

# 2023W49 ATC Extraction Results

Nordic RCC

January 9, 2024

# 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.

1 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	0	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	34	0
NO4	105	0	0
NO5	0	0	0
FI	0	0	0

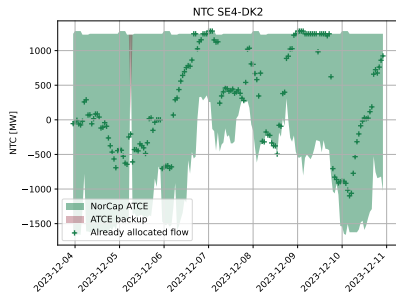
# Border lock-in statistics

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.

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

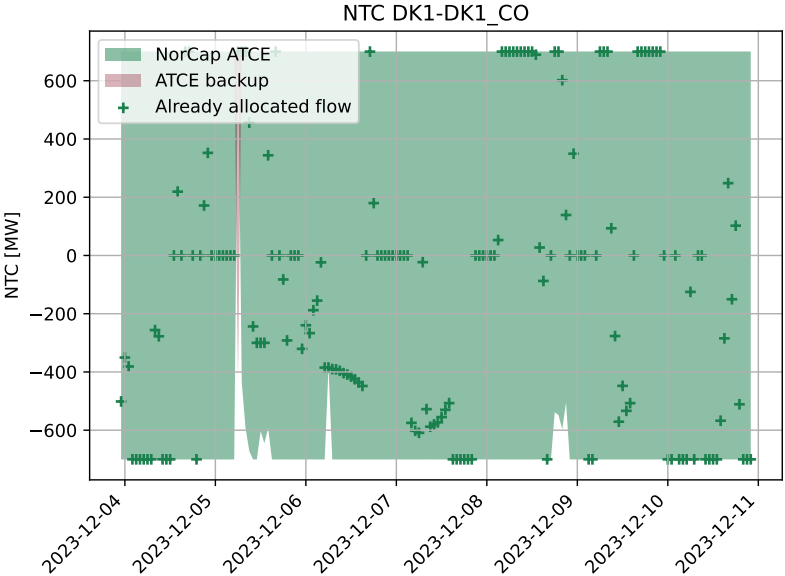
Border	#MTUs at lock-in
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# Border NTC plots - Reader's guide

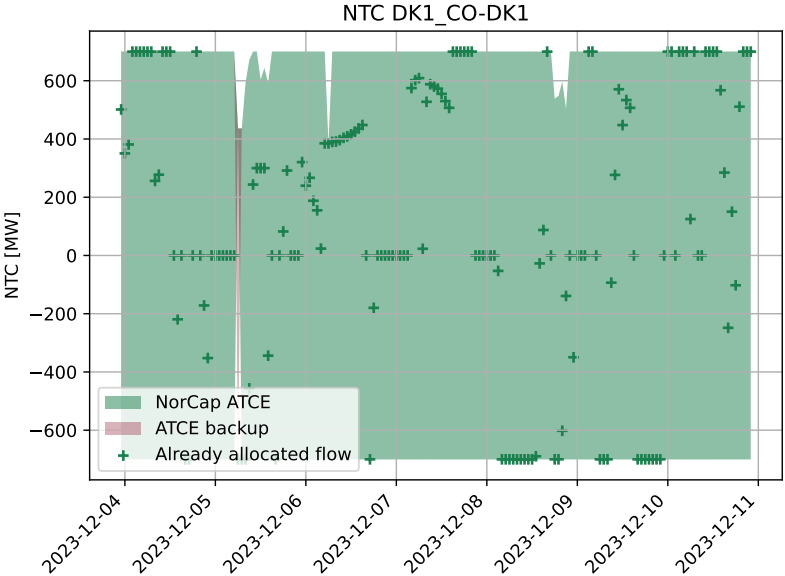


The colored area represents the possible exchange on this border and direction. The cross marks the simulated day ahead market coupling flows. Any colored area above the cross, means that intraday market will be able to increase exchange over the day ahead market coupling flows. Any colored area below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

