

# SN tool ATCE results W51 RAM1 10.0 RAM2 0.01 PTDF0.02 ATC Extraction Results

Nordic RCC

April 23, 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.

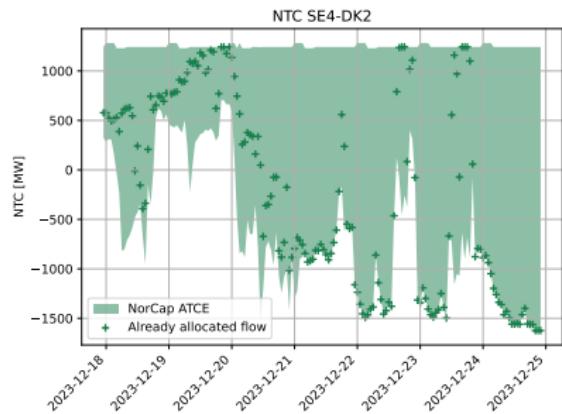
| Bidding zone | #MTUs at max Export | #MTUs at max Import | #MTUs at lock-in |
|--------------|---------------------|---------------------|------------------|
| DK1          | 0                   | 0                   | 0                |
| DK2          | 0                   | 0                   | 0                |
| SE1          | 38                  | 0                   | 0                |
| SE2          | 2                   | 0                   | 0                |
| SE3          | 1                   | 0                   | 0                |
| SE4          | 0                   | 0                   | 0                |
| NO1          | 0                   | 3                   | 0                |
| NO2          | 0                   | 6                   | 0                |
| NO3          | 0                   | 11                  | 0                |
| NO4          | 47                  | 0                   | 0                |
| NO5          | 0                   | 13                  | 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.

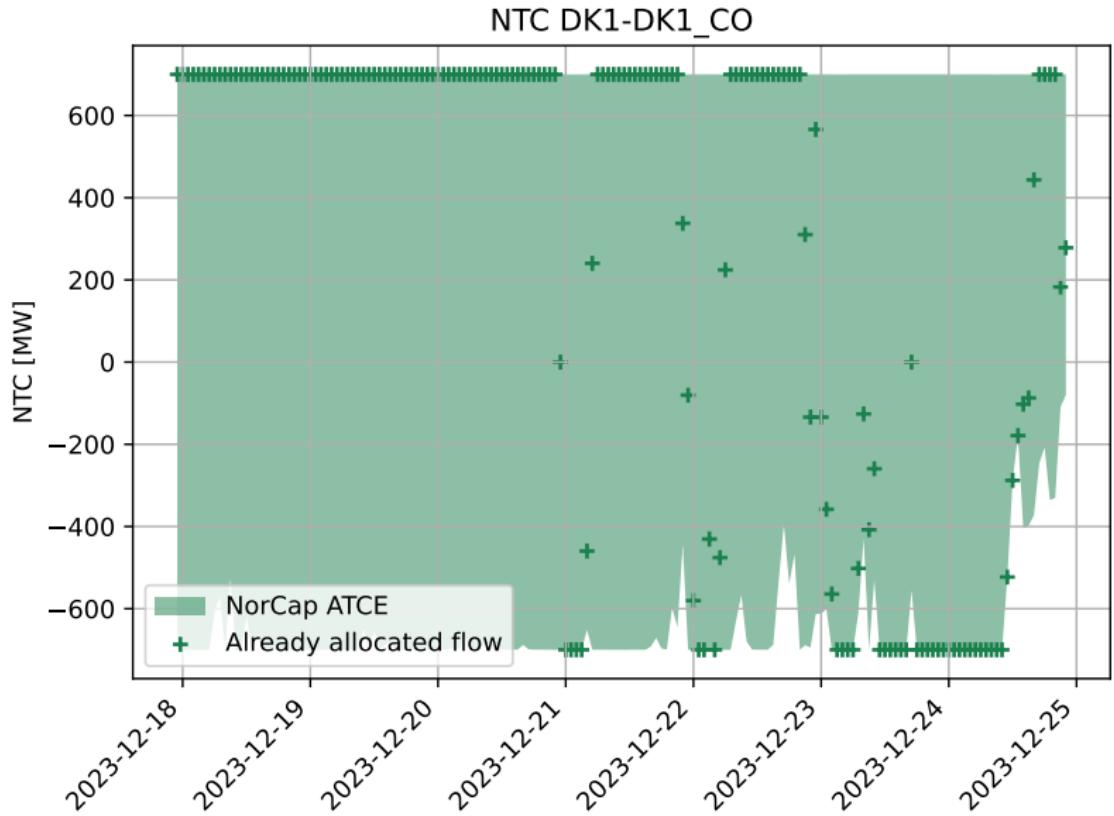
| Border  | #MTUs at lock-in |
|---------|------------------|
| NO1-NO3 | 1                |
| NO3-NO1 | 1                |
| NO3-NO5 | 1                |
| NO5-NO3 | 1                |

# Border NTC plots - Reader's guide

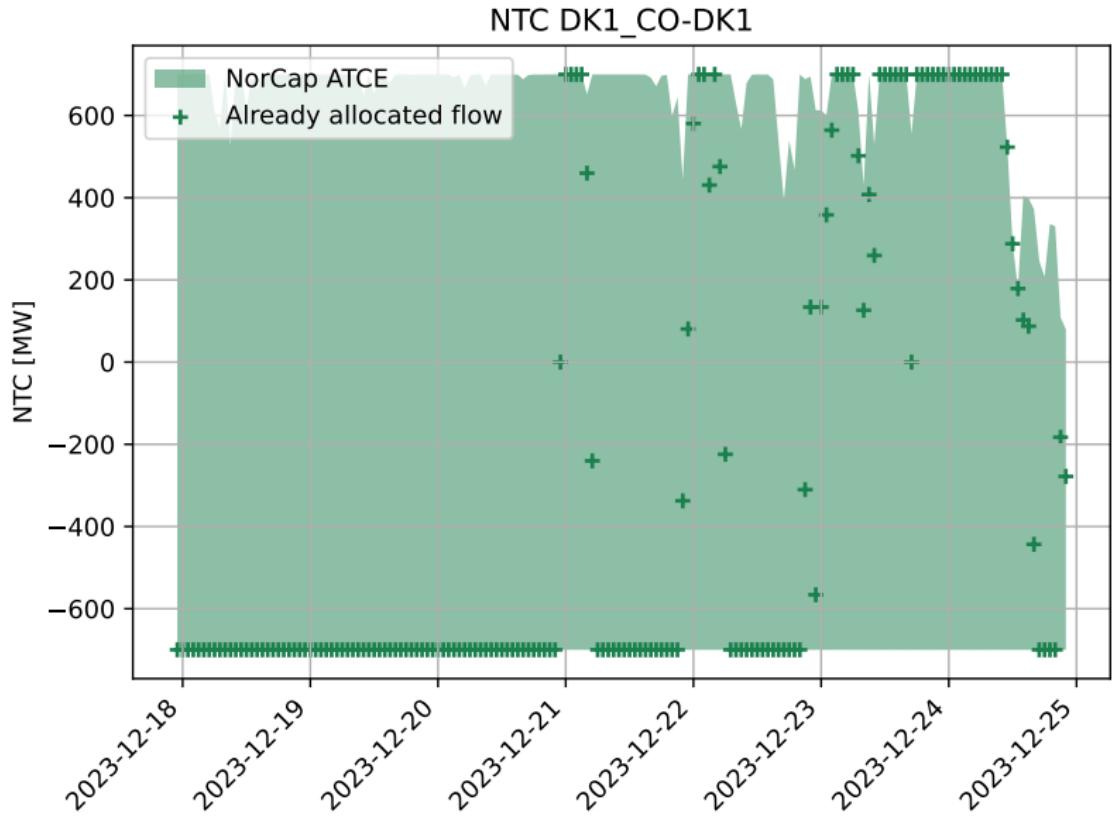


The colored area represents the possible exchange on this border and direction. The cross marks the simulated day ahead market coupling flows. Any colored area above the cross, means that intraday market will be able to increase exchange over the day ahead market coupling flows. Any colored area below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

