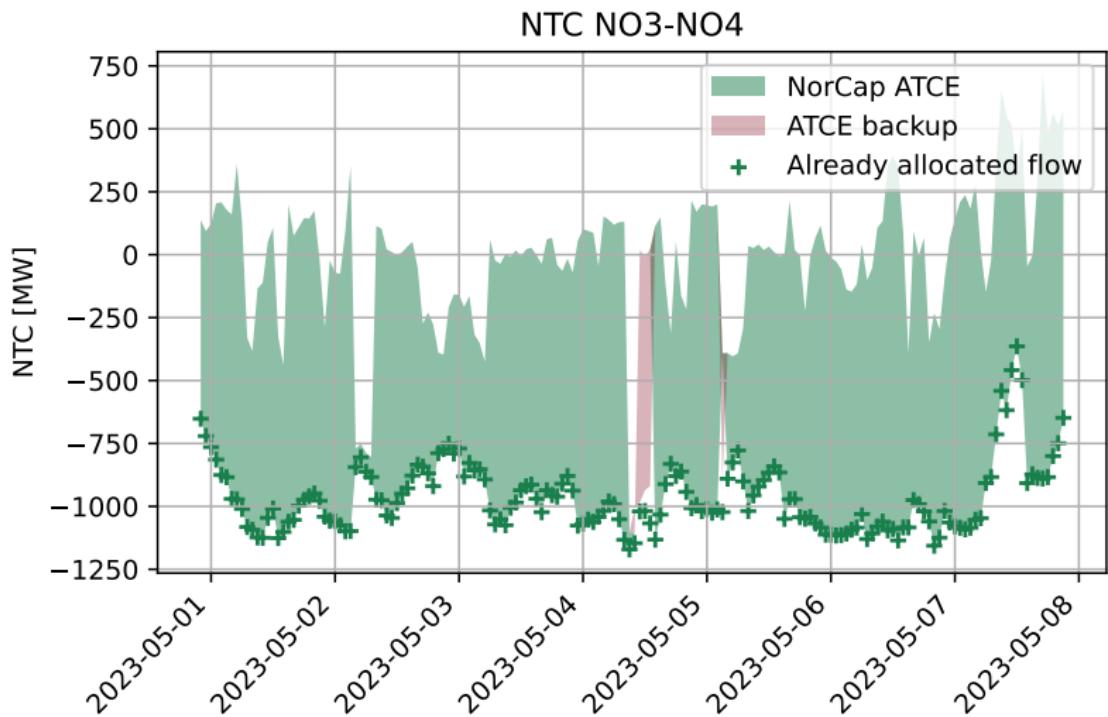
NTC NO2-NO5



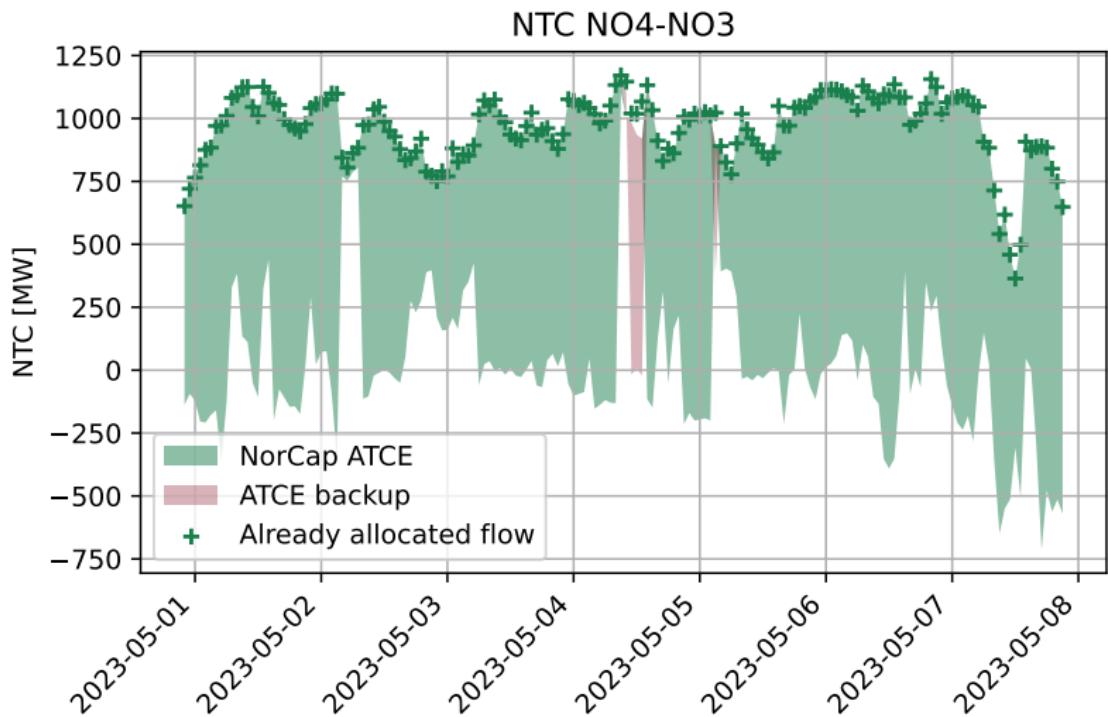
# NO5-NO2



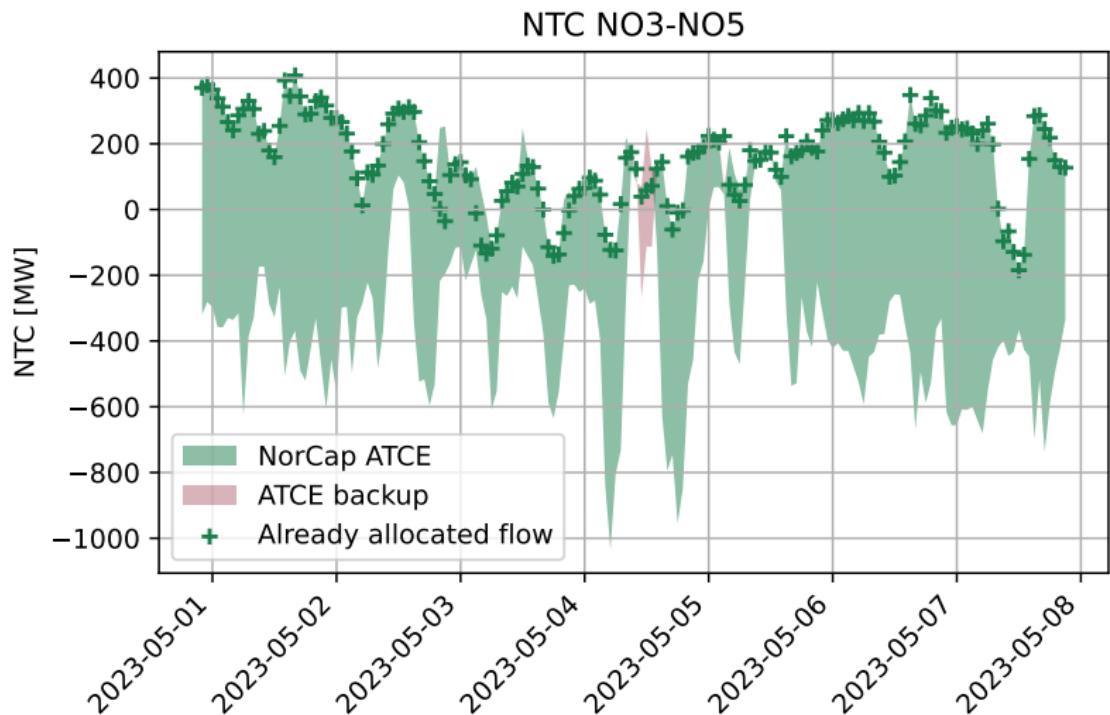
# NO3-NO4



# NO4-NO3

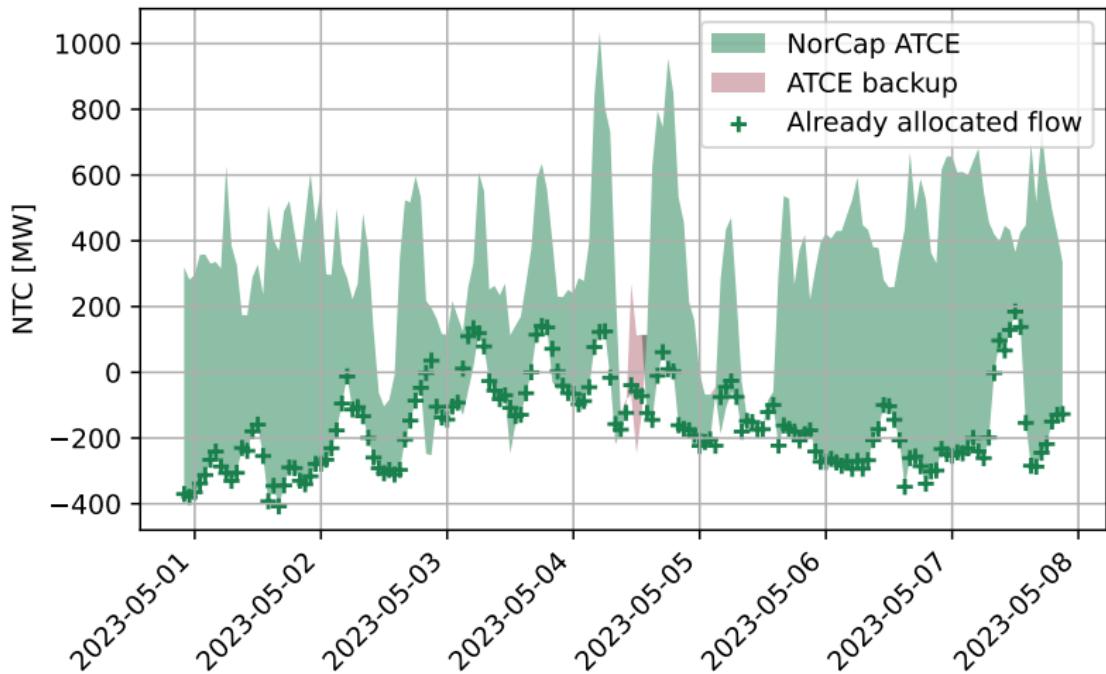


# NO3-NO5



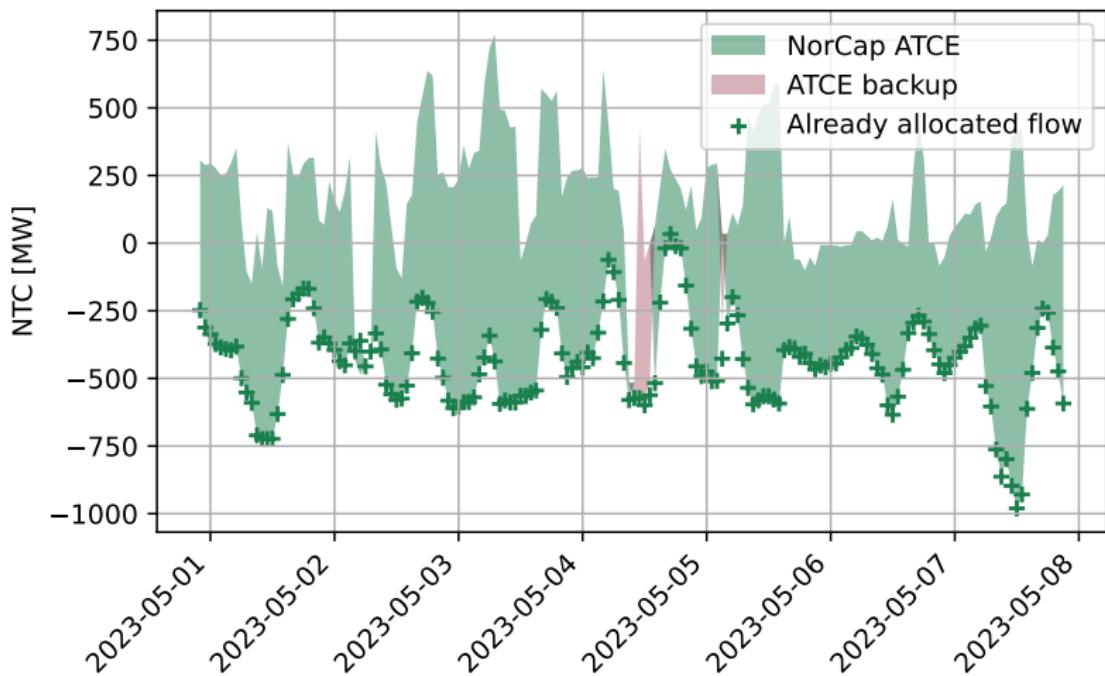
# NO5-NO3

NTC NO5-NO3

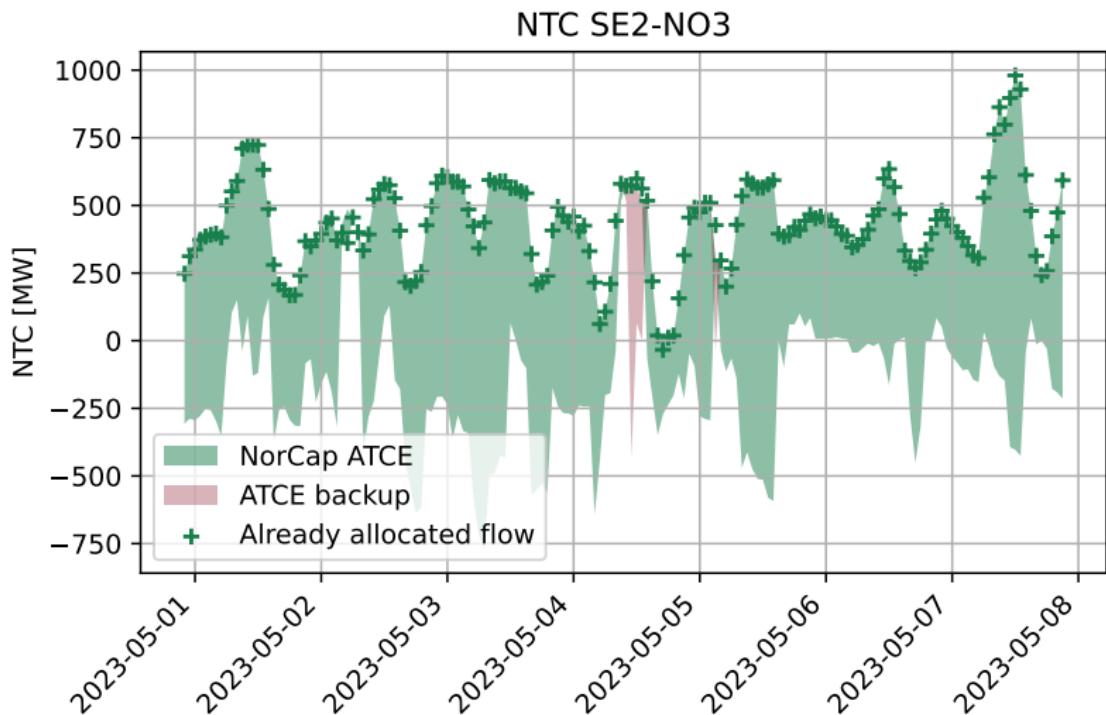


# NO3-SE2

NTC NO3-SE2

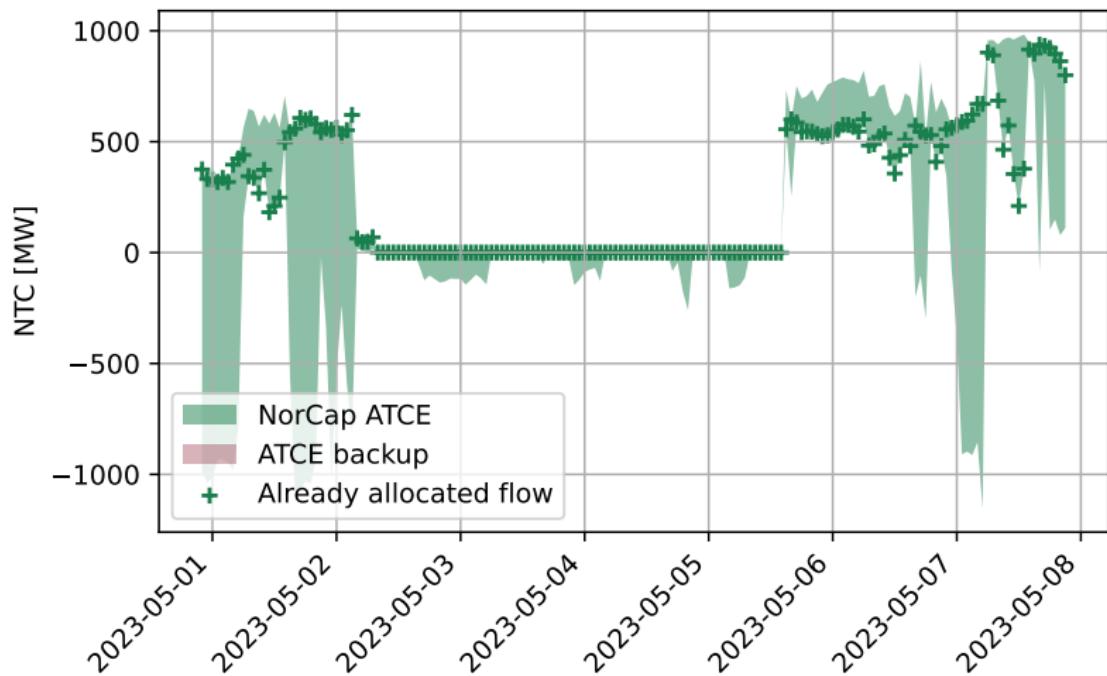


# SE2-NO3



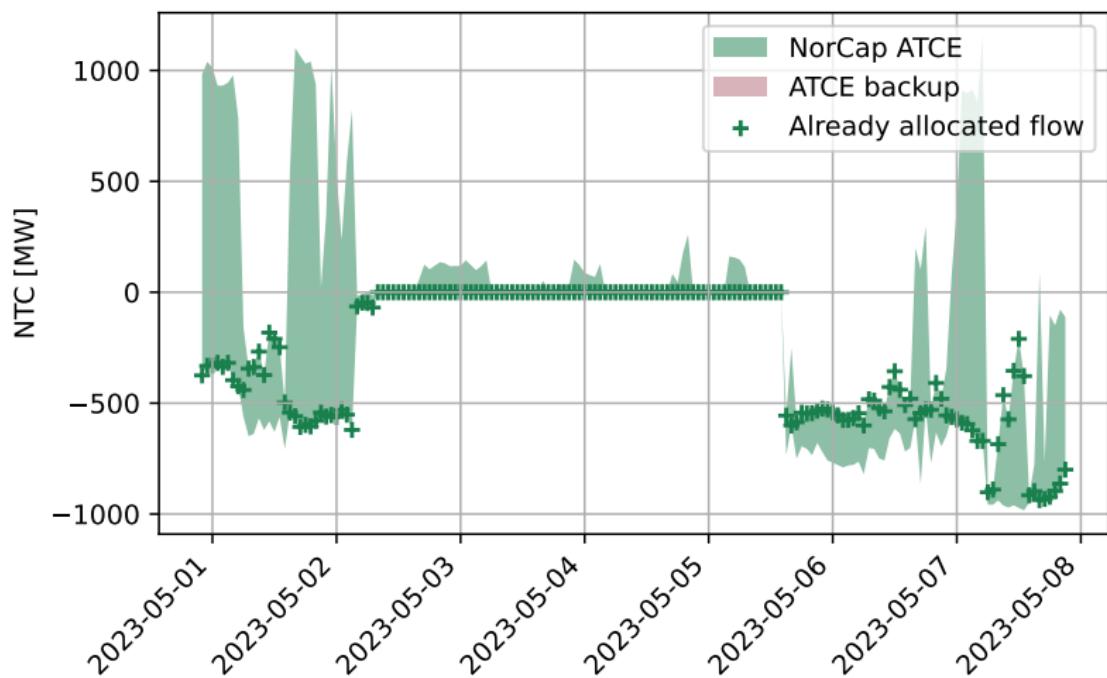
# NO4-SE1

NTC NO4-SE1

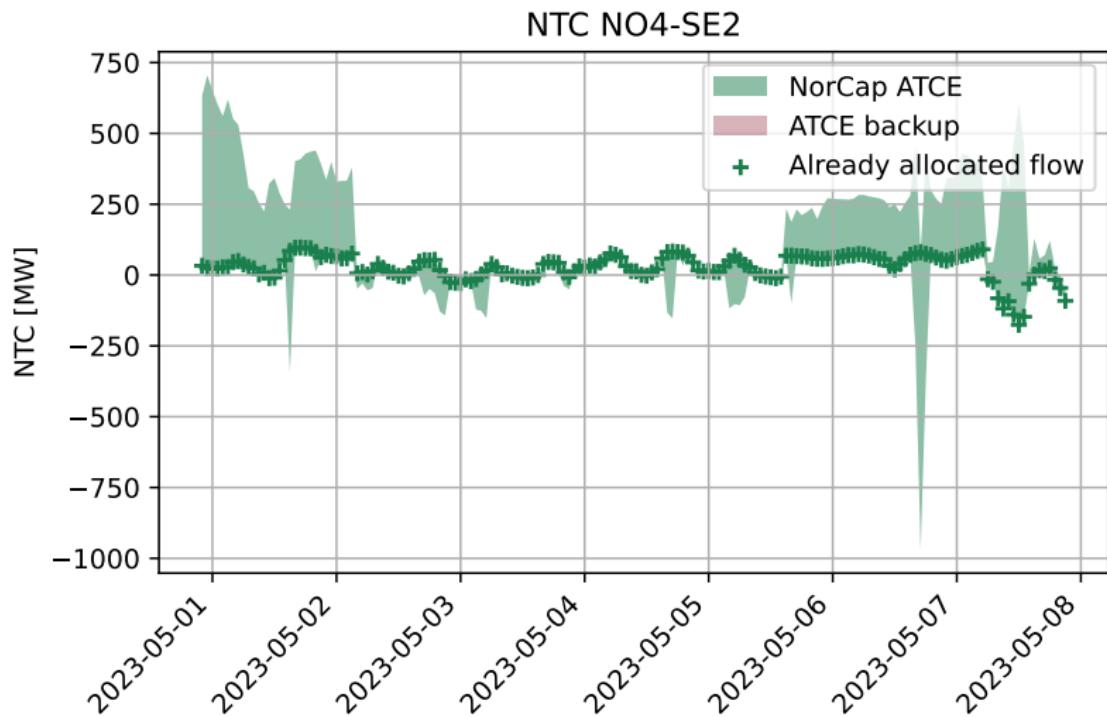


# SE1-NO4

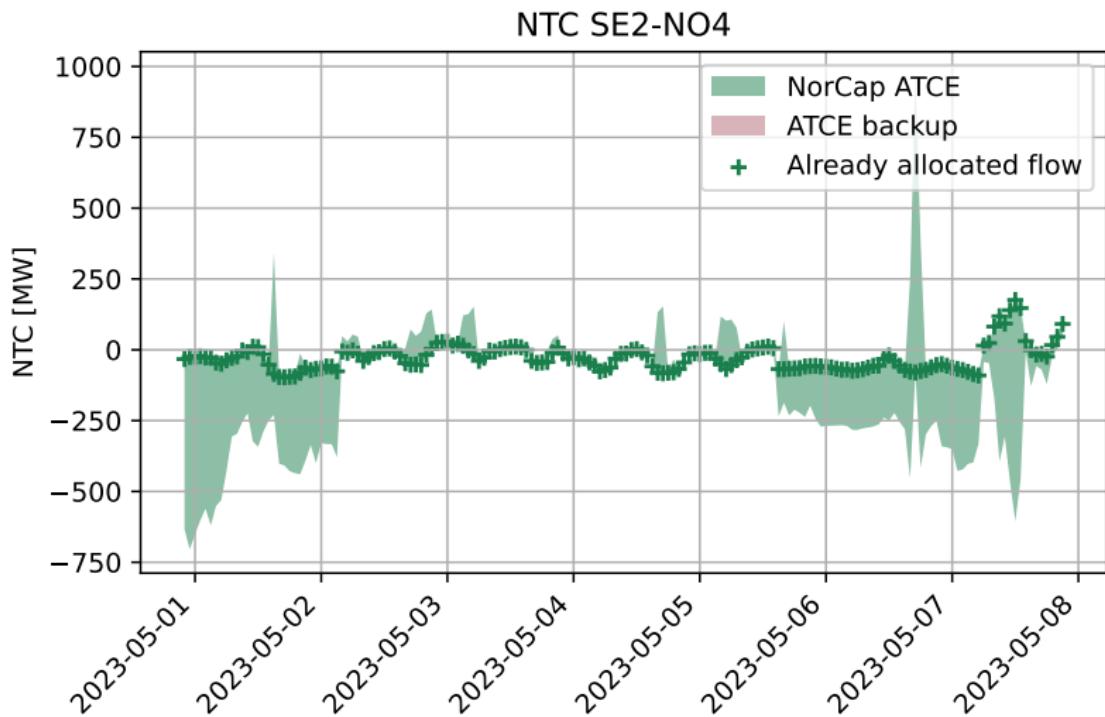
NTC SE1-NO4



# NO4-SE2

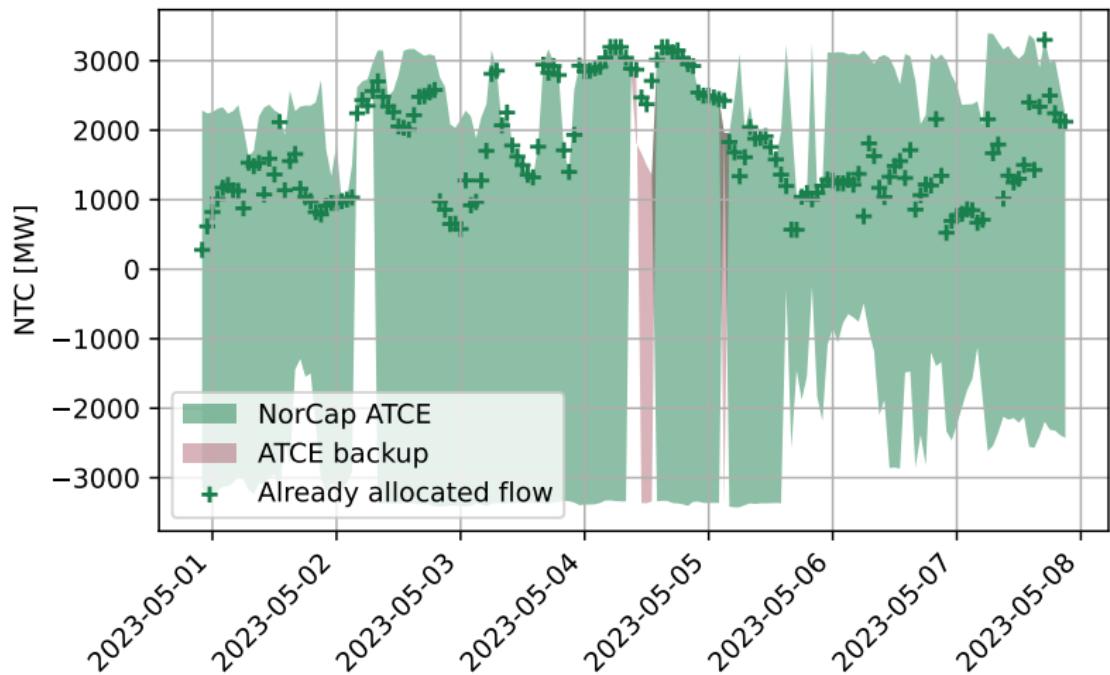


# SE2-NO4

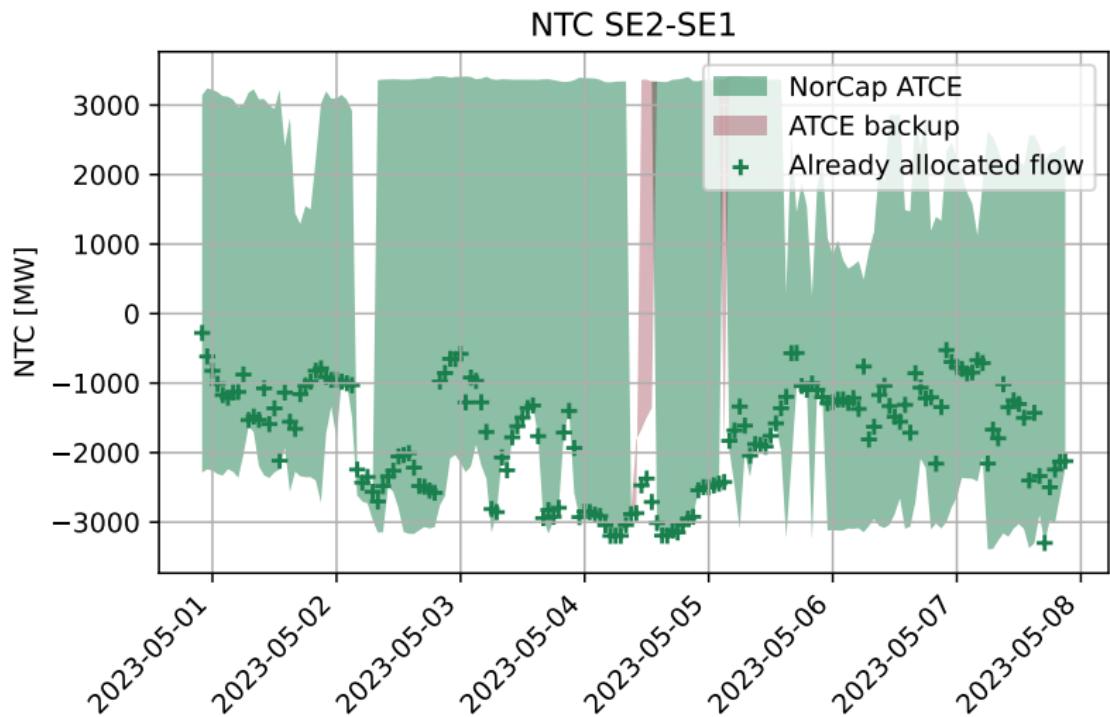


# SE1-SE2

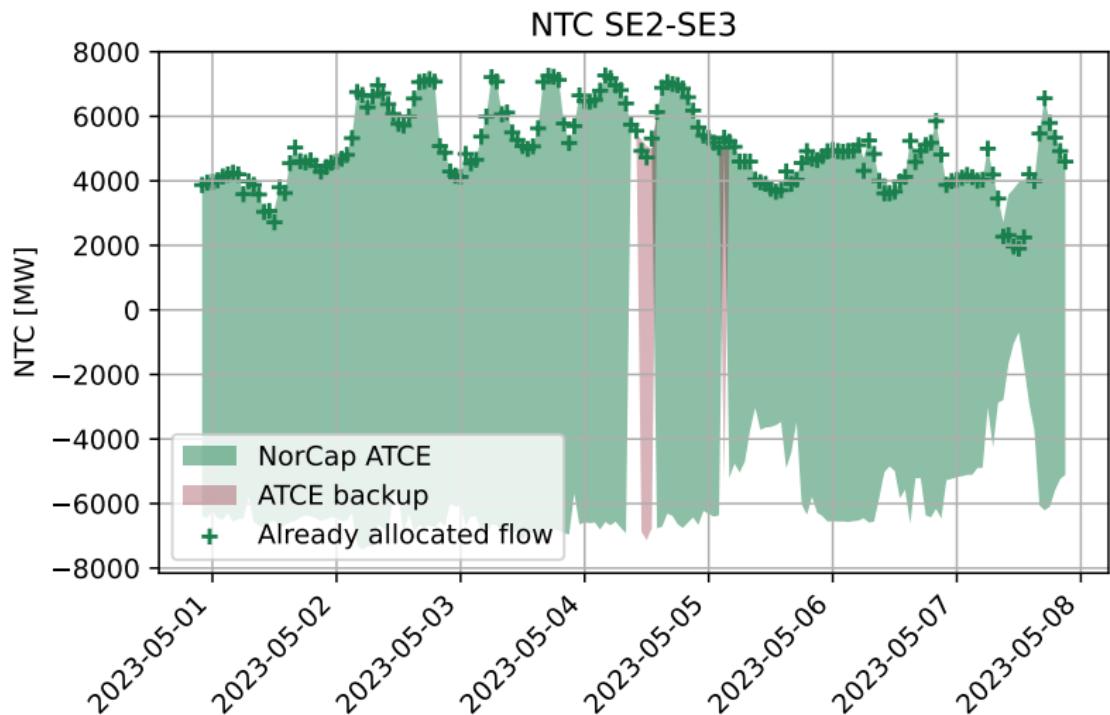
NTC SE1-SE2



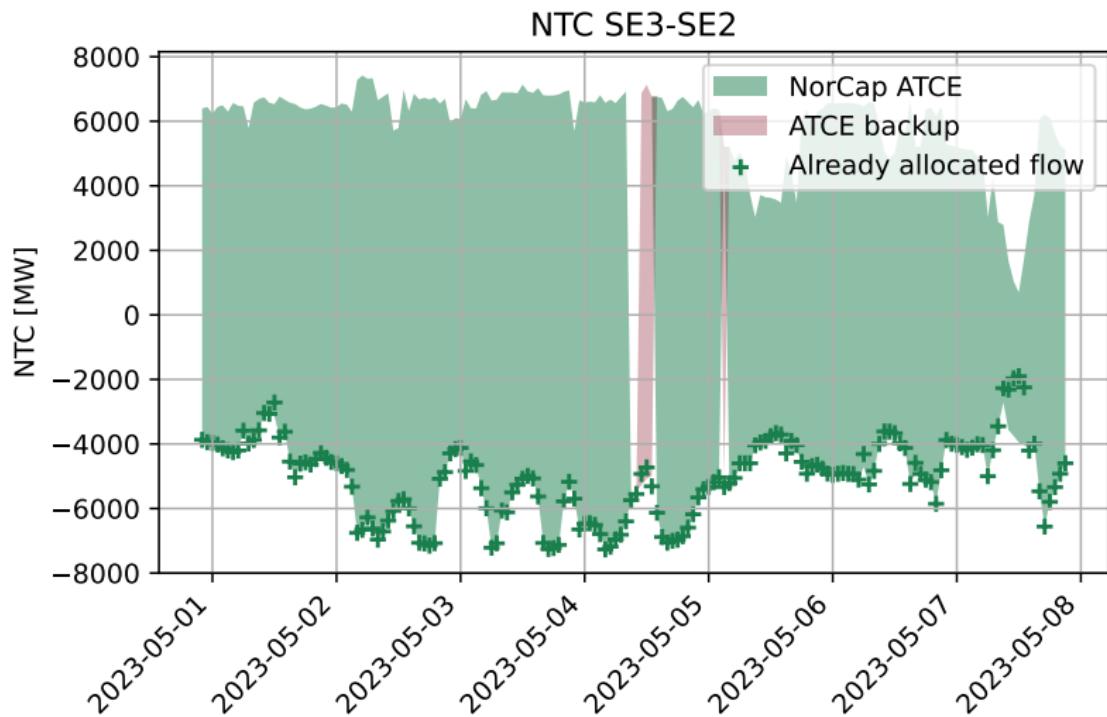
# SE2-SE1



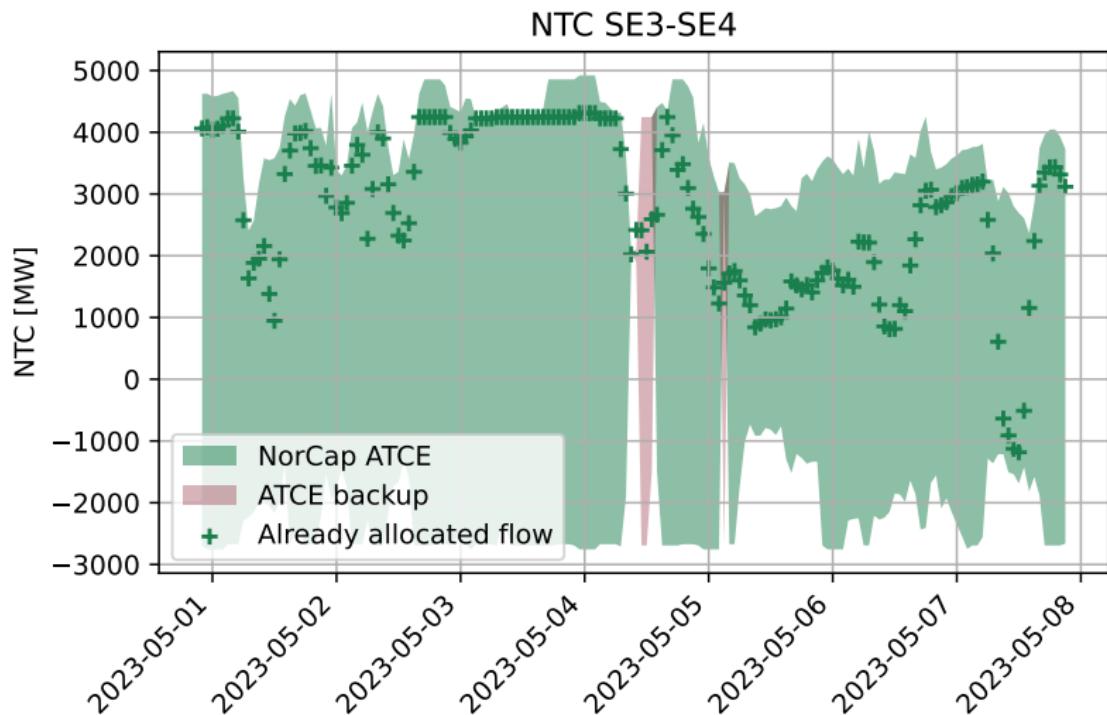
# SE2-SE3



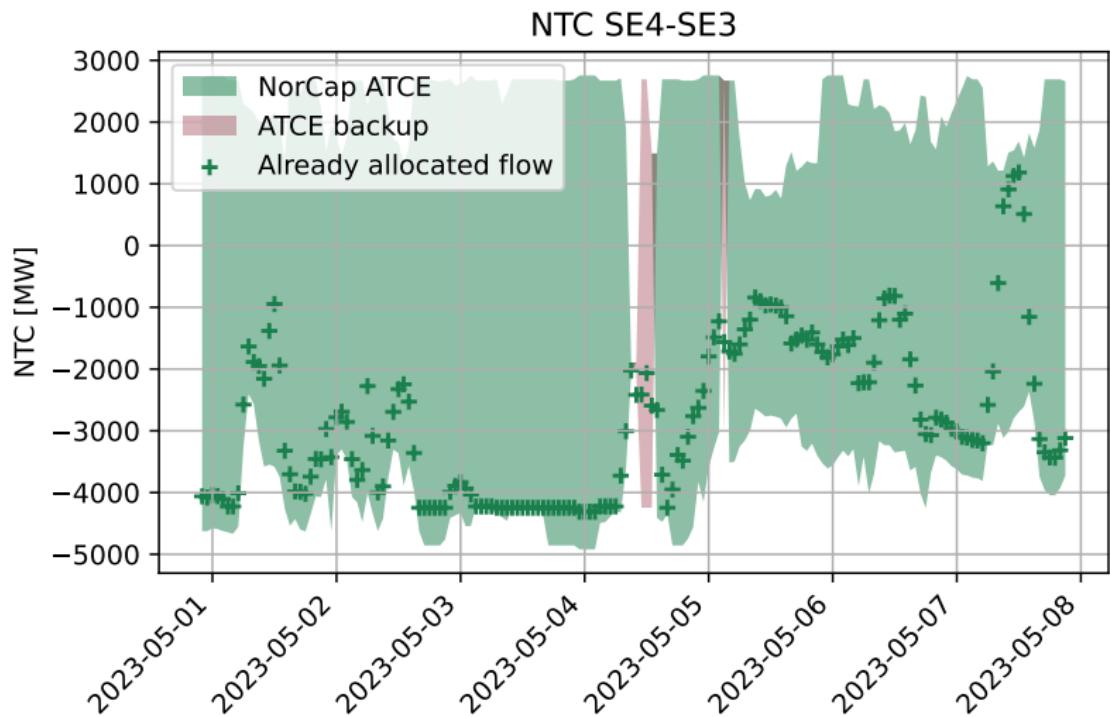
# SE3-SE2



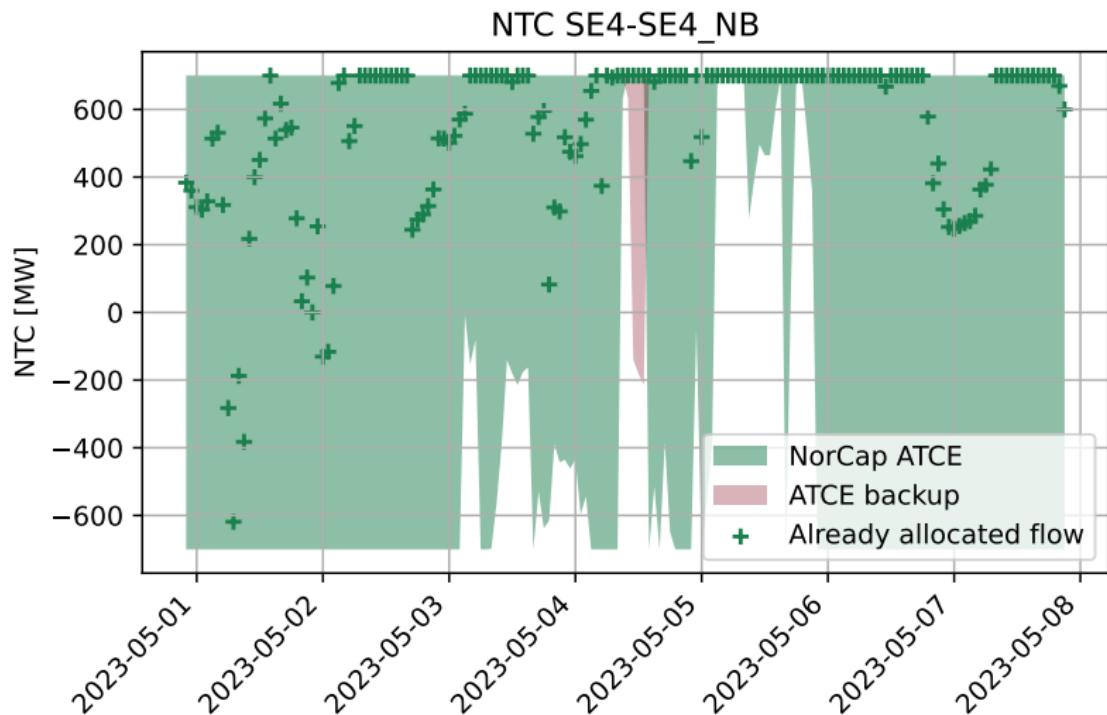
# SE3-SE4



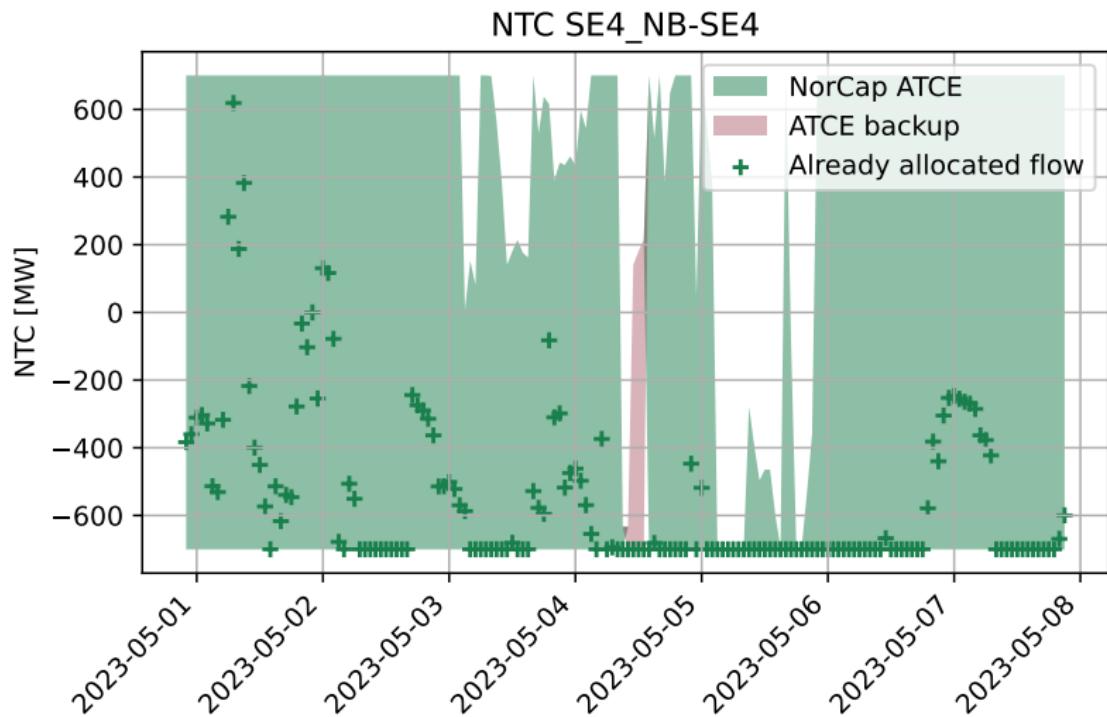
# SE4-SE3



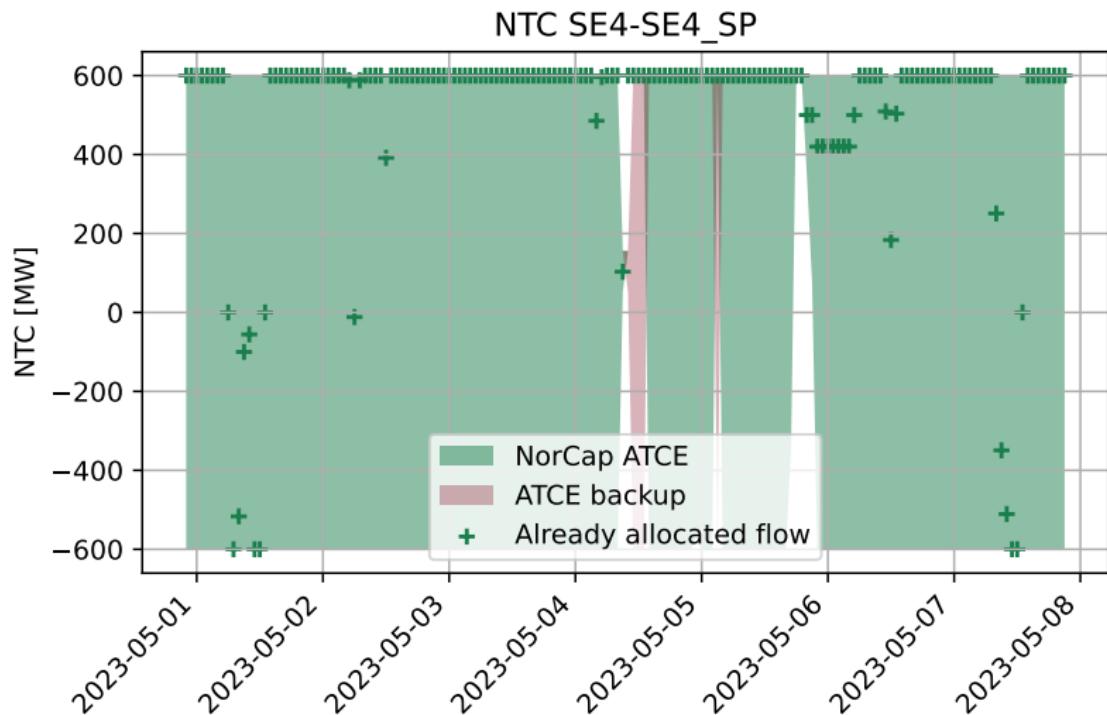
# SE4-SE4\_NB



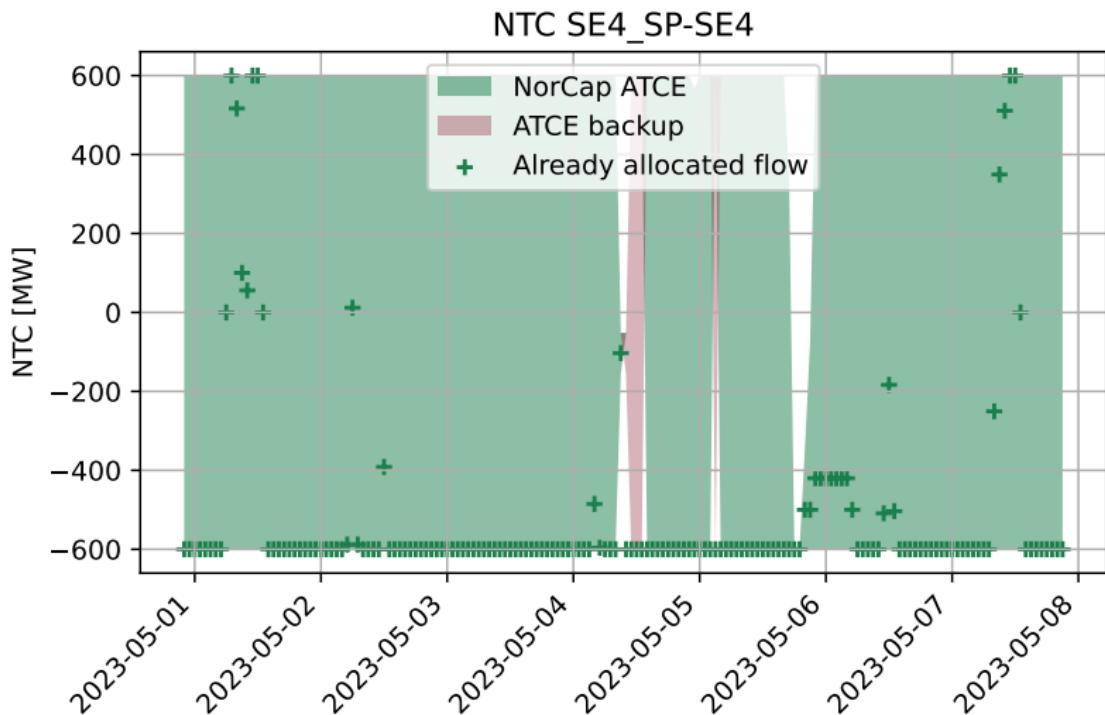
# SE4\_NB-SE4



# SE4-SE4\_SP



# SE4\_SP-SE4

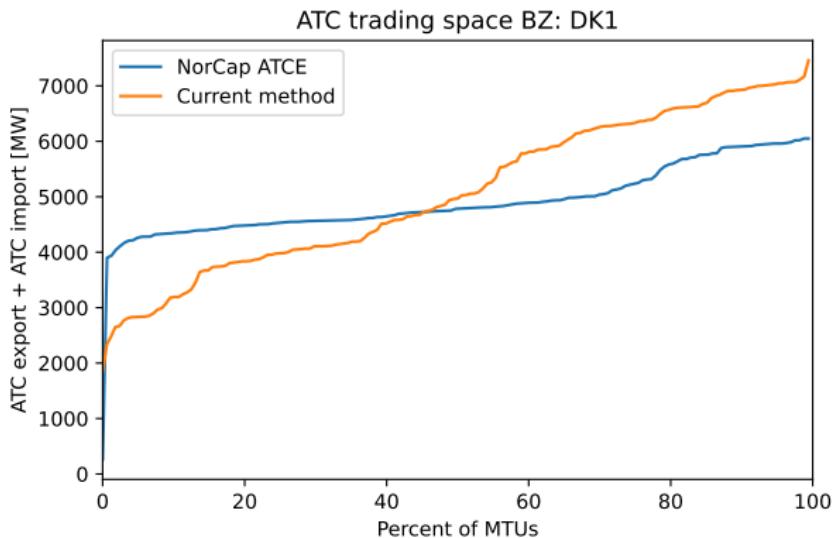