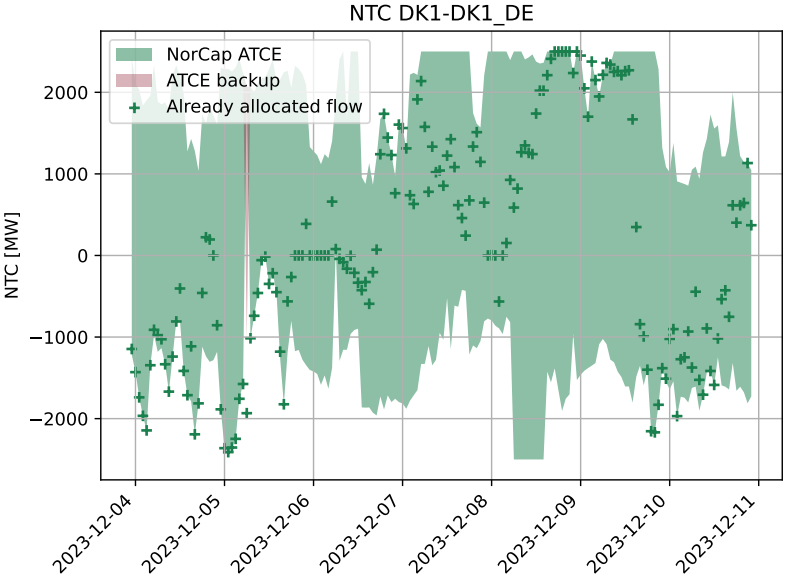
# DK1-DK1\_CO



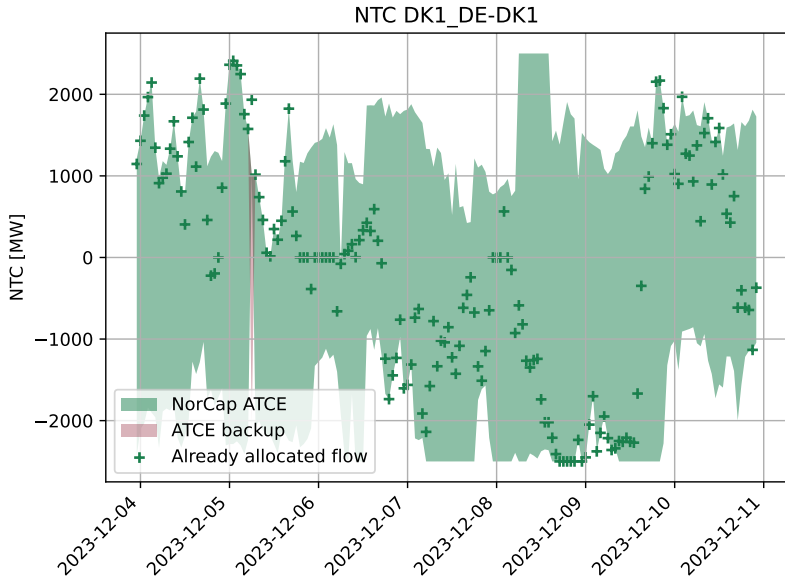
# DK1\_CO-DK1



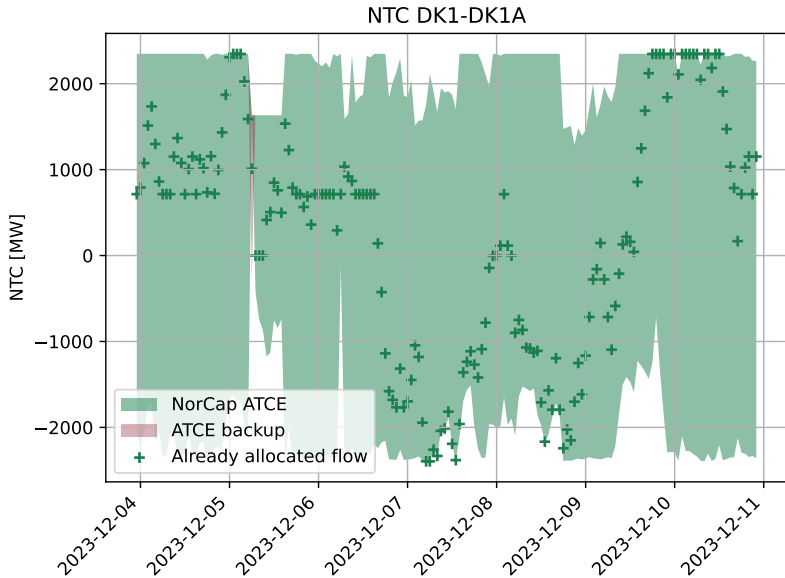
# DK1-DK1\_DE



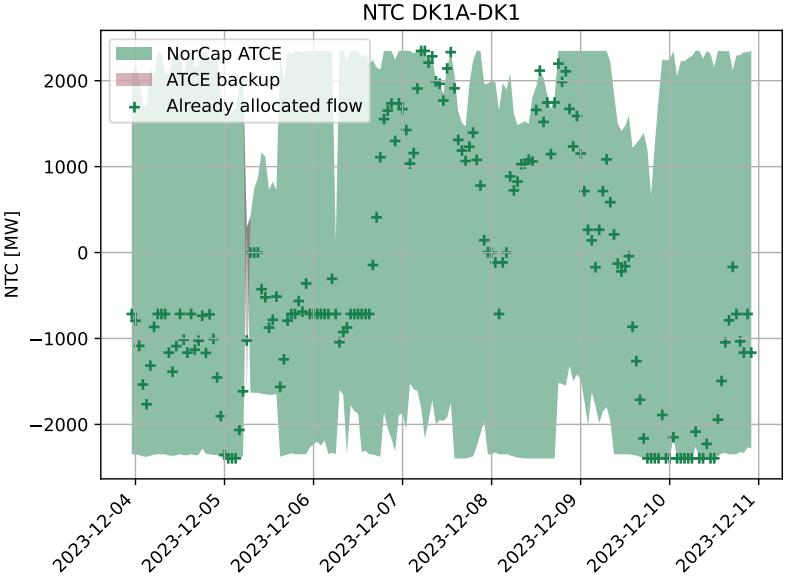
# DK1\_DE-DK1



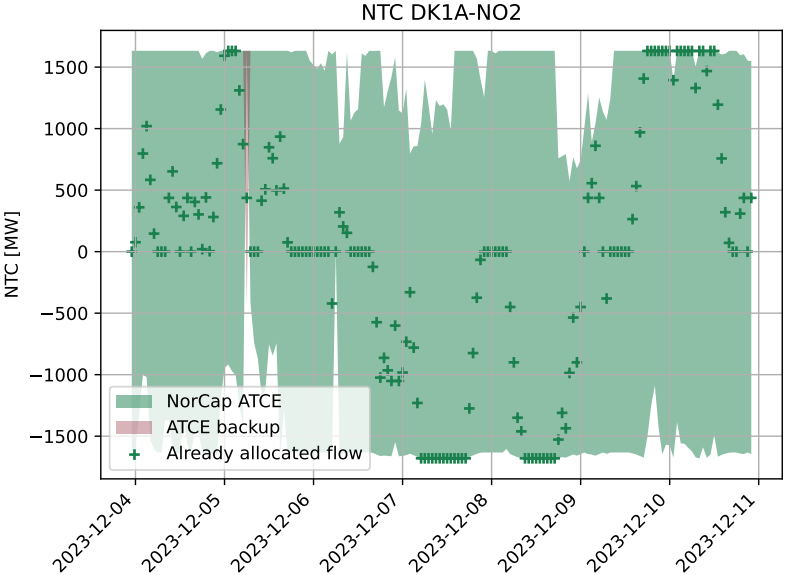
# DK1-DK1A



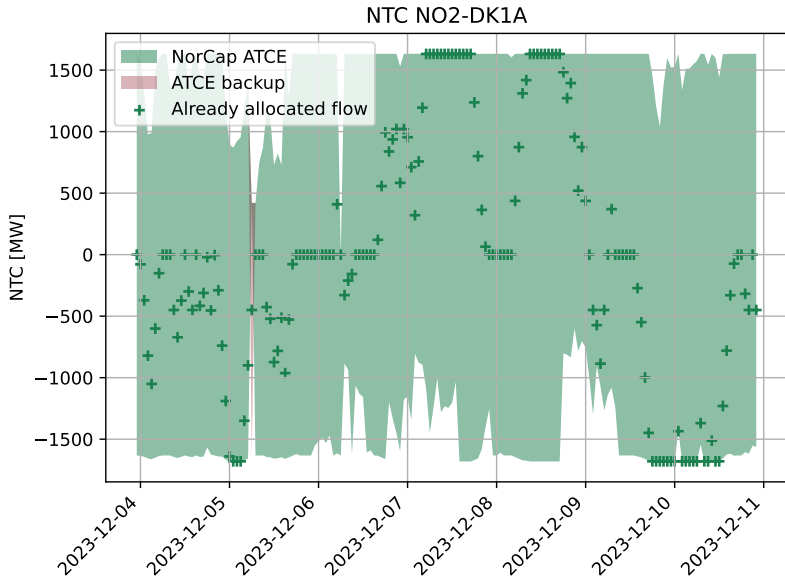
# DK1A-DK1



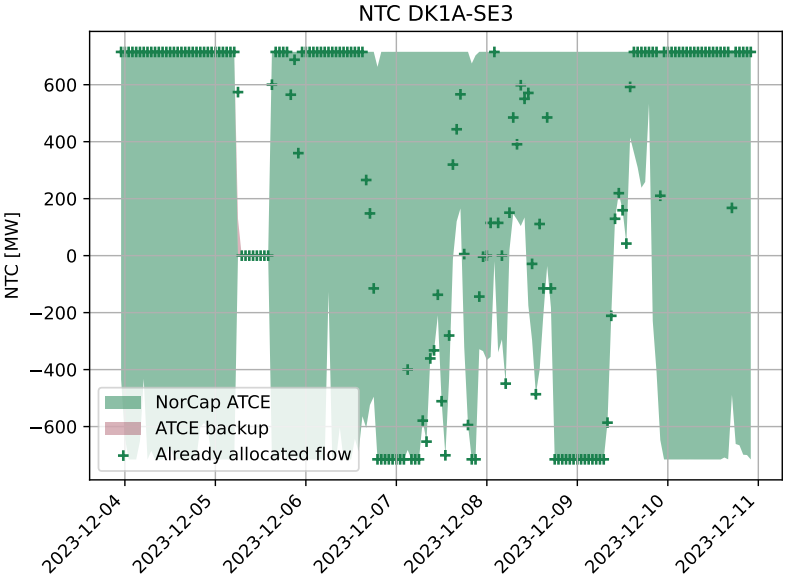
# DK1A-NO2



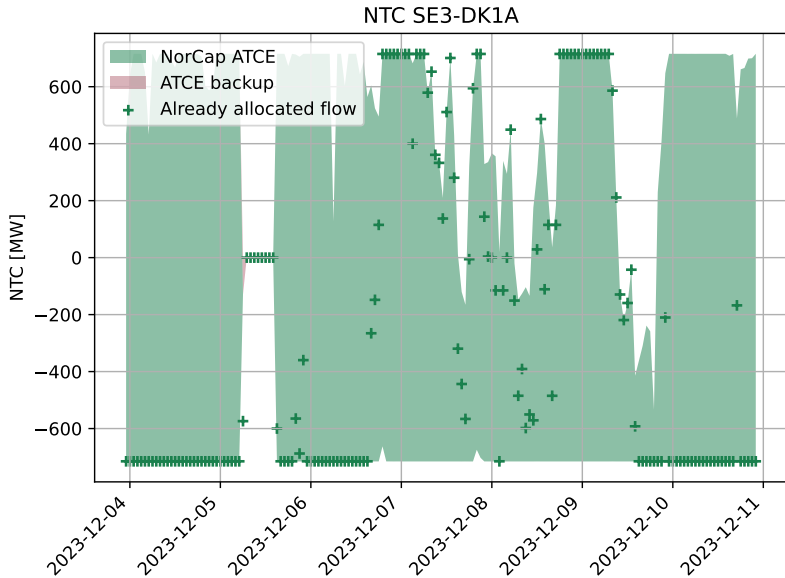
# NO2-DK1A



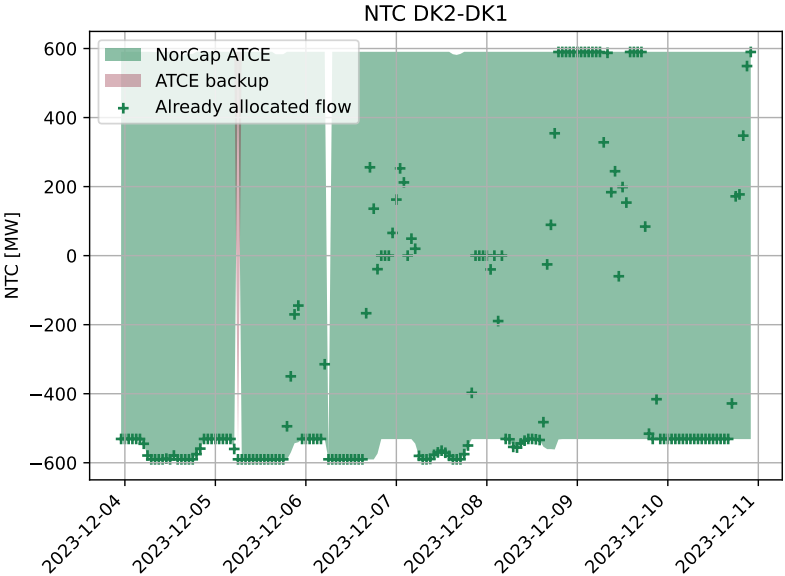
# DK1A-SE3



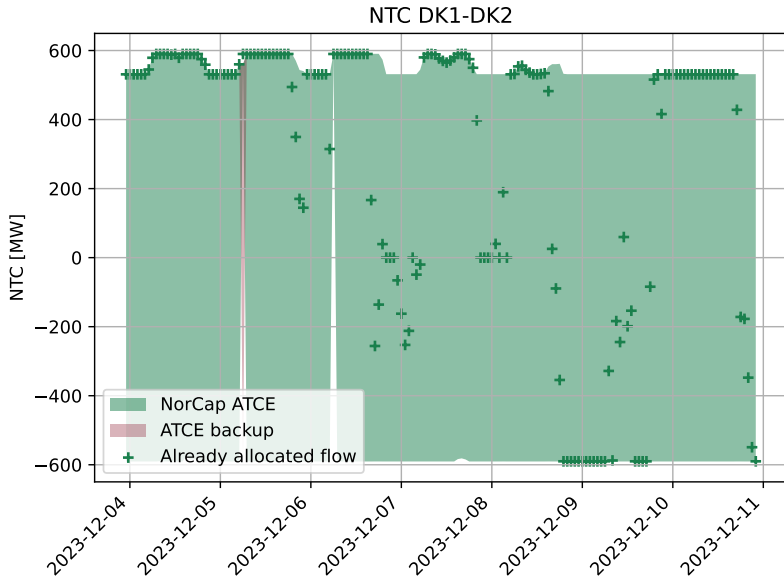
# SE3-DK1A



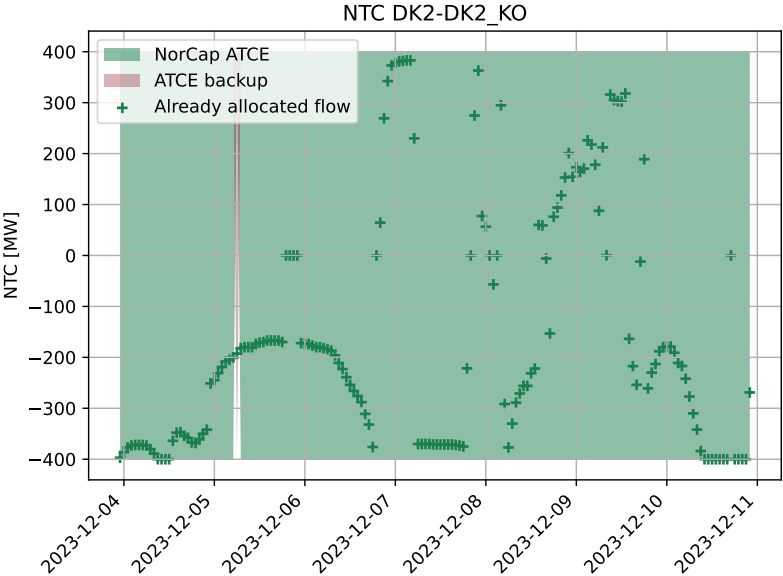
# DK2-DK1



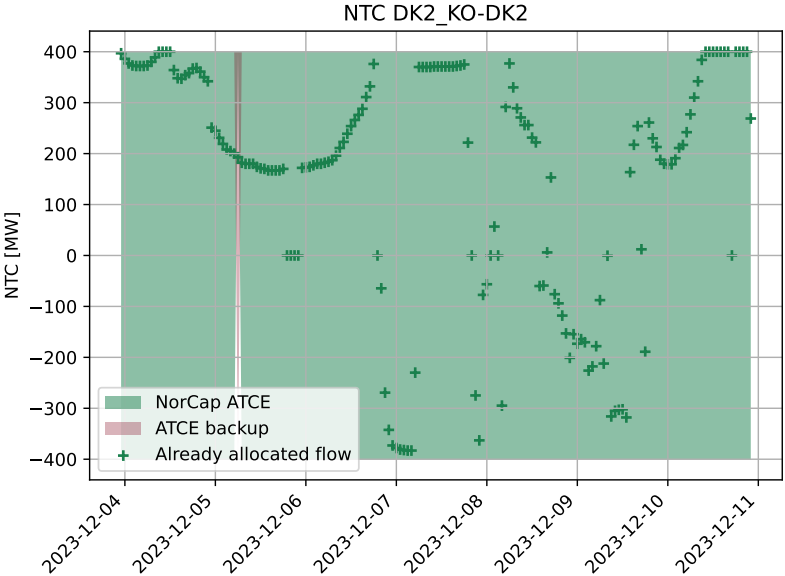
# DK1-DK2



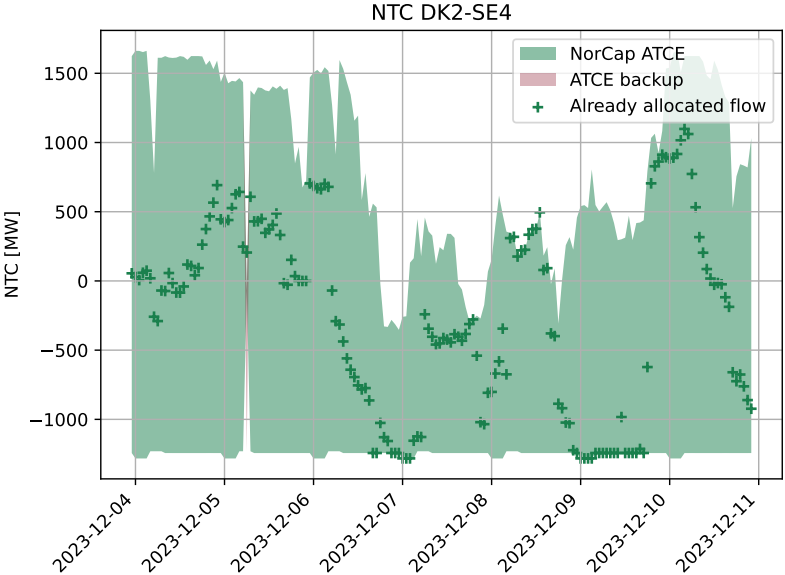
# DK2-DK2\_KO



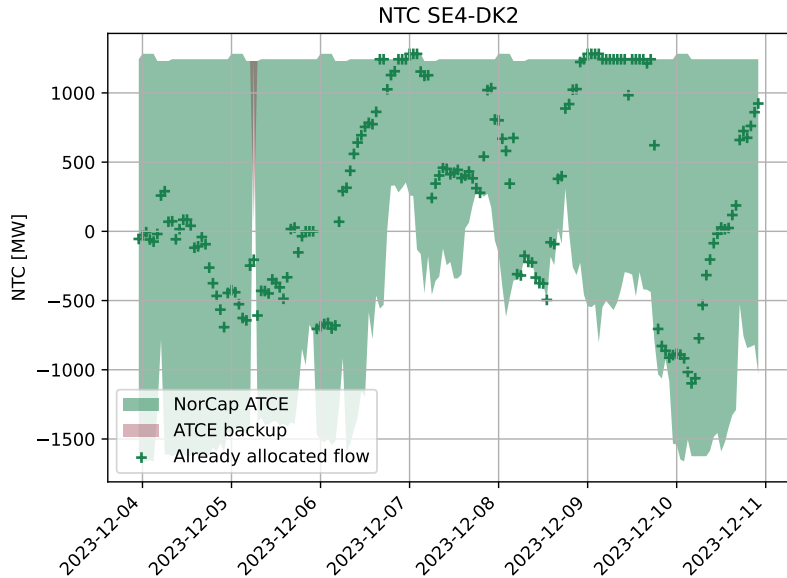
# DK2\_KO-DK2

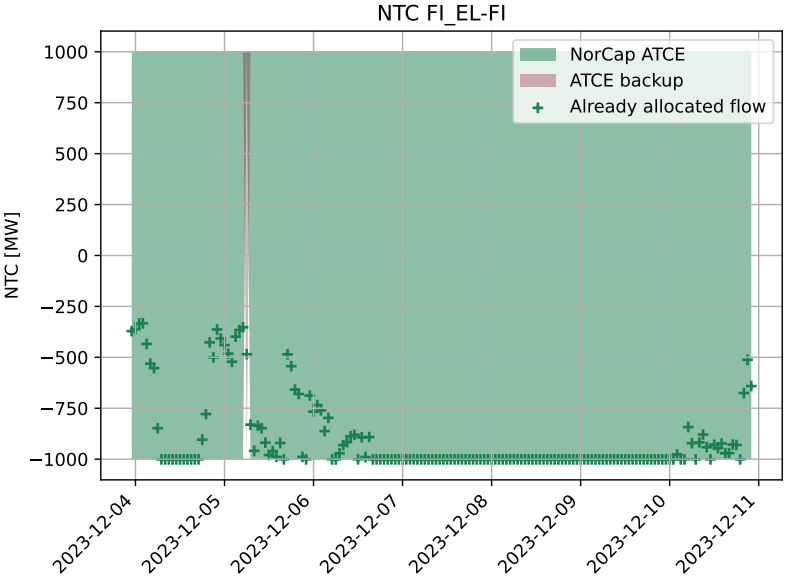


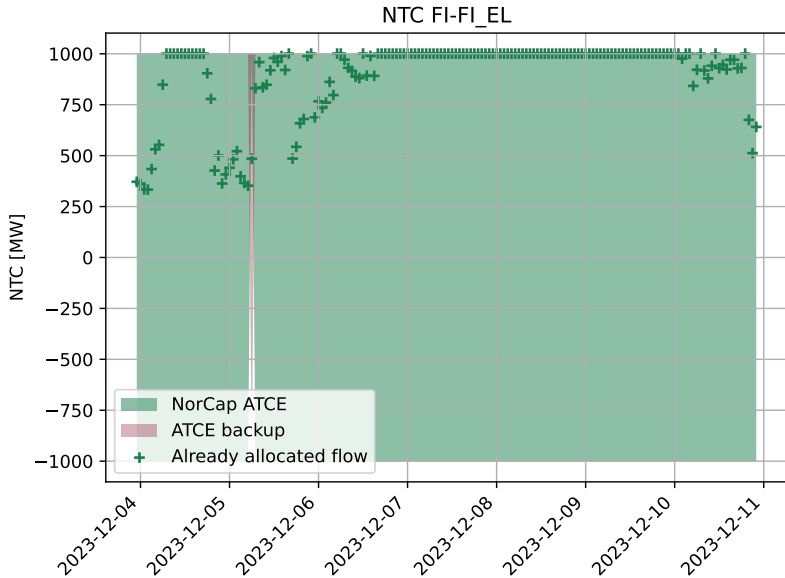
# DK2-SE4

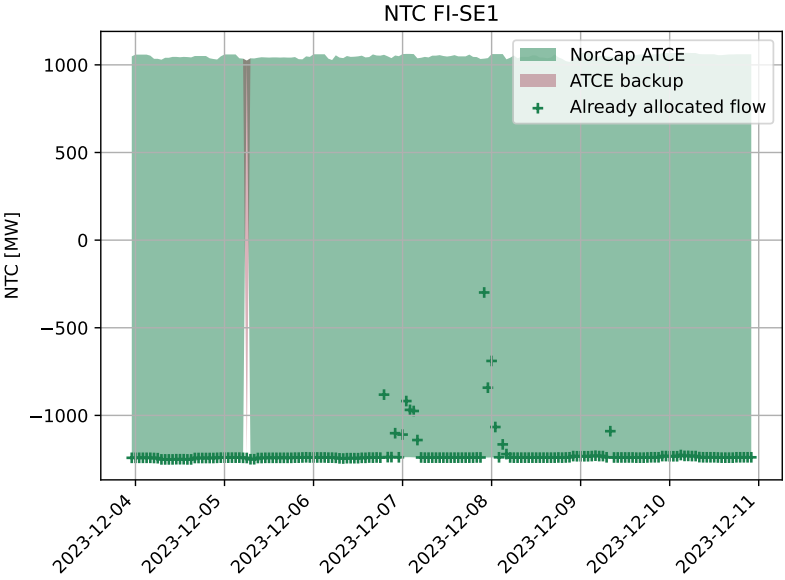


# SE4-DK2

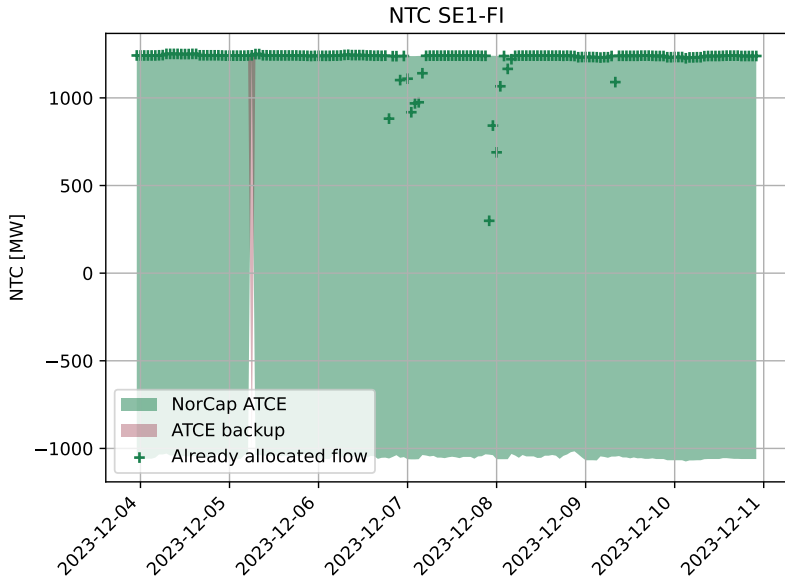


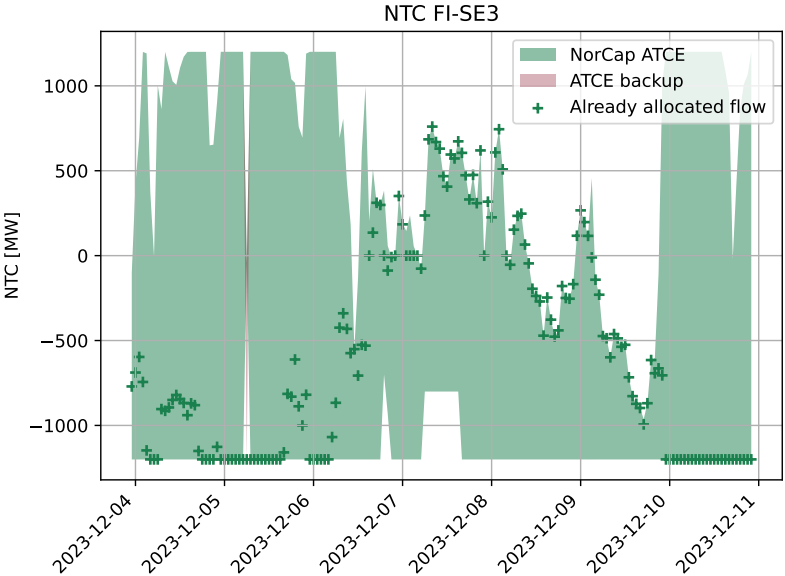