# DK1-DK1\_CO

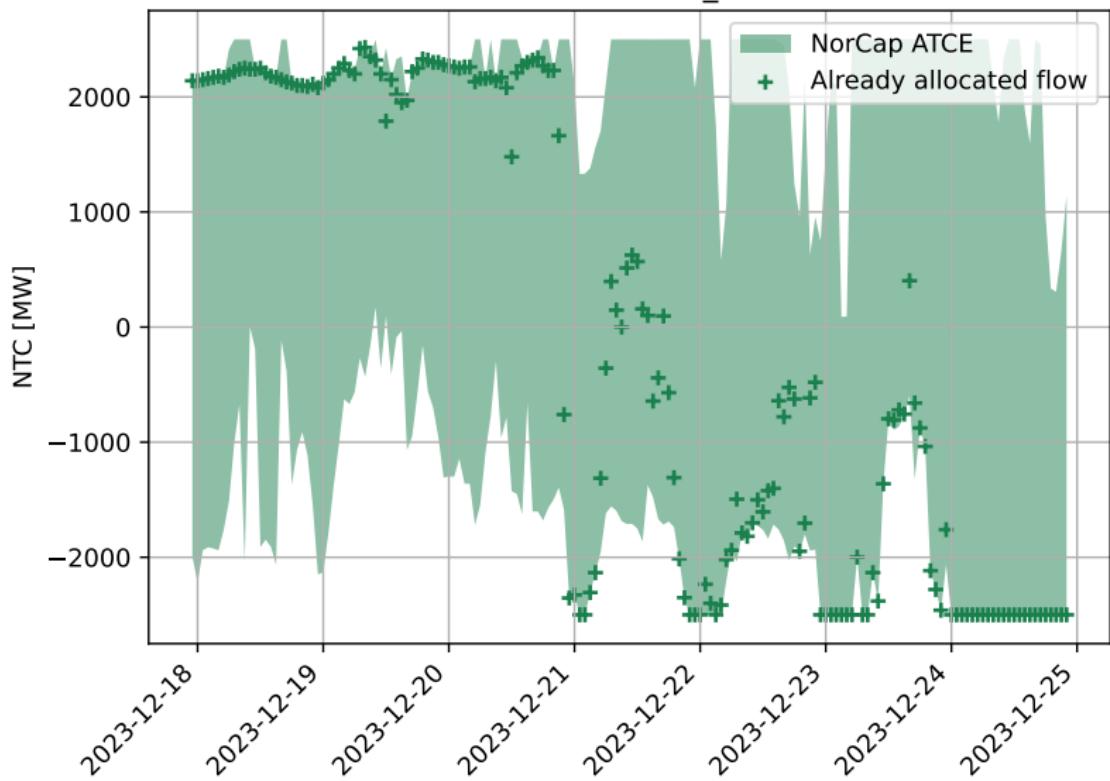


# DK1\_CO-DK1



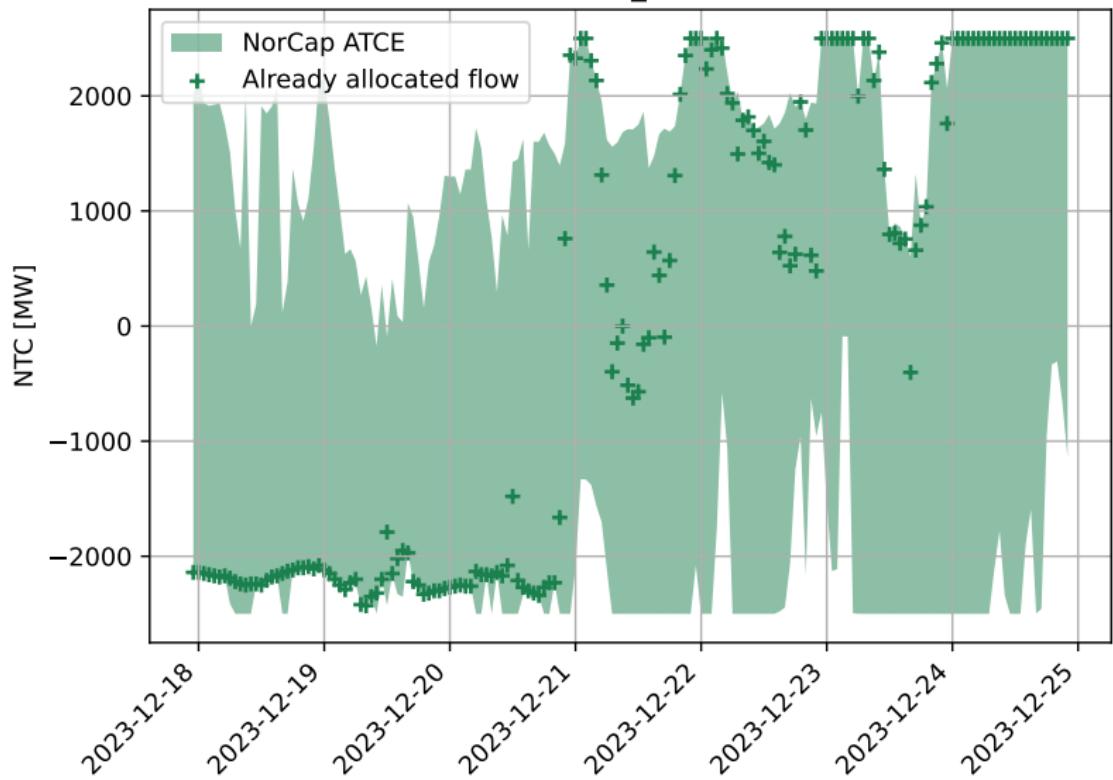
# DK1-DK1\_DE

NTC DK1-DK1\_DE



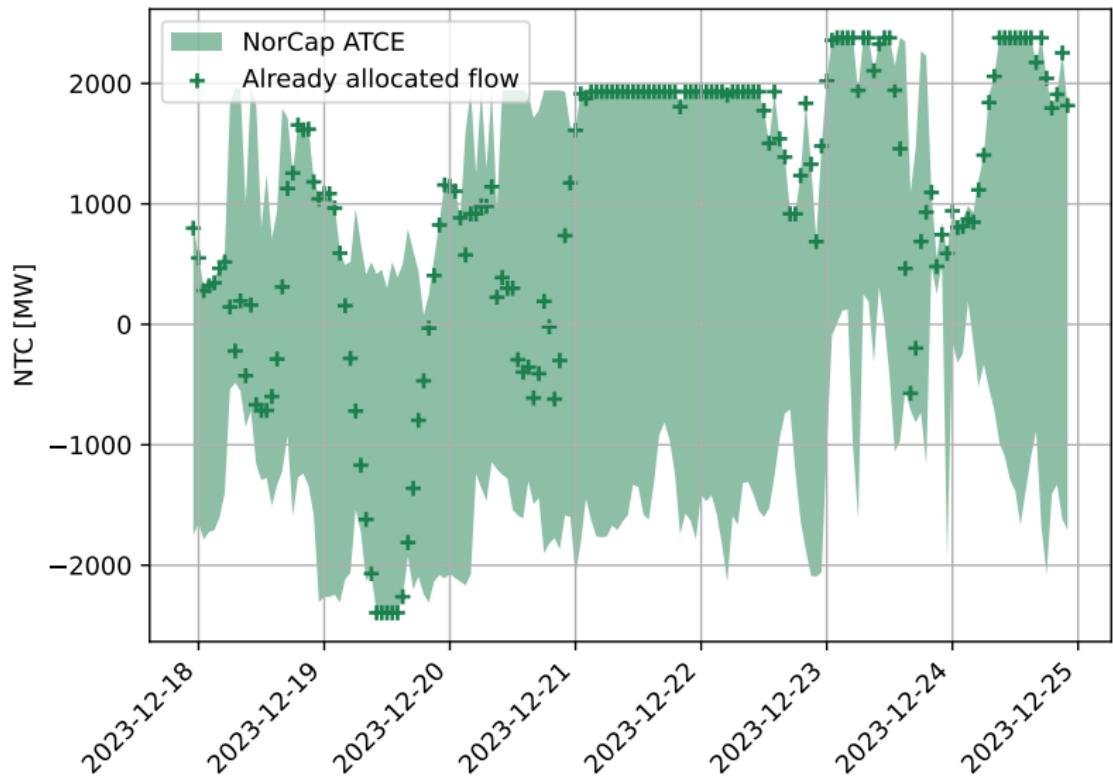
# DK1\_DE-DK1

NTC DK1\_DE-DK1



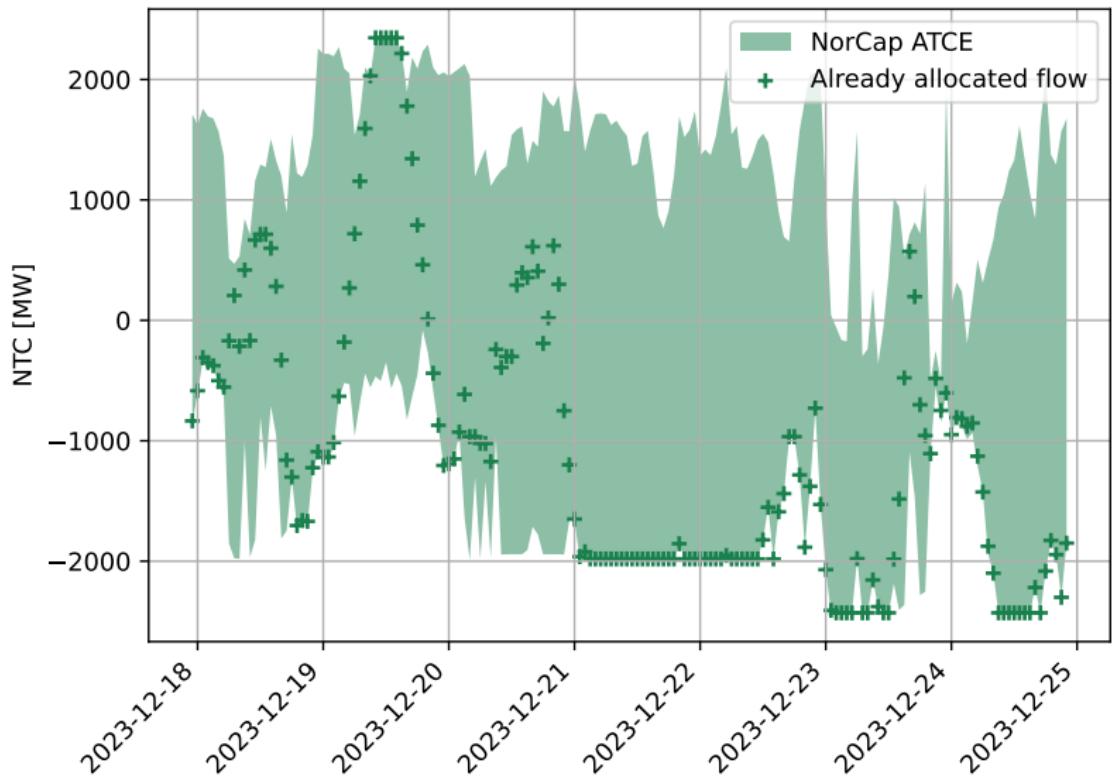