# Bidding zone trading space

The total trading space of a bidding zone for a given MTU is the sum of export capacity and import capacity on all borders of that bidding zone for that MTU. The directional trading space is the sum of ATC on all borders of a bidding zone in either exporting or importing direction.

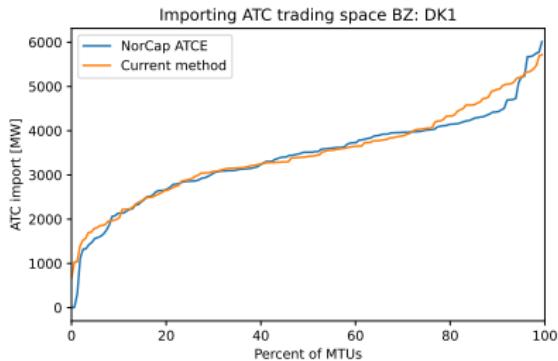
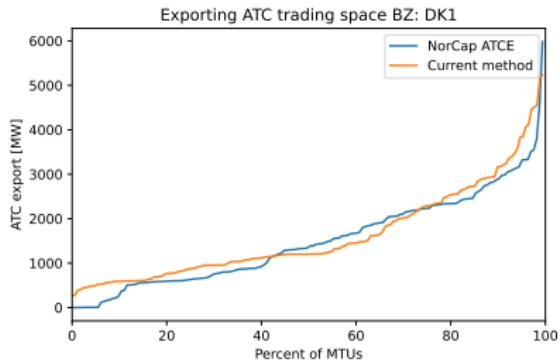
Disclaimer: Trading space computed by the reference method (i.e. the current method used in production) are calculated from intra-day offered ATCs collected from ENTSO-e transparency platform. It must be noted that the capacities collected at transparency platform are harmonized capacities including limitations submitted by non-Nordic TSOs and ramping constraints for some HVDCs.

## DK1 - Total trading space



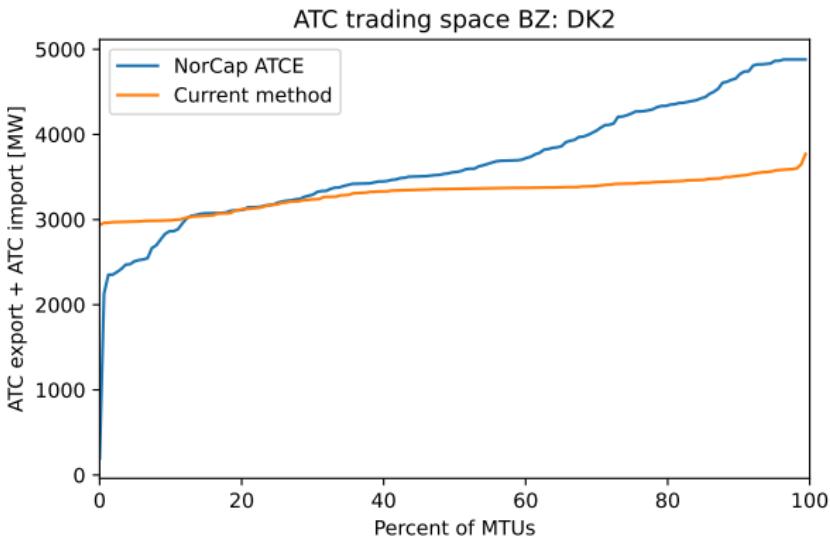
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# DK1 - Directional trading space



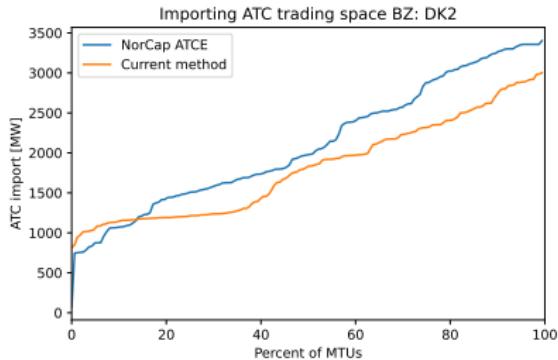
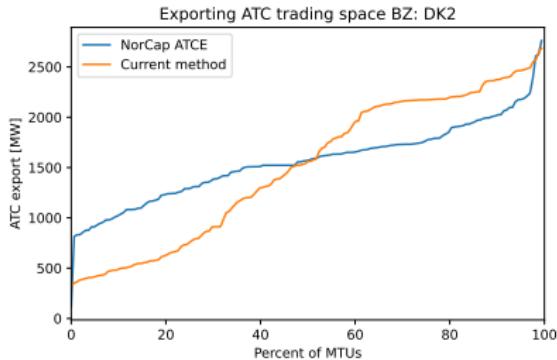
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## DK2 - Total trading space



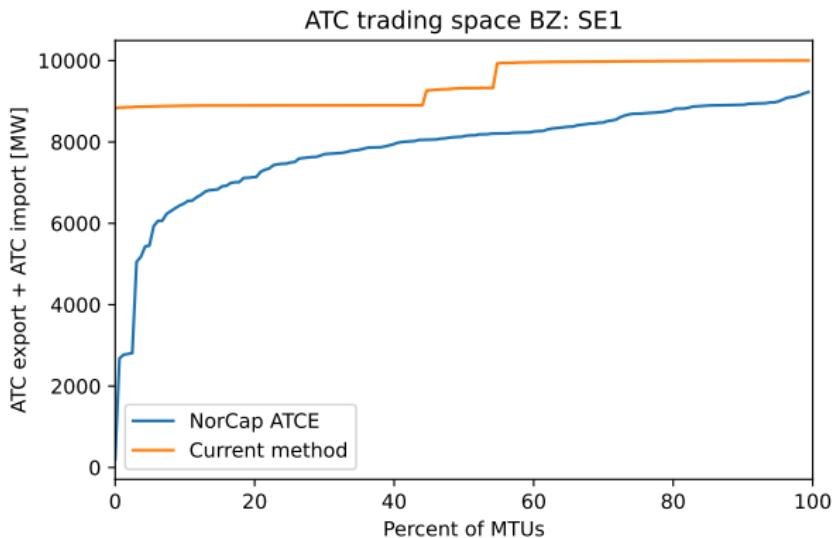
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## DK2 - Directional trading space



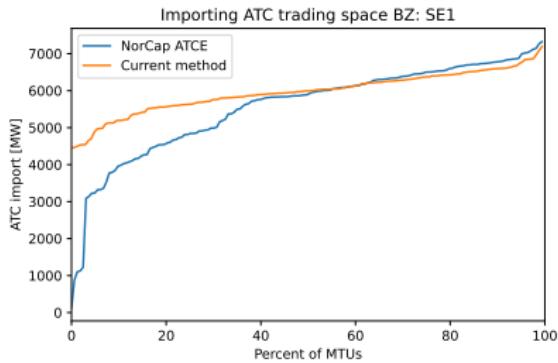
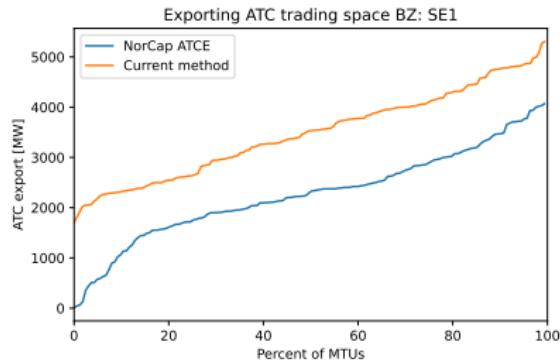
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## SE1 - Total trading space