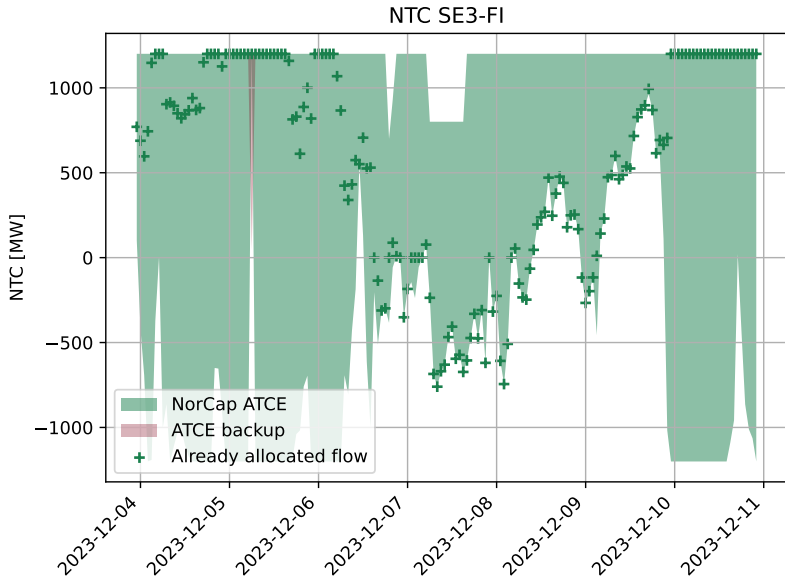


# SE1-FI

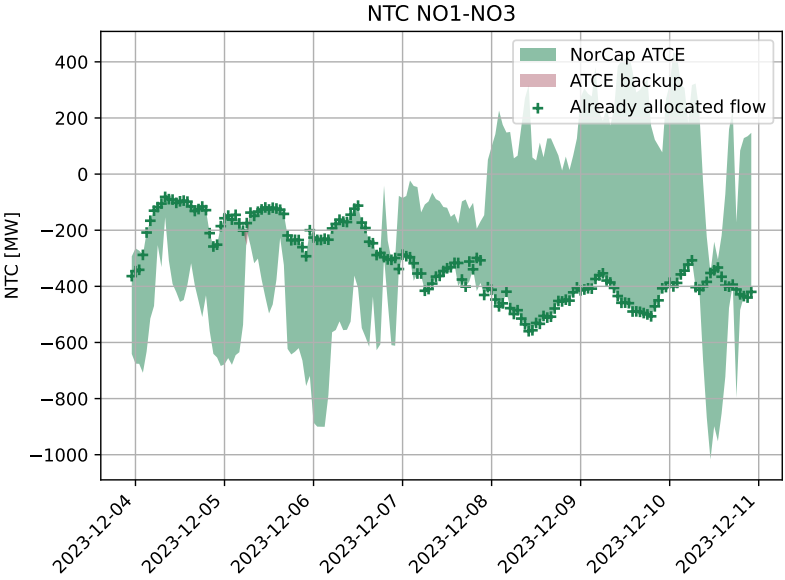




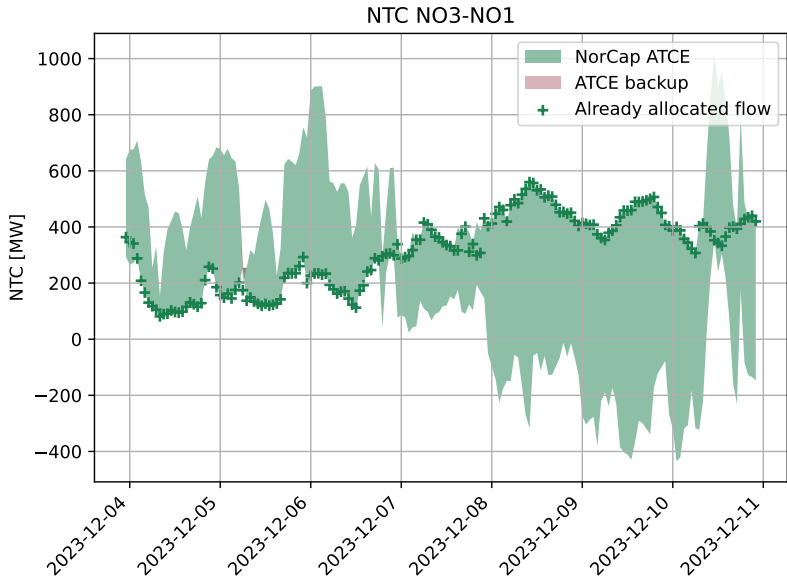
# SE3-FI



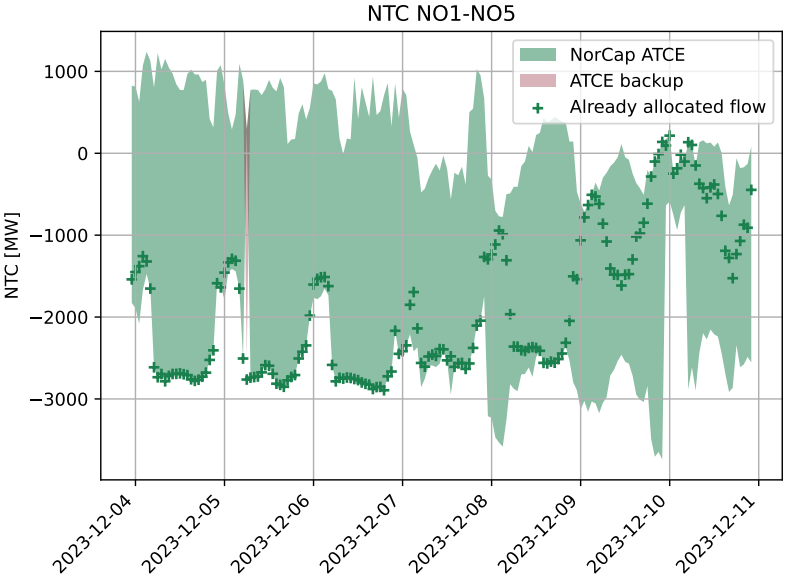
# NO1-NO3



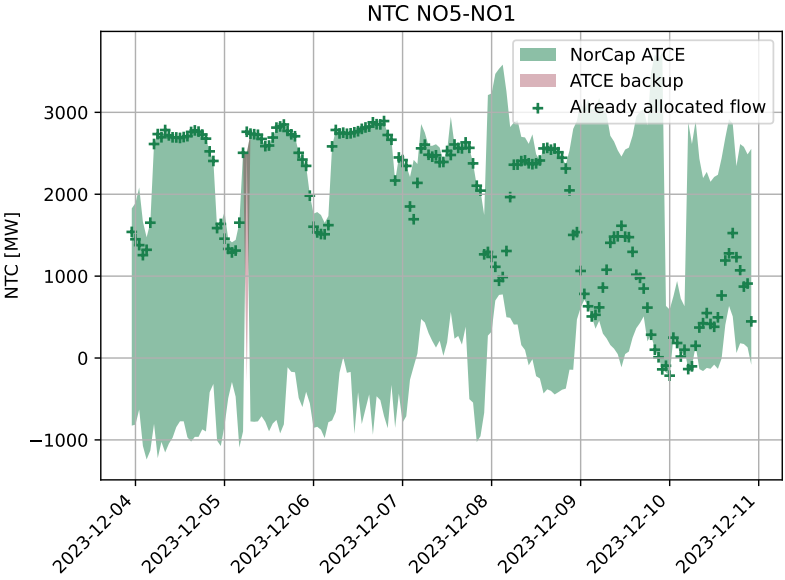
# NO3-NO1



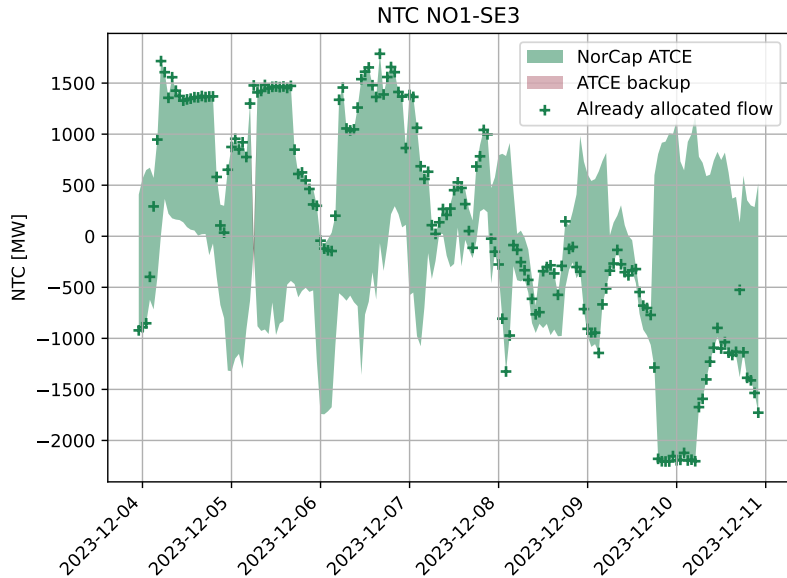
# NO1-NO5

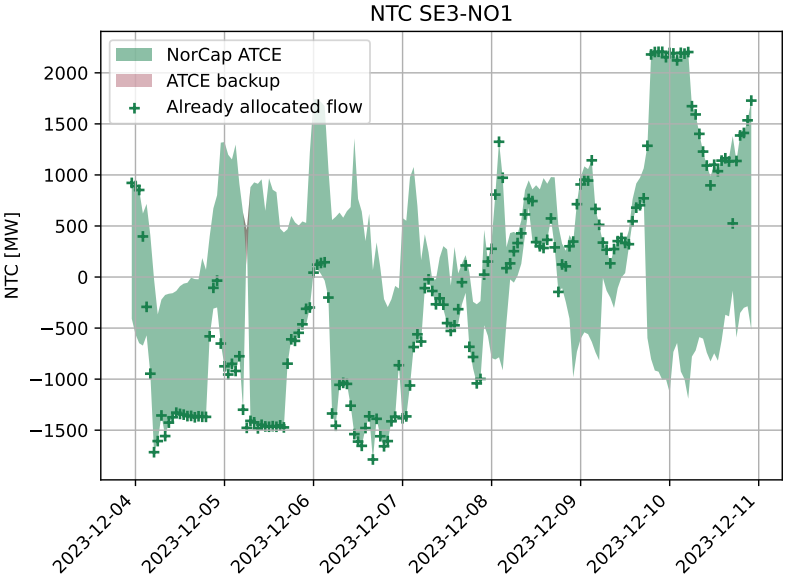


# NO5-NO1

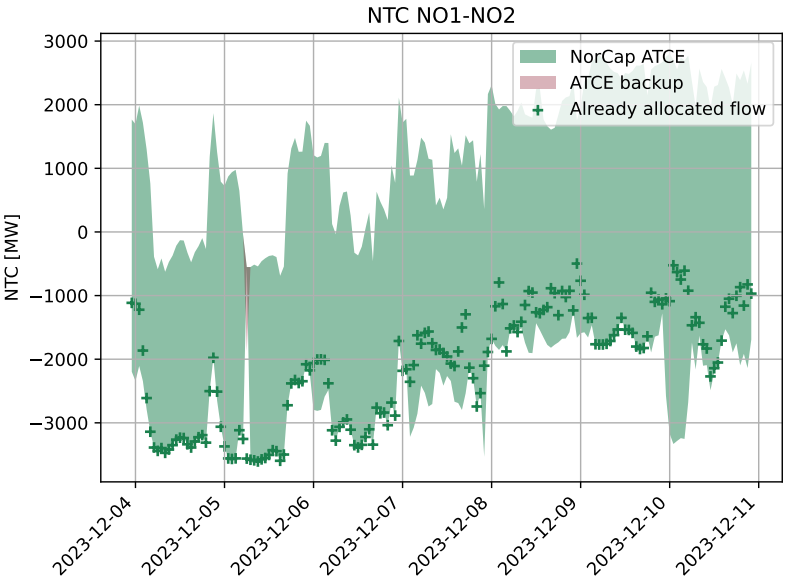


# NO1-SE3

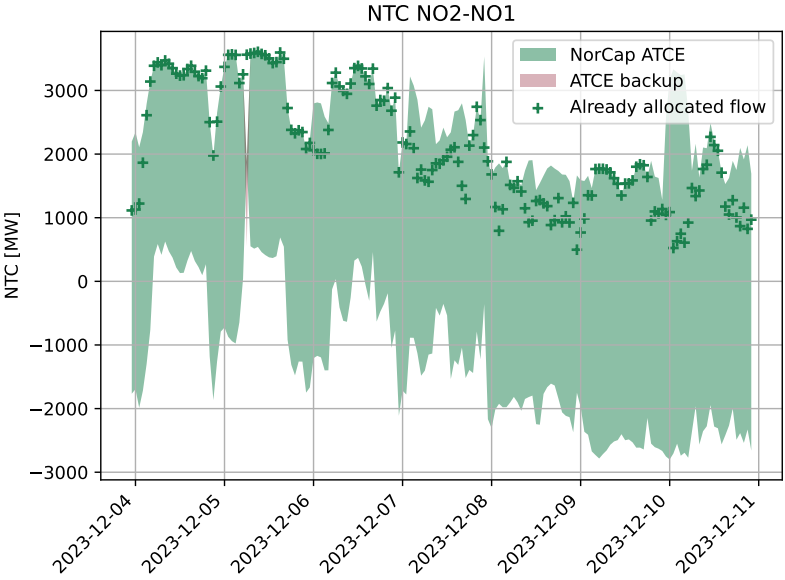




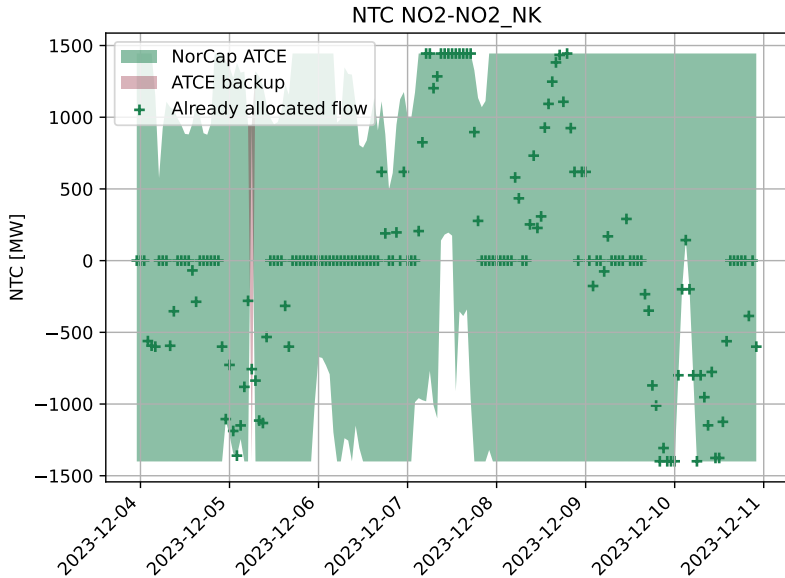
# NO1-NO2



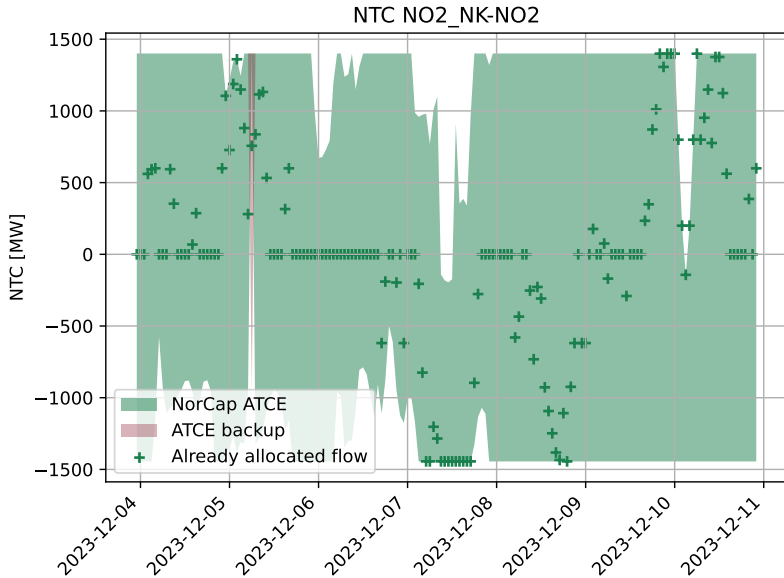
# NO2-NO1



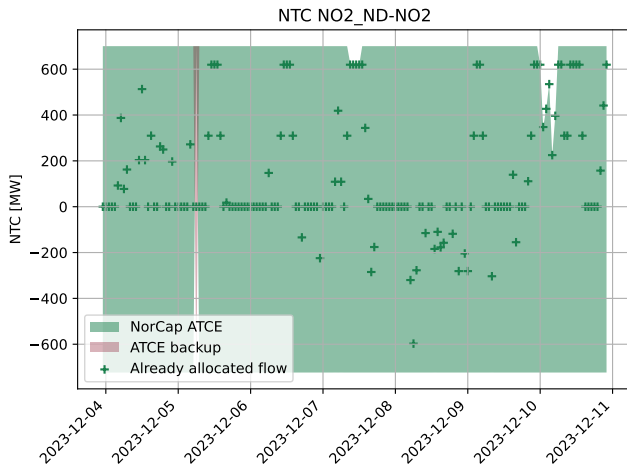
# NO2-NO2\_NK



# NO2\_NK-NO2

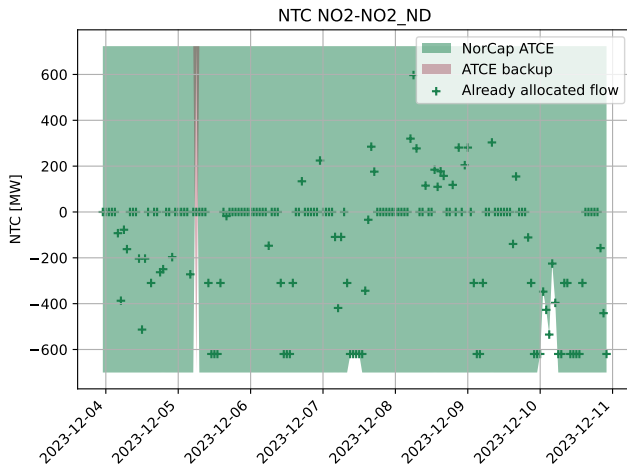


# NO2\_ND-NO2



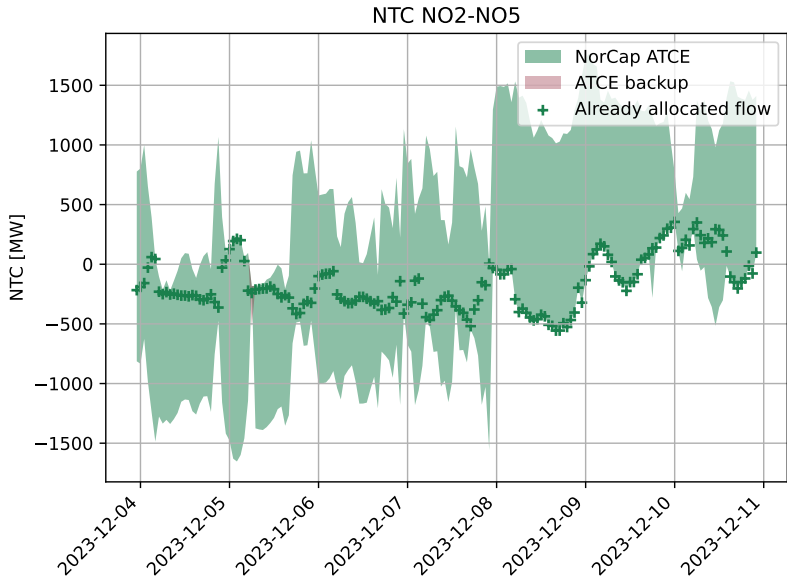
Note: NTC for NorNed includes 3.1% capacity reserved for losses. These will be subtracted in a future revision.

# NO2-NO2\_ND



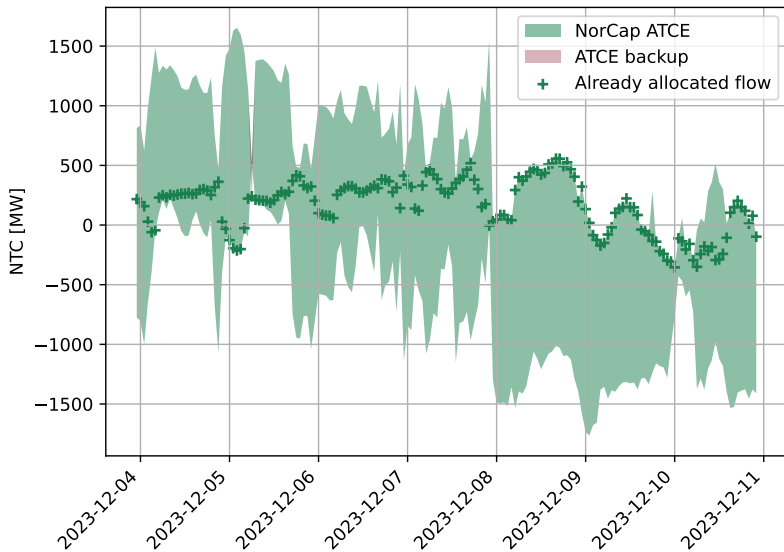
Note: NTC for NorNed includes 3.1% capacity reserved for losses. These will be subtracted in a future revision.