# DK1-DK1A

NTC DK1-DK1A



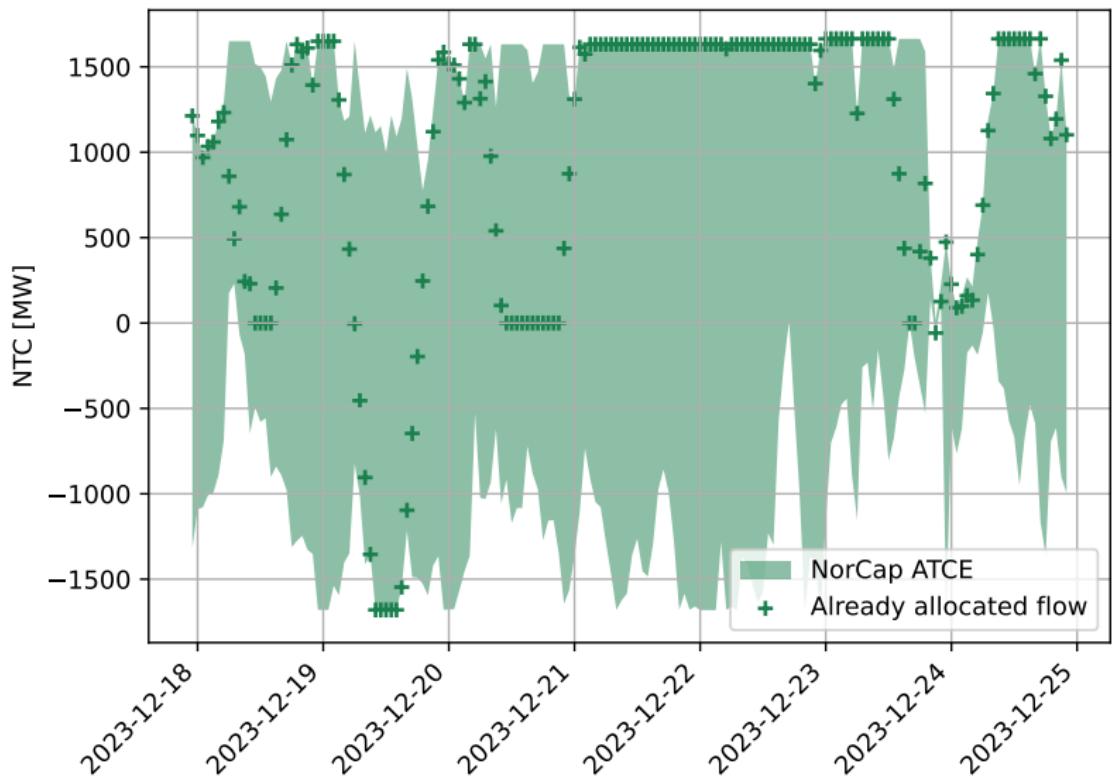
# DK1A-DK1

NTC DK1A-DK1

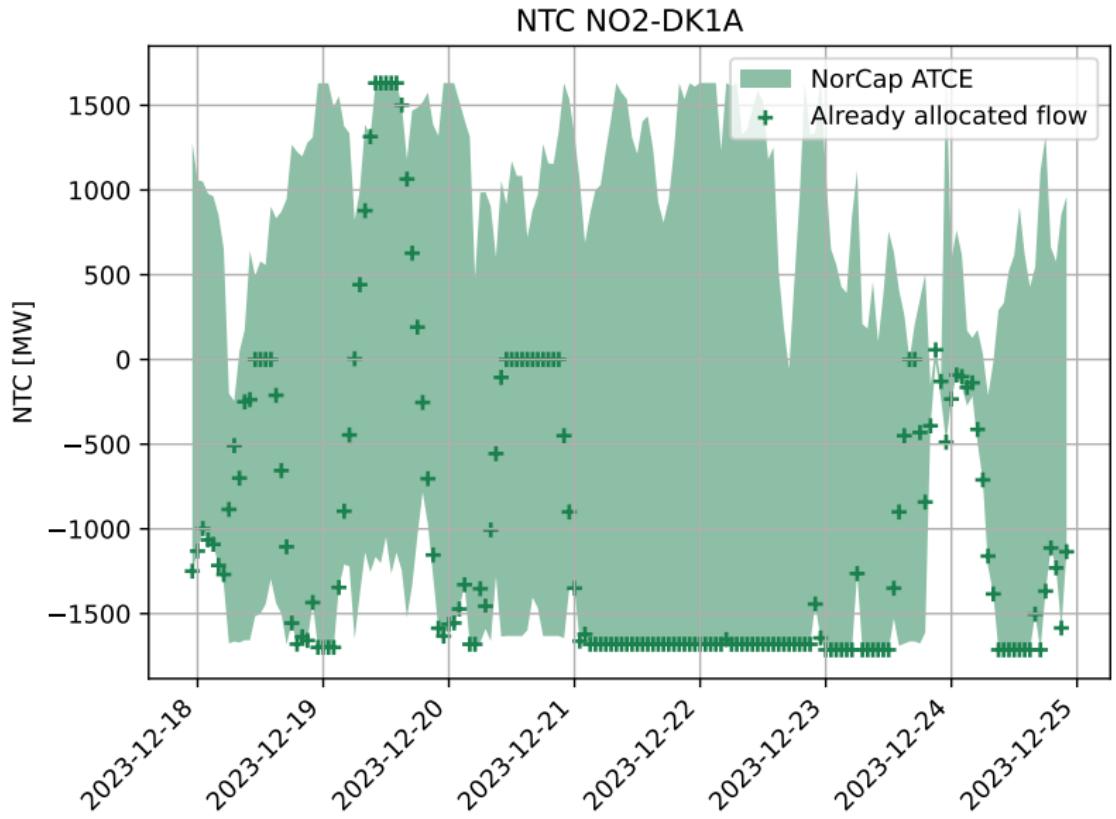


# DK1A-NO2

NTC DK1A-NO2

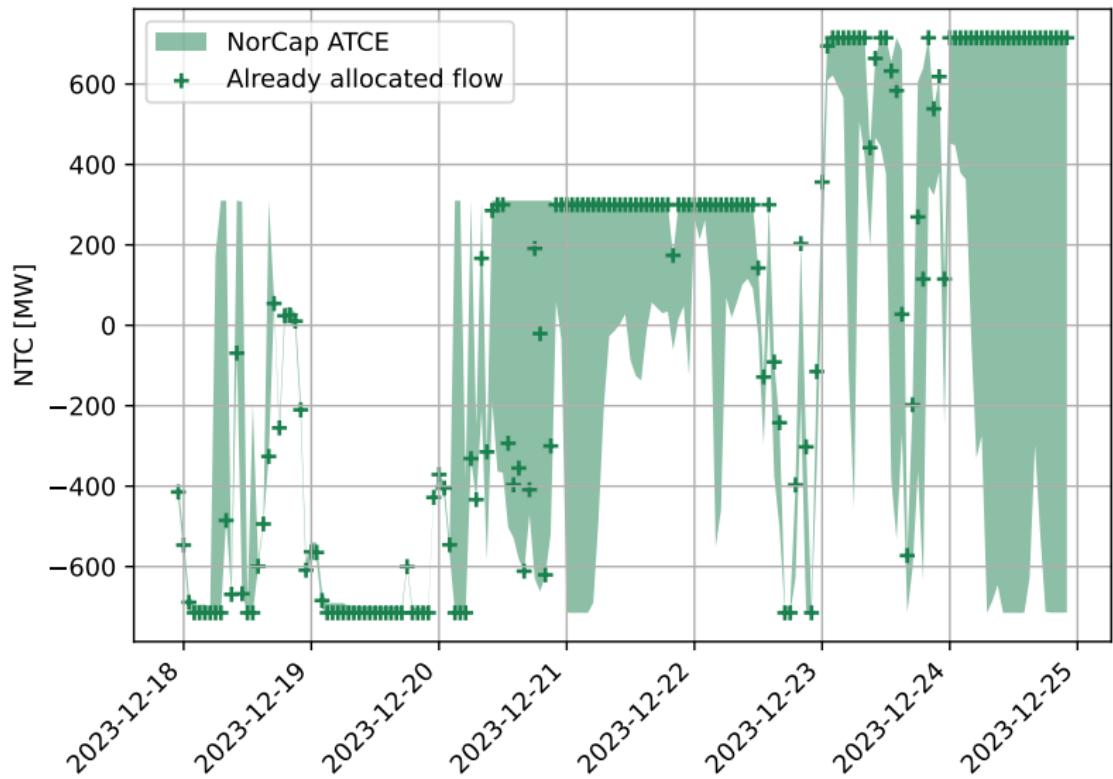


# NO2-DK1A



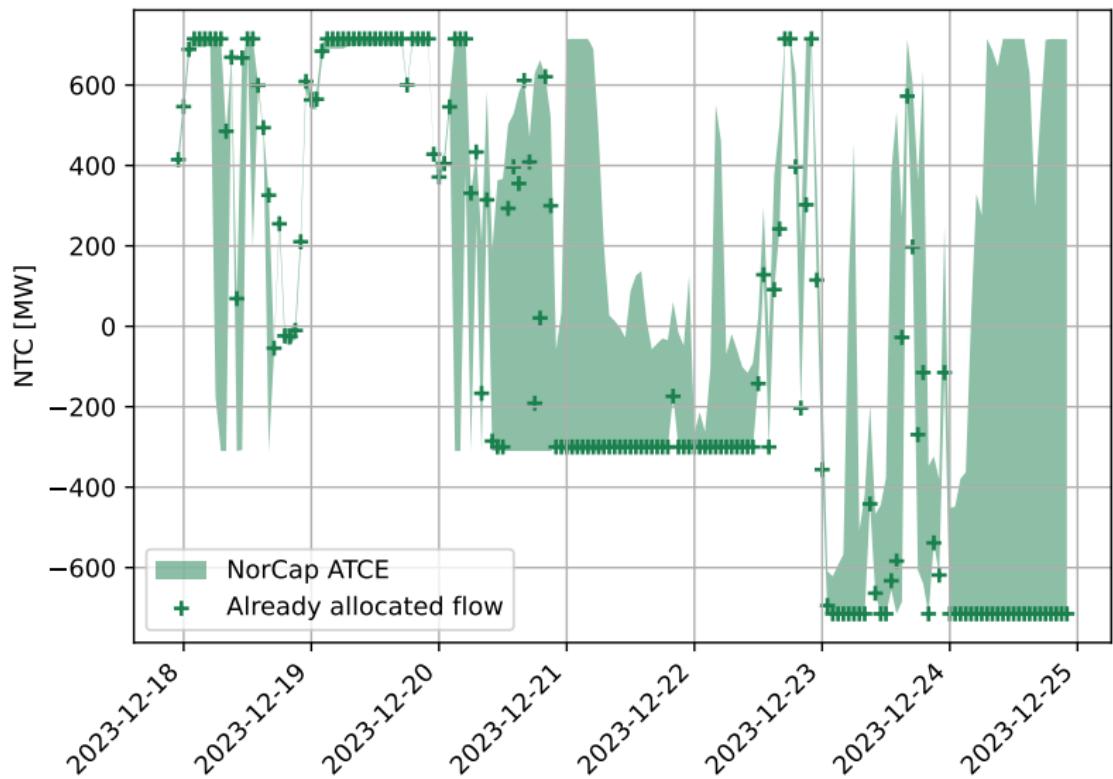