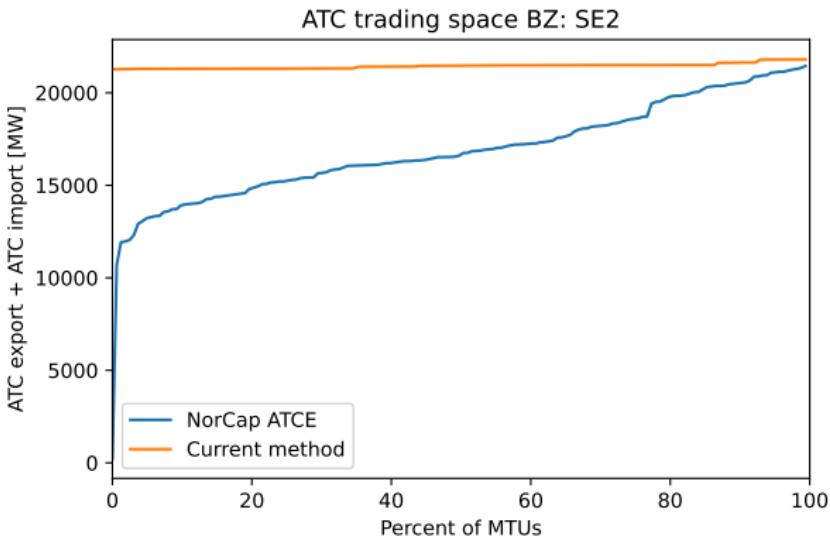
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE1 - Directional trading space



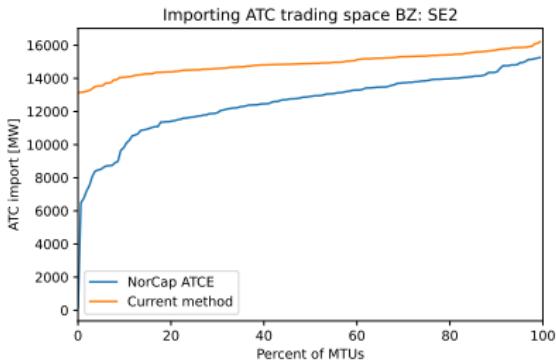
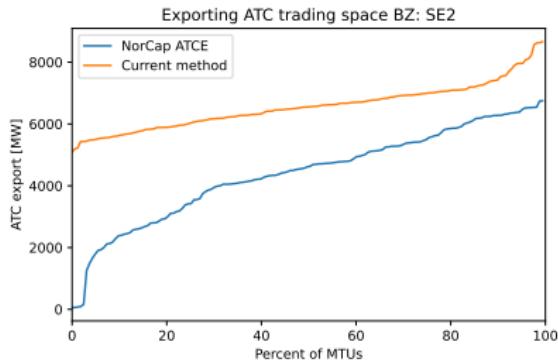
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## SE2 - Total trading space



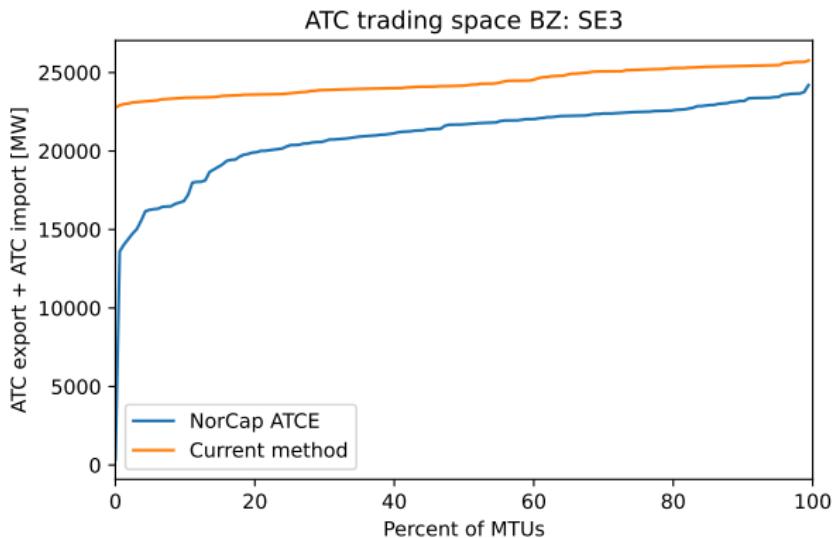
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## SE2 - Directional trading space



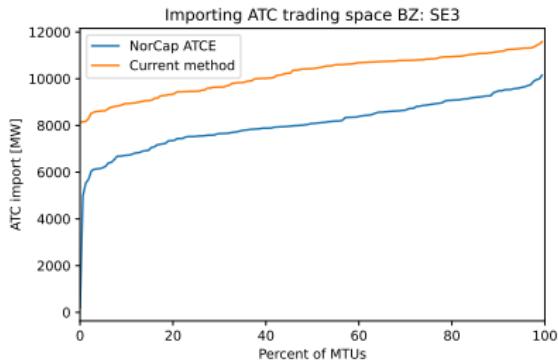
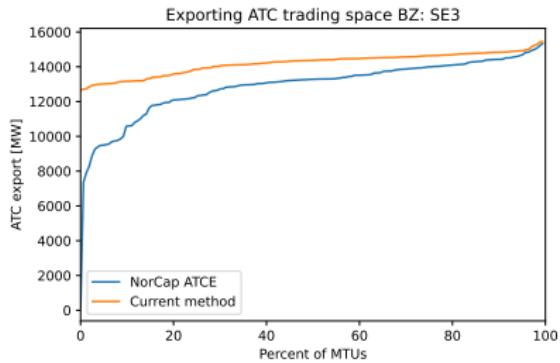
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## SE3 - Total trading space



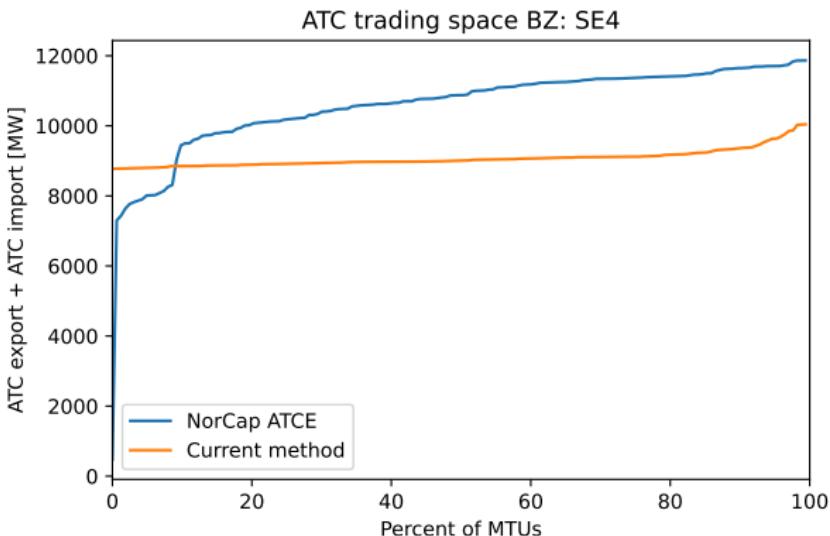
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE3 - Directional trading space



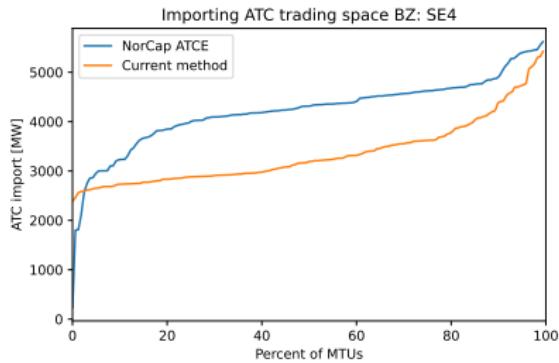
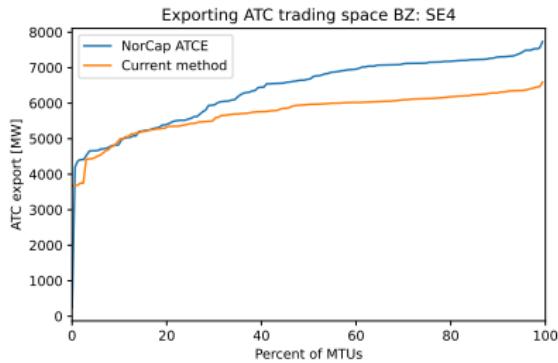
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## SE4 - Total trading space



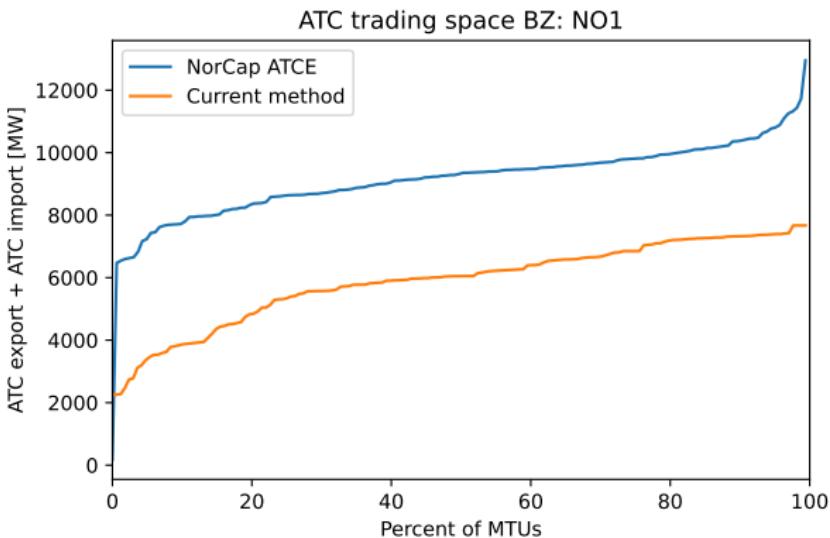
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE4 - Directional trading space



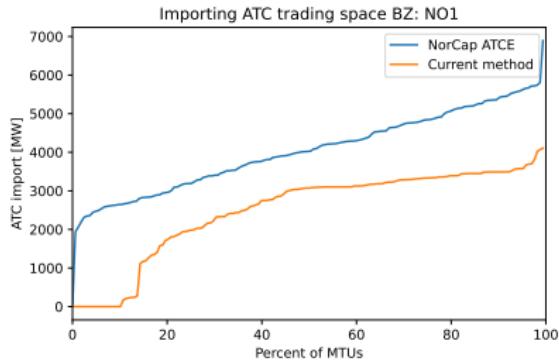
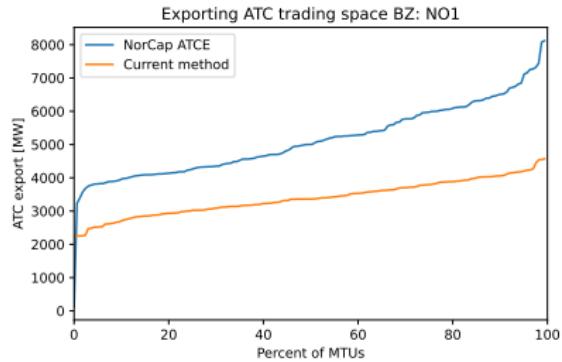
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## NO1 - Total trading space



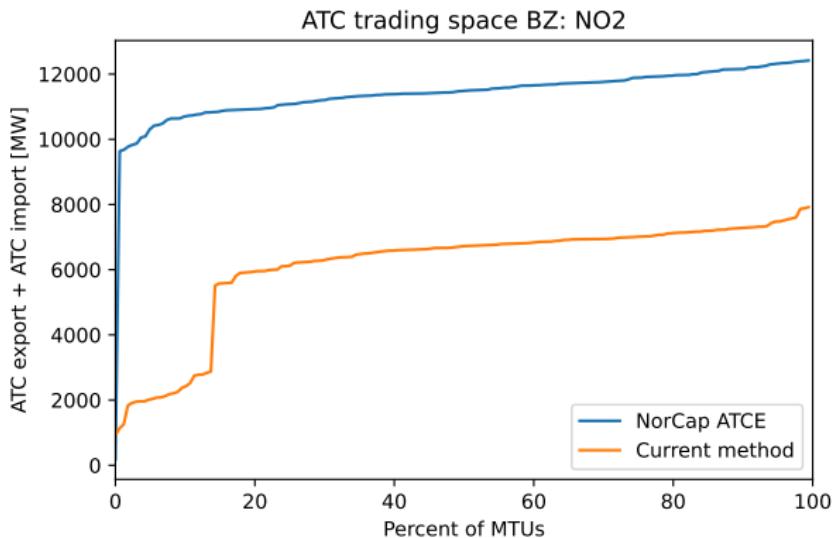
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO1 - Directional trading space