# NO2-NO5

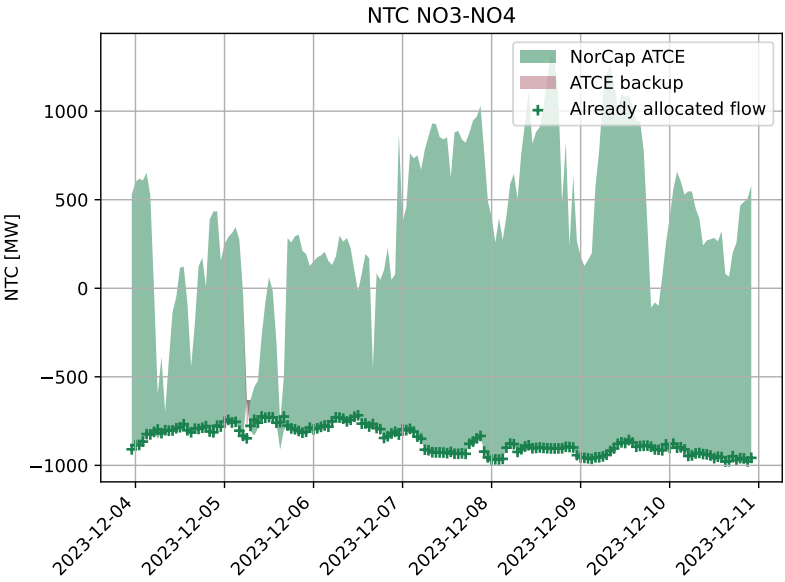


# NO5-NO2

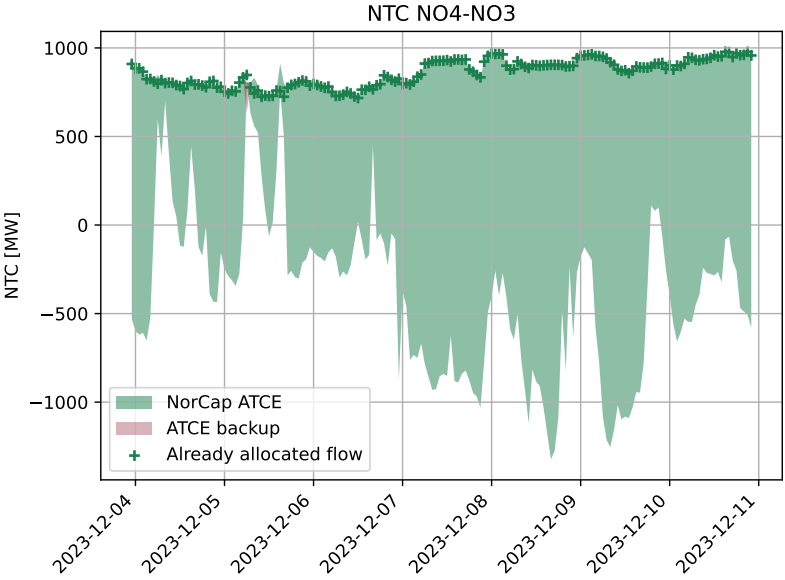
NTC NO5-NO2



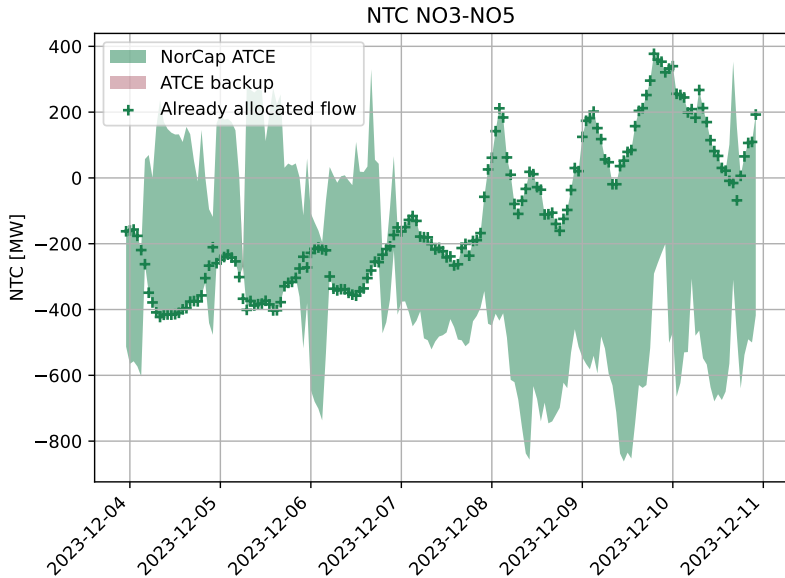
# NO3-NO4



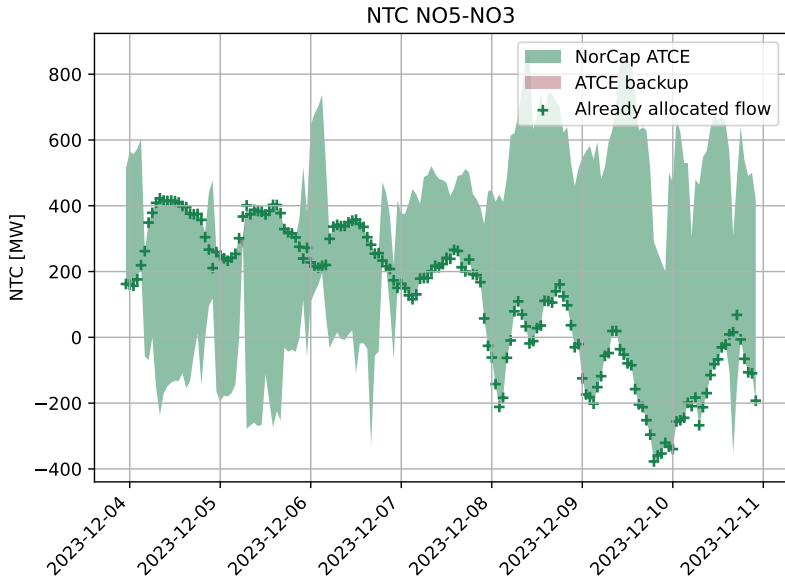
# NO4-NO3



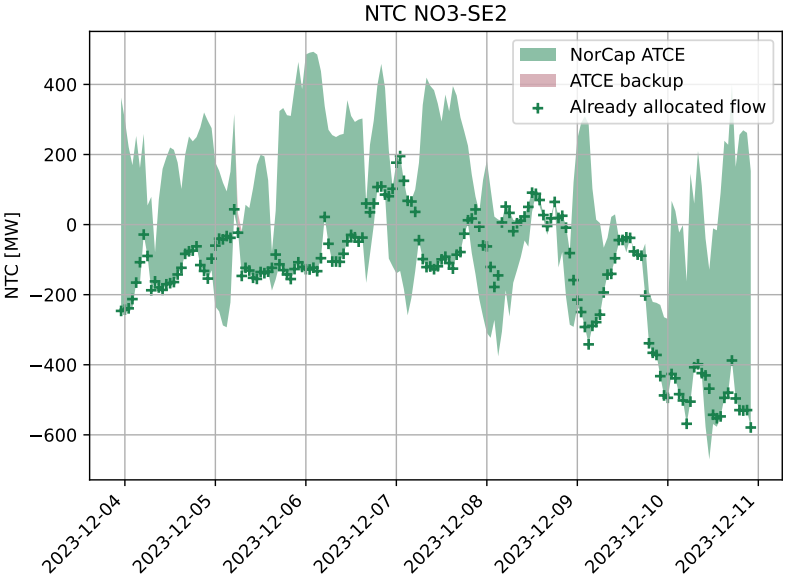
# NO3-NO5



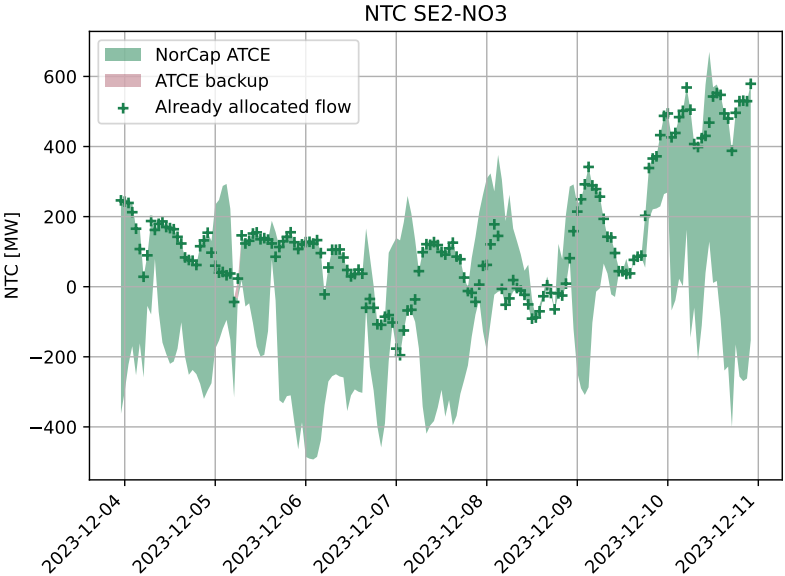
# NO5-NO3



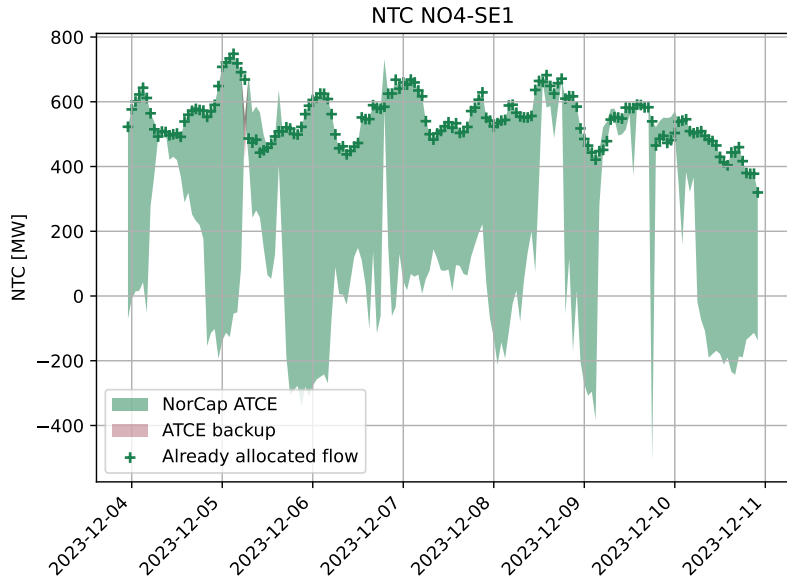
# NO3-SE2

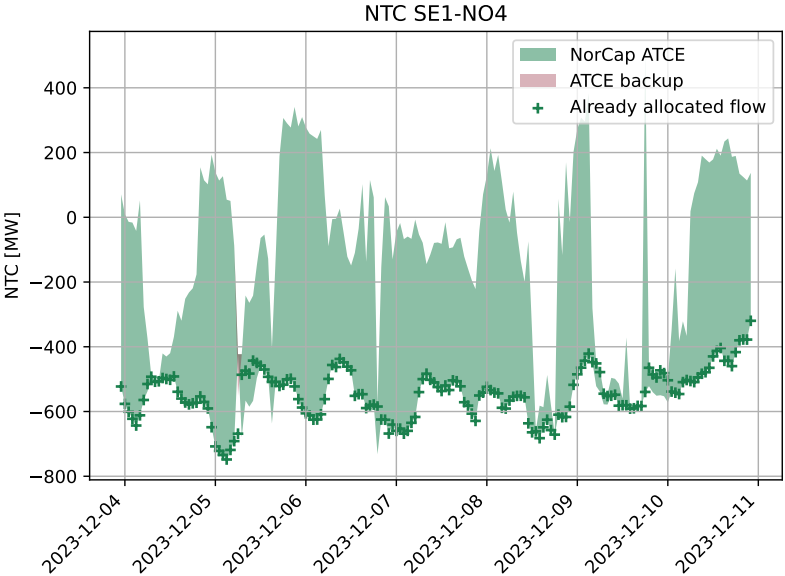


# SE2-NO3

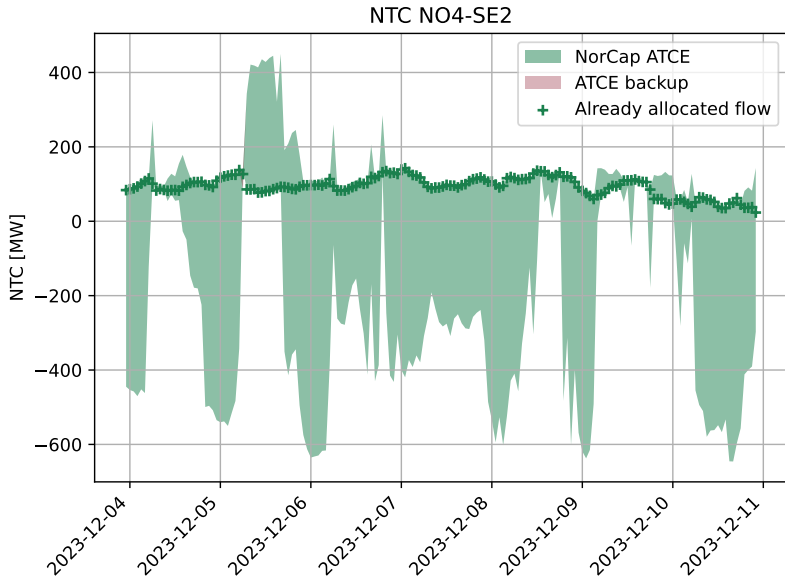


# NO4-SE1

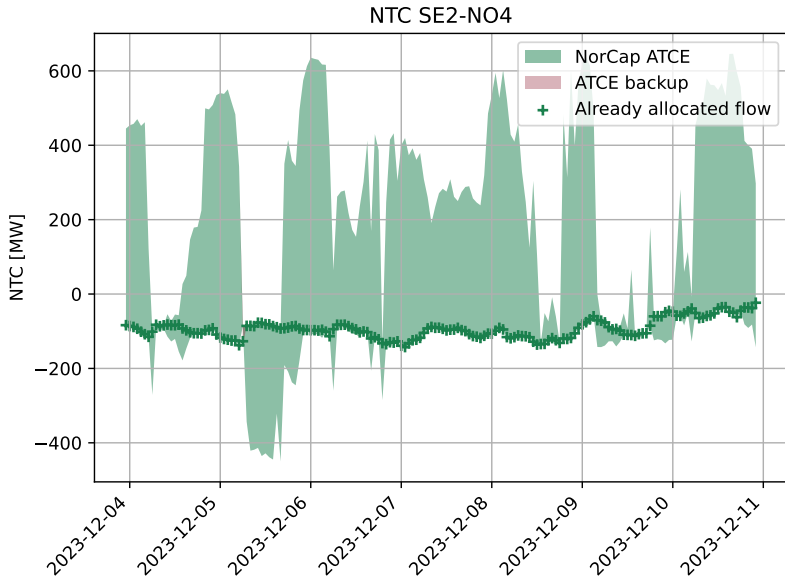




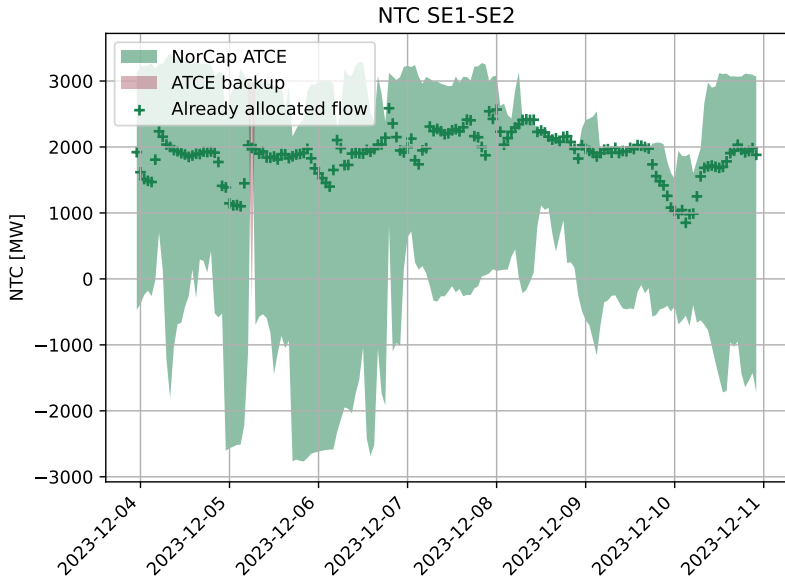
# NO4-SE2



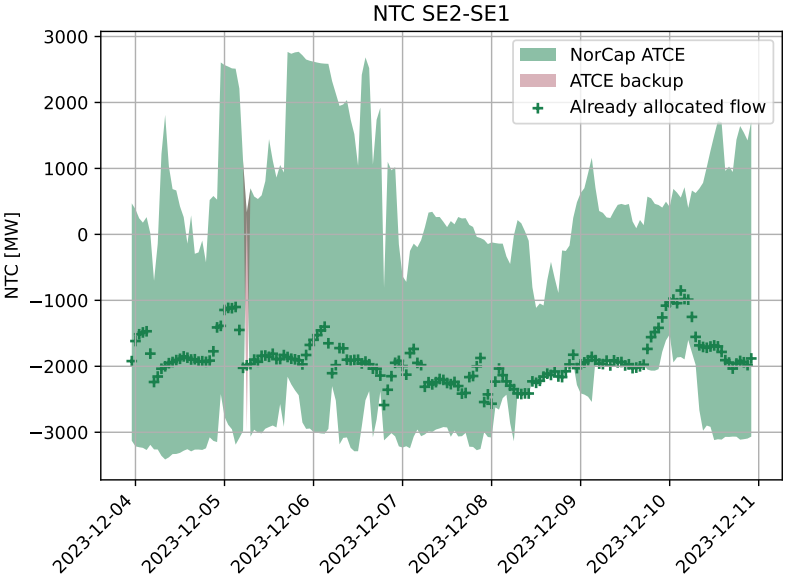
# SE2-NO4



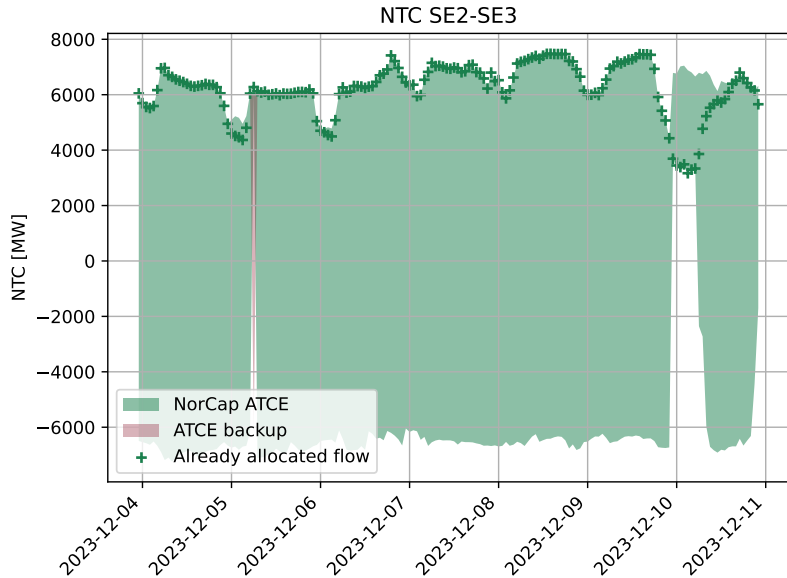
# SE1-SE2



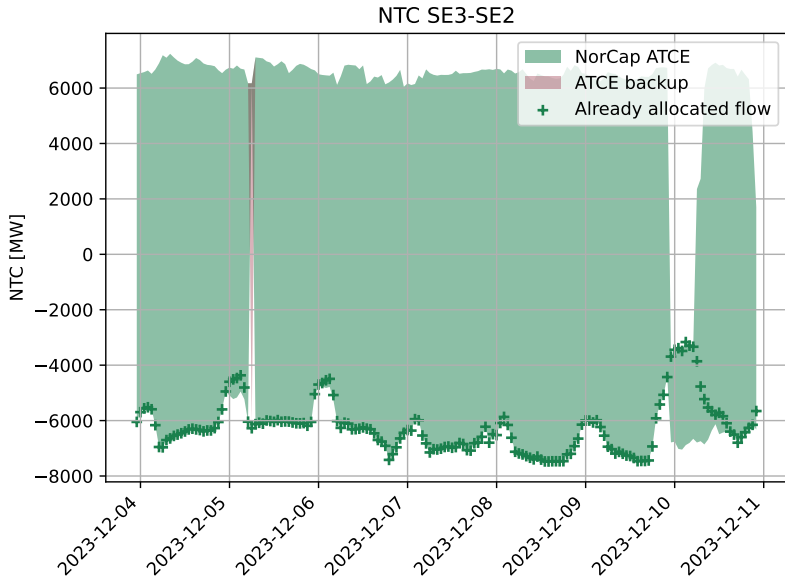
# SE2-SE1



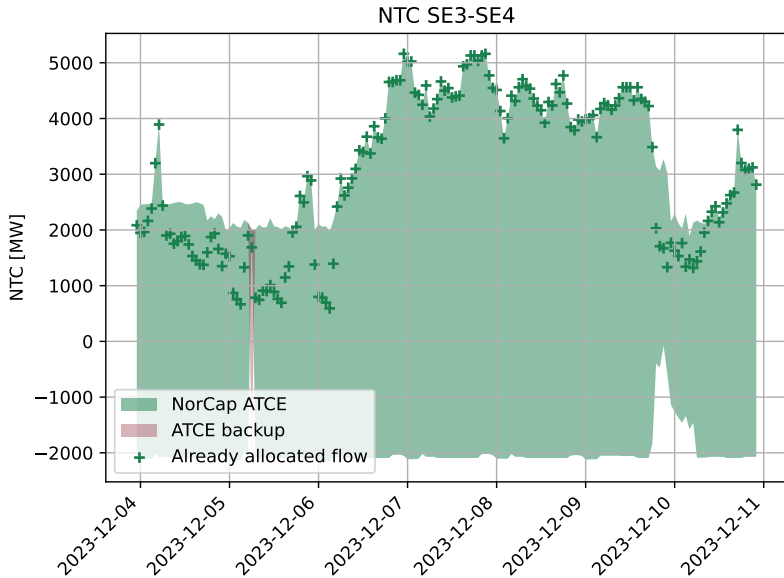
# SE2-SE3



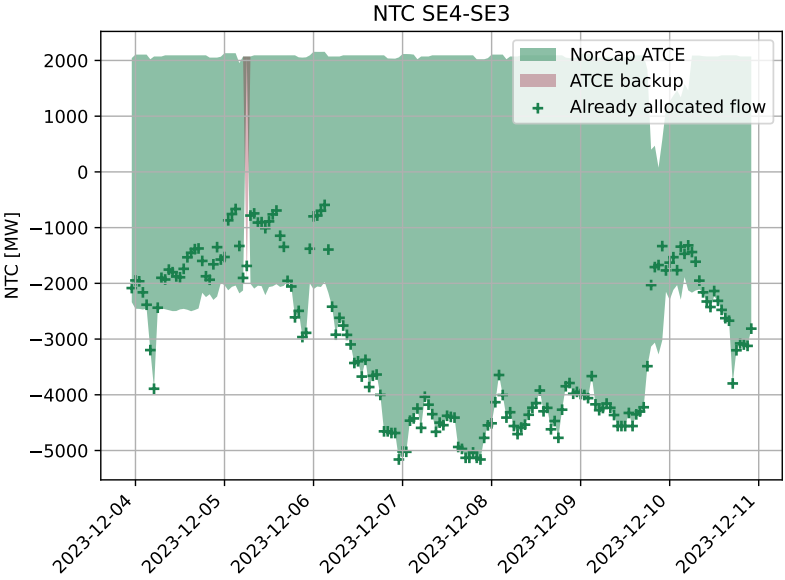
# SE3-SE2



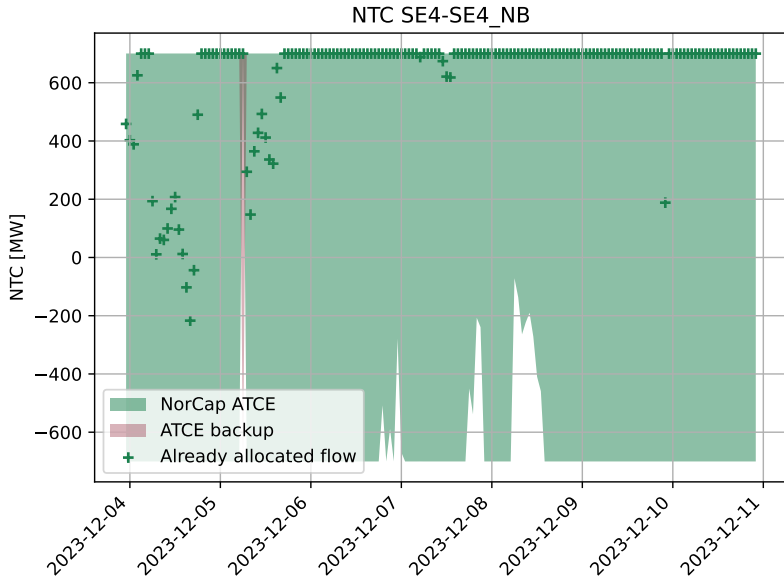
# SE3-SE4



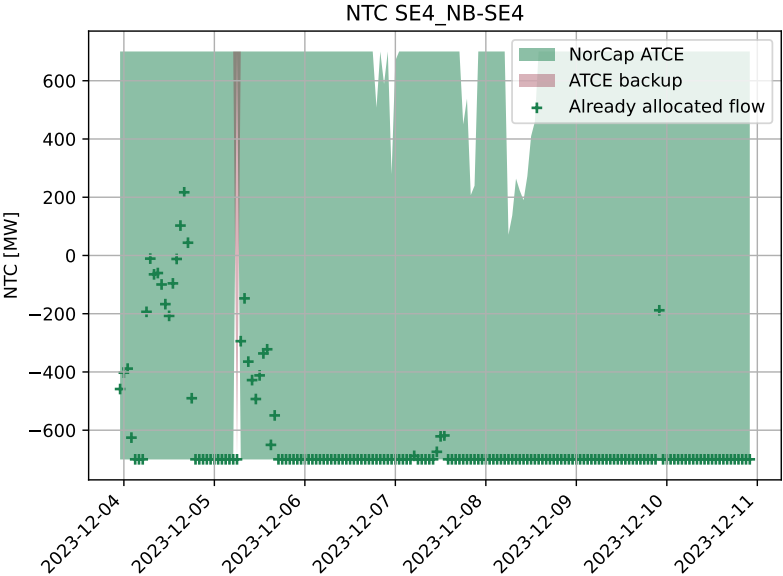
# SE4-SE3



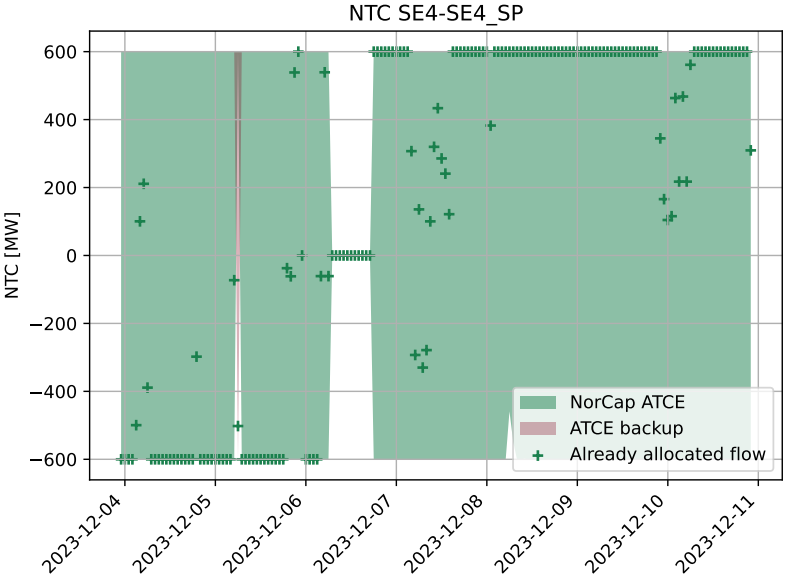
# SE4-SE4\_NB



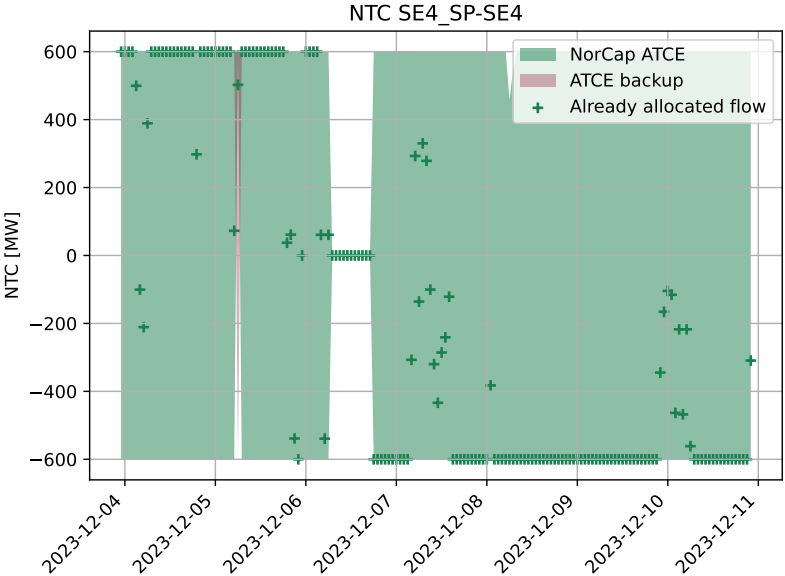
# SE4\_NB-SE4



# SE4-SE4\_SP



# SE4\_SP-SE4

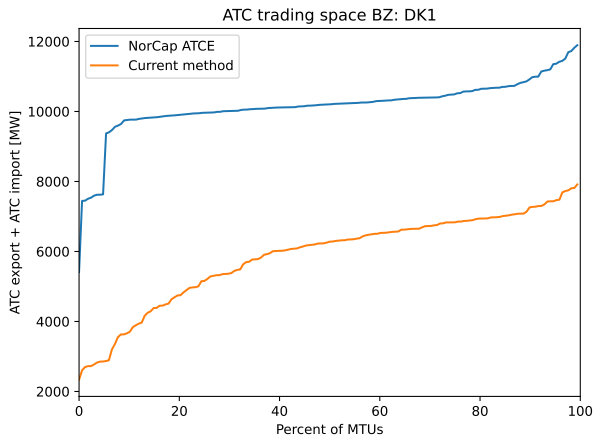


# Bidding zone trading space

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.