# DK1A-SE3

NTC DK1A-SE3



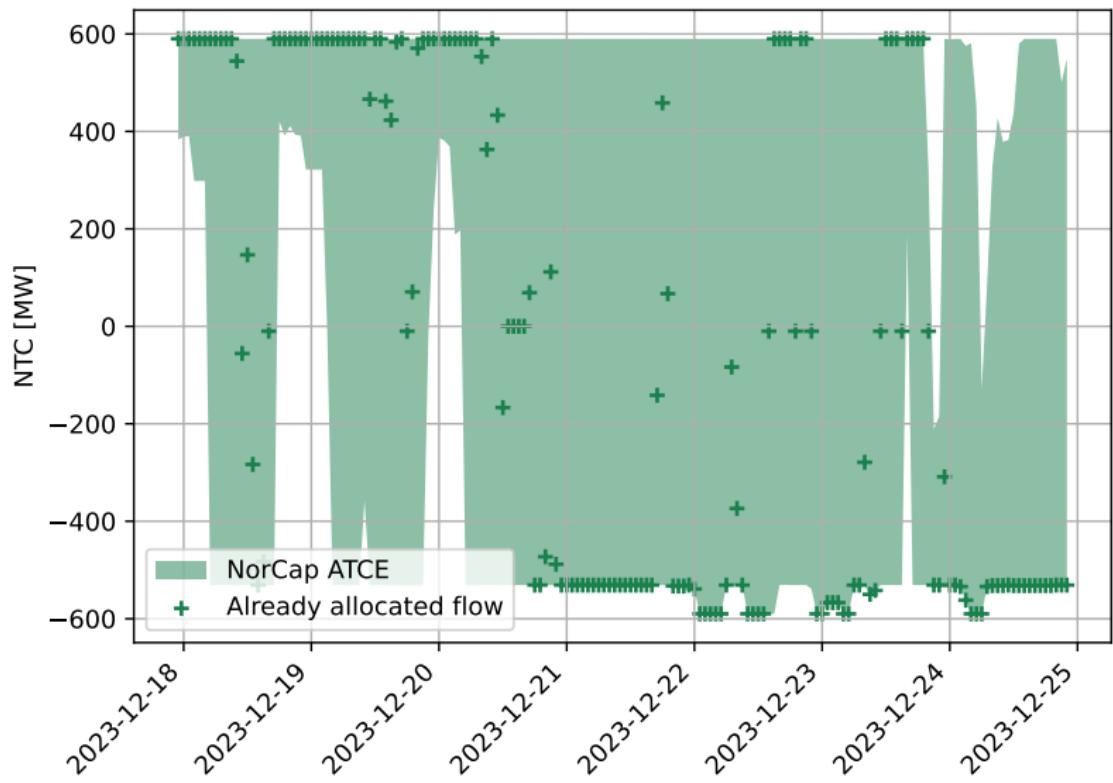
# SE3-DK1A

NTC SE3-DK1A



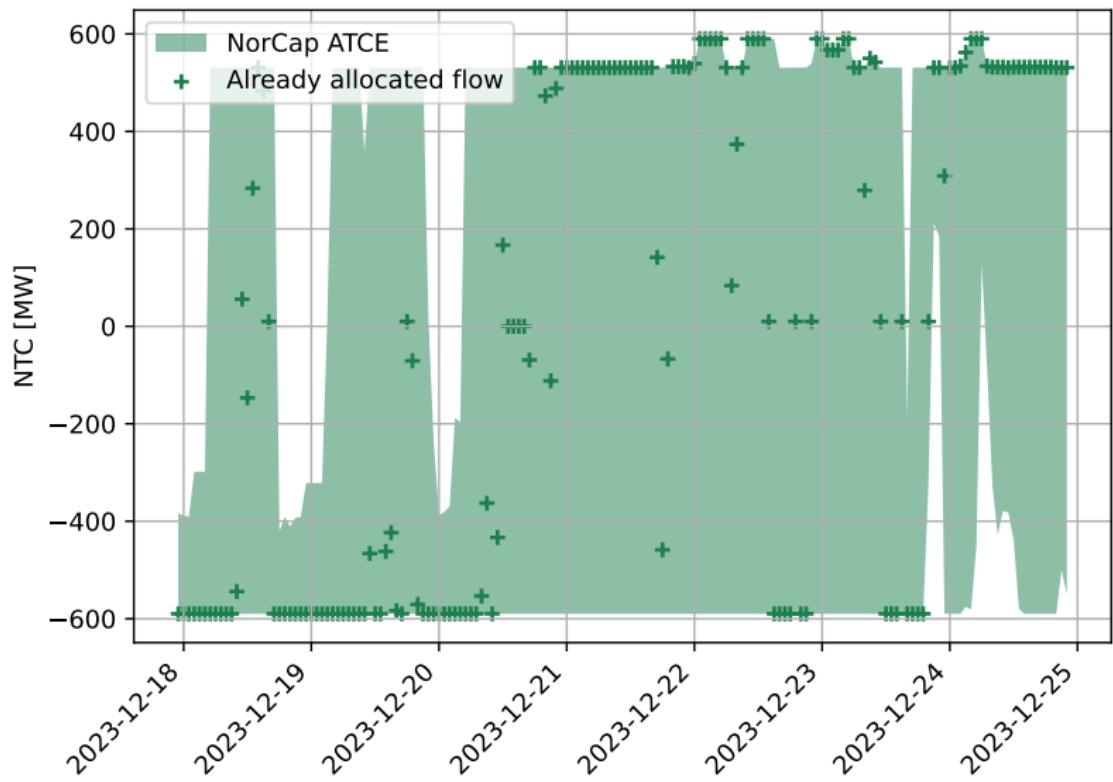
# DK2-DK1

NTC DK2-DK1

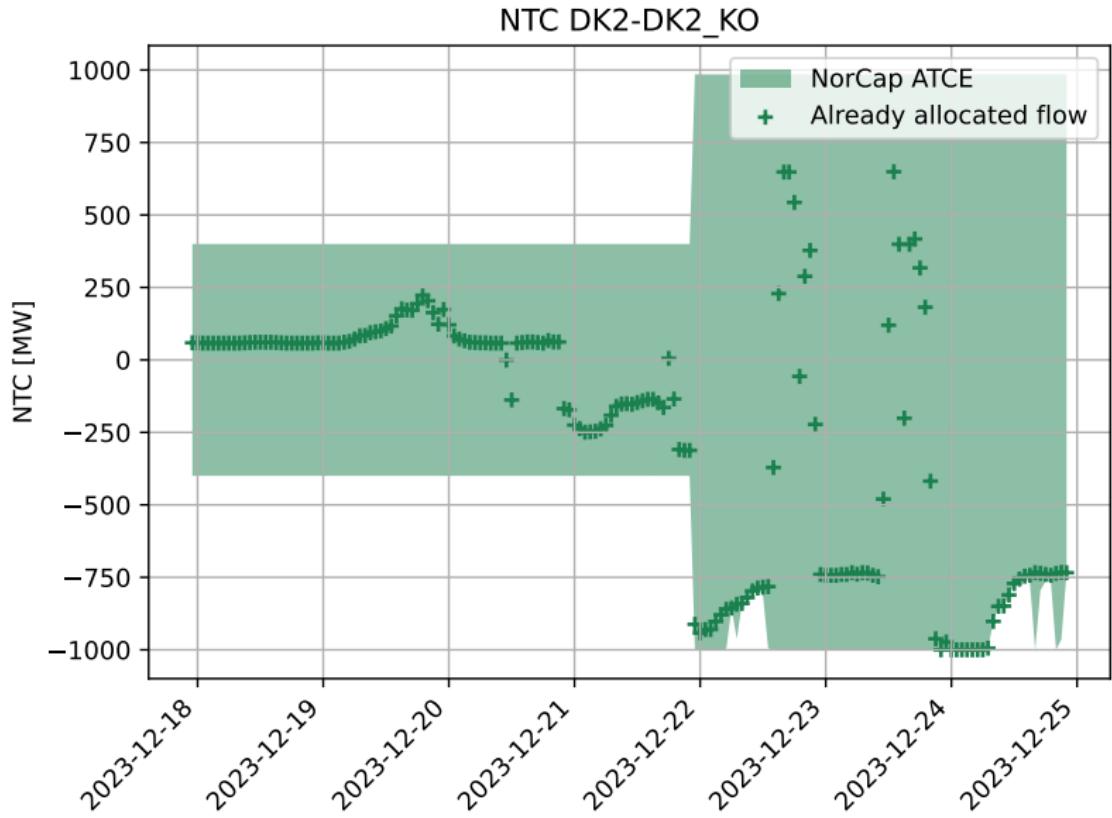


# DK1-DK2

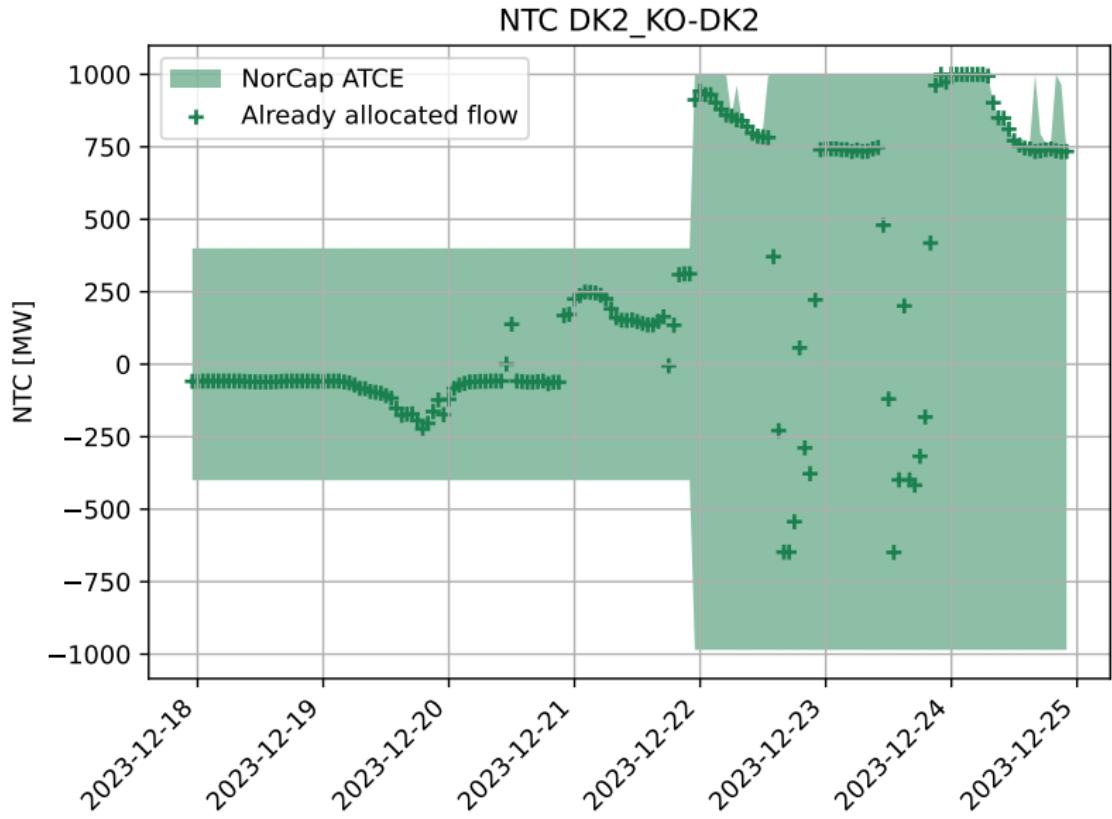