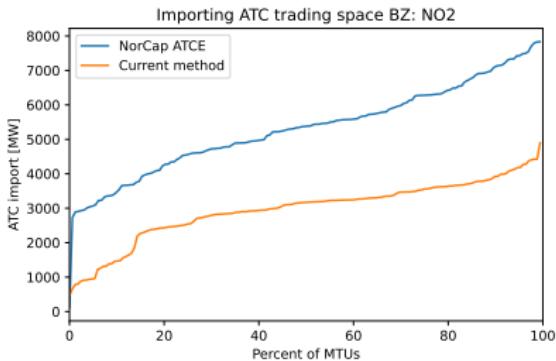
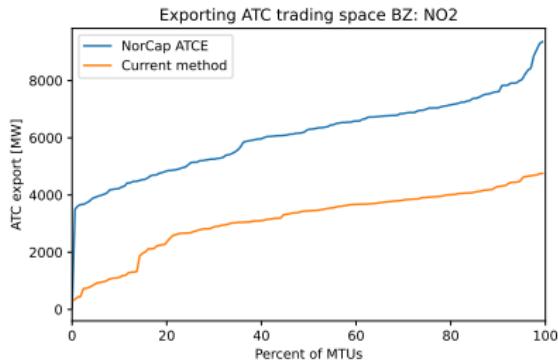
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## NO2 - Total trading space



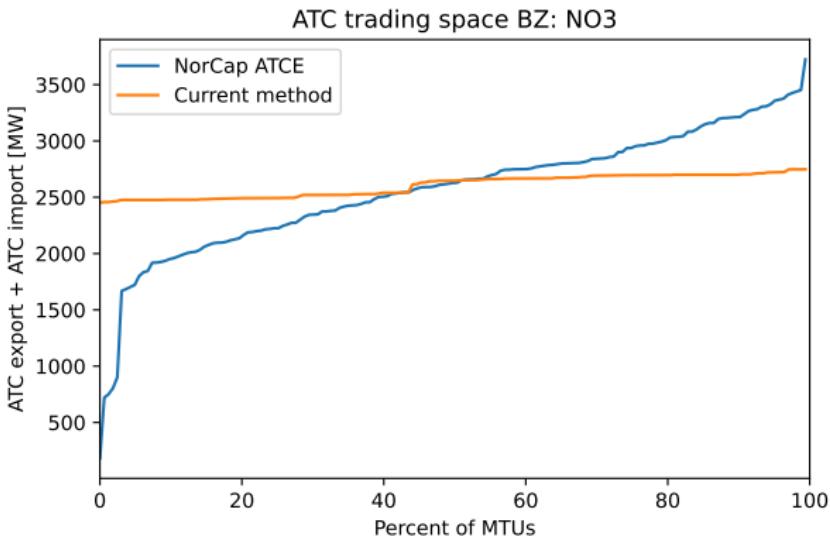
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO2 - Directional trading space



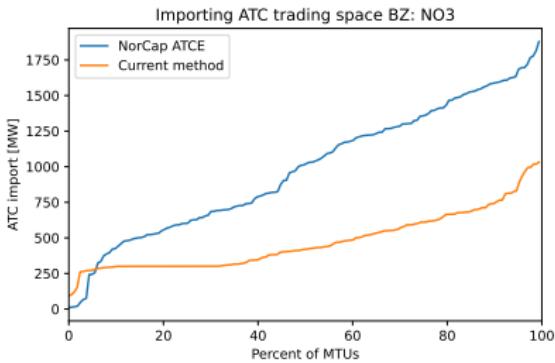
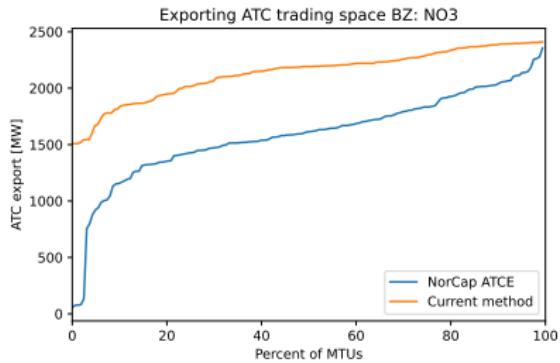
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## NO3 - Total trading space



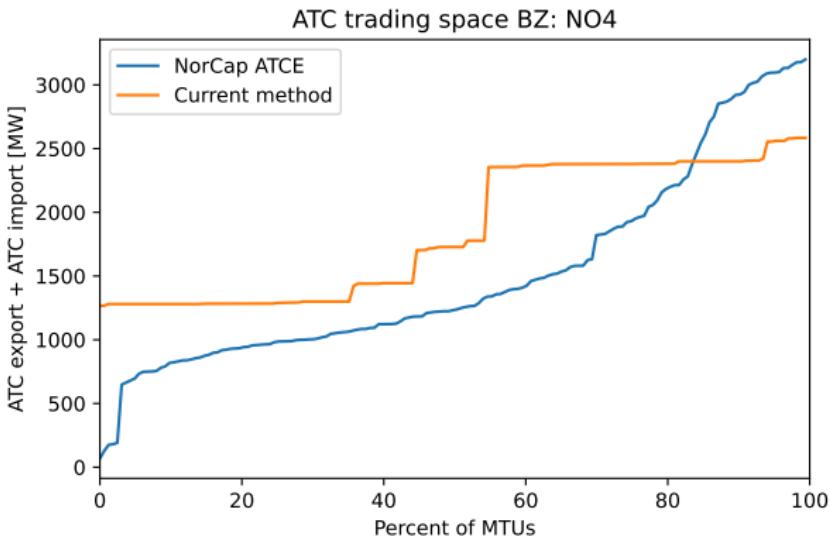
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## NO3 - Directional trading space



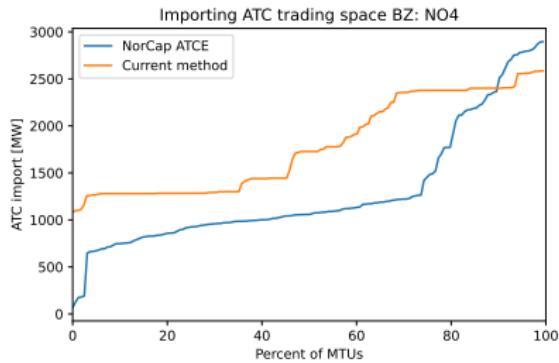
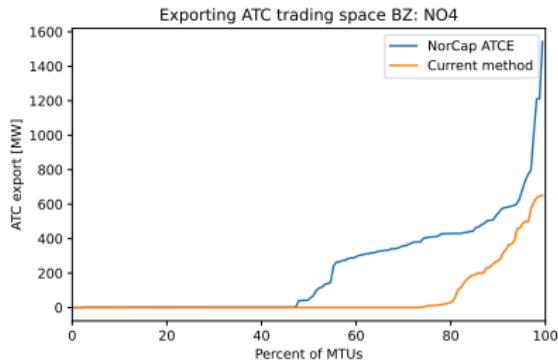
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## NO4 - Total trading space



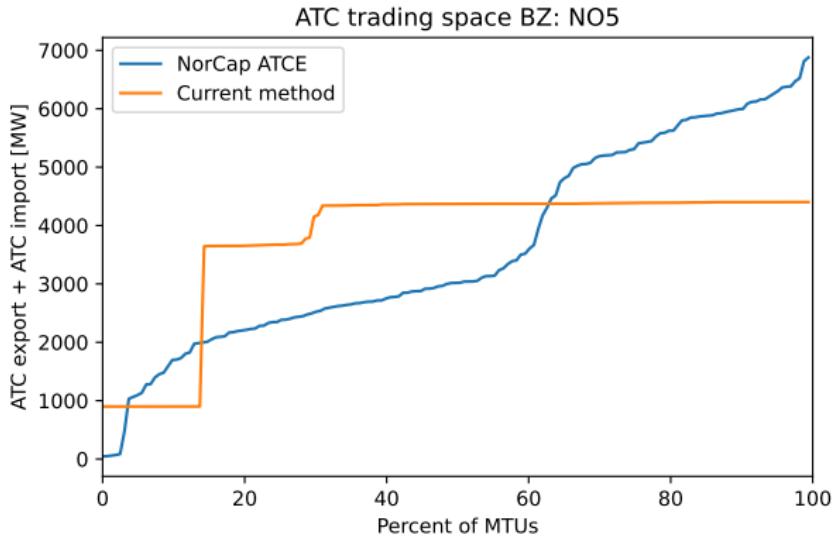
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## NO4 - Directional trading space



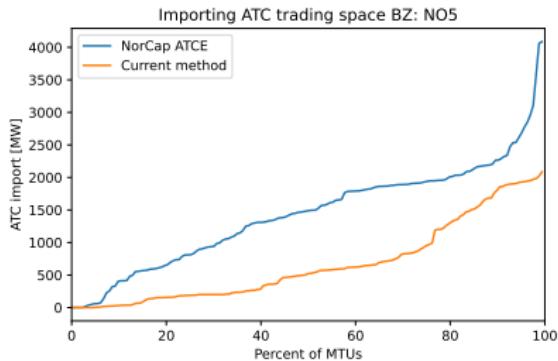
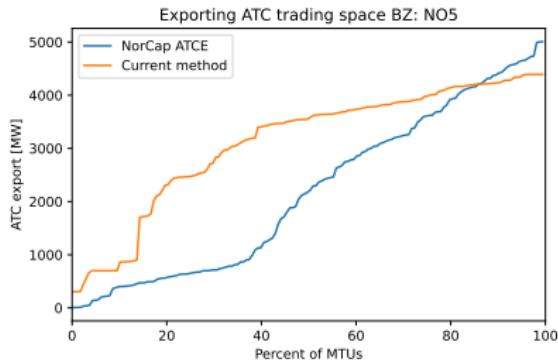
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## NO5 - Total trading space



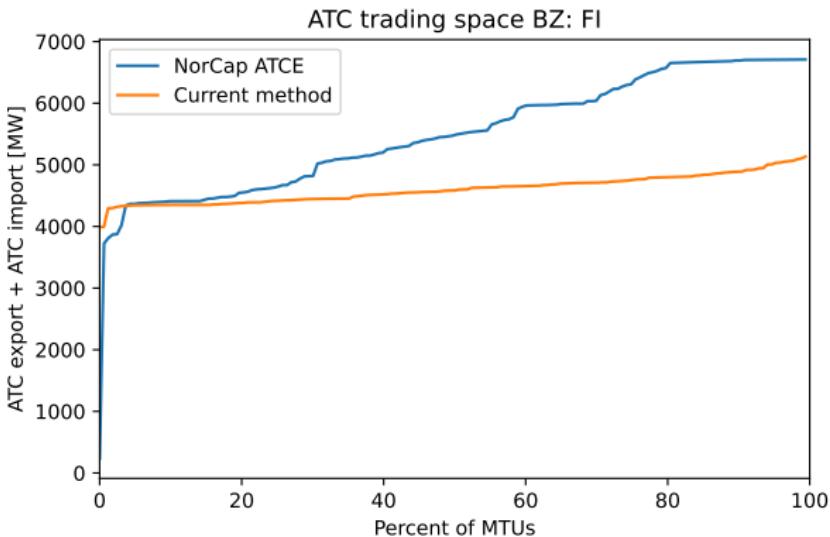
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## NO5 - Directional trading space



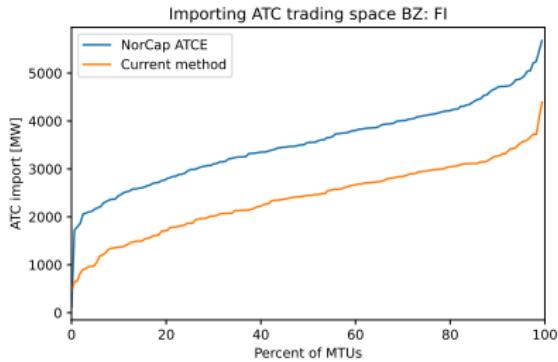
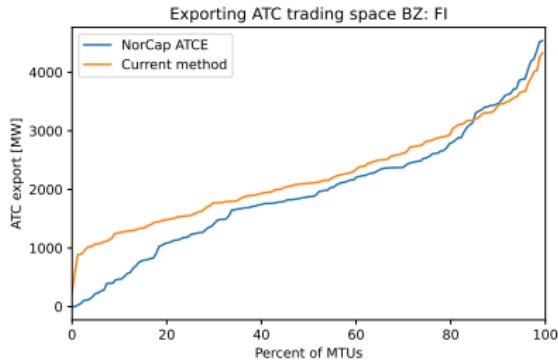
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

## FI - Total trading space



Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

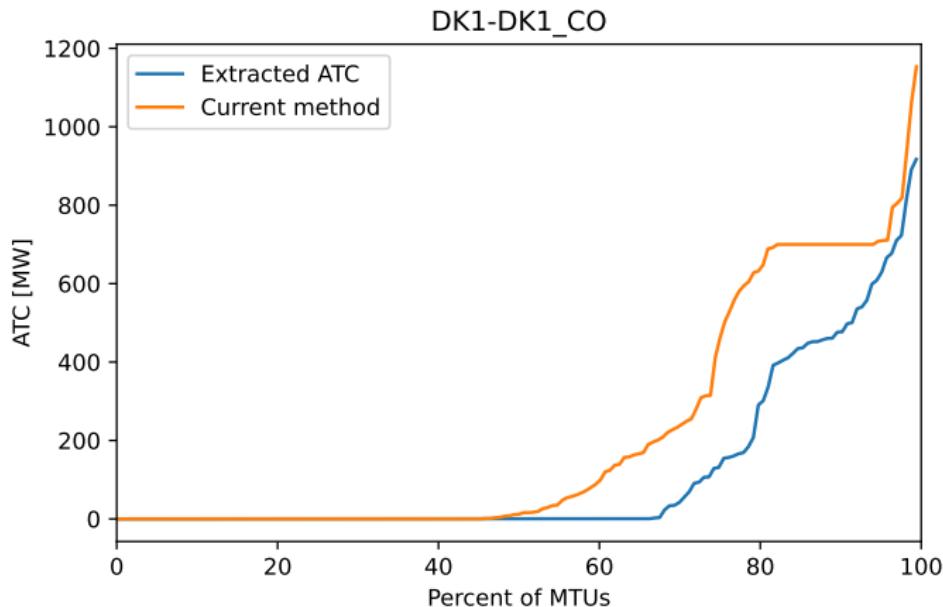
# FI - Directional trading space



Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

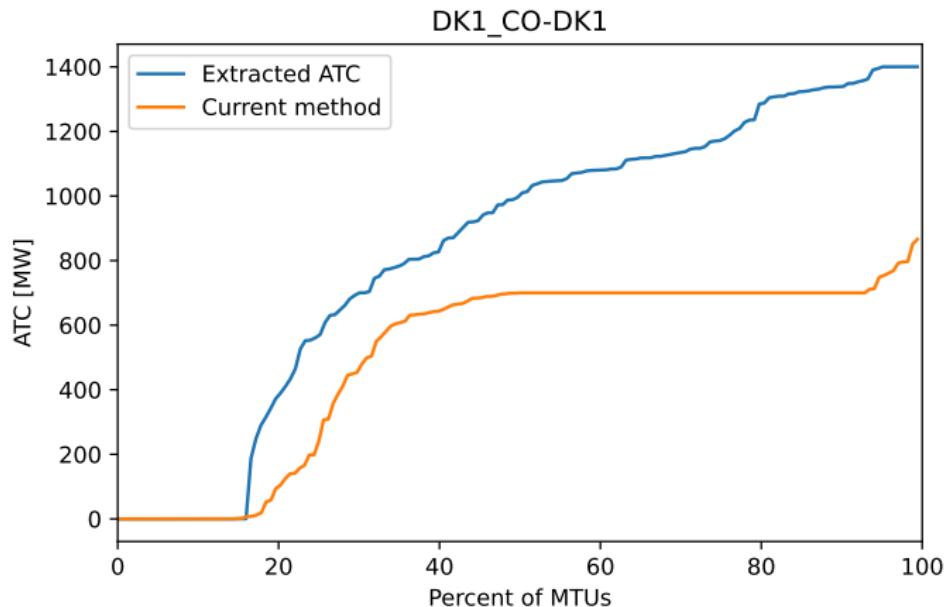
# Capacity duration curves

## DK1-DK1\_CO ATC duration curves



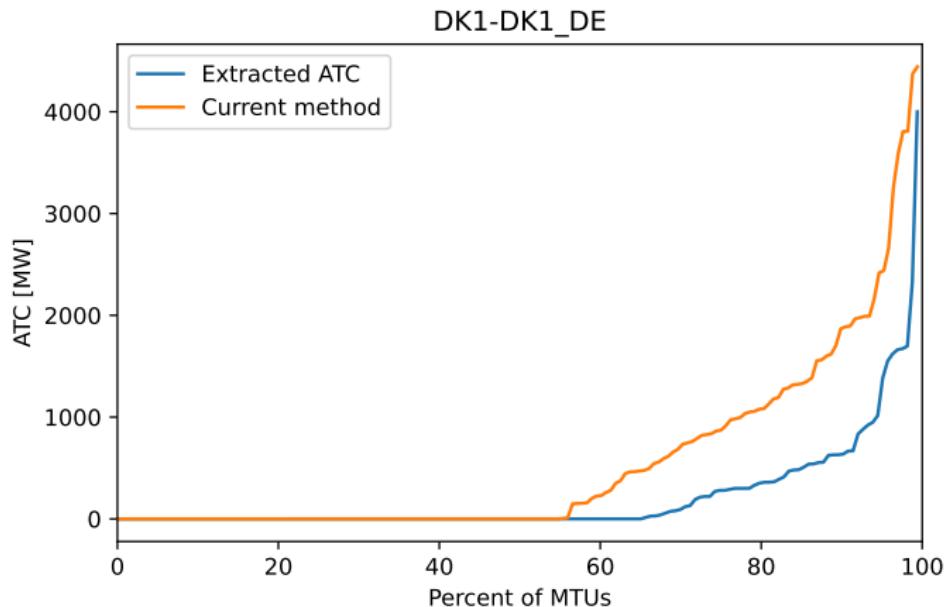
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## DK1\_CO-DK1 ATC duration curves



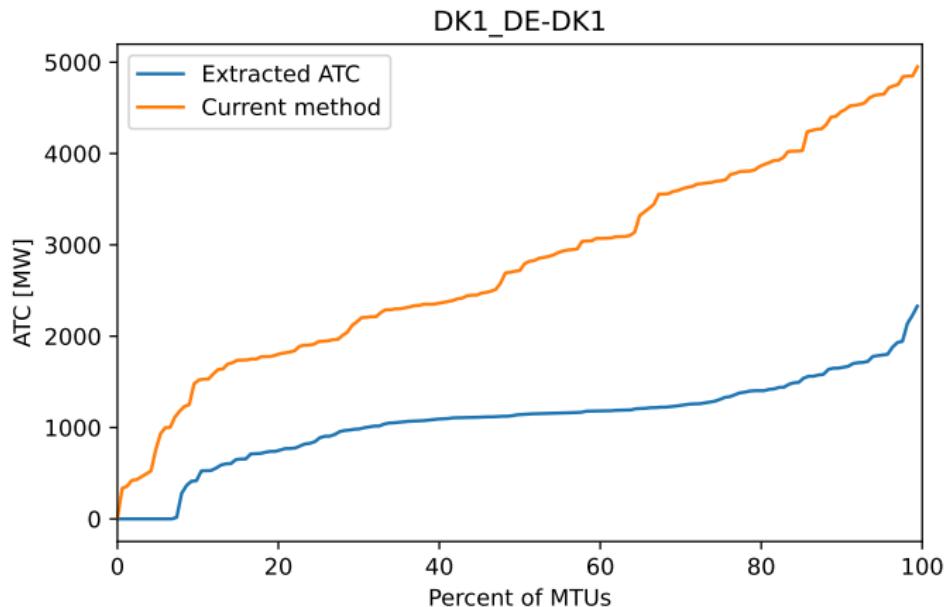
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## DK1-DK1\_DE ATC duration curves



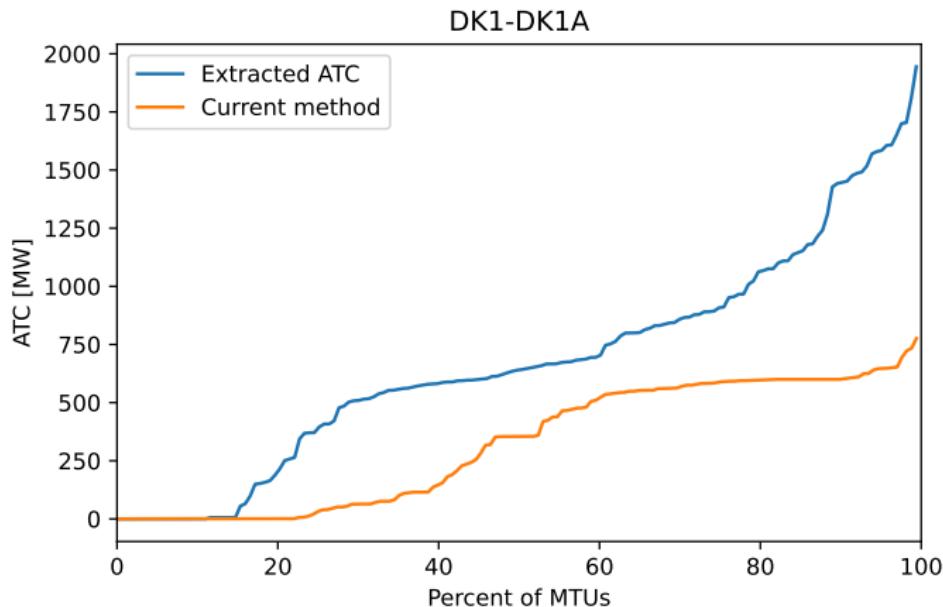
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## DK1\_DE-DK1 ATC duration curves



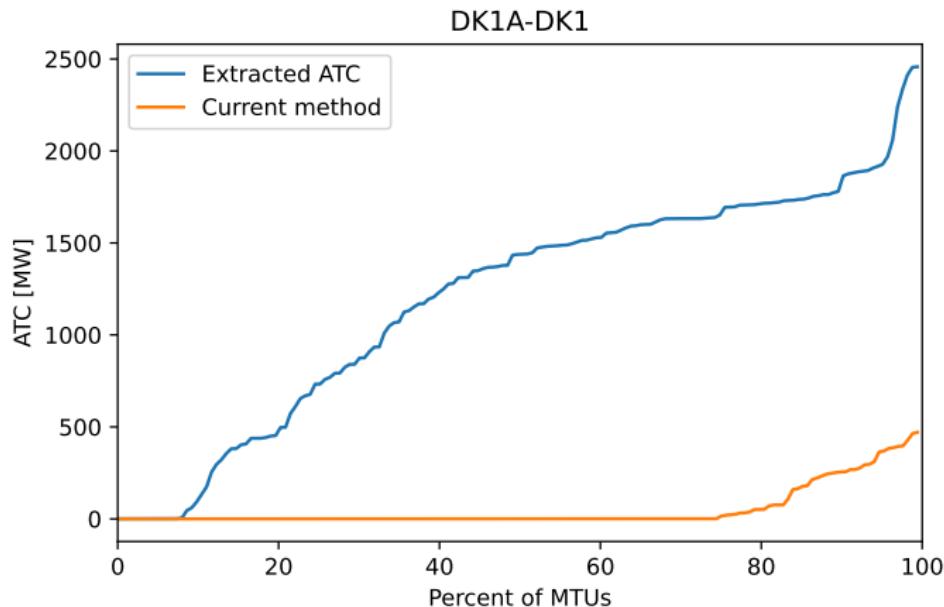
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK1-DK1A ATC duration curves