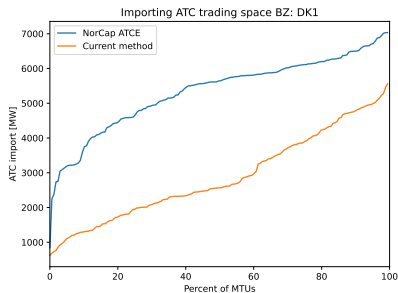
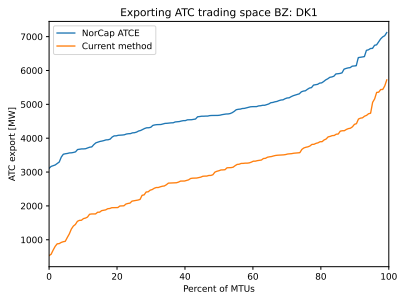
Disclaimer: Trading space computed by the reference method (i.e. the current method used in production) are calculated from intra-day offered ATCs collected from ENTSO-e transparency platform. It must be noted that the capacities collected at transparency platform are harmonized capacities including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

# DK1 - Total trading space



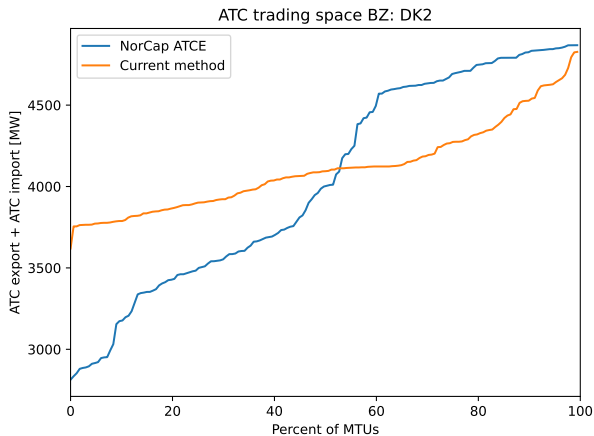
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# DK1 - Directional trading space



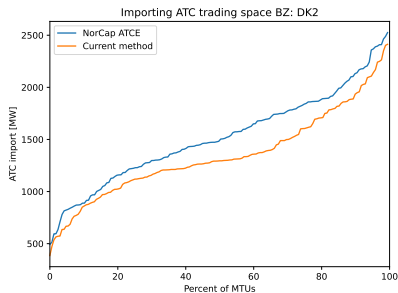
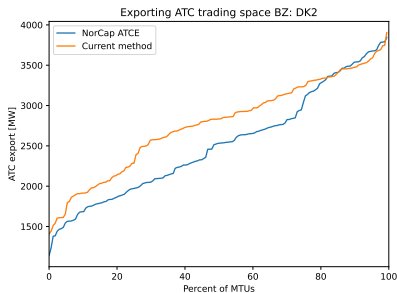
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# DK2 - Total trading space



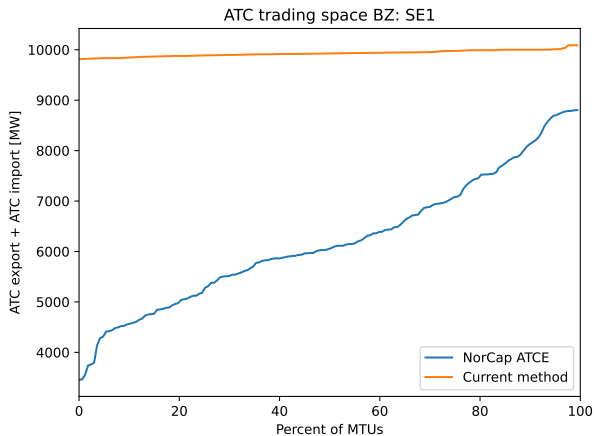
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# DK2 - Directional trading space



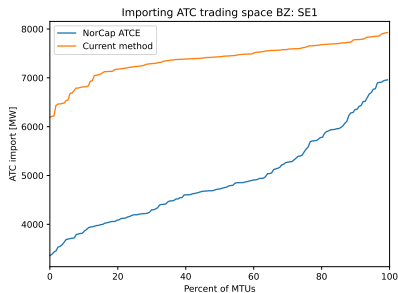
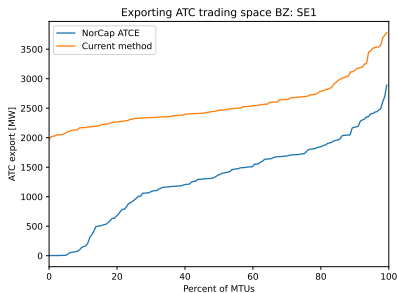
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE1 - Total trading space



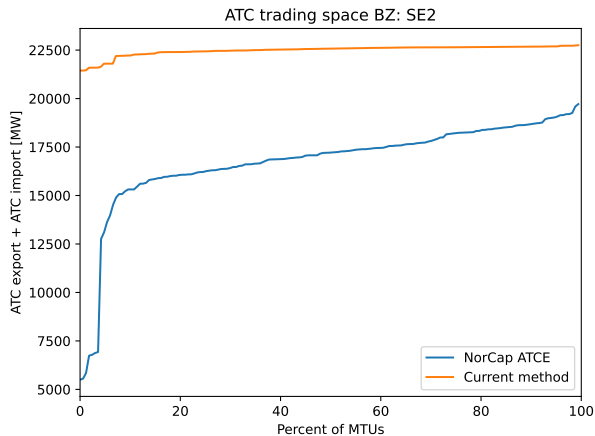
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE1 - Directional trading space



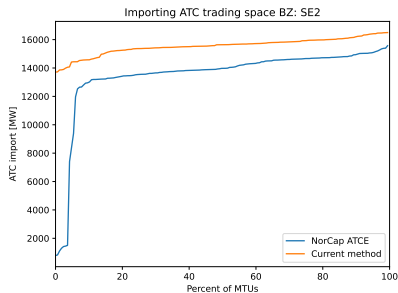
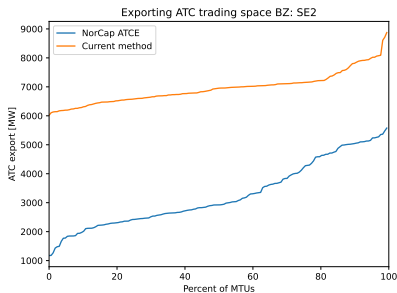
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE2 - Total trading space



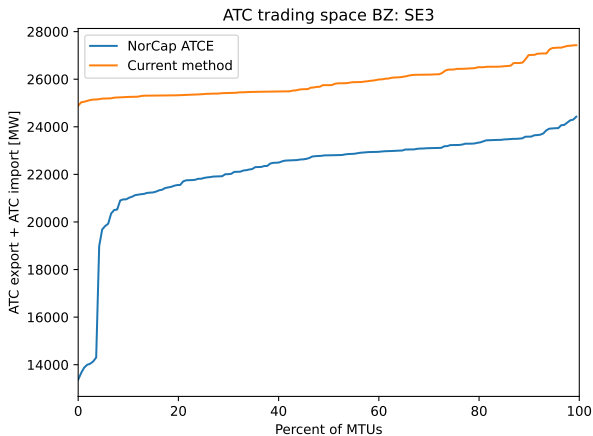
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE2 - Directional trading space



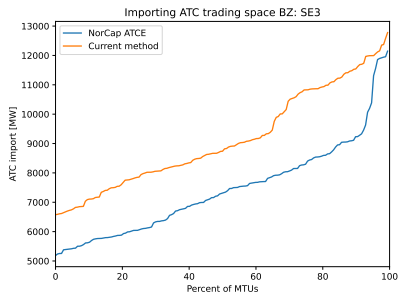
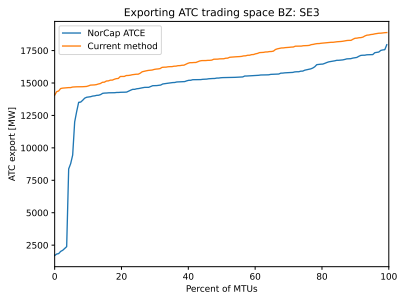
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE3 - Total trading space



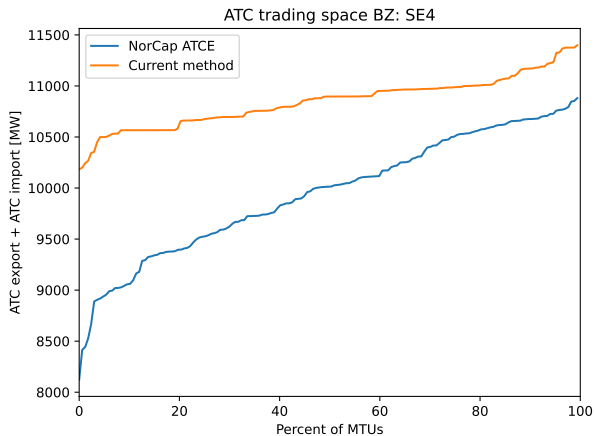
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE3 - Directional trading space



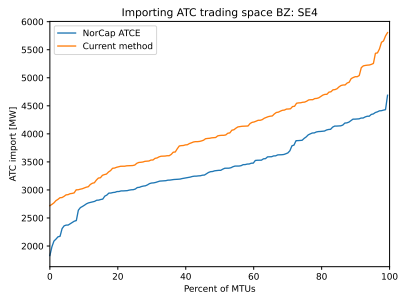
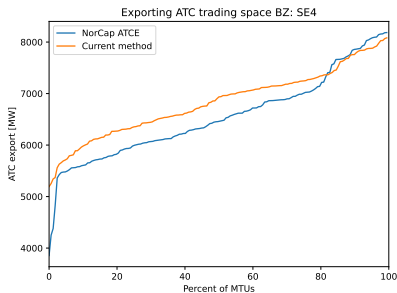
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE4 - Total trading space



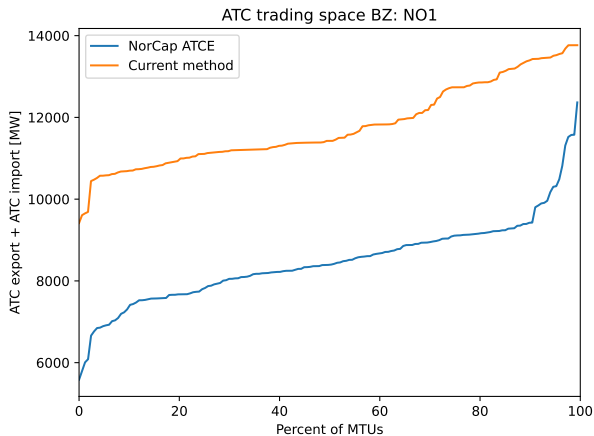
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# SE4 - Directional trading space



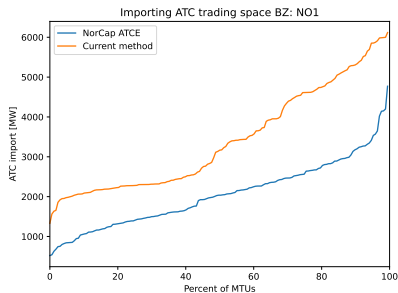
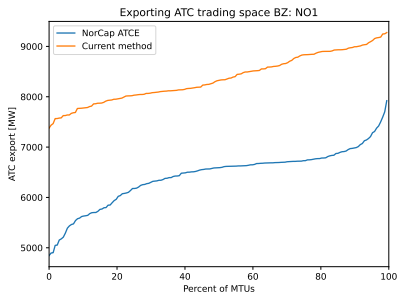
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO1 - Total trading space



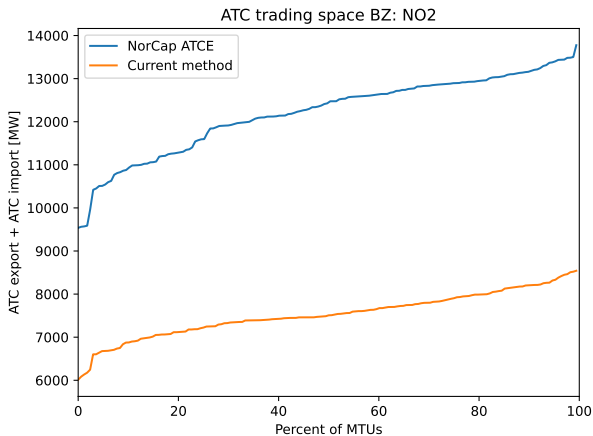
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO1 - Directional trading space



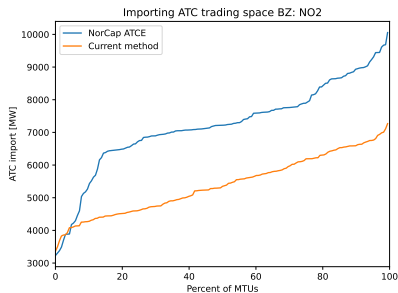
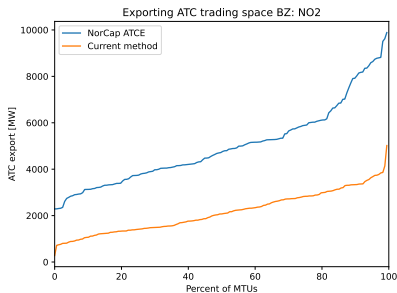
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO2 - Total trading space



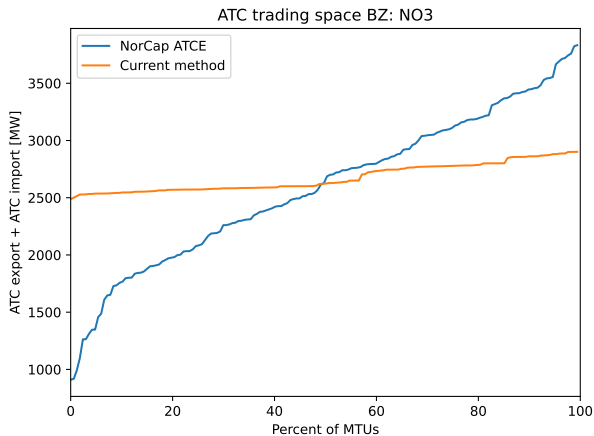
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO2 - Directional trading space



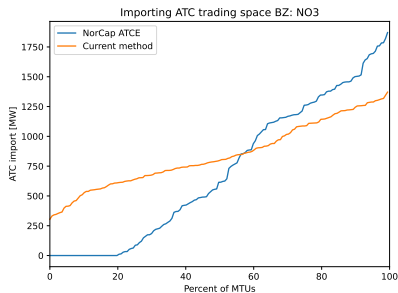
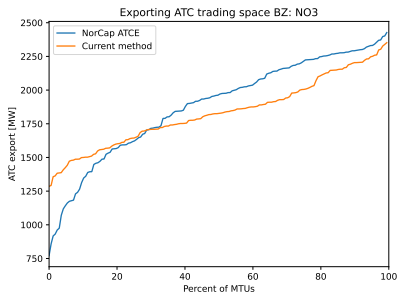
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO3 - Total trading space



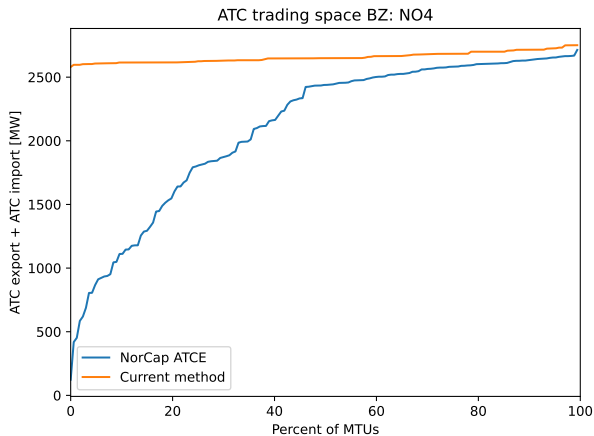
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO3 - Directional trading space



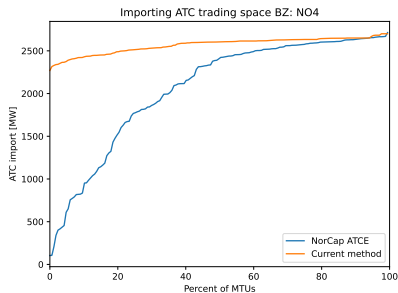
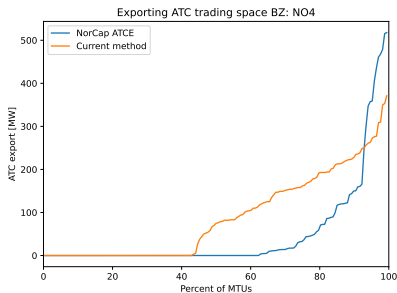
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO4 - Total trading space



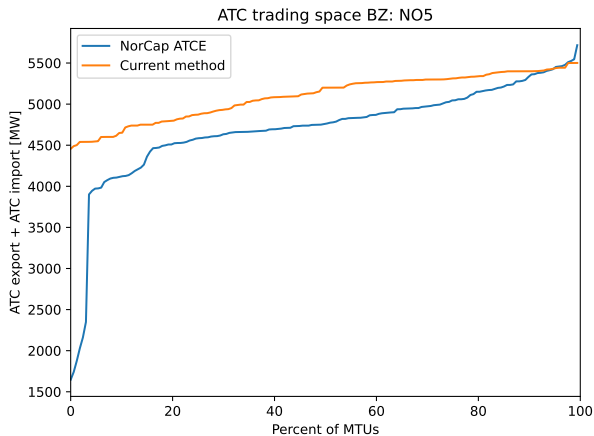
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO4 - Directional trading space



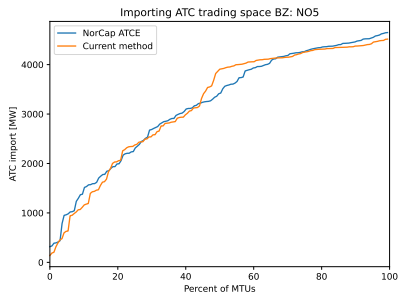
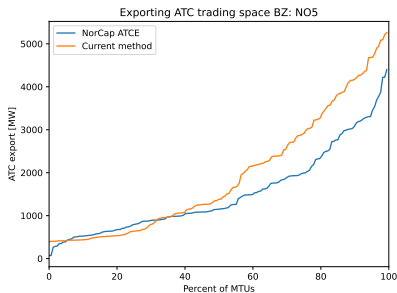
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO5 - Total trading space



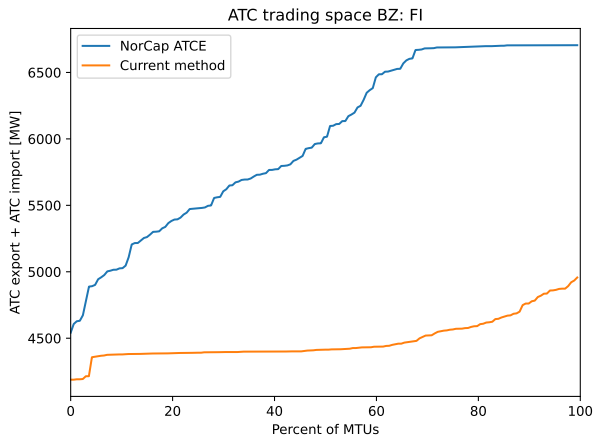
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# NO5 - Directional trading space



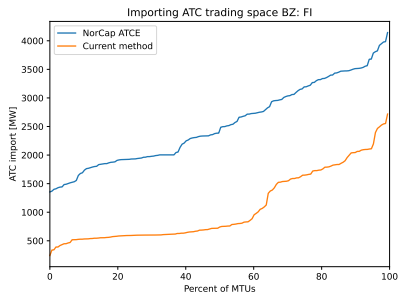
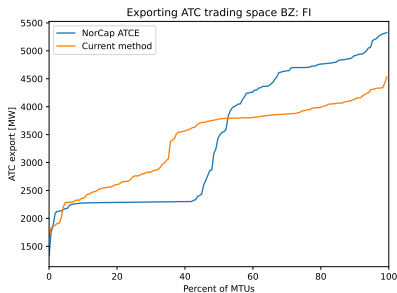
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the trading space curves.