NTC DK1-DK2



# DK2-DK2\_KO

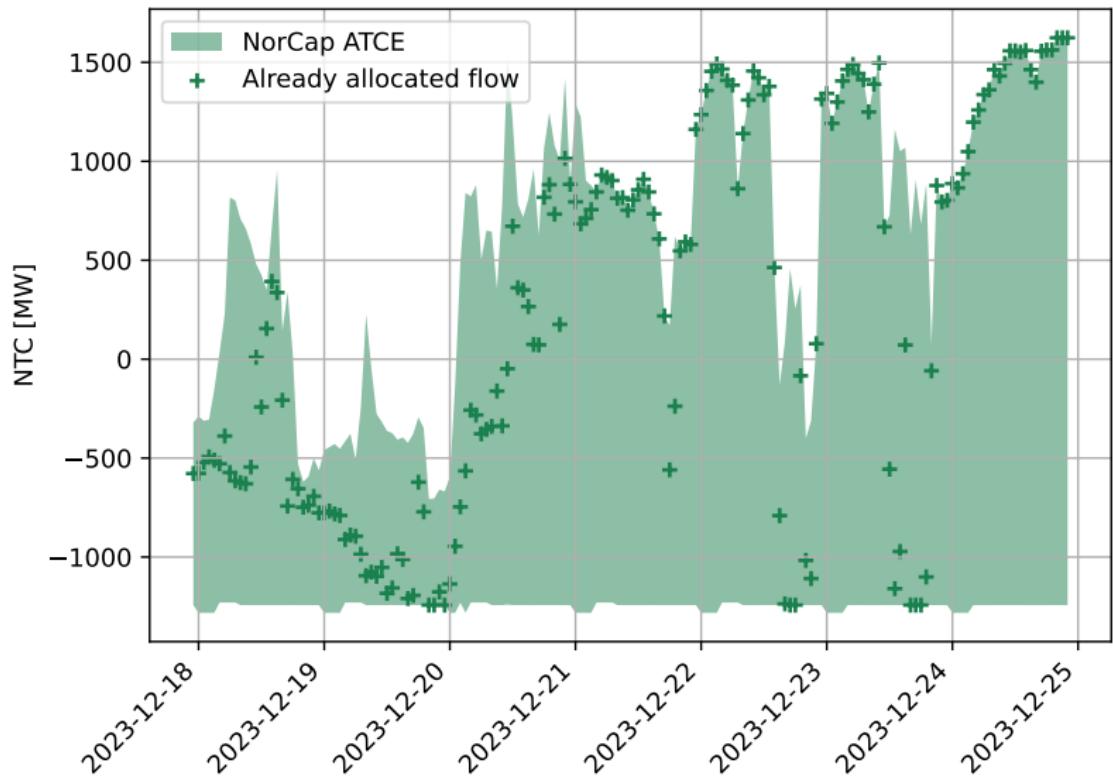


## DK2\_KO-DK2



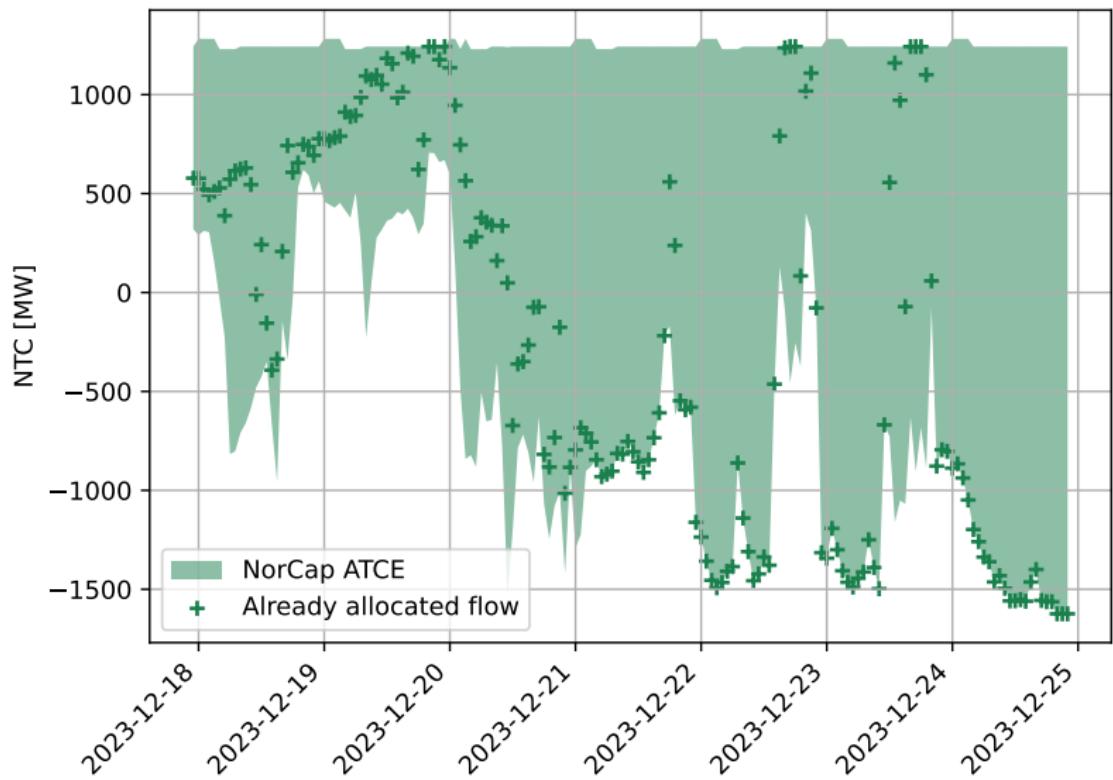
# DK2-SE4

NTC DK2-SE4



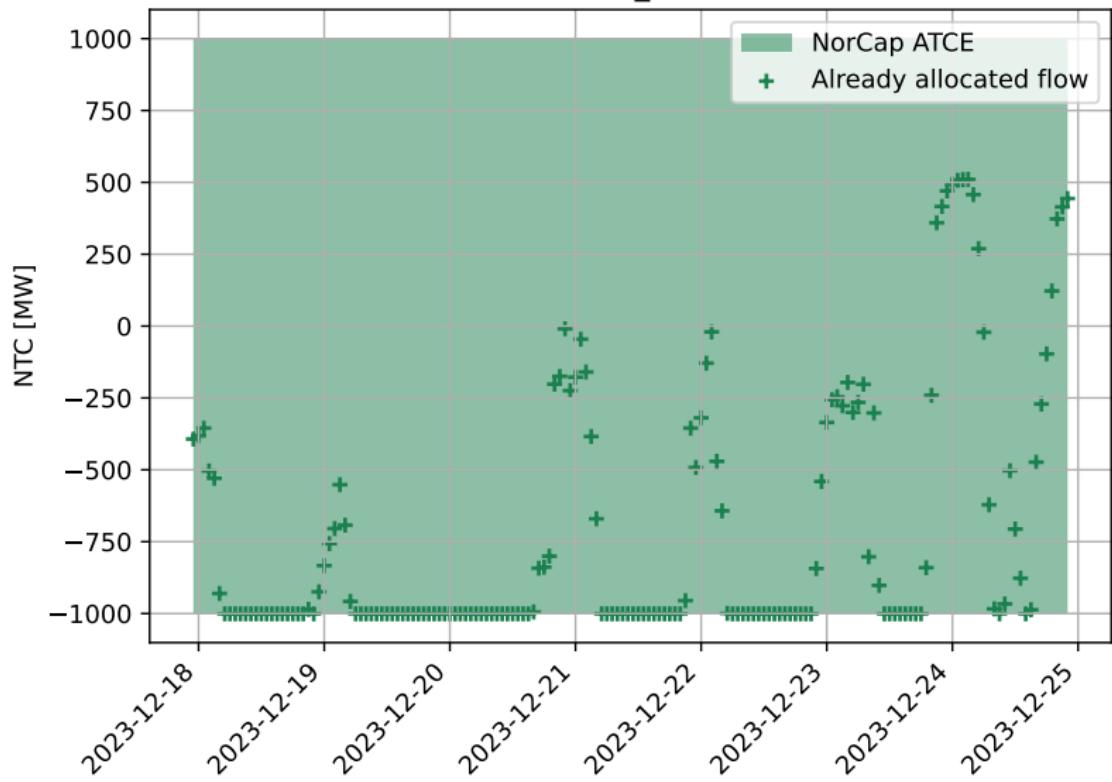
# SE4-DK2

NTC SE4-DK2