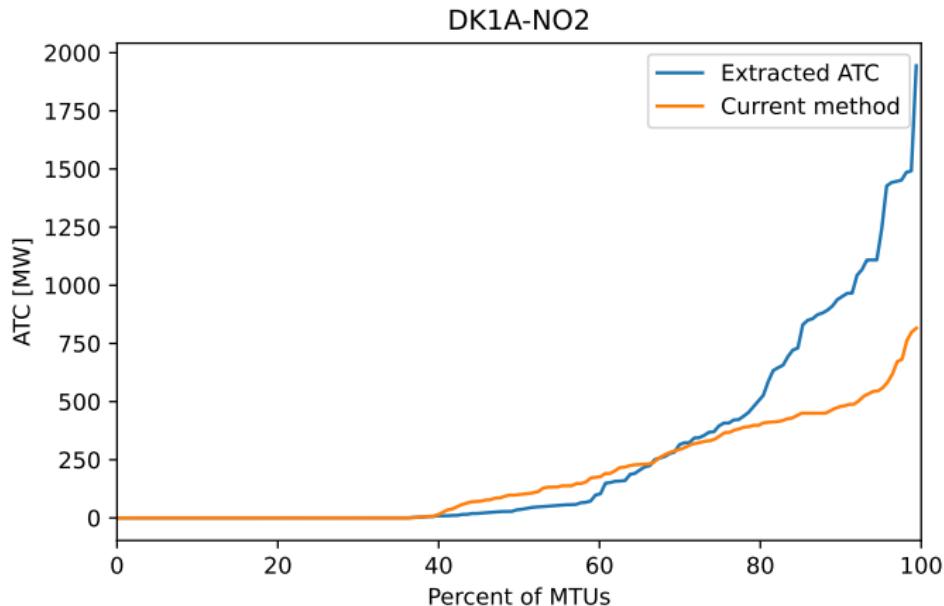
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## DK1A-DK1 ATC duration curves



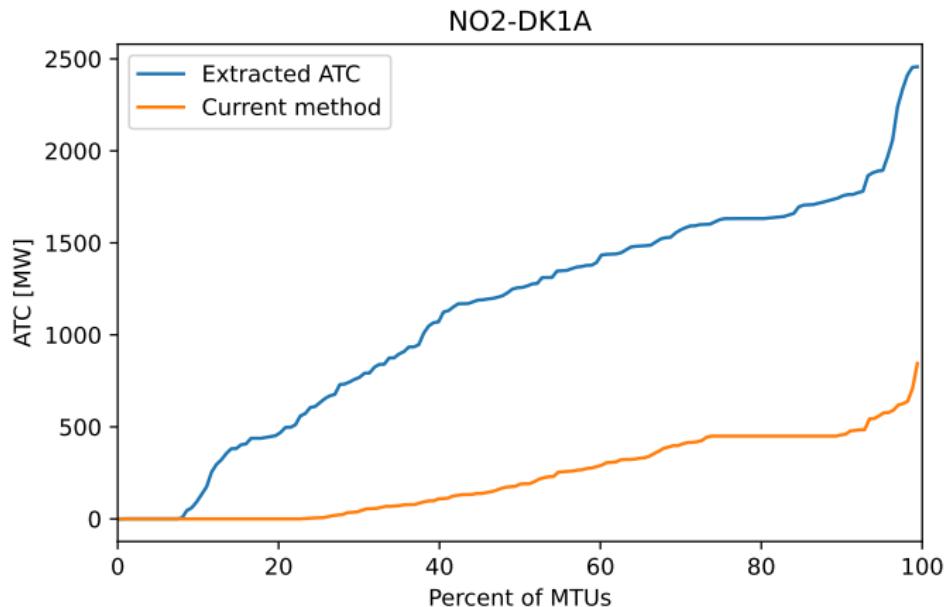
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## DK1A-NO2 ATC duration curves



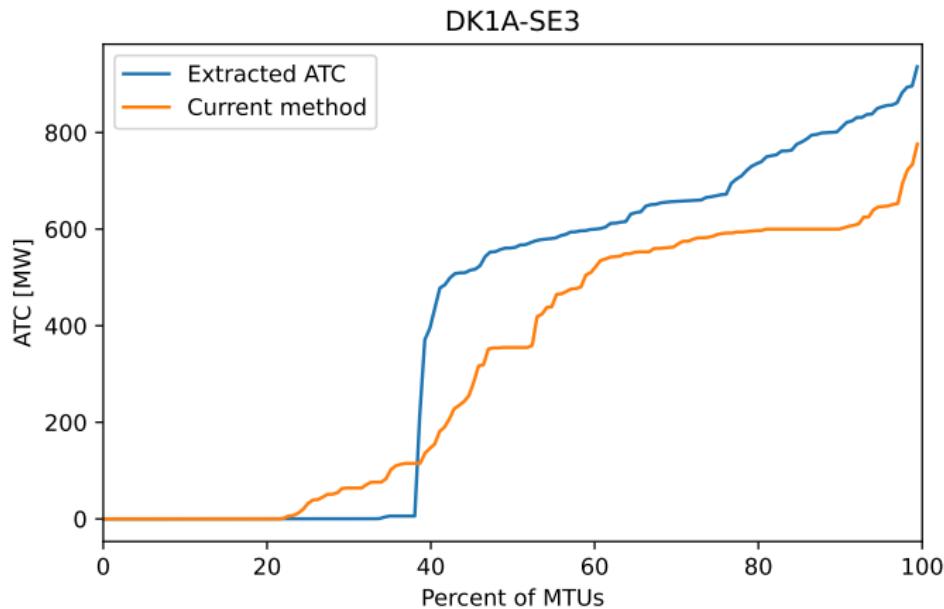
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO2-DK1A ATC duration curves



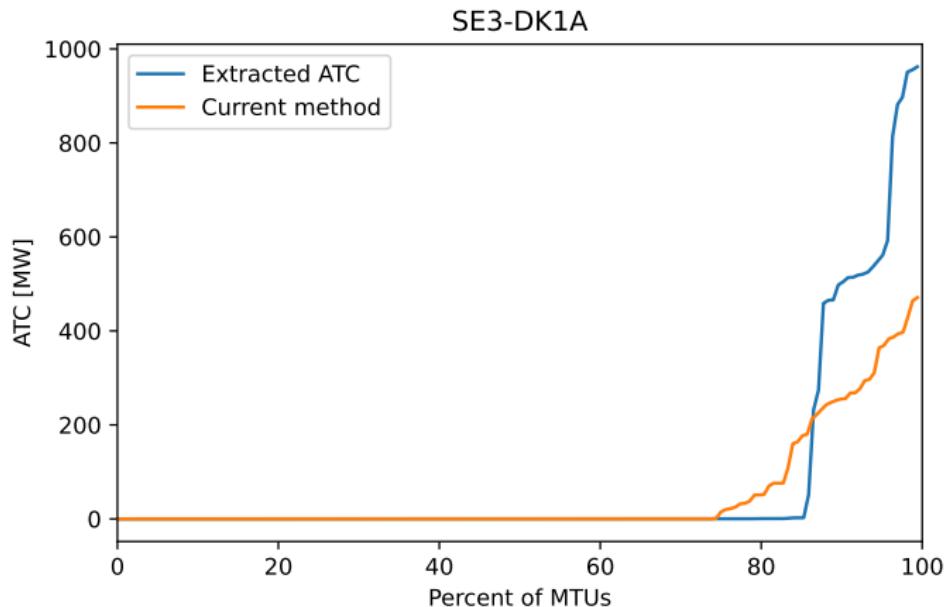
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK1A-SE3 ATC duration curves



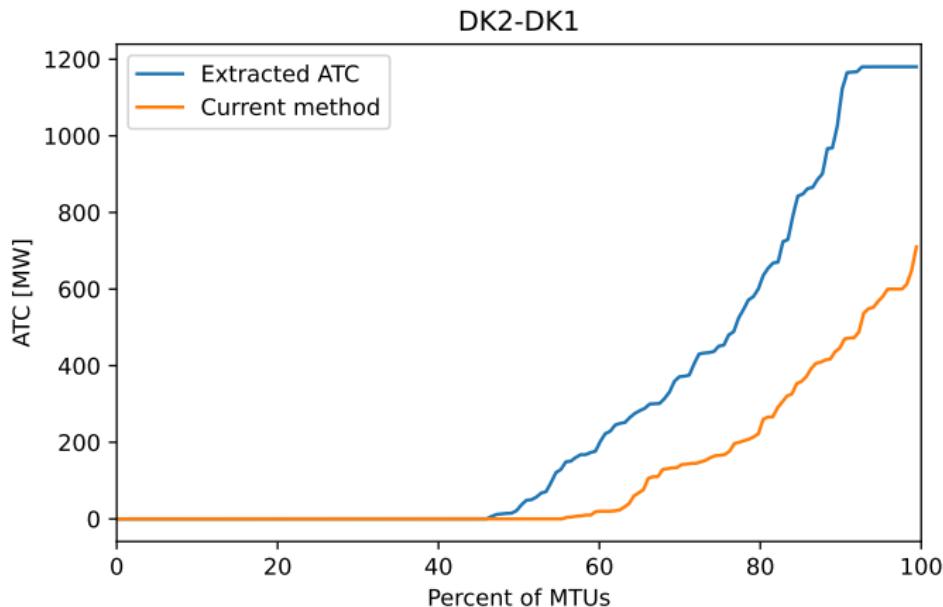
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE3-DK1A ATC duration curves



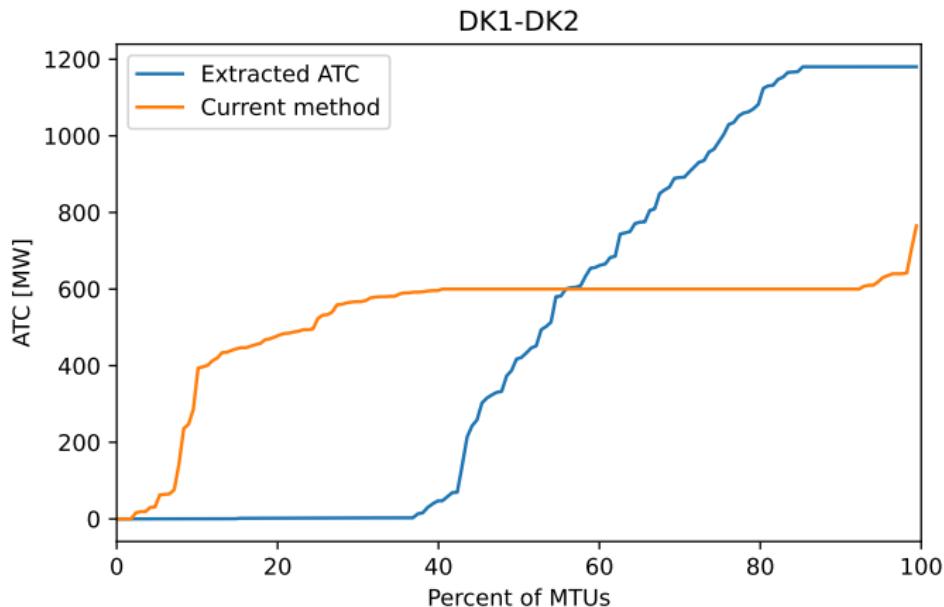
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## DK2-DK1 ATC duration curves



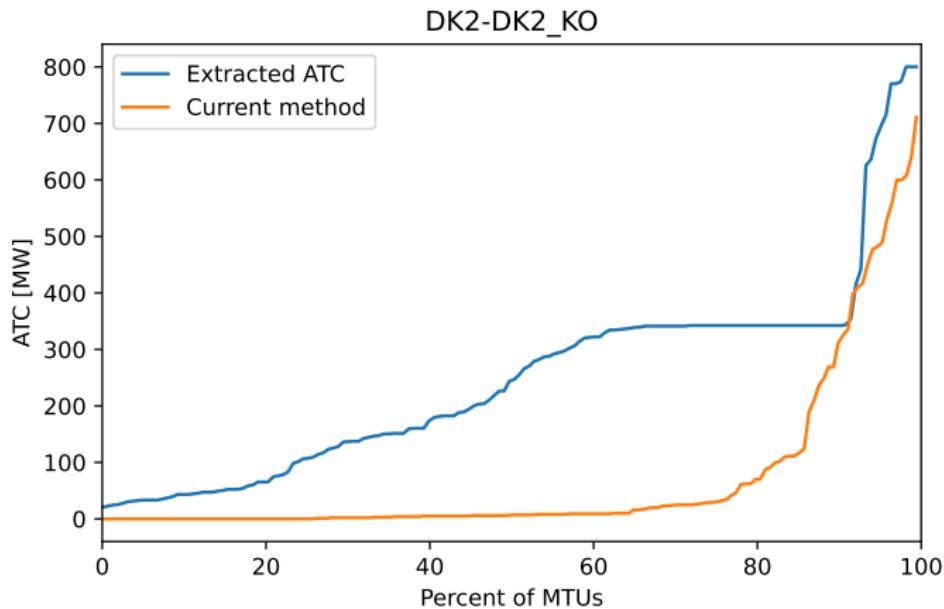
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## DK1-DK2 ATC duration curves



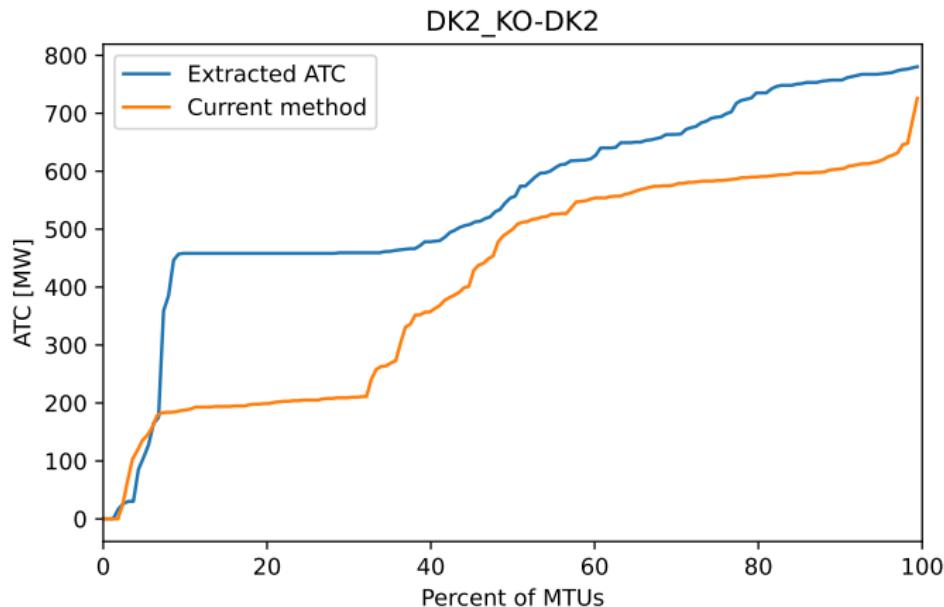
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## DK2-DK2\_KO ATC duration curves



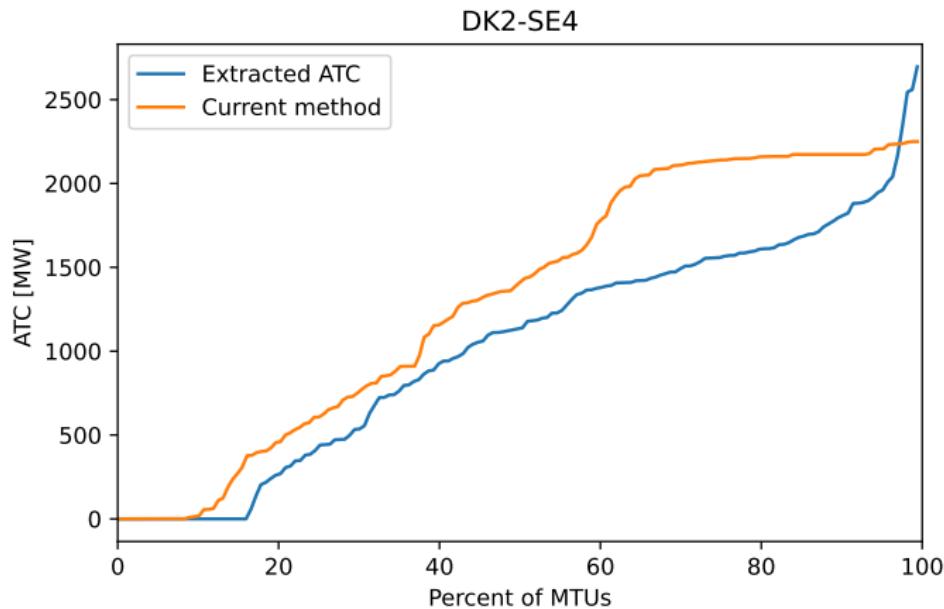
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## DK2\_KO-DK2 ATC duration curves



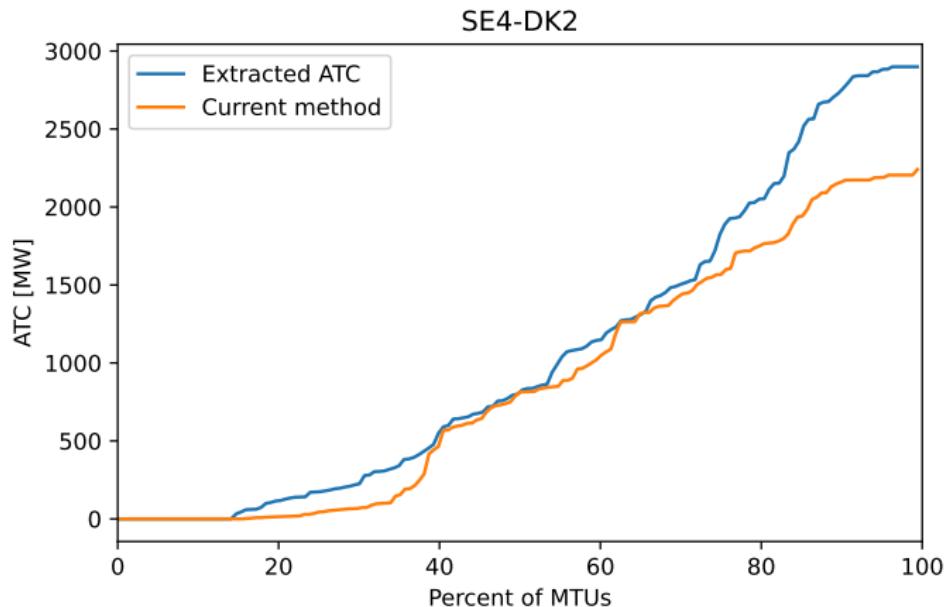
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## DK2-SE4 ATC duration curves



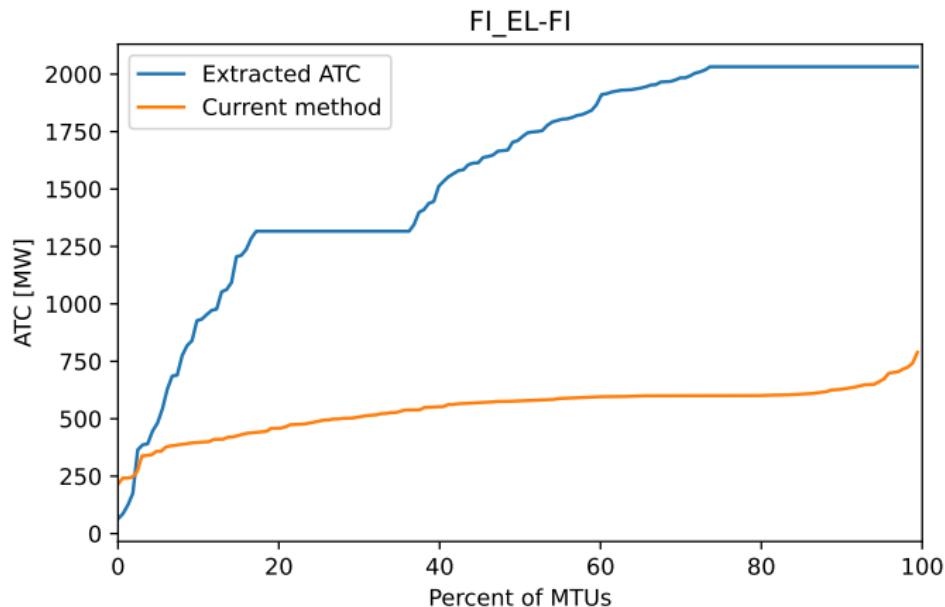
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE4-DK2 ATC duration curves



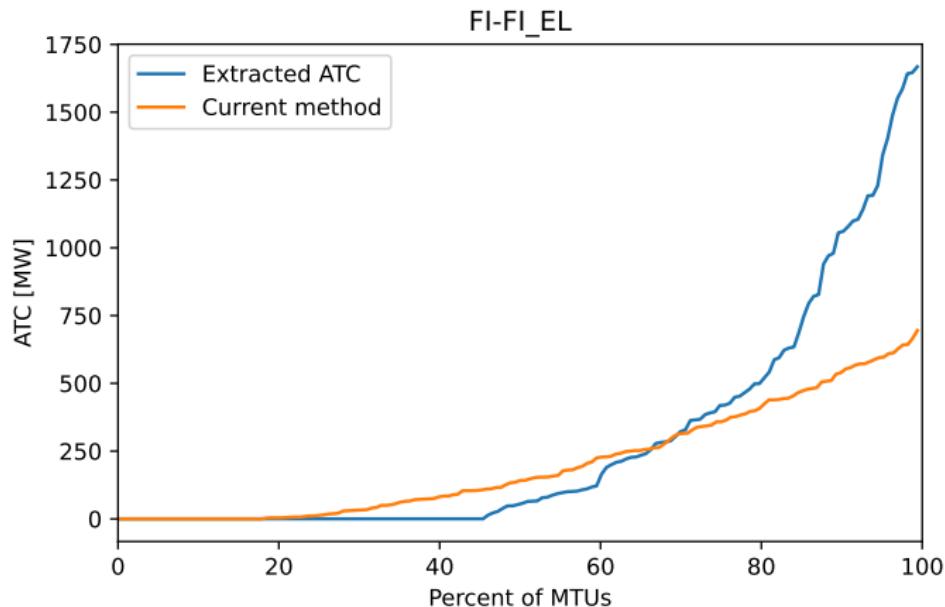
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## FI\_EL-FI ATC duration curves



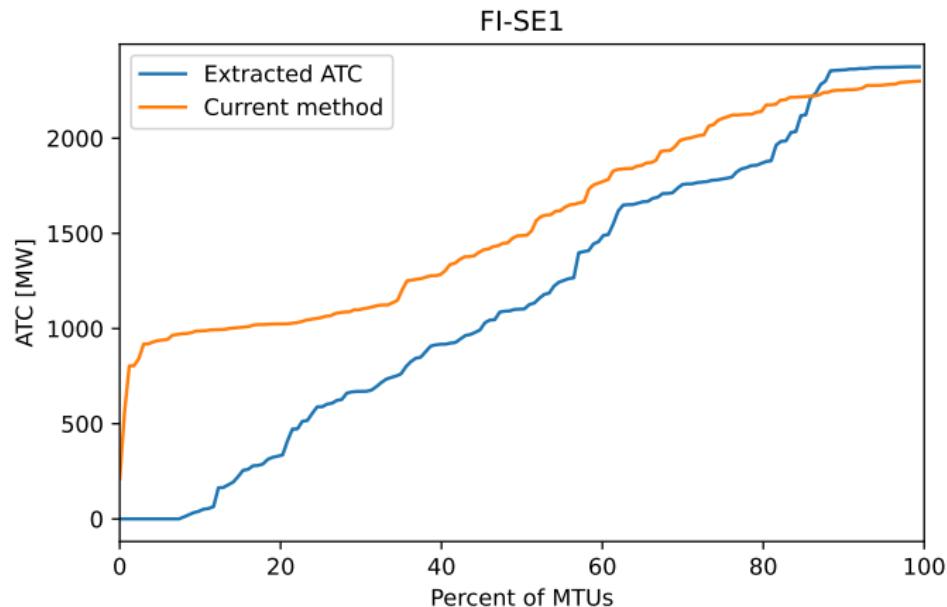
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## FI-FI\_EL ATC duration curves