# FI - Total trading space



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

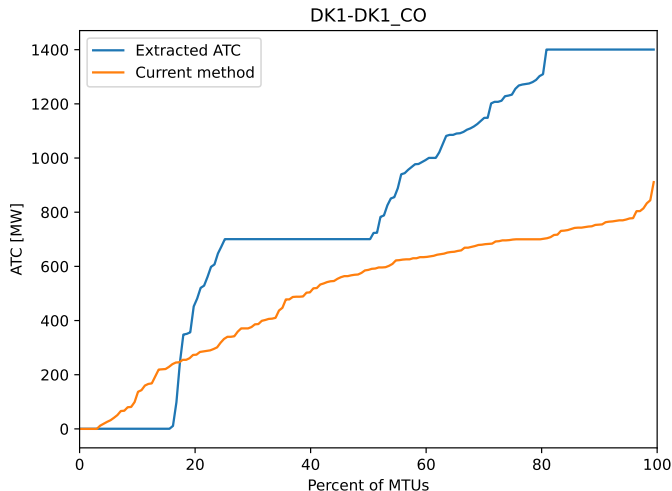
# FI - Directional trading space



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

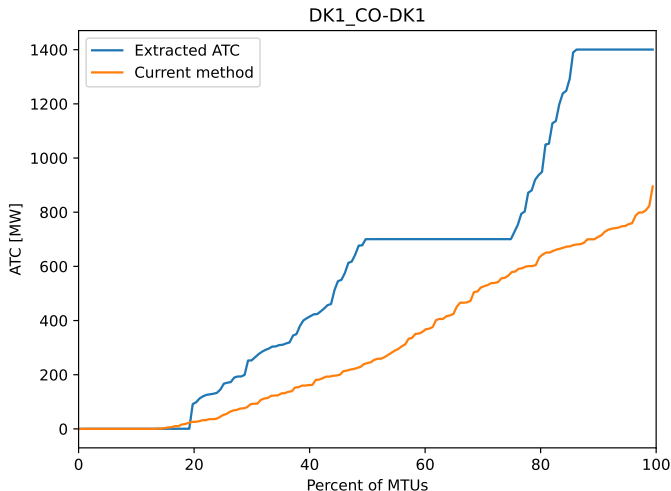
# Capacity duration curves

# DK1-DK1\_CO ATC duration curves



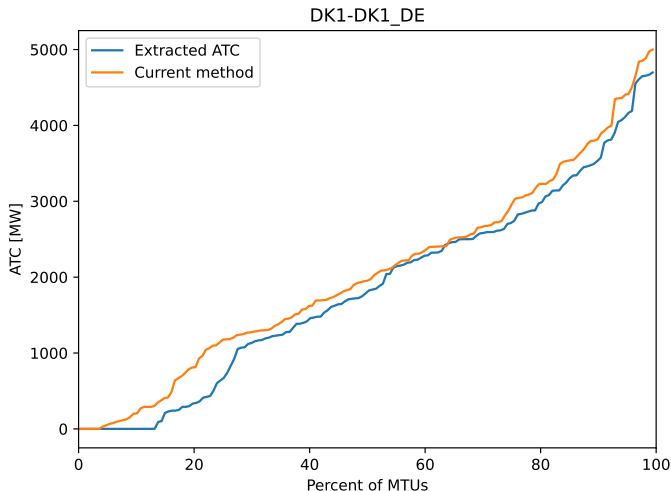
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK1\_CO-DK1 ATC duration curves



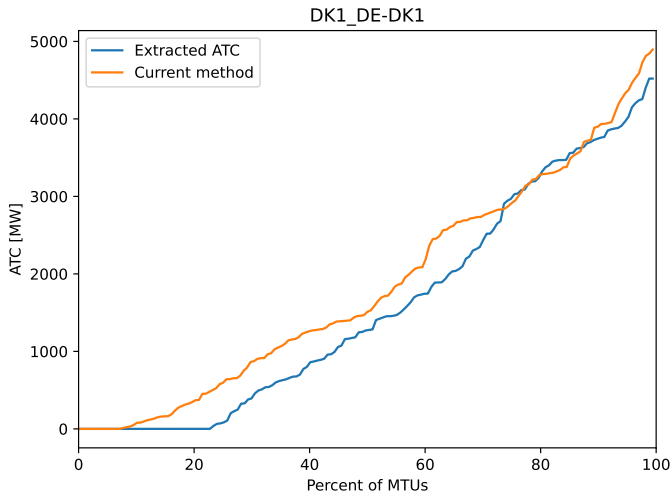
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK1-DK1\_DE ATC duration curves



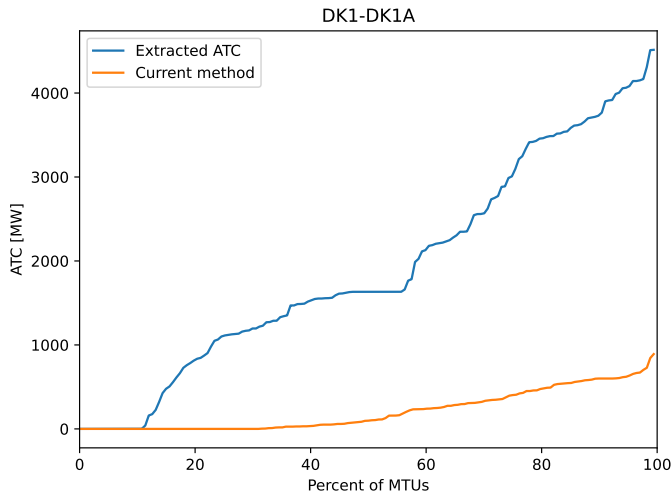
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK1\_DE-DK1 ATC duration curves



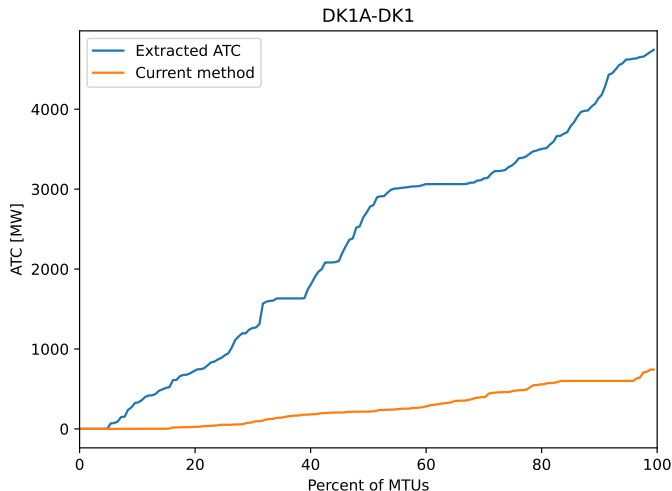
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK1-DK1A ATC duration curves



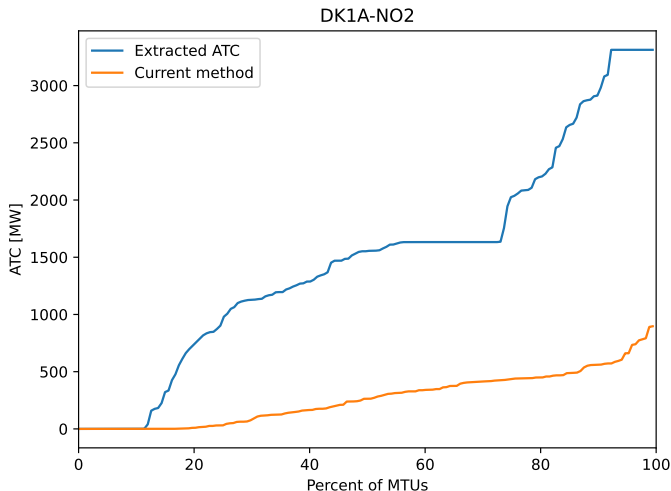
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK1A-DK1 ATC duration curves



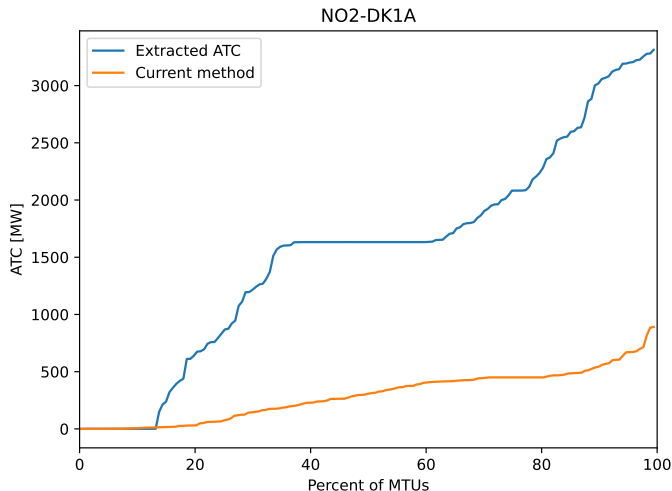
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK1A-NO2 ATC duration curves



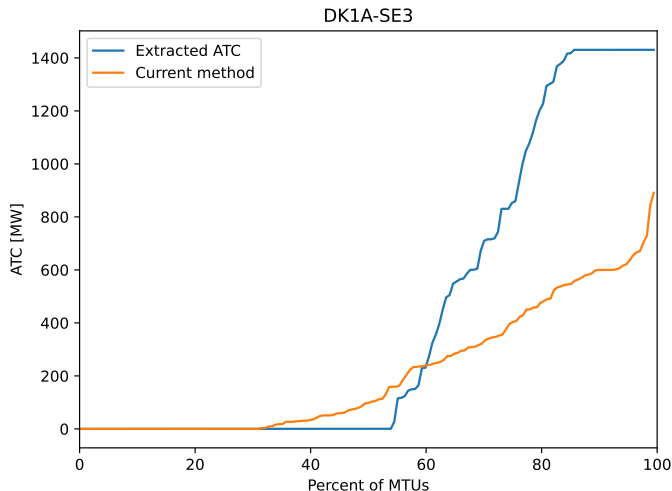
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO2-DK1A ATC duration curves



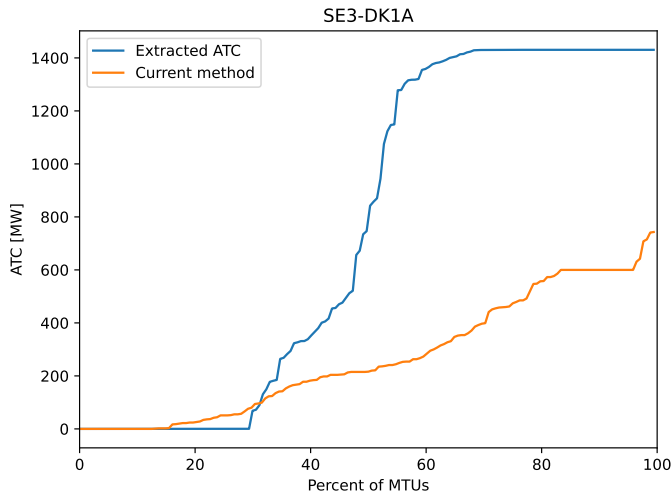
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK1A-SE3 ATC duration curves



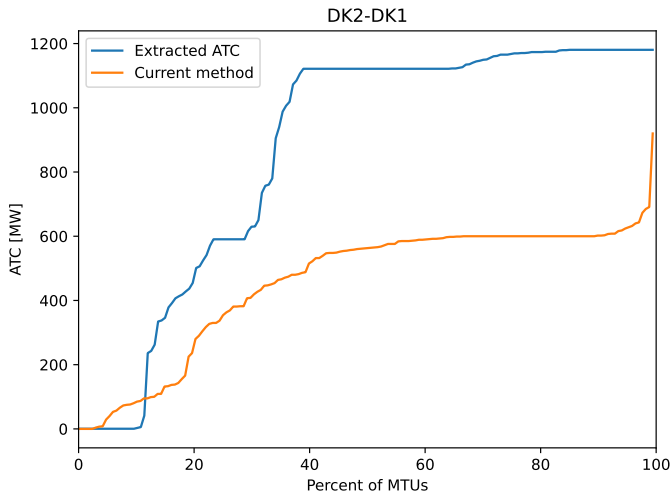
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE3-DK1A ATC duration curves



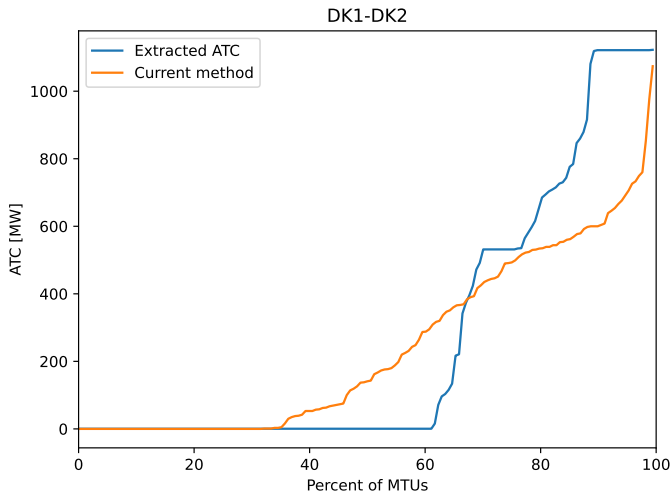
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK2-DK1 ATC duration curves



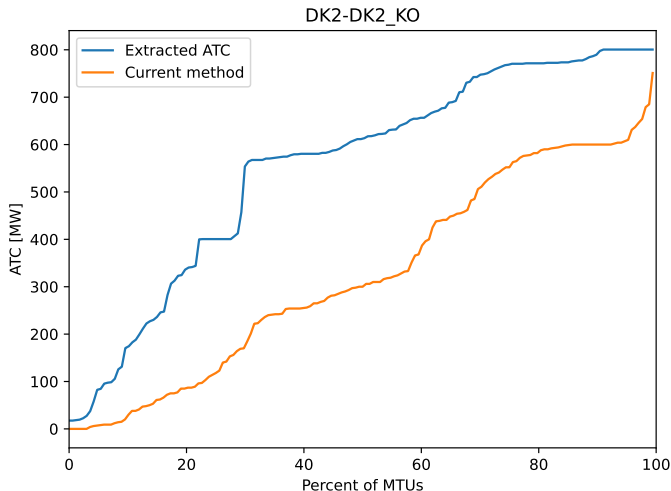
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK1-DK2 ATC duration curves



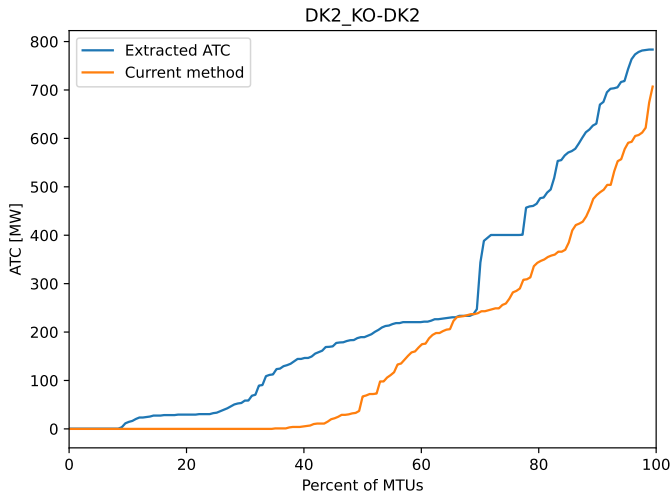
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK2-DK2\_KO ATC duration curves



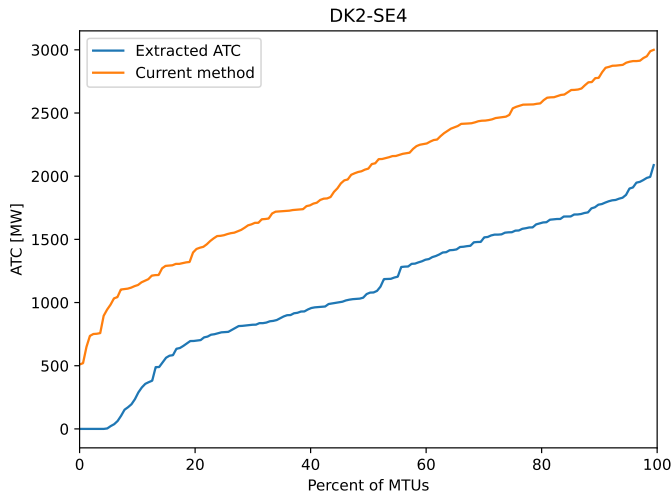
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK2\_KO-DK2 ATC duration curves



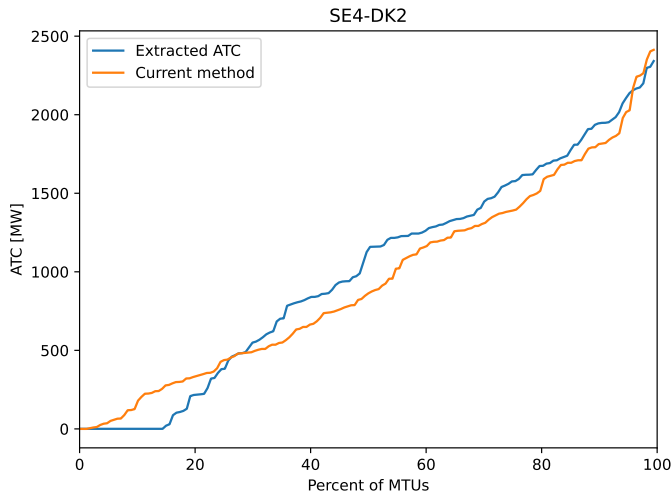
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# DK2-SE4 ATC duration curves



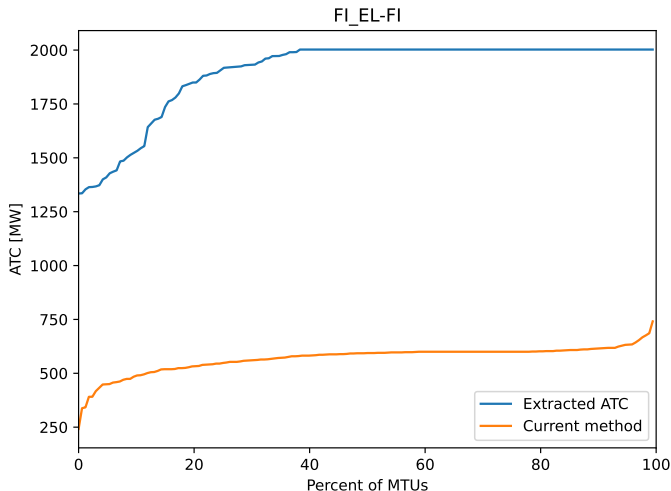
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE4-DK2 ATC duration curves



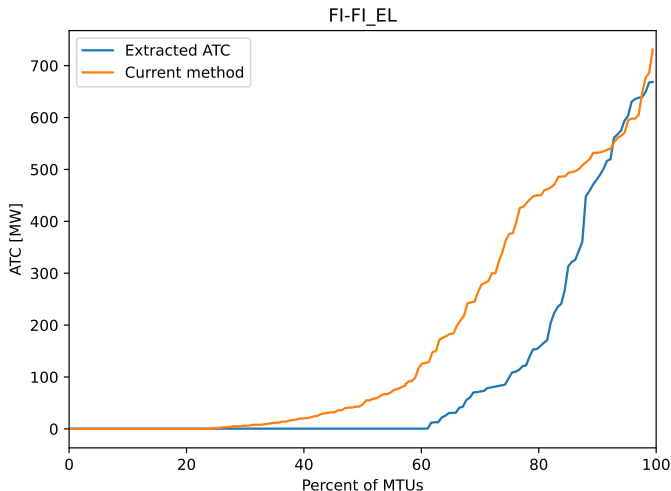
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# FI\_EL-FI ATC duration curves