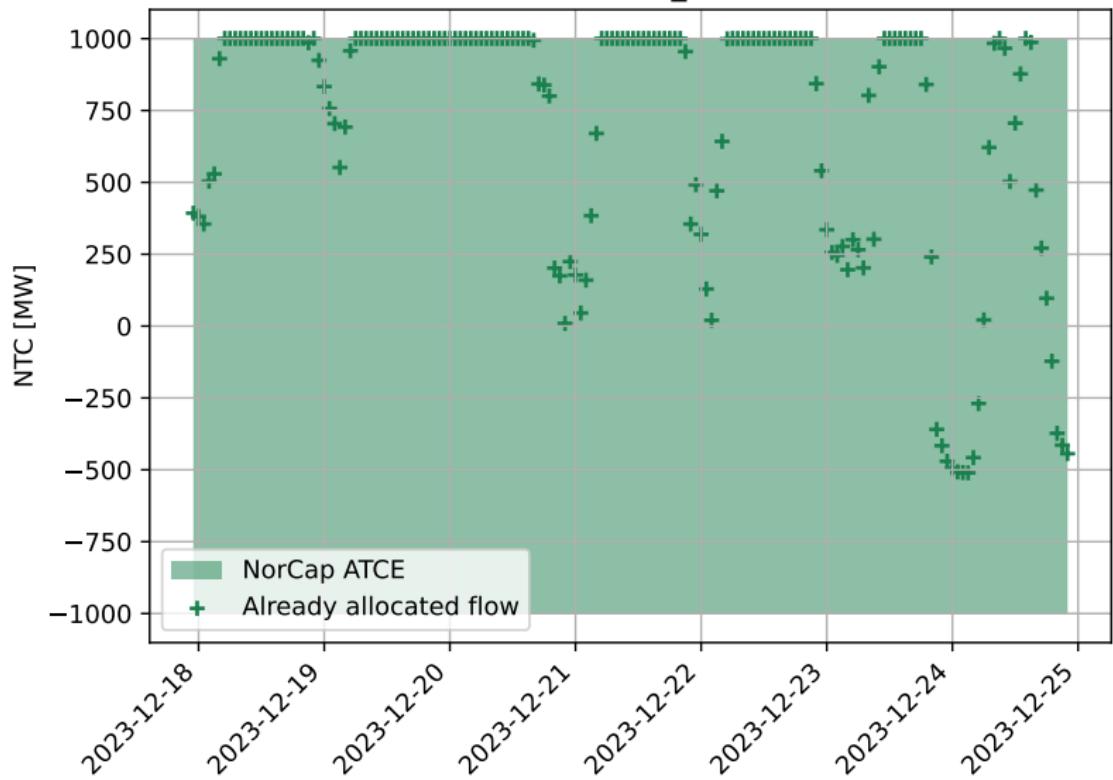
# FI\_EL-FI

NTC FI\_EL-FI

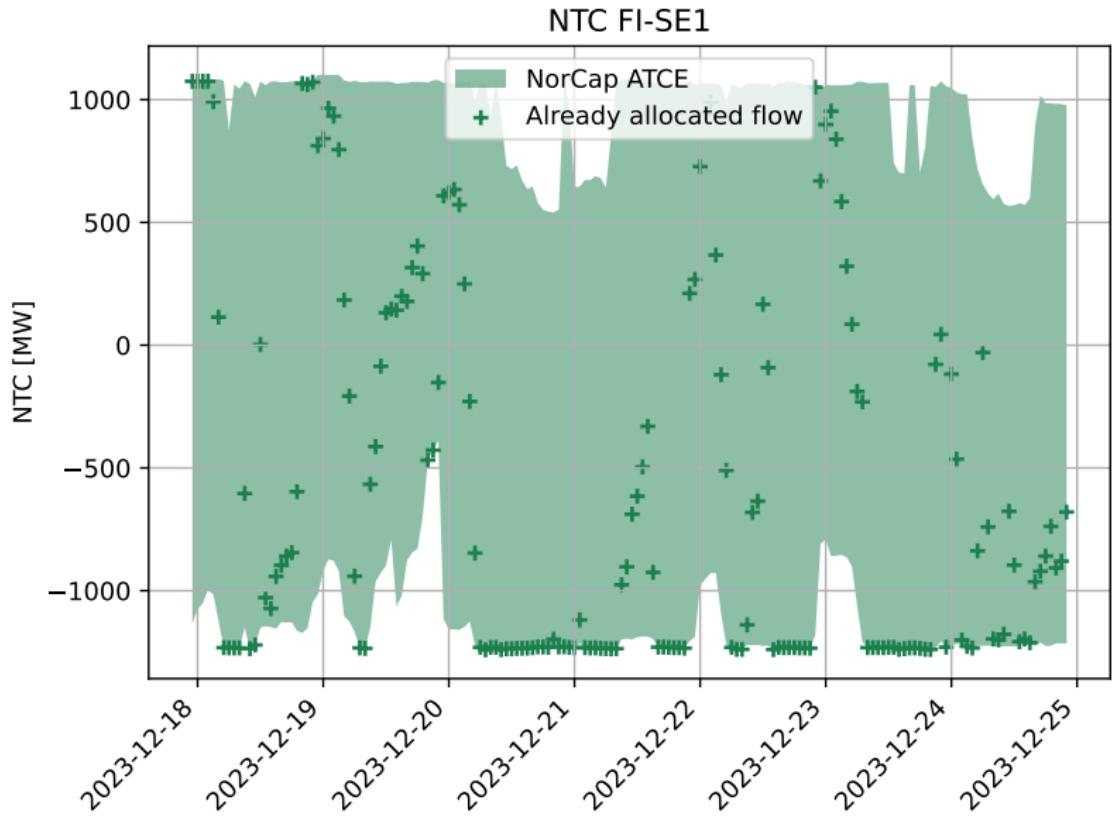


# FI-FI\_EL

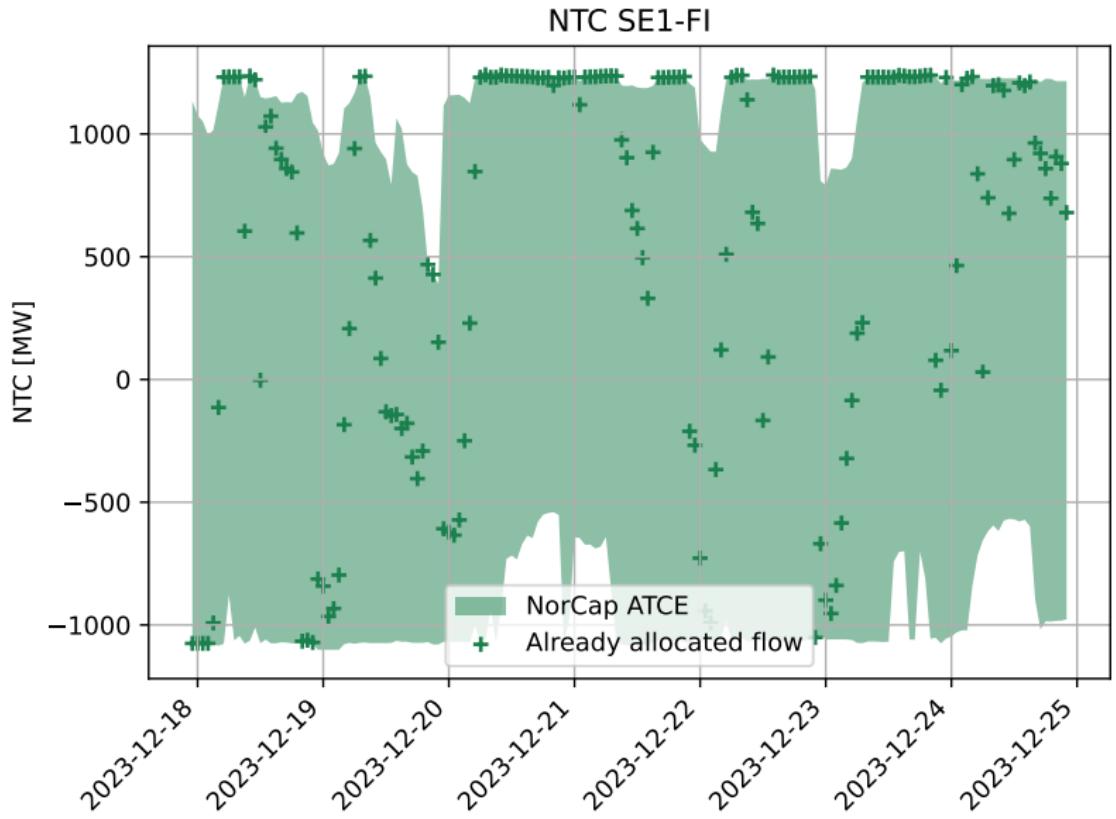
NTC FI-FI\_EL



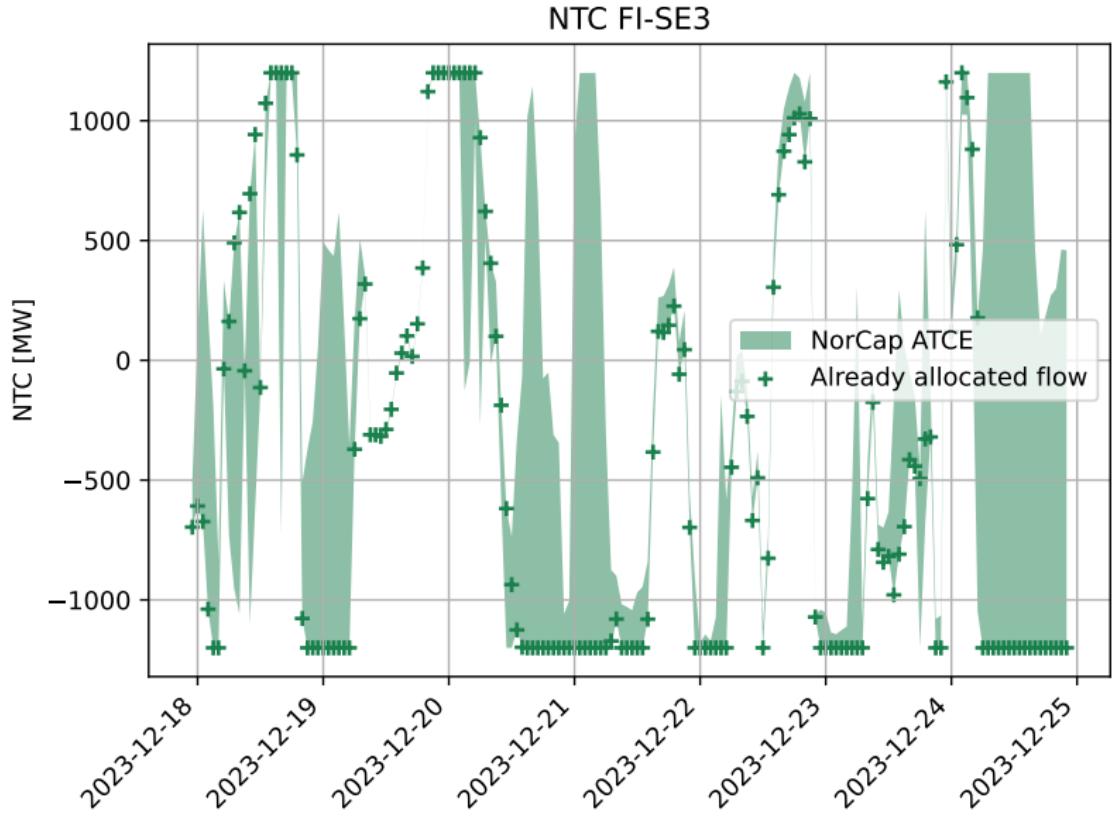
# FI-SE1



# SE1-FI

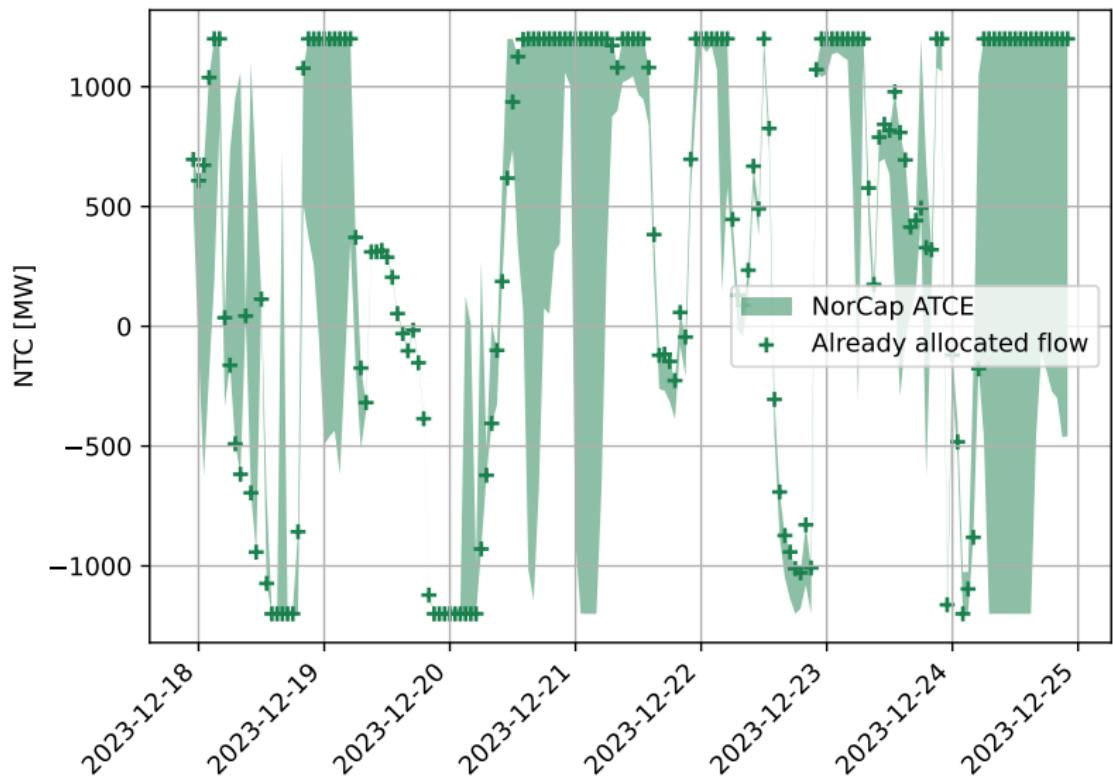