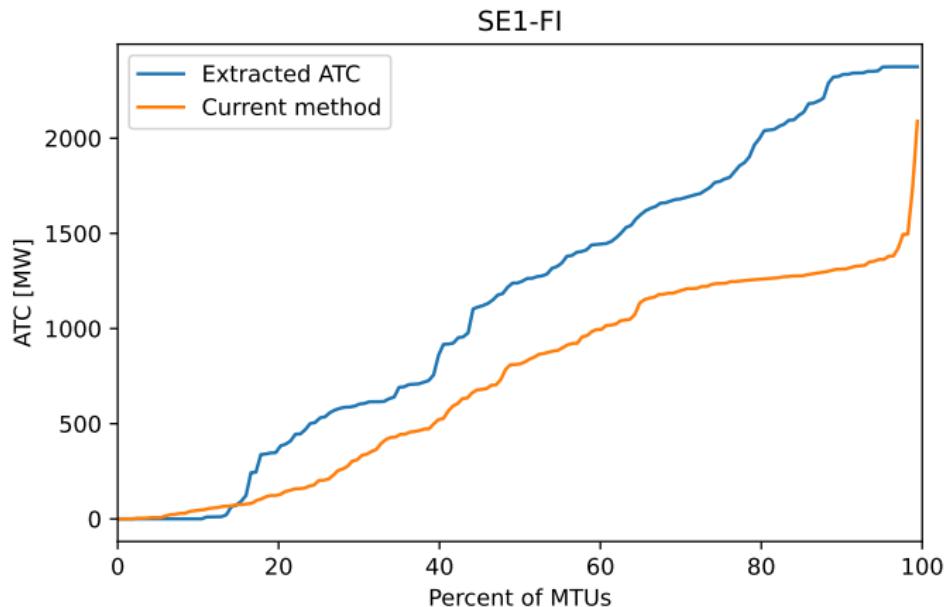
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# FI-SE1 ATC duration curves



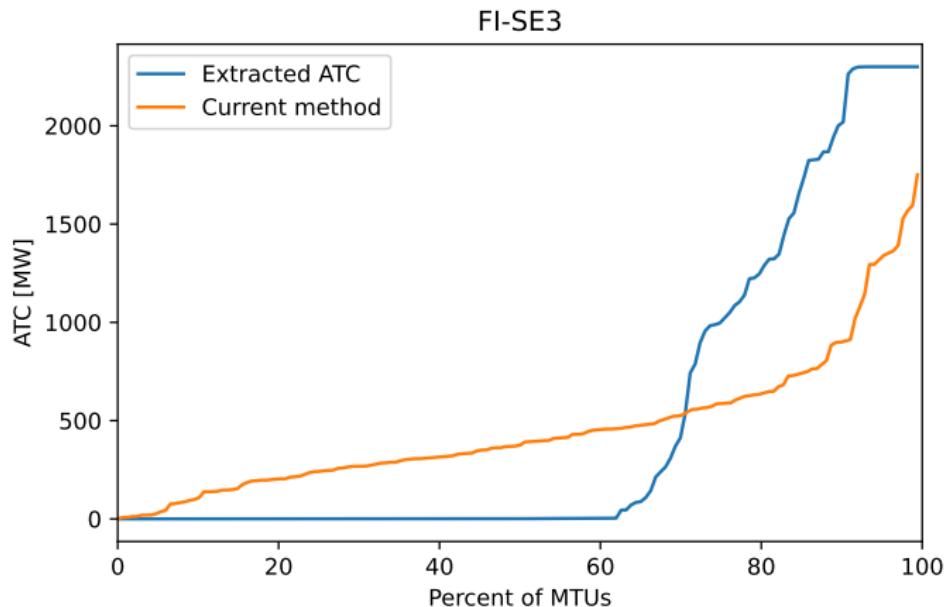
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE1-FI ATC duration curves



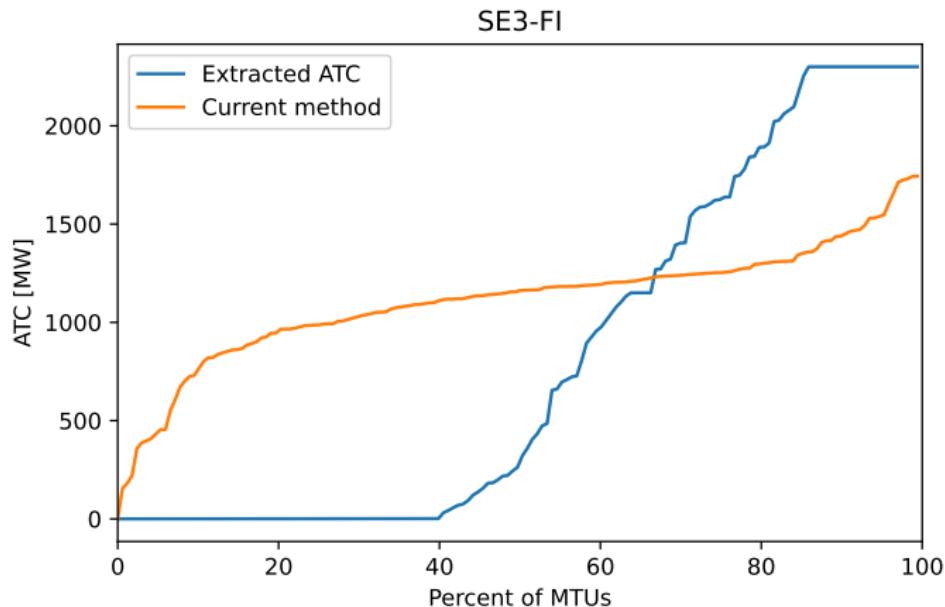
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# FI-SE3 ATC duration curves



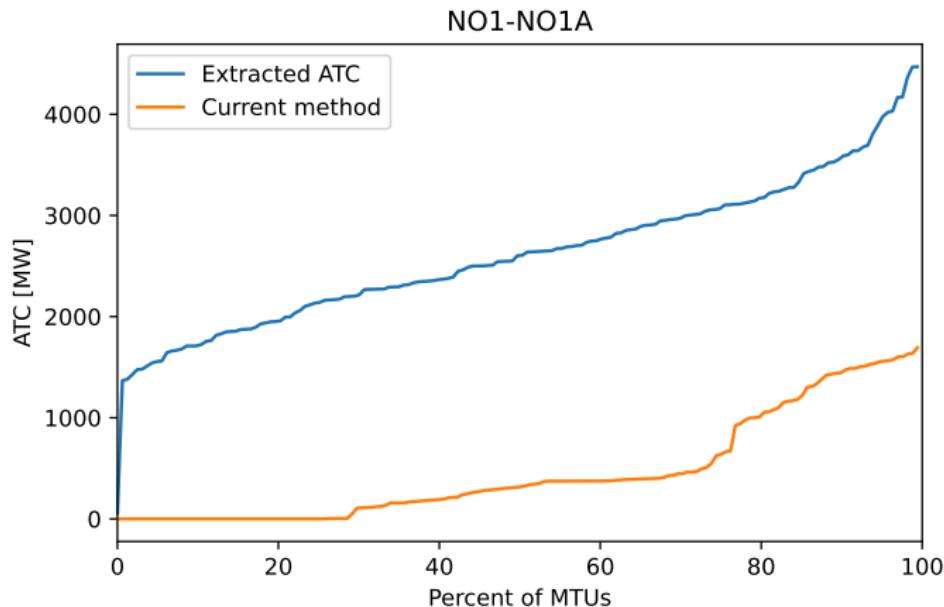
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE3-FI ATC duration curves



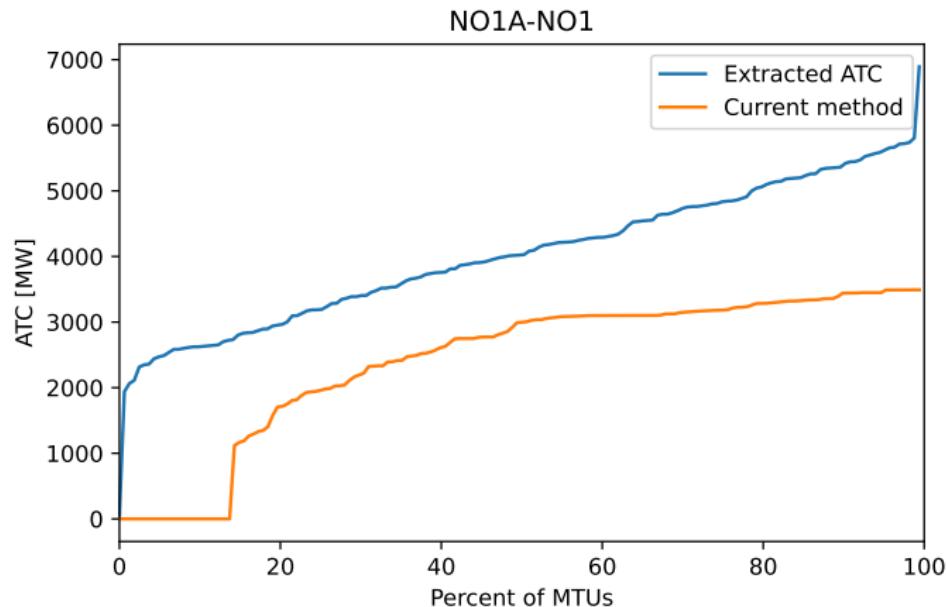
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO1-NO1A ATC duration curves



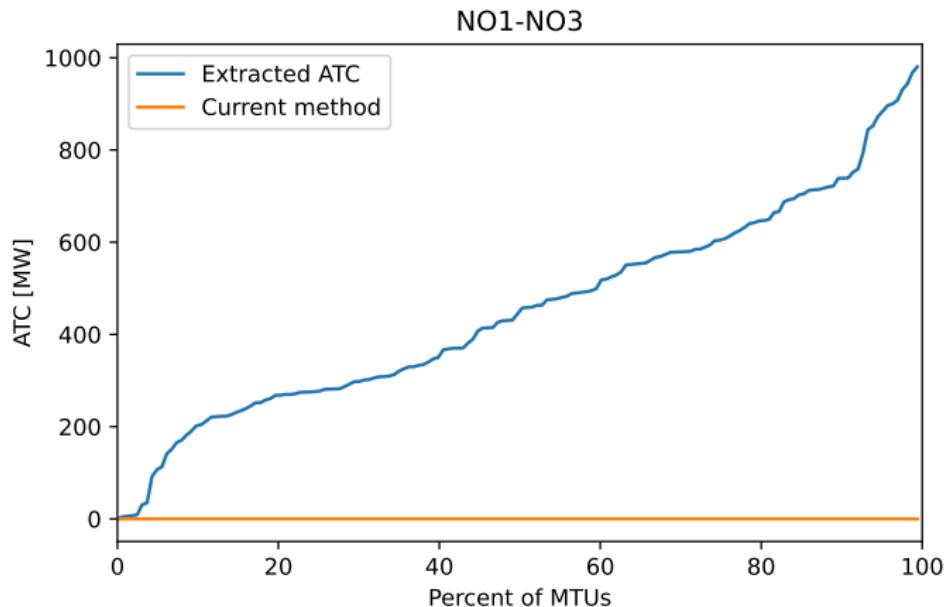
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO1A-NO1 ATC duration curves



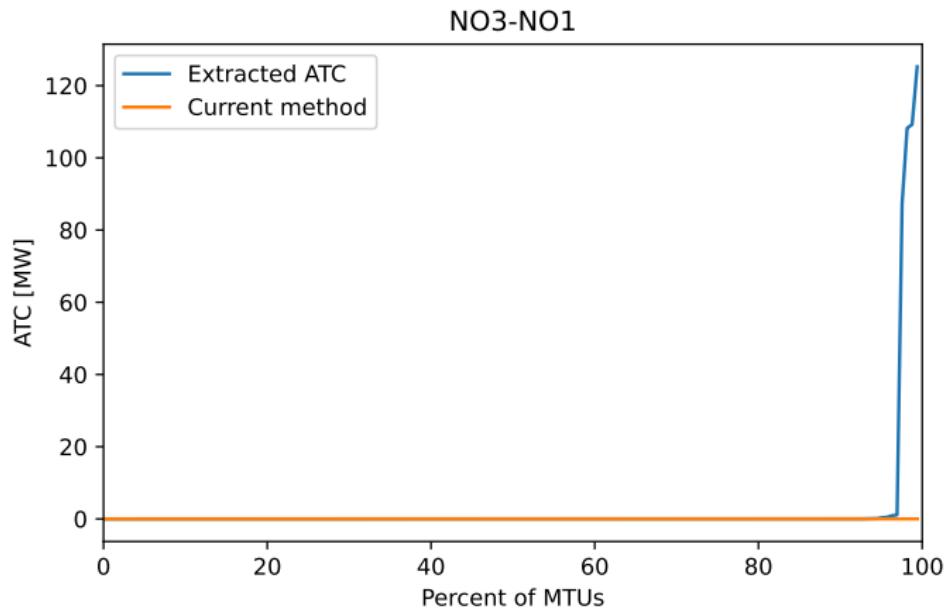
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO1-NO3 ATC duration curves



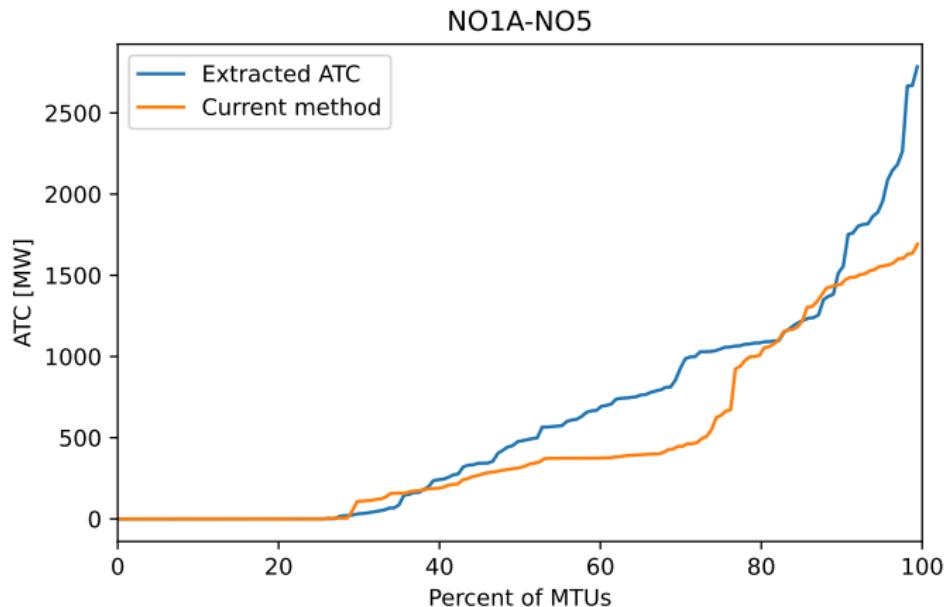
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## NO3-NO1 ATC duration curves



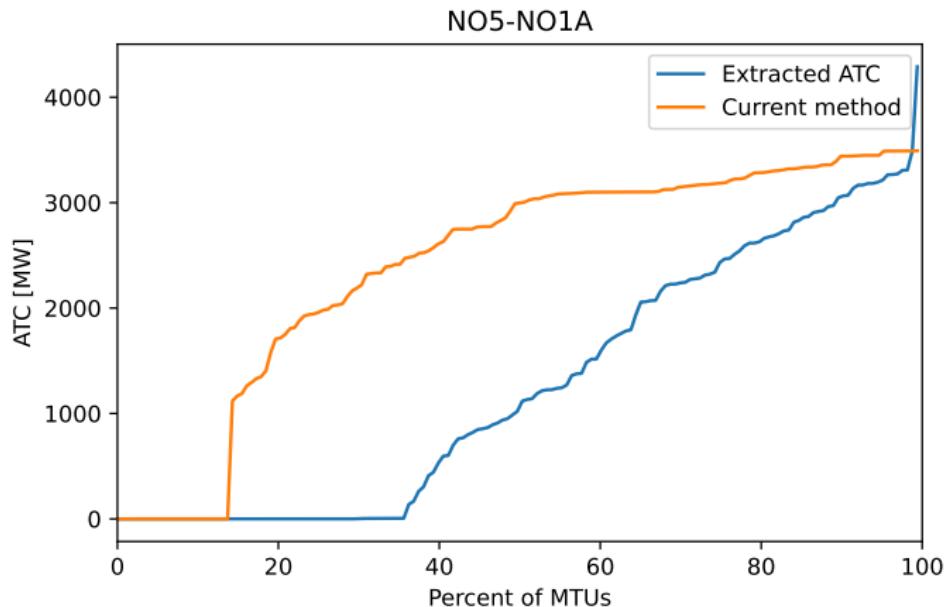
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO1A-NO5 ATC duration curves



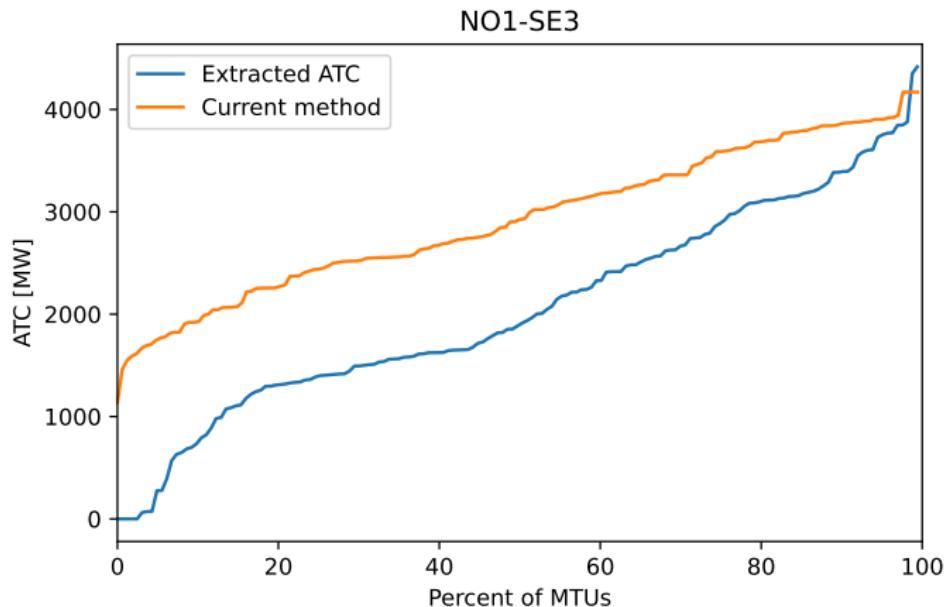
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO5-NO1A ATC duration curves



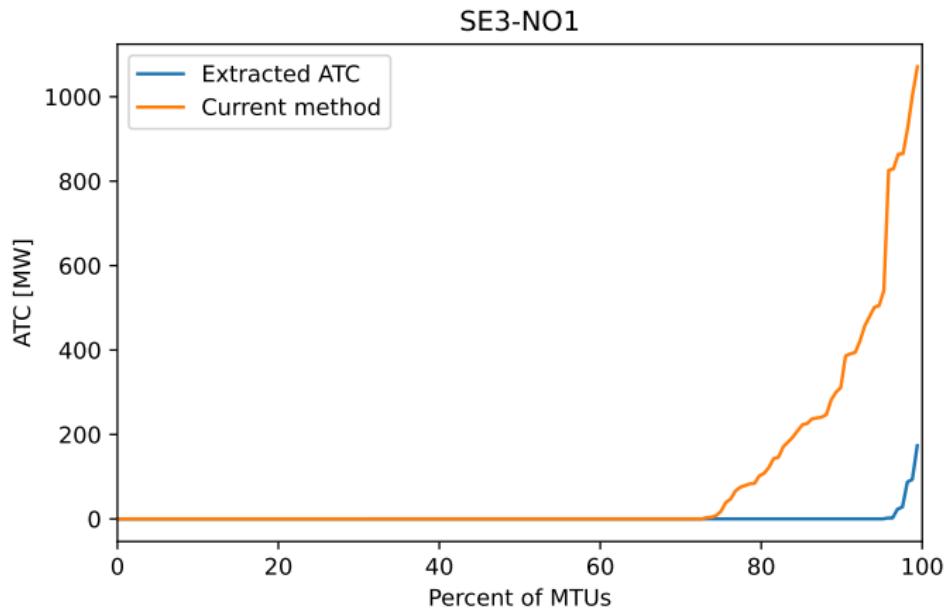
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO1-SE3 ATC duration curves



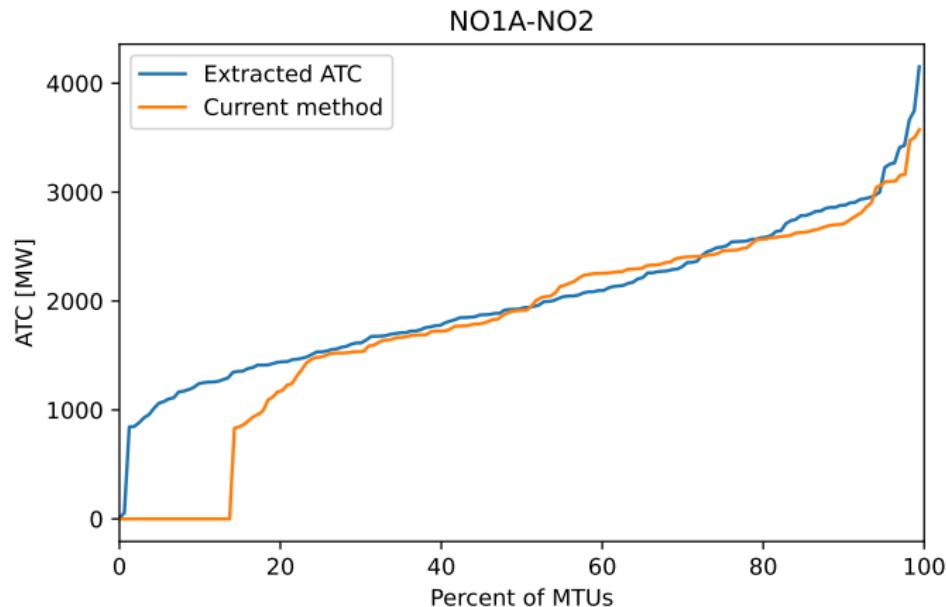
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE3-NO1 ATC duration curves



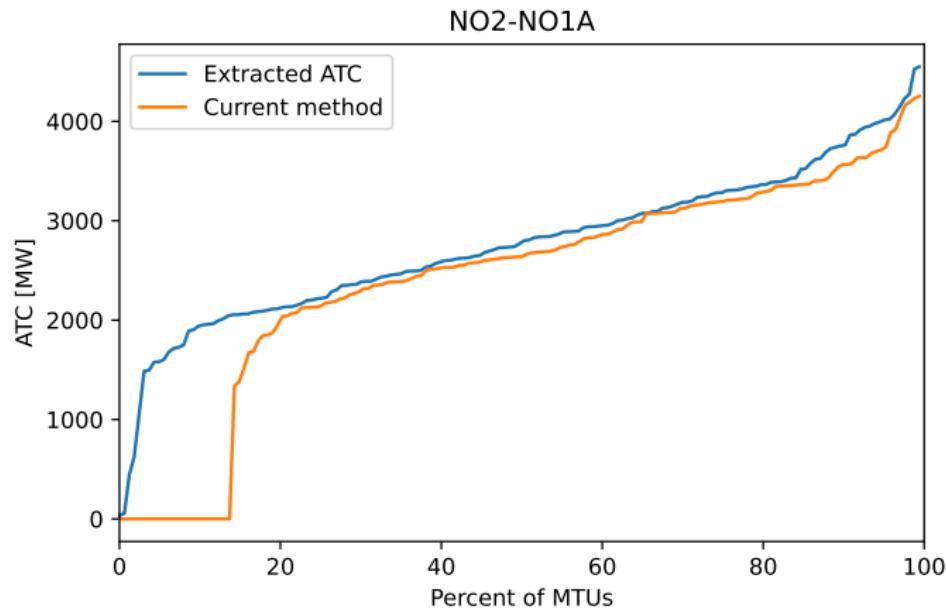
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO1A-NO2 ATC duration curves