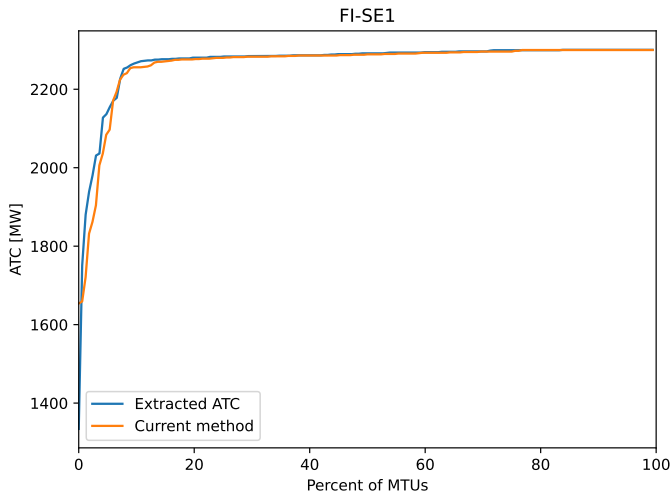
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# FI-FI\_EL ATC duration curves



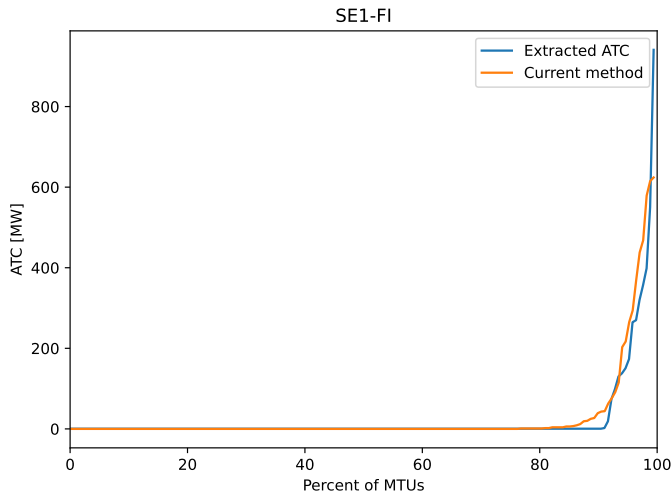
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# FI-SE1 ATC duration curves



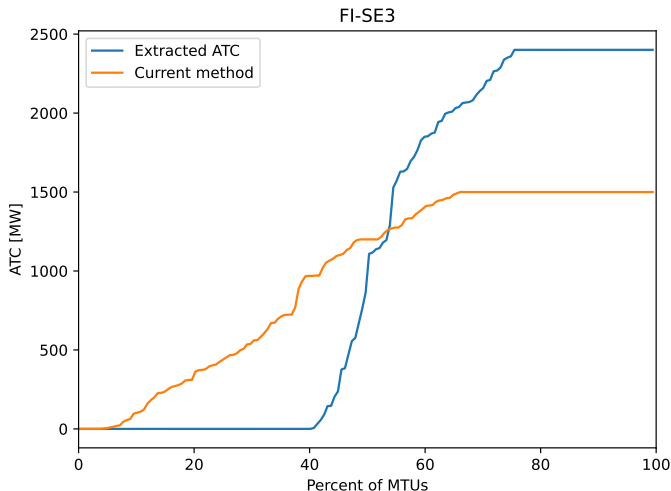
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE1-FI ATC duration curves



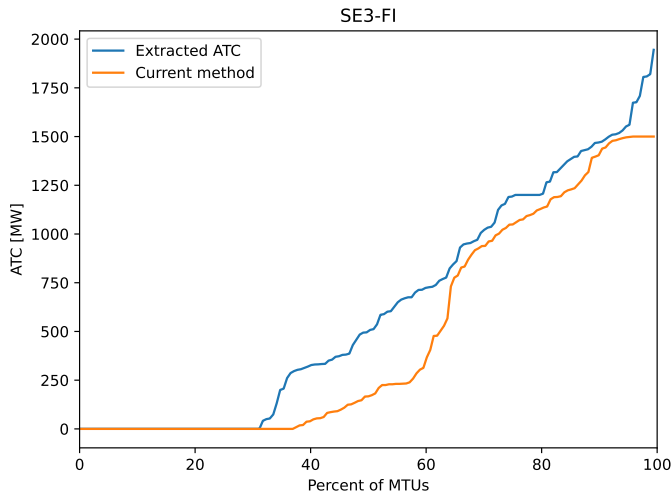
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# FI-SE3 ATC duration curves



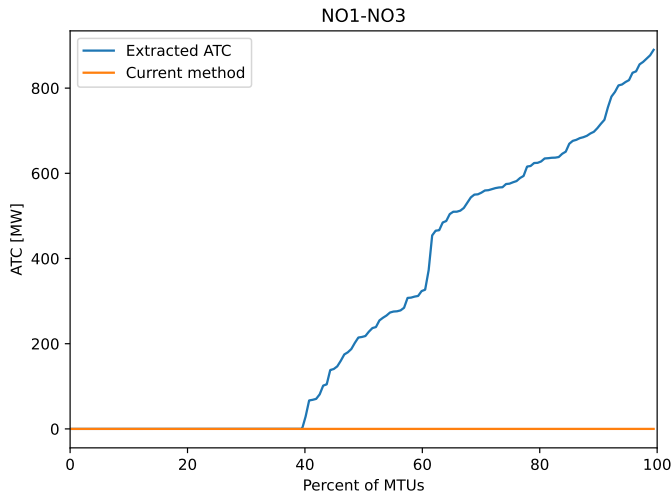
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE3-FI ATC duration curves



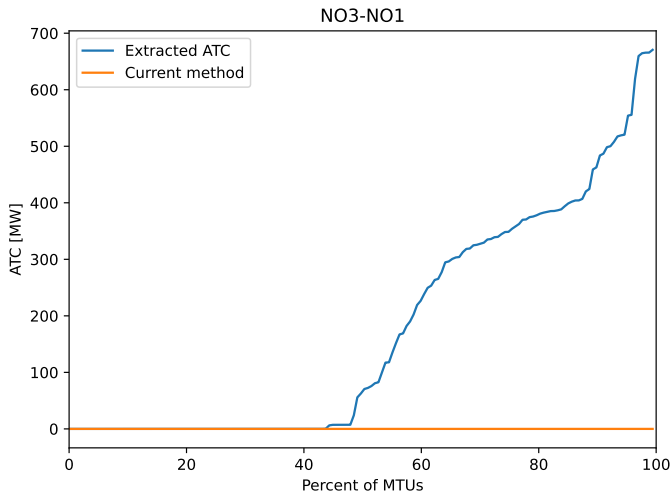
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO1-NO3 ATC duration curves



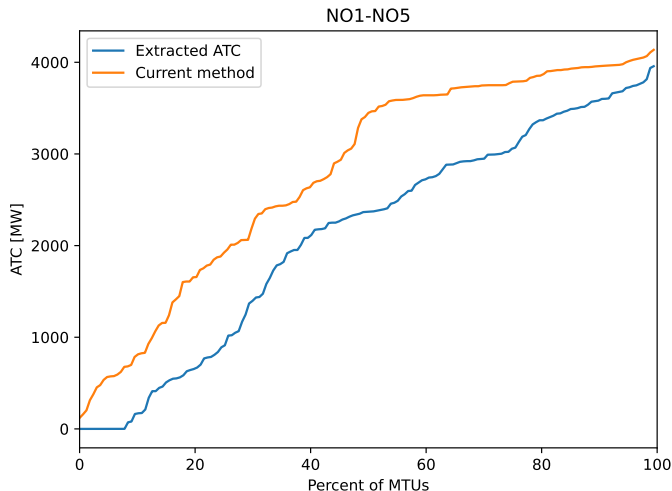
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO3-NO1 ATC duration curves



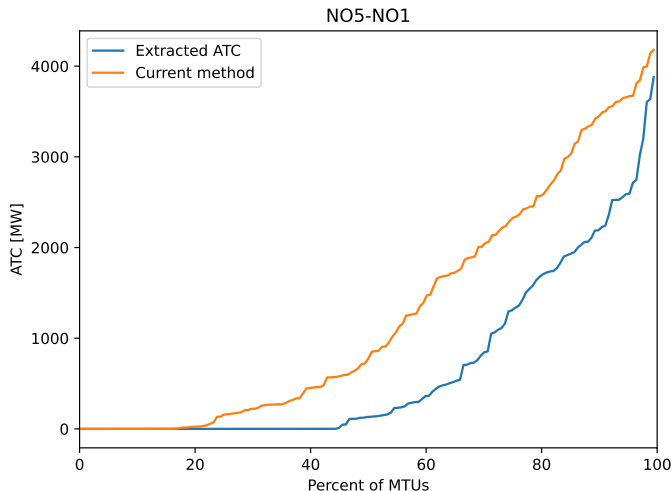
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO1-NO5 ATC duration curves



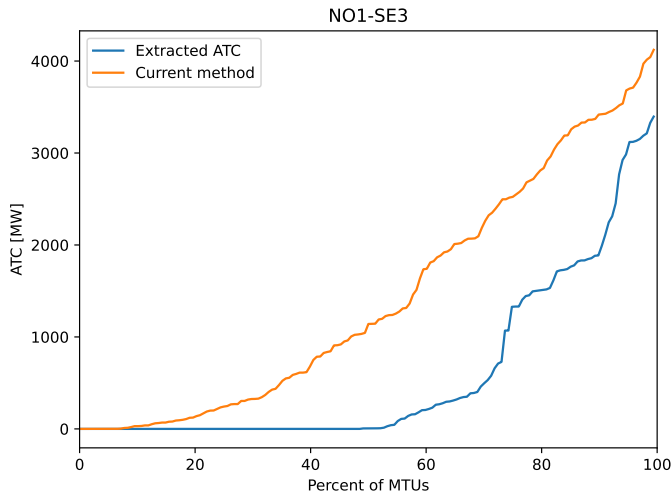
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO5-NO1 ATC duration curves



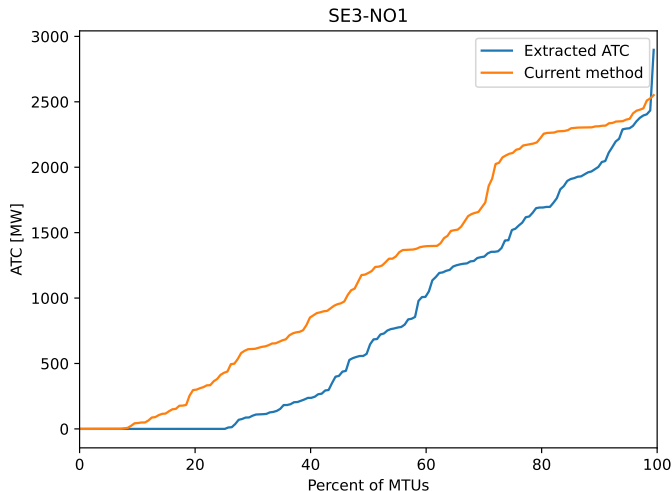
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO1-SE3 ATC duration curves



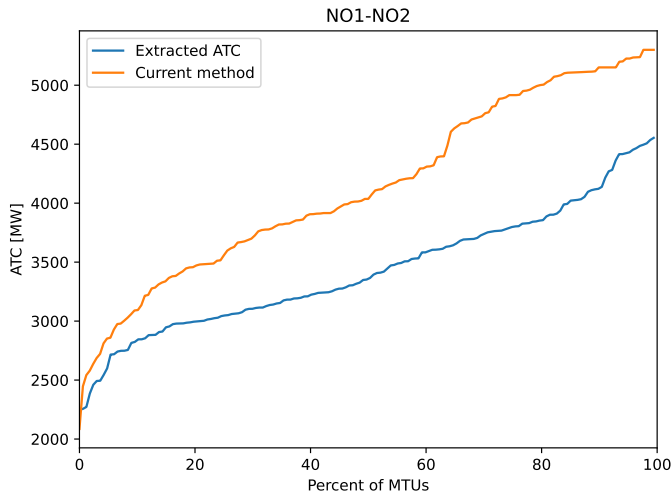
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE3-NO1 ATC duration curves



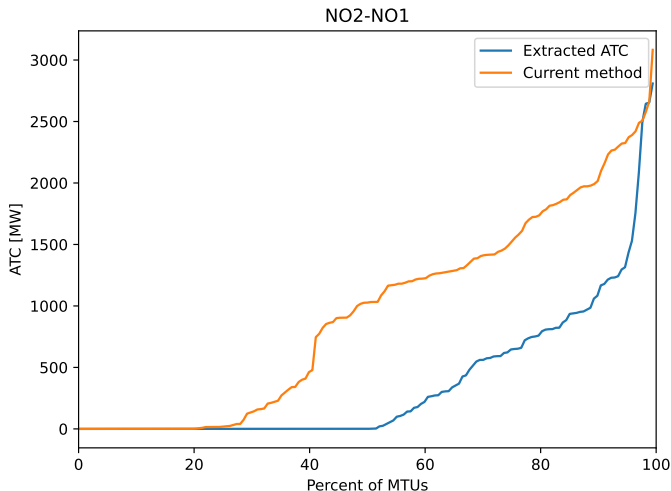
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO1-NO2 ATC duration curves



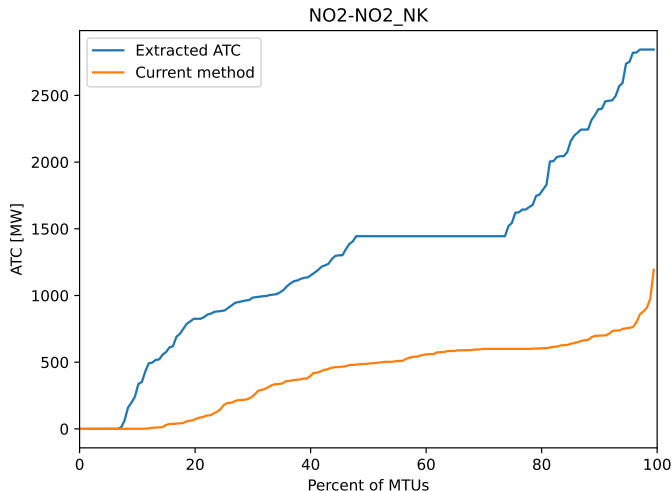
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO2-NO1 ATC duration curves



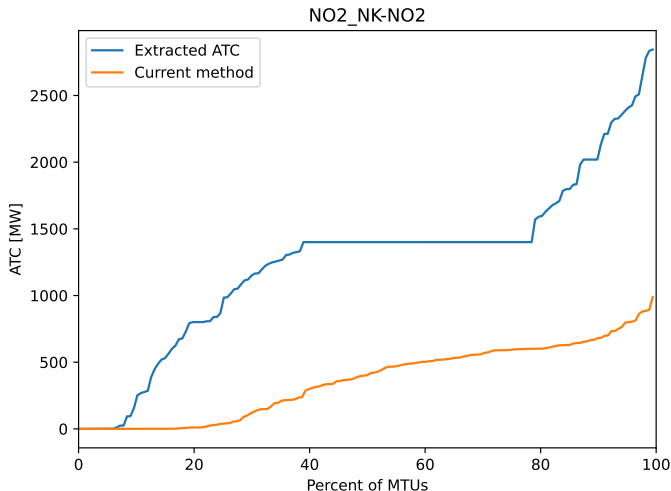
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO2-NO2\_NK ATC duration curves



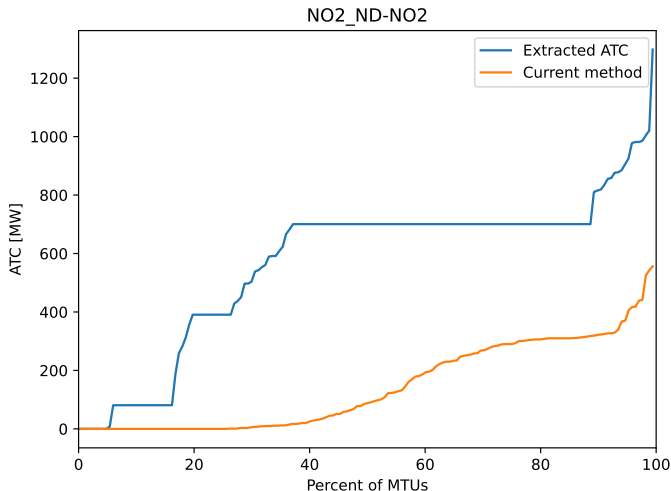
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO2\_NK-NO2 ATC duration curves



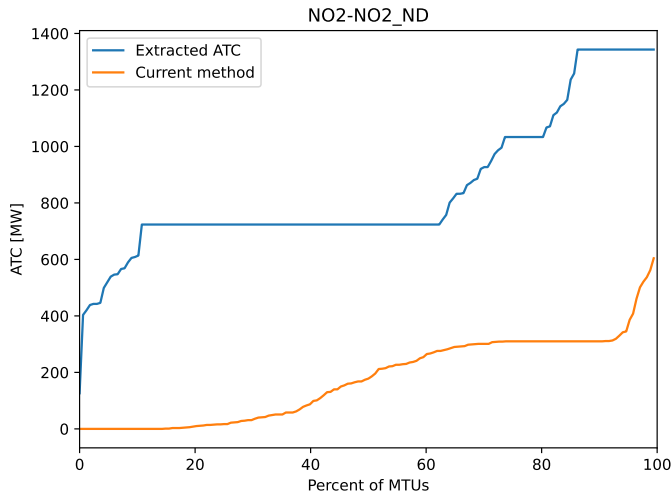
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO2\_ND-NO2 ATC duration curves



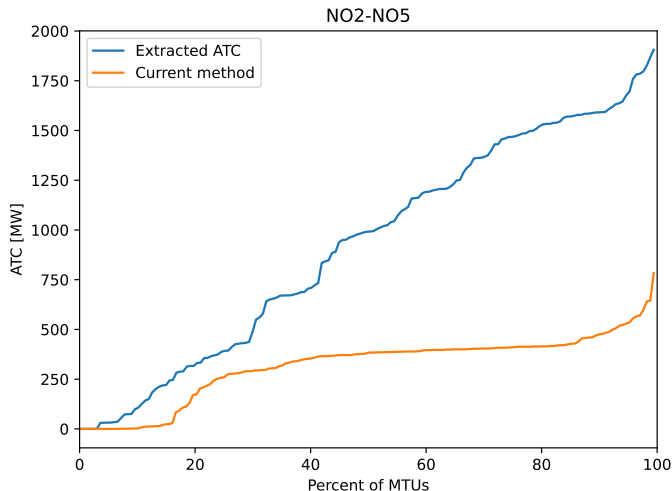
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO2-NO2\_ND ATC duration curves



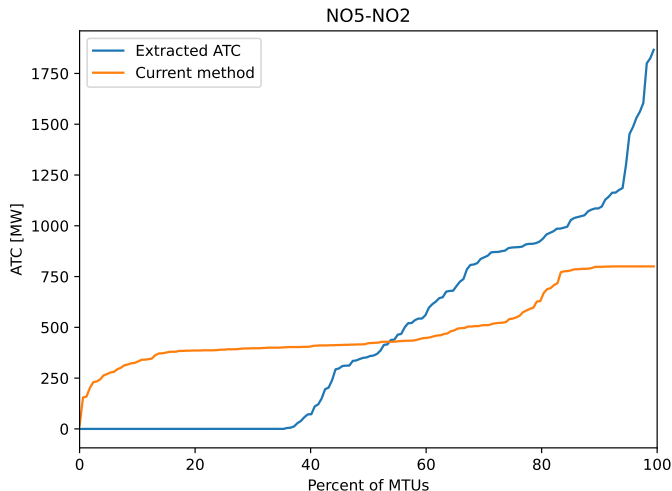
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO2-NO5 ATC duration curves



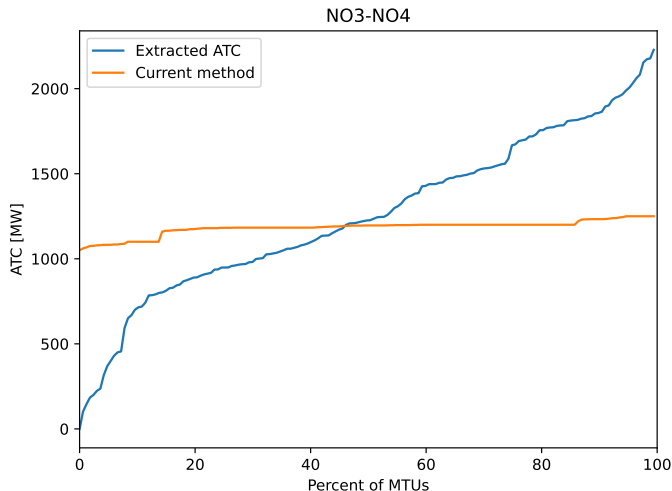
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO5-NO2 ATC duration curves