# FI-SE3



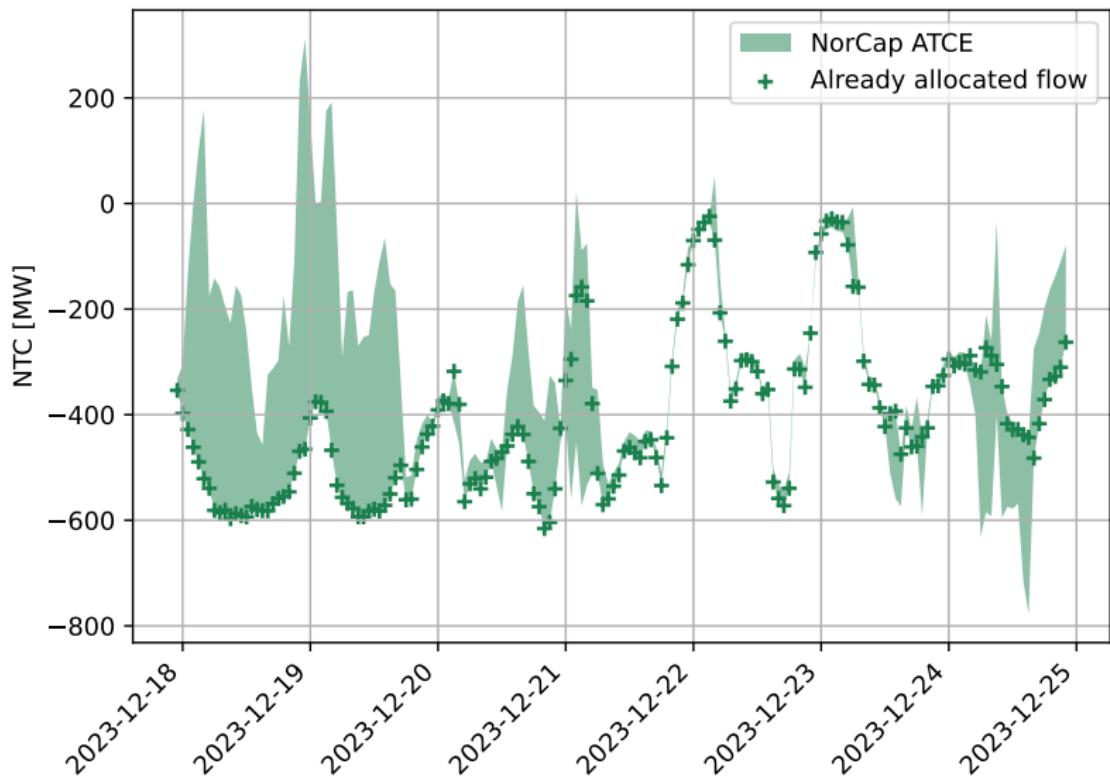
# SE3-FI

NTC SE3-FI



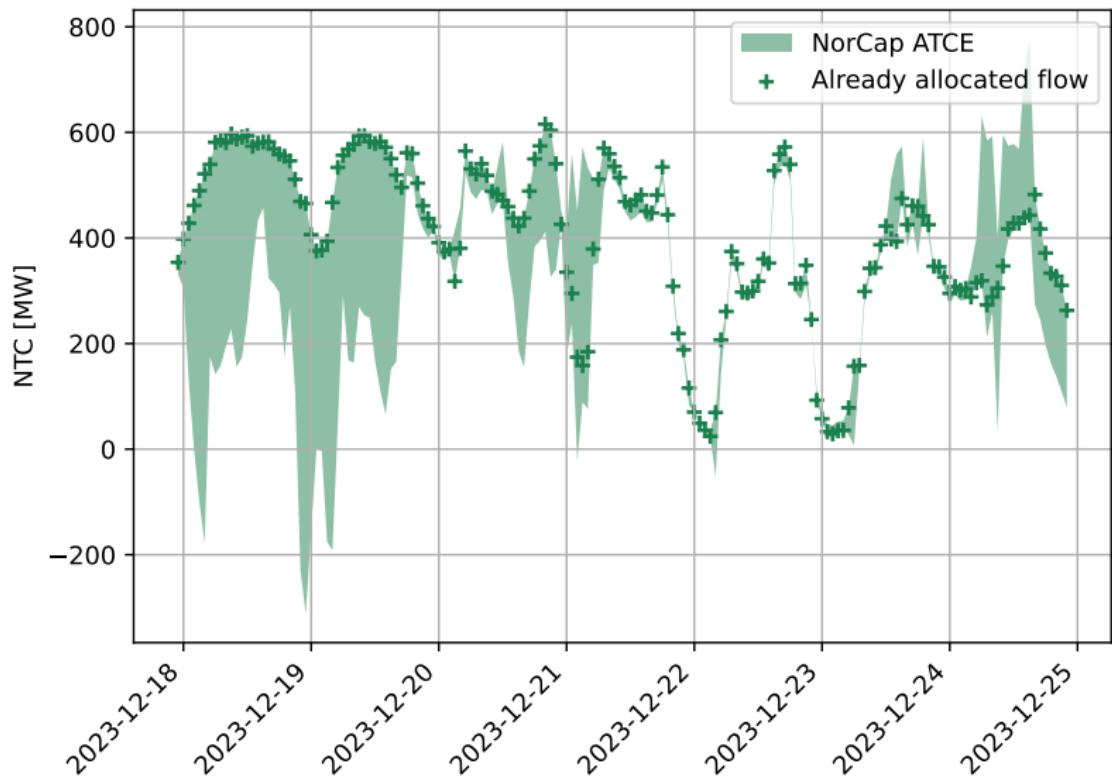
# NO1-NO3

NTC NO1-NO3



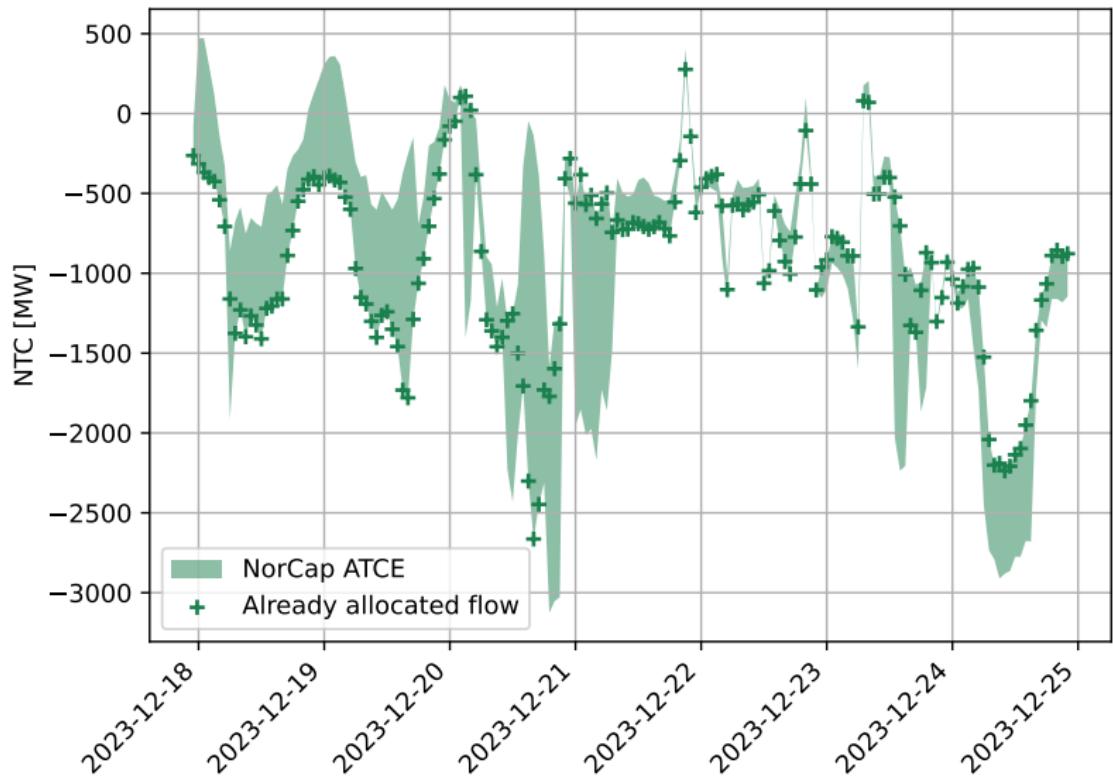
# NO3-NO1

NTC NO3-NO1