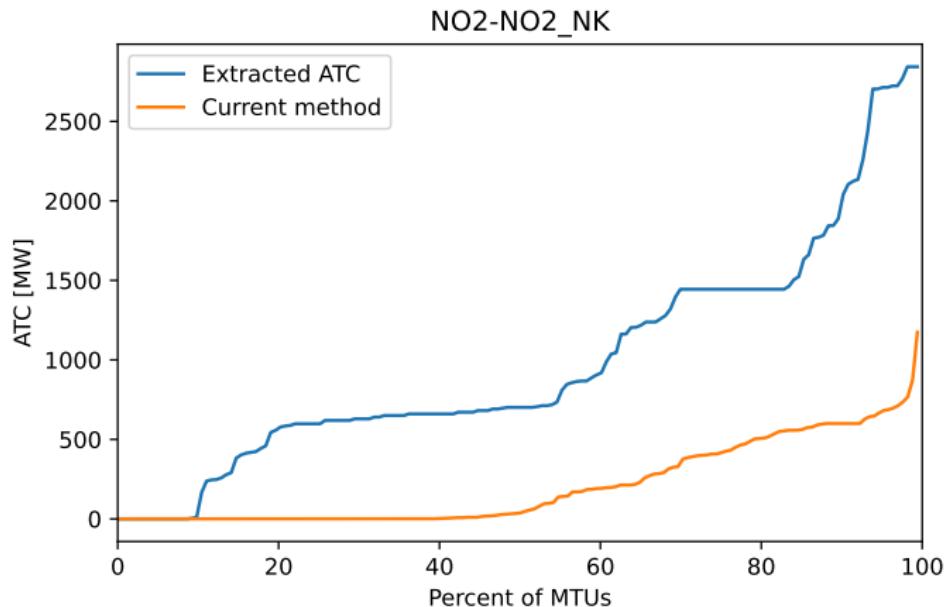
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO2-NO1A ATC duration curves



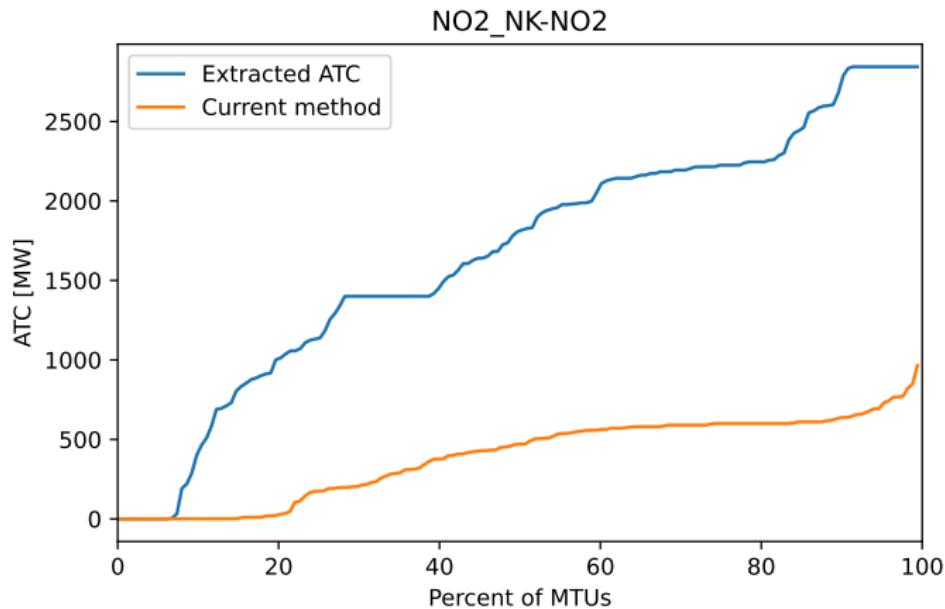
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## NO2-NO2\_NK ATC duration curves



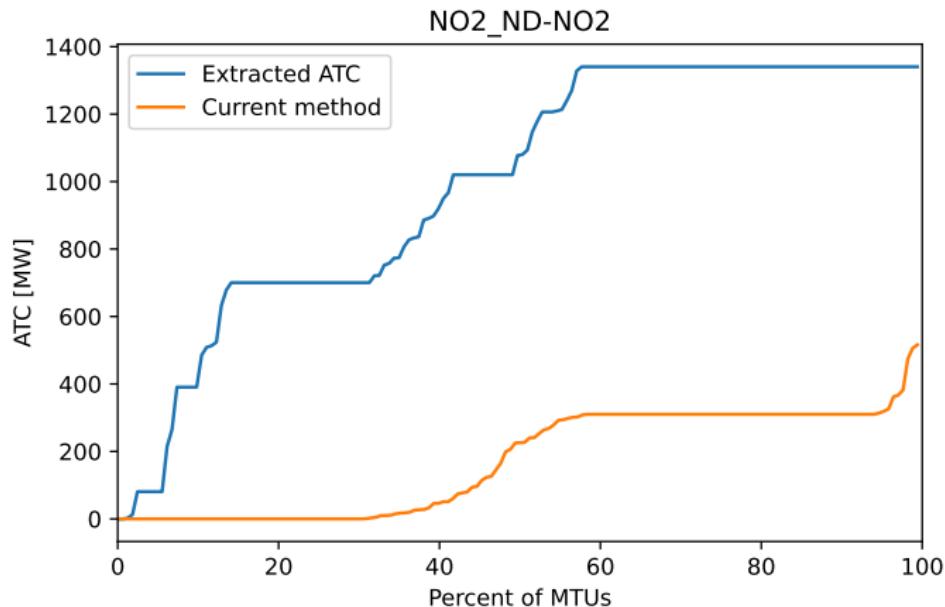
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## NO2\_NK-NO2 ATC duration curves



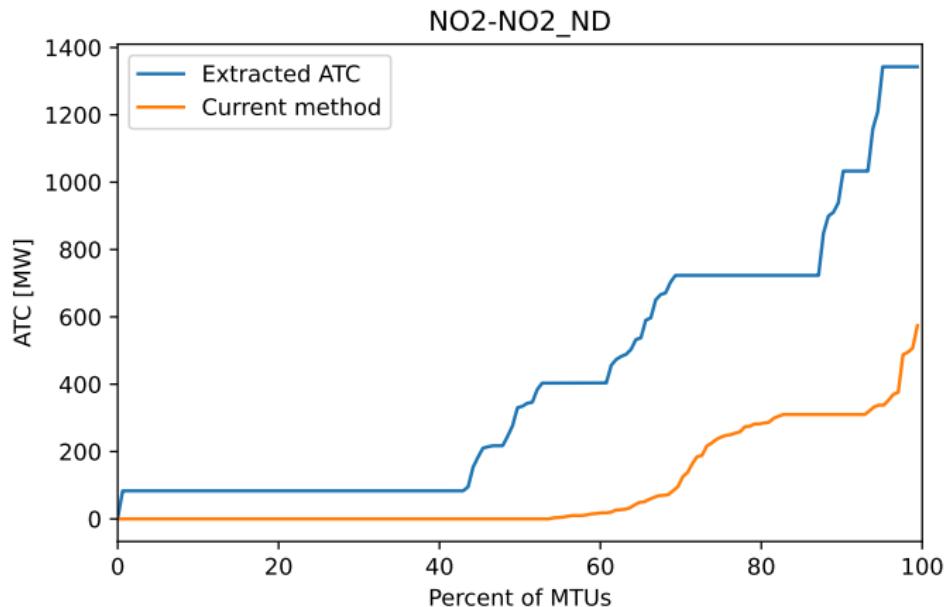
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## NO2\_ND-NO2 ATC duration curves



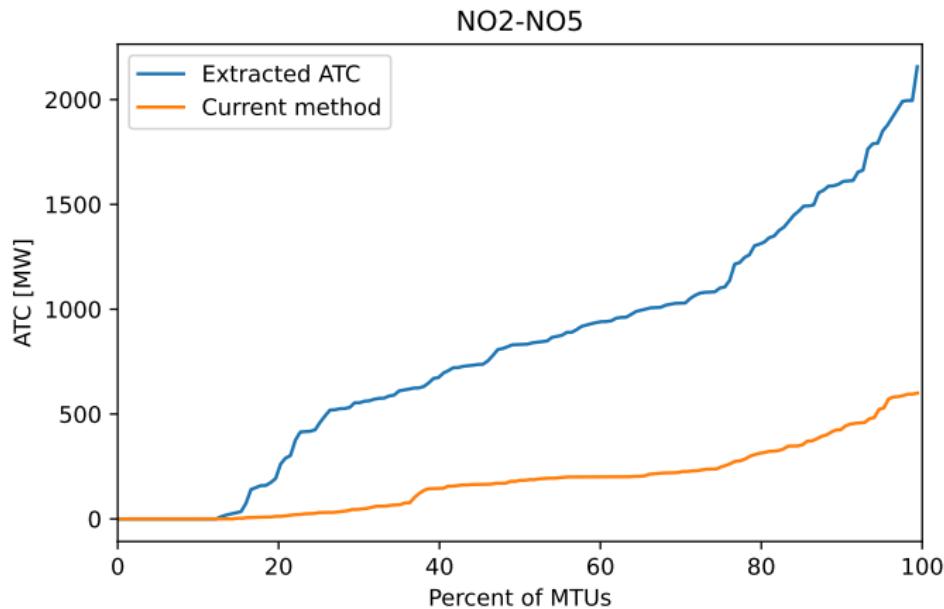
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## NO2-NO2\_ND ATC duration curves



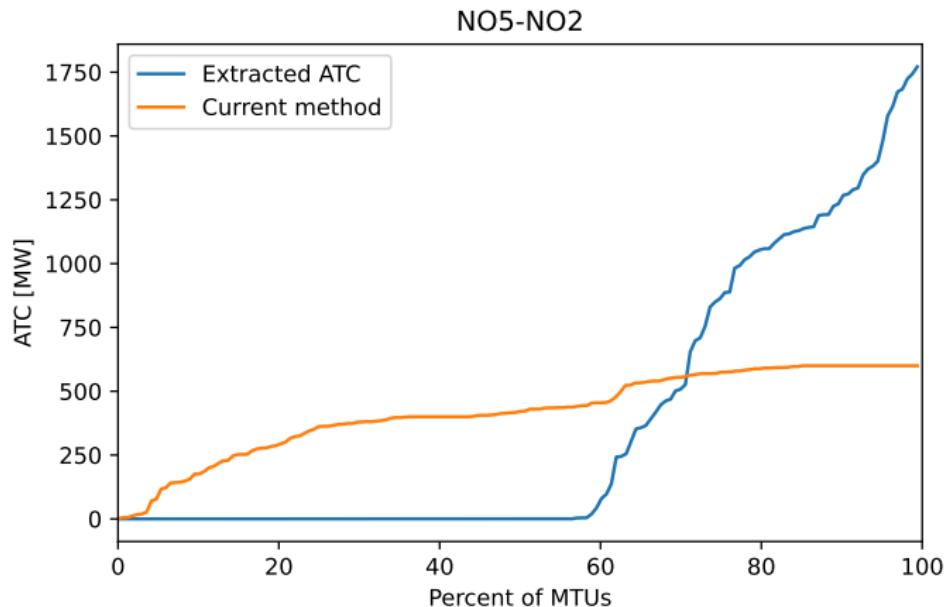
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO2-NO5 ATC duration curves



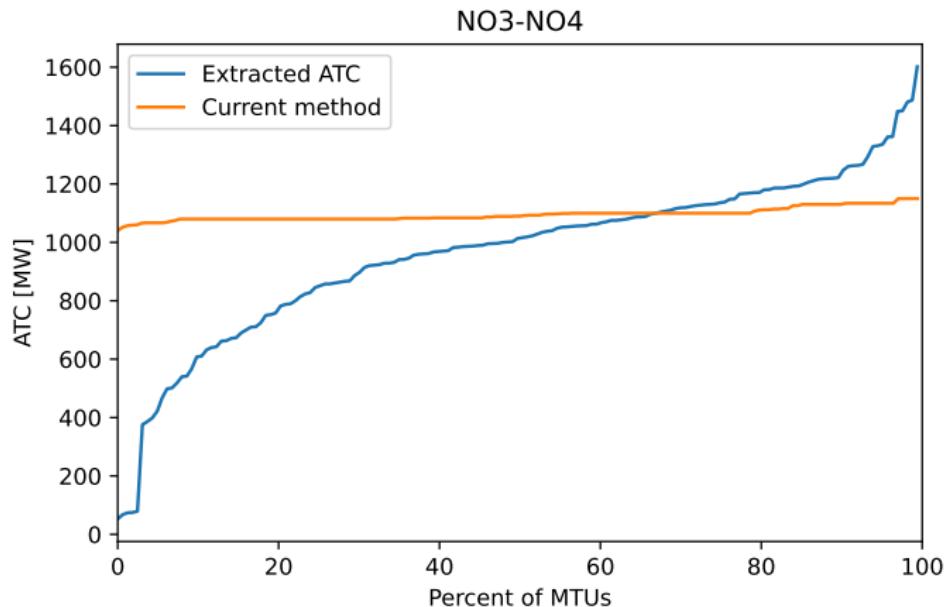
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO5-NO2 ATC duration curves



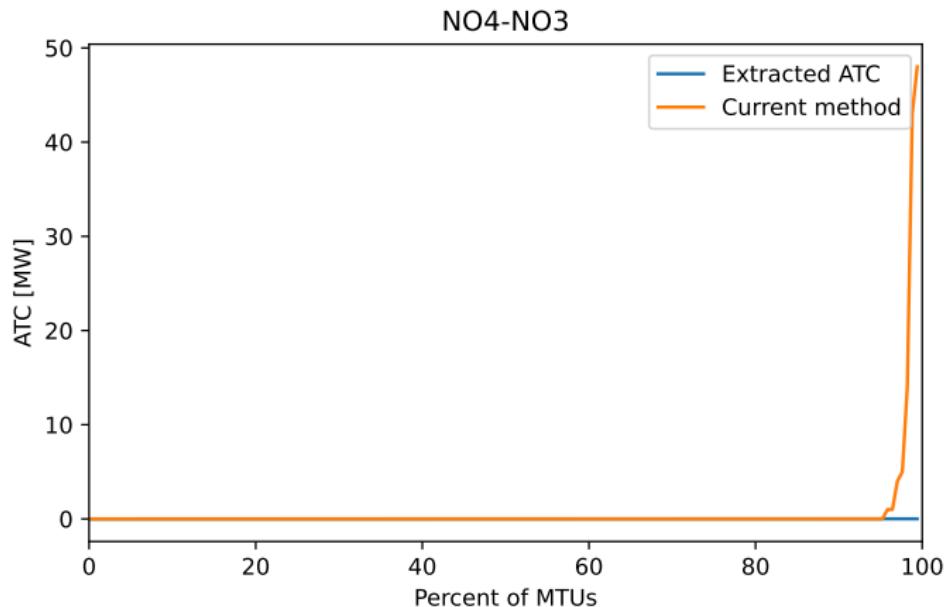
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## NO3-NO4 ATC duration curves



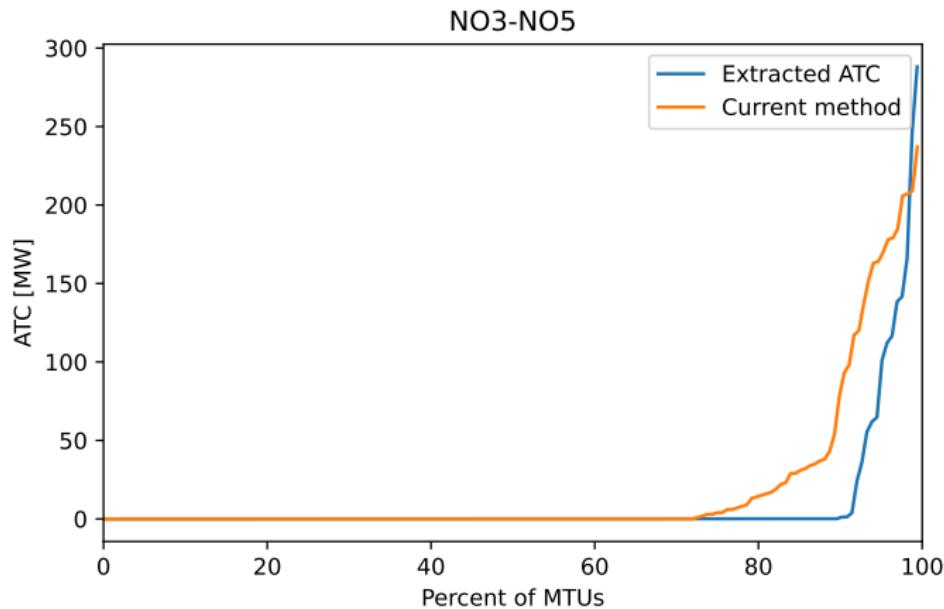
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## NO4-NO3 ATC duration curves



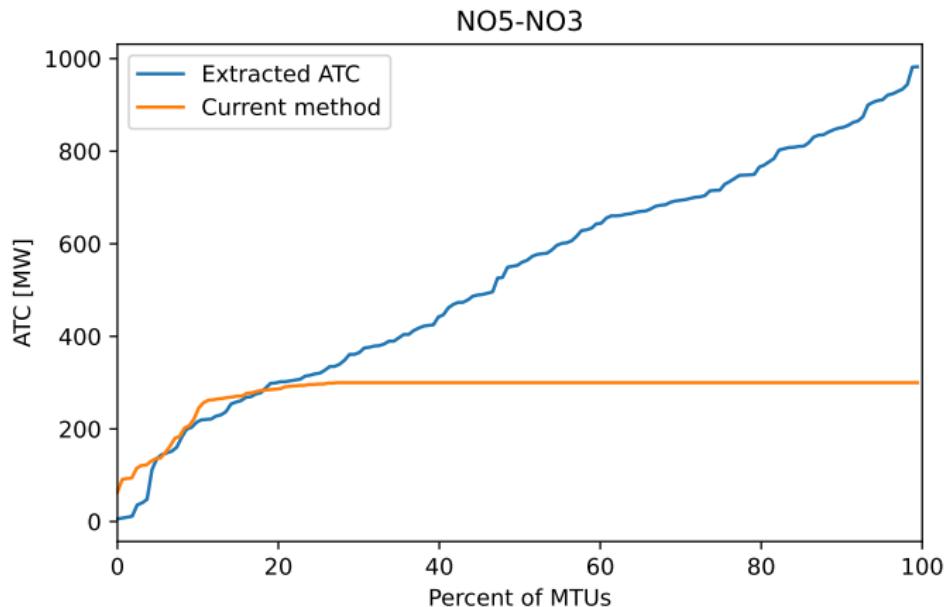
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## NO3-NO5 ATC duration curves



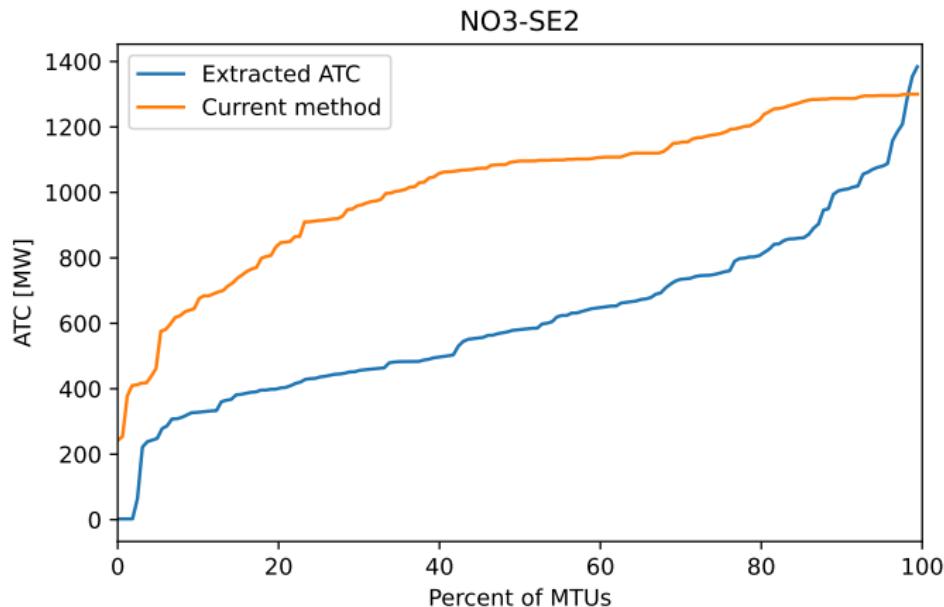
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## NO5-NO3 ATC duration curves



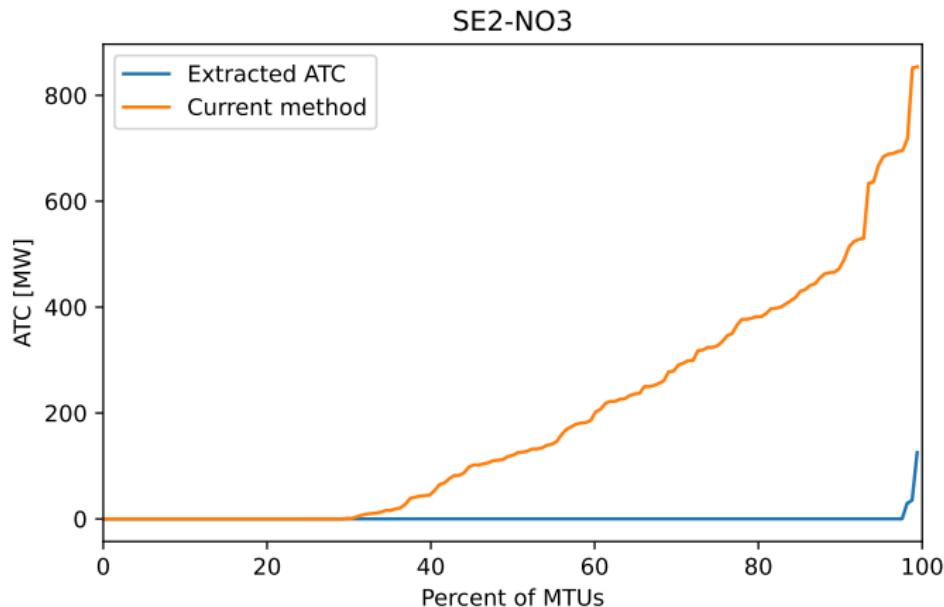
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO3-SE2 ATC duration curves



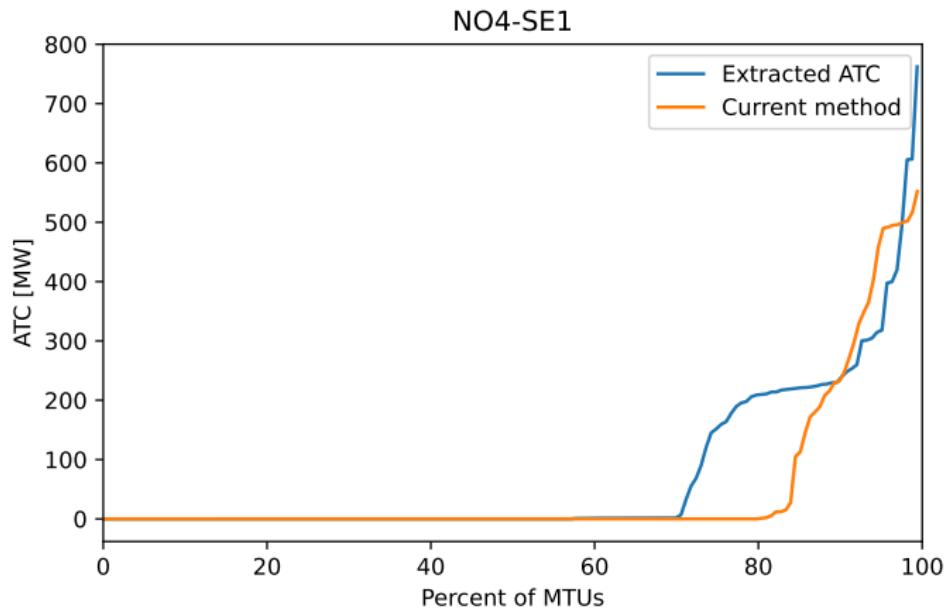
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE2-NO3 ATC duration curves