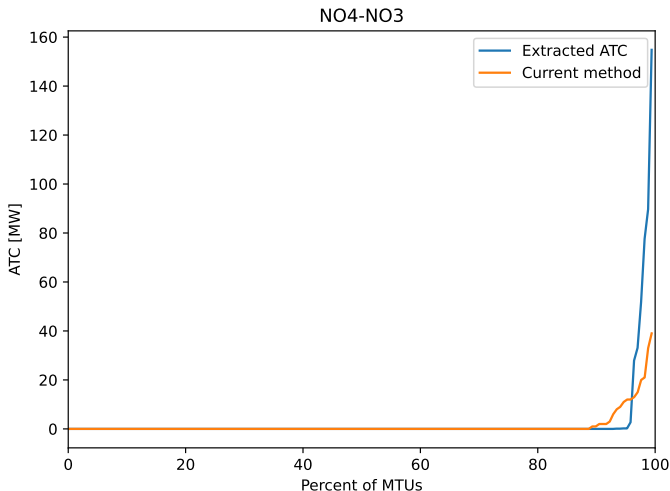
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO3-NO4 ATC duration curves



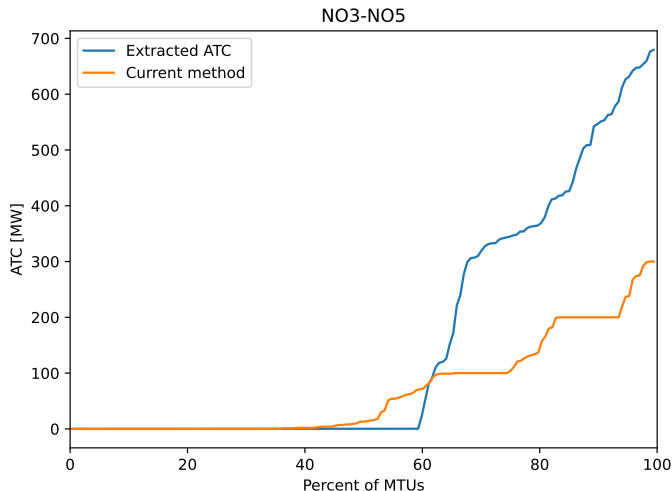
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO4-NO3 ATC duration curves



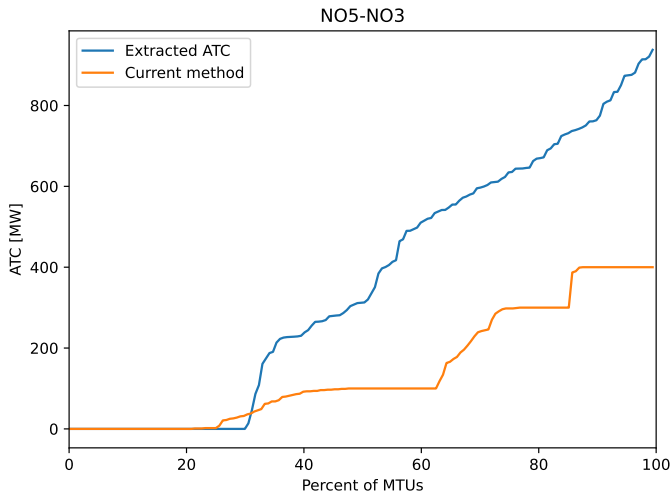
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO3-NO5 ATC duration curves



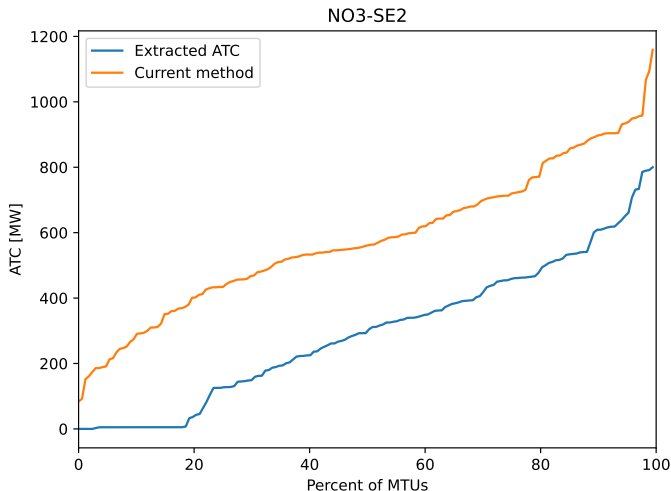
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO5-NO3 ATC duration curves



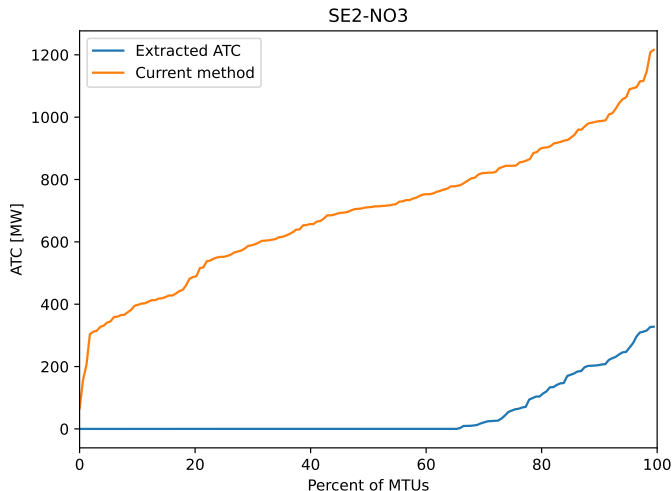
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO3-SE2 ATC duration curves



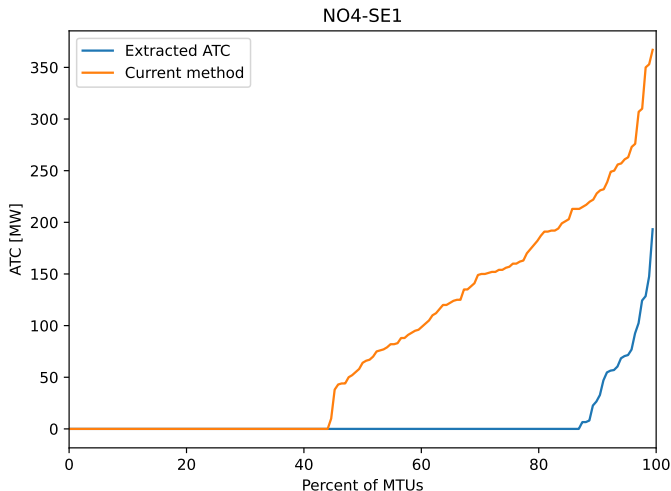
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE2-NO3 ATC duration curves



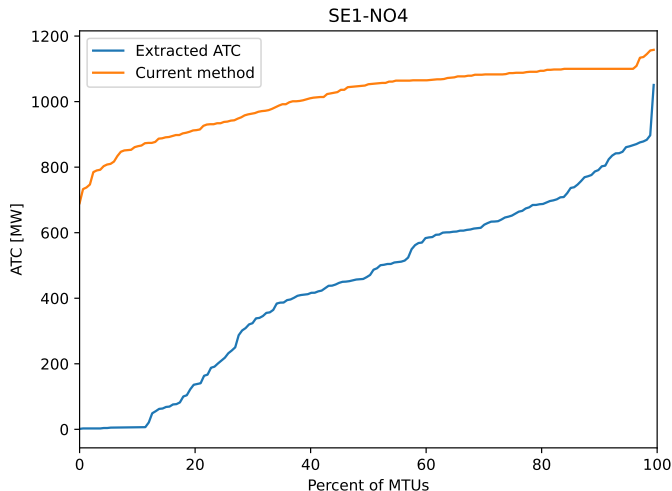
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO4-SE1 ATC duration curves



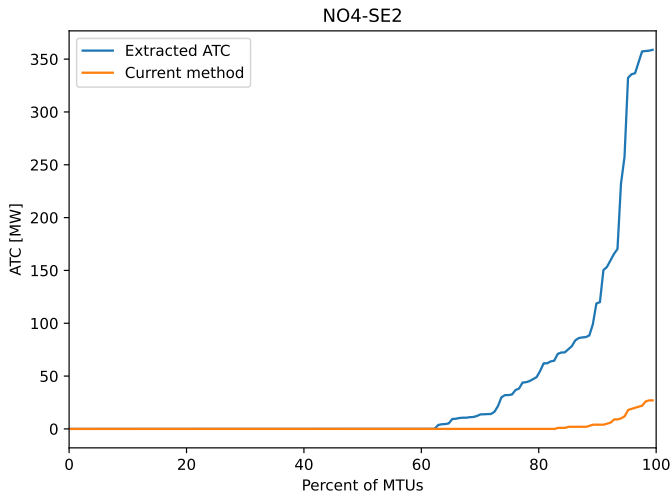
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE1-NO4 ATC duration curves



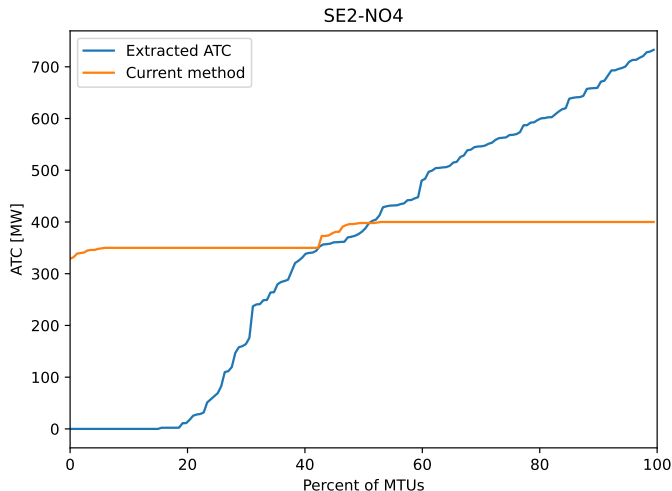
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# NO4-SE2 ATC duration curves



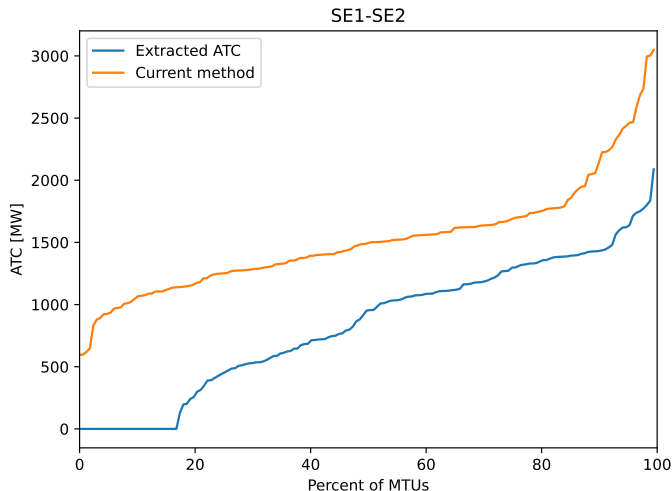
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE2-NO4 ATC duration curves



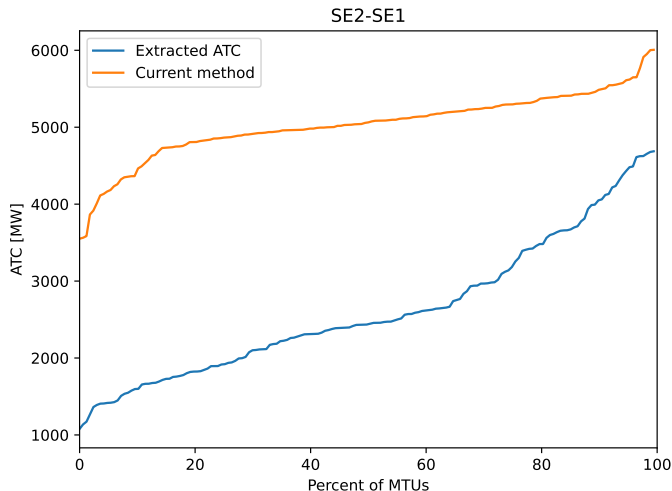
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE1-SE2 ATC duration curves



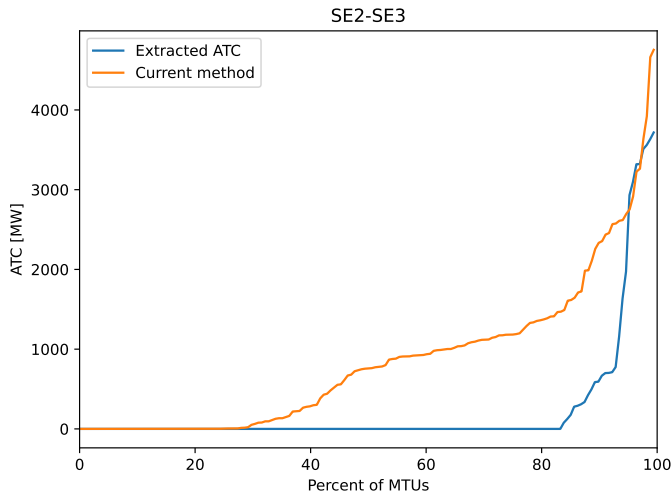
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE2-SE1 ATC duration curves



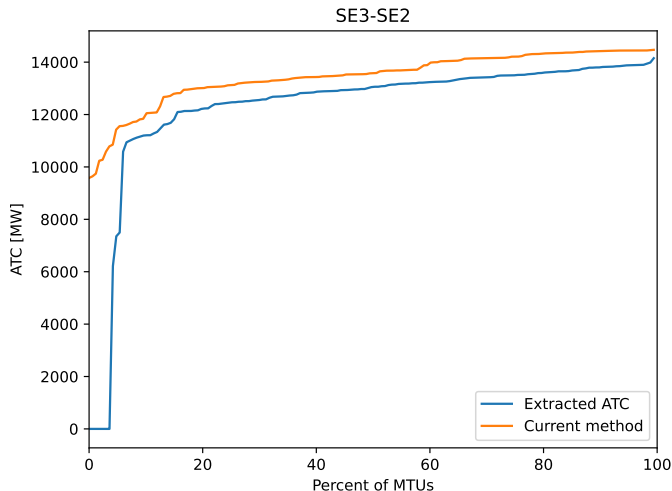
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE2-SE3 ATC duration curves



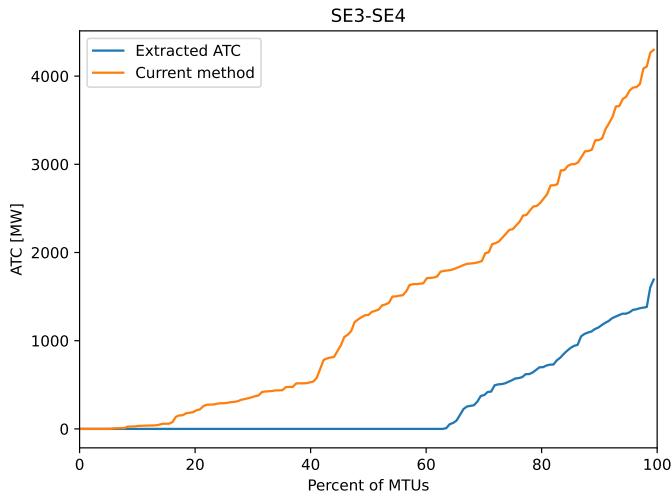
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE3-SE2 ATC duration curves



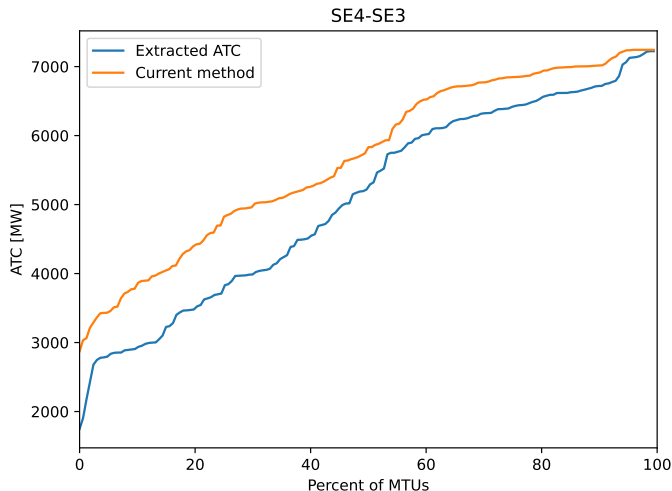
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE3-SE4 ATC duration curves



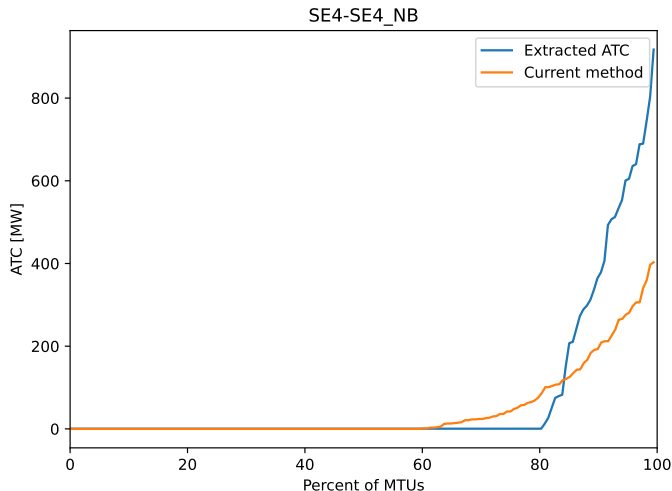
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE4-SE3 ATC duration curves



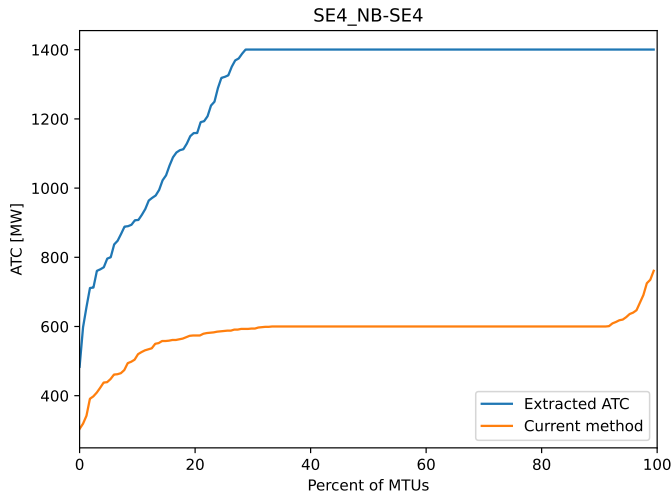
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE4-SE4\_NB ATC duration curves



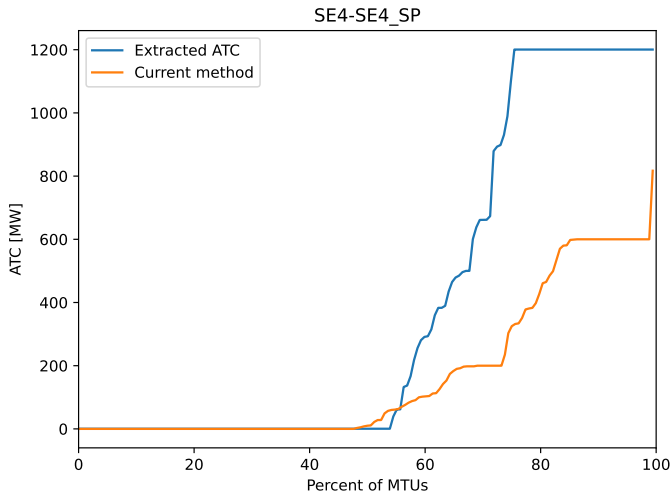
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# SE4\_NB-SE4 ATC duration curves



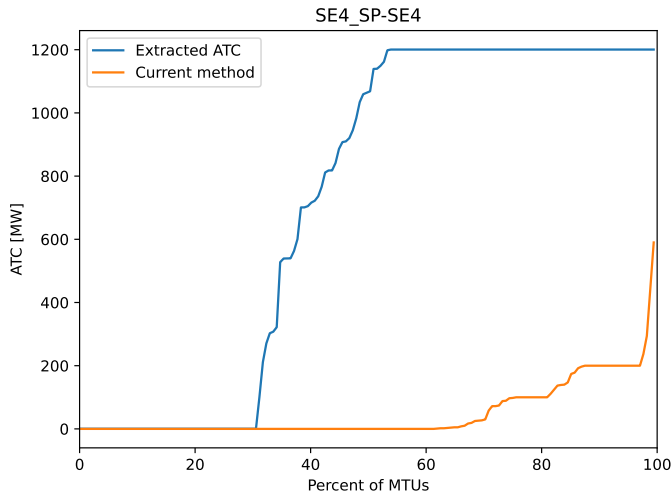
Note: MTUs where ATC extraction resulted in use of backup have been excluded from the capacity duration curves.

# 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.