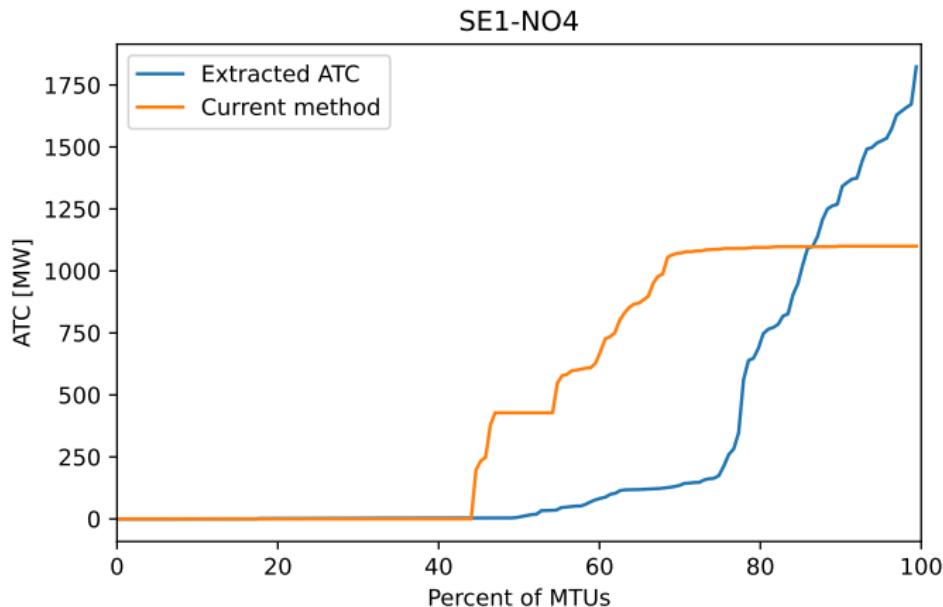
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO4-SE1 ATC duration curves



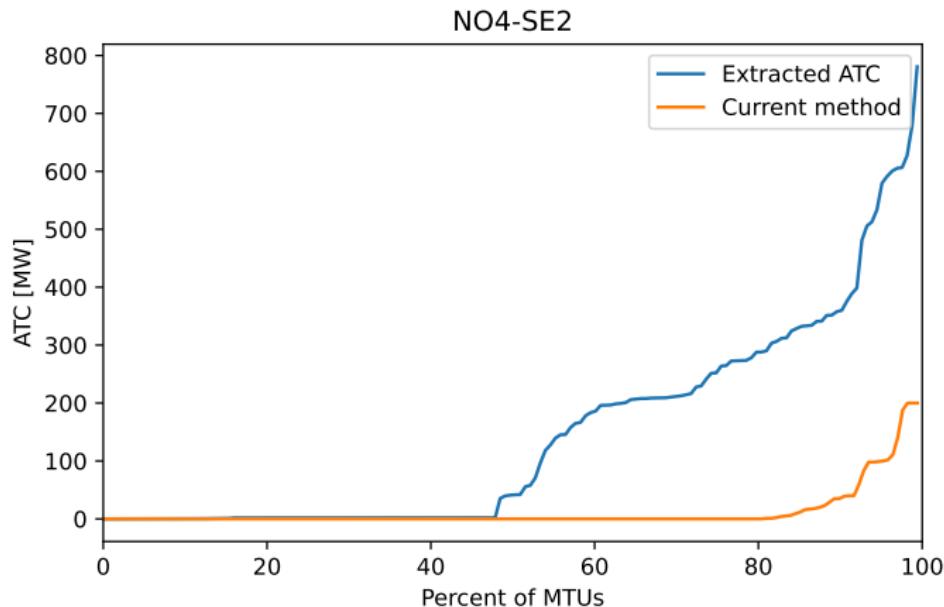
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE1-NO4 ATC duration curves



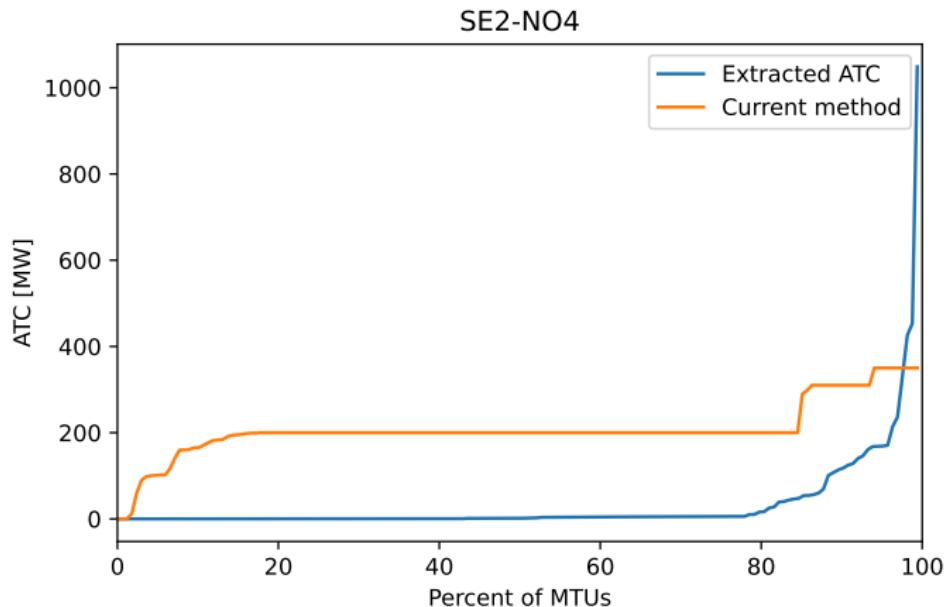
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## NO4-SE2 ATC duration curves



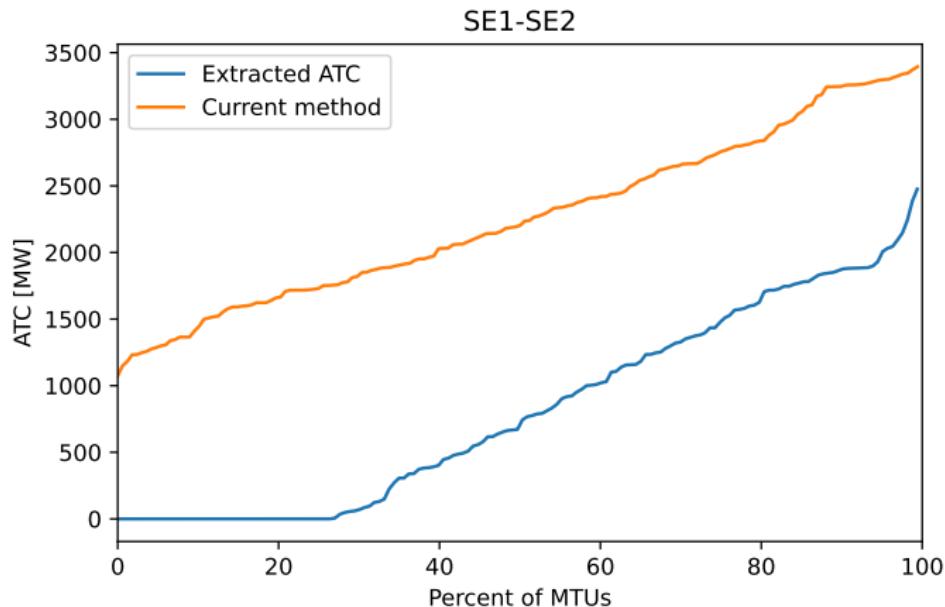
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE2-NO4 ATC duration curves



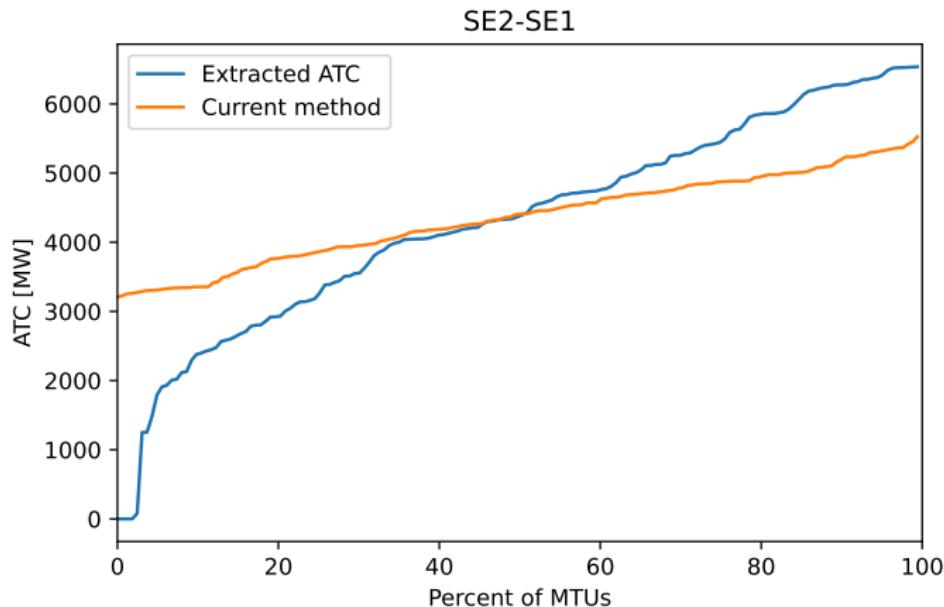
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE1-SE2 ATC duration curves



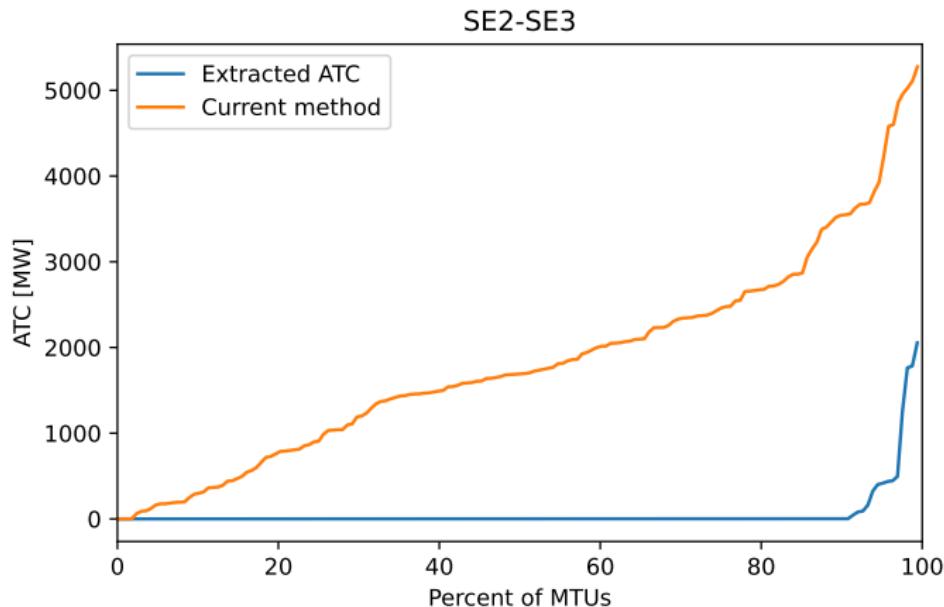
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE2-SE1 ATC duration curves



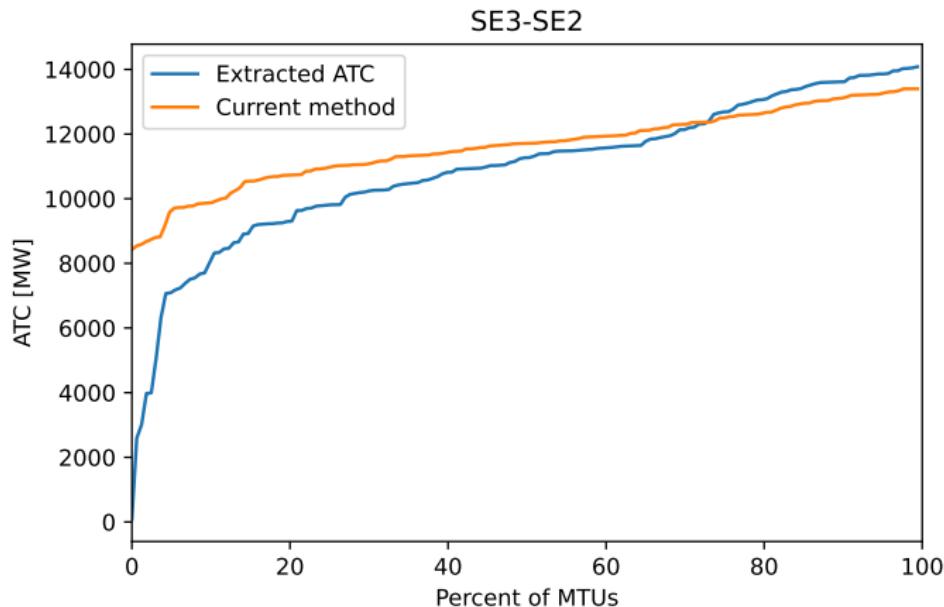
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE2-SE3 ATC duration curves



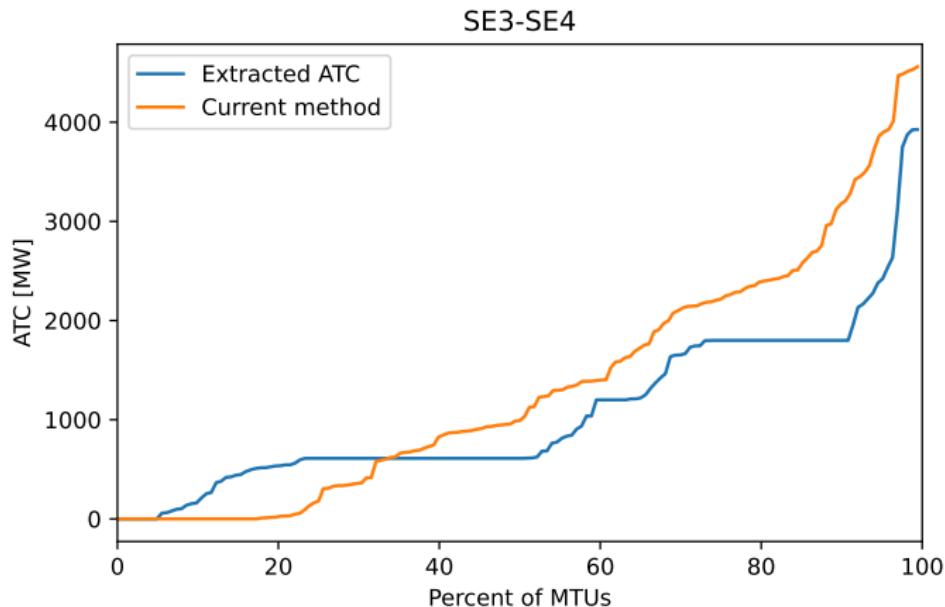
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE3-SE2 ATC duration curves



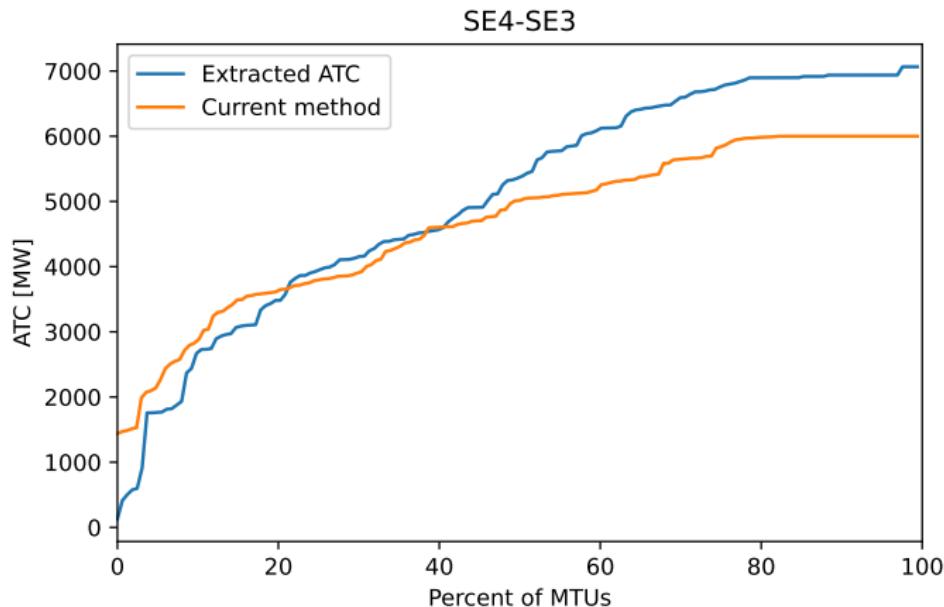
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE3-SE4 ATC duration curves



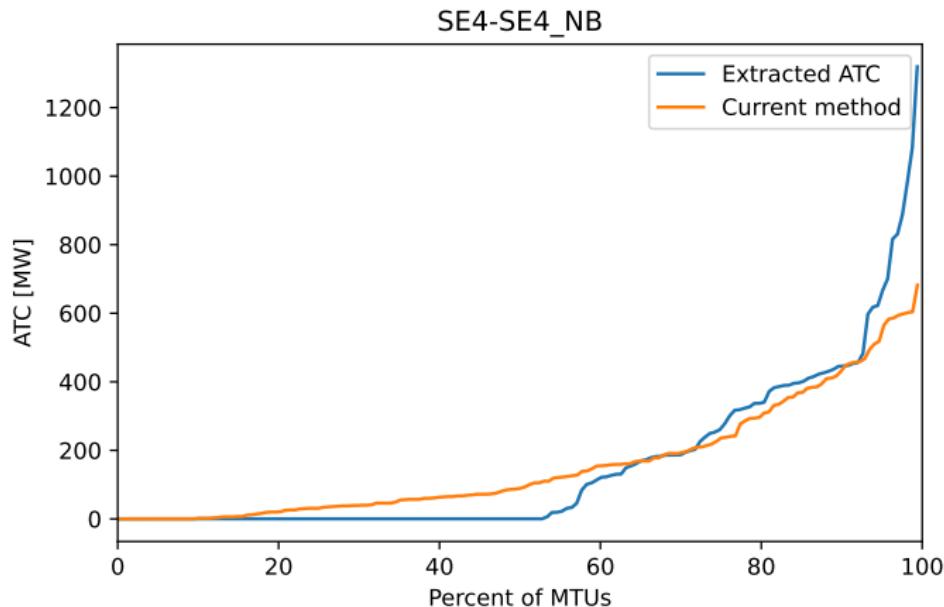
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE4-SE3 ATC duration curves



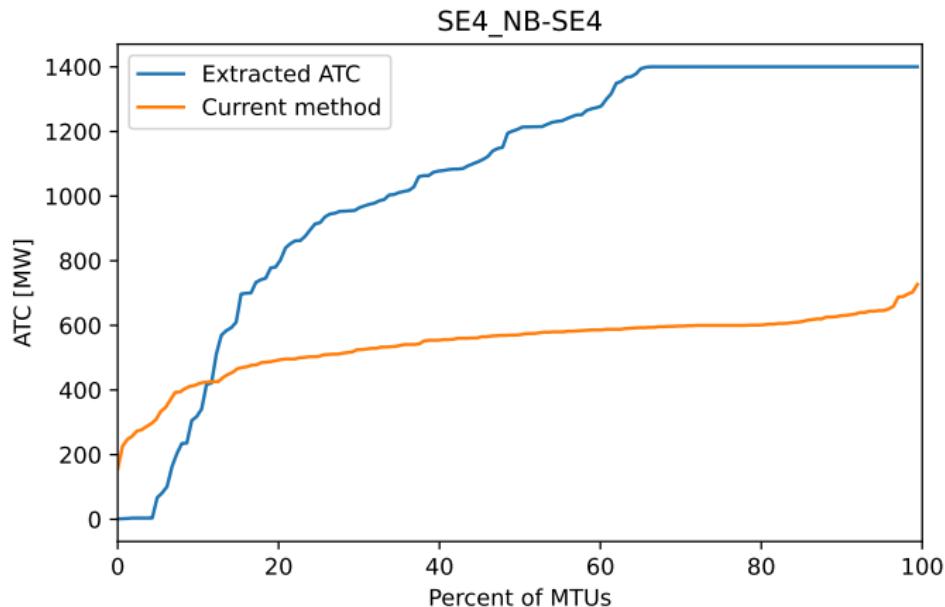
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE4-SE4\_NB ATC duration curves



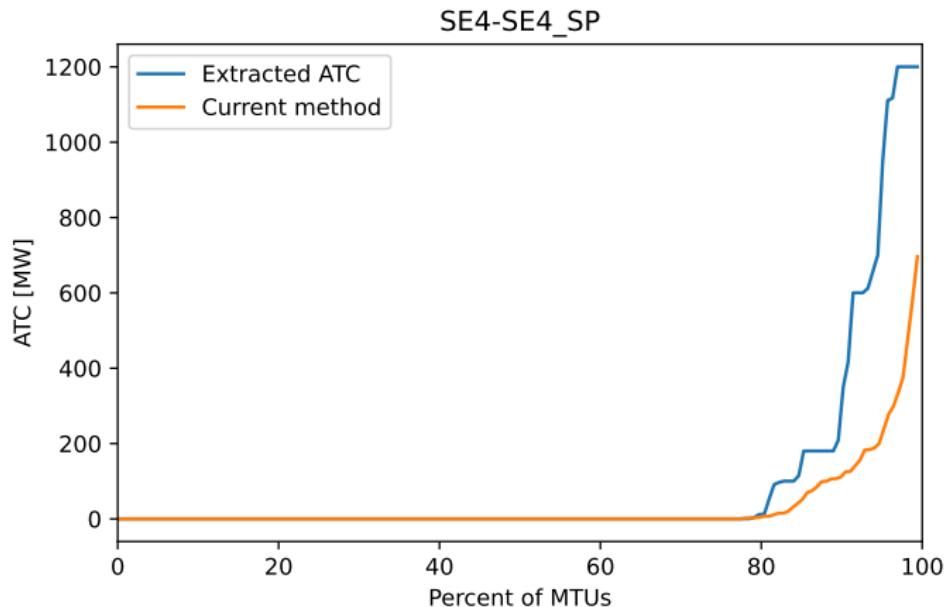
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE4\_NB-SE4 ATC duration curves



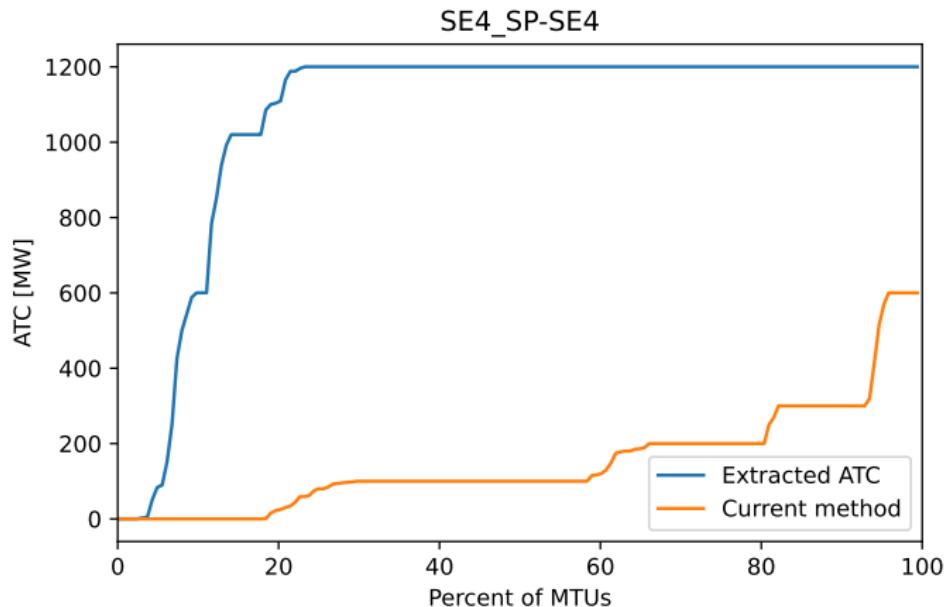
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE4-SE4\_SP ATC duration curves



Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

## SE4\_SP-SE4 ATC duration curves



Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.