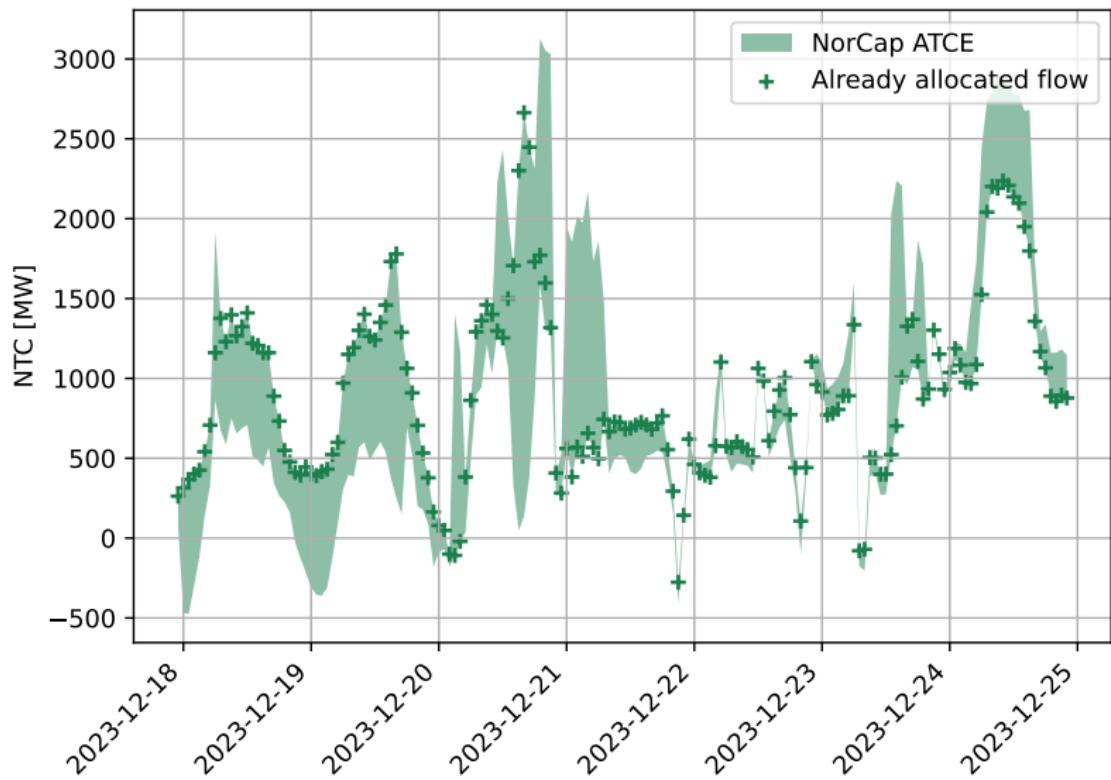
# NO1-NO5

NTC NO1-NO5



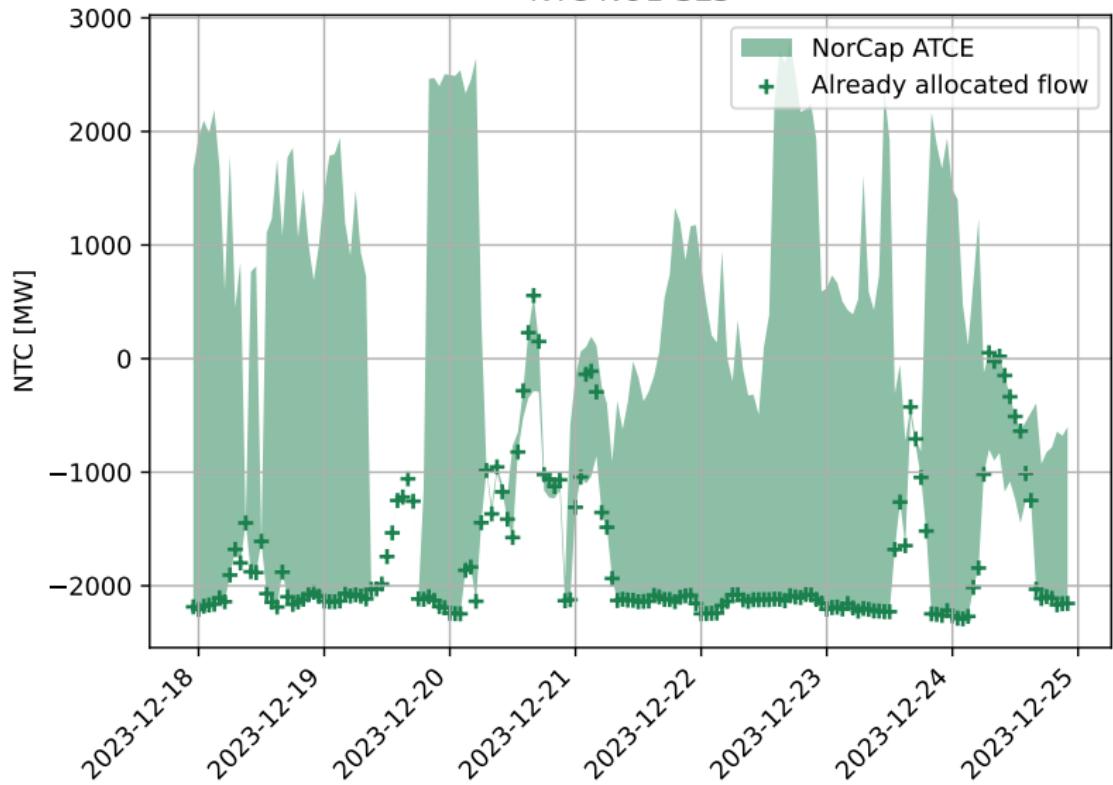
# NO5-NO1

NTC NO5-NO1



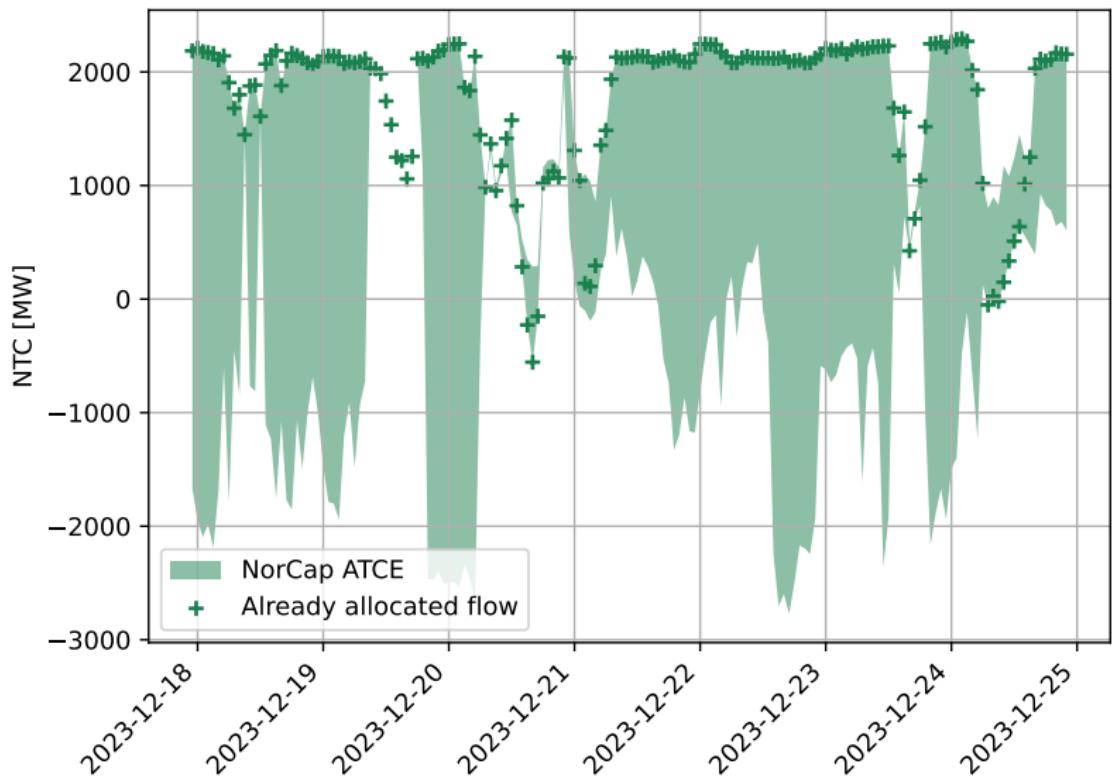
# NO1-SE3

NTC NO1-SE3



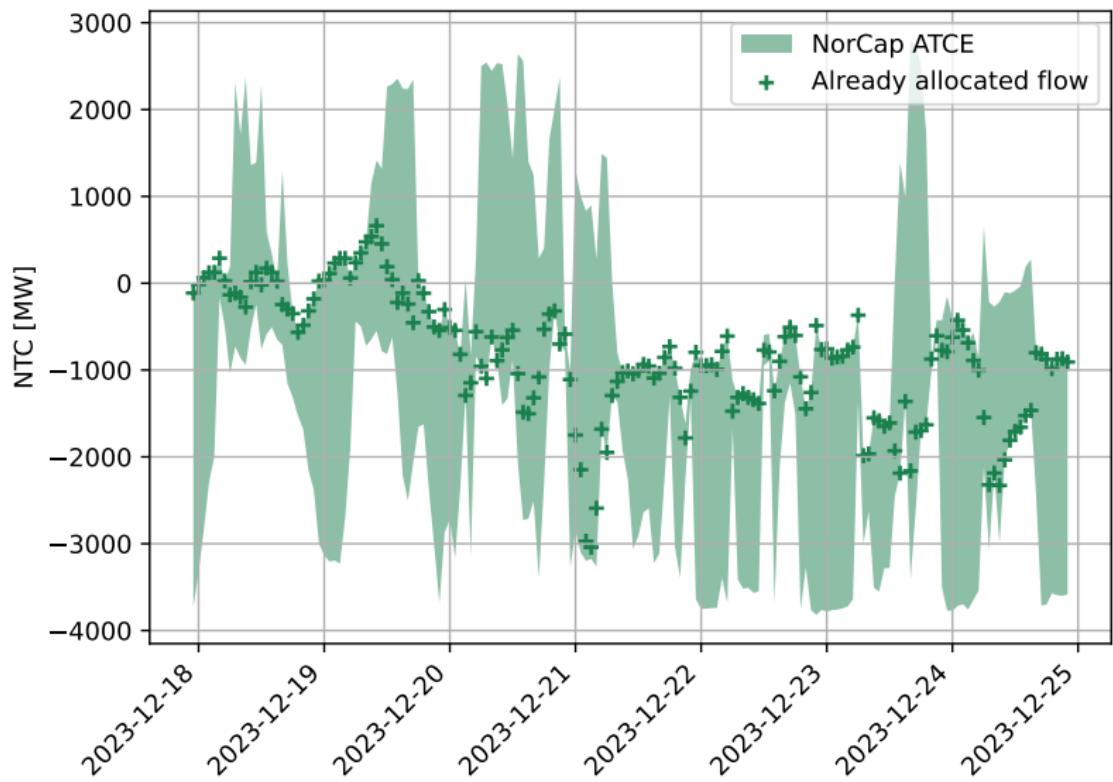
# SE3-NO1

NTC SE3-NO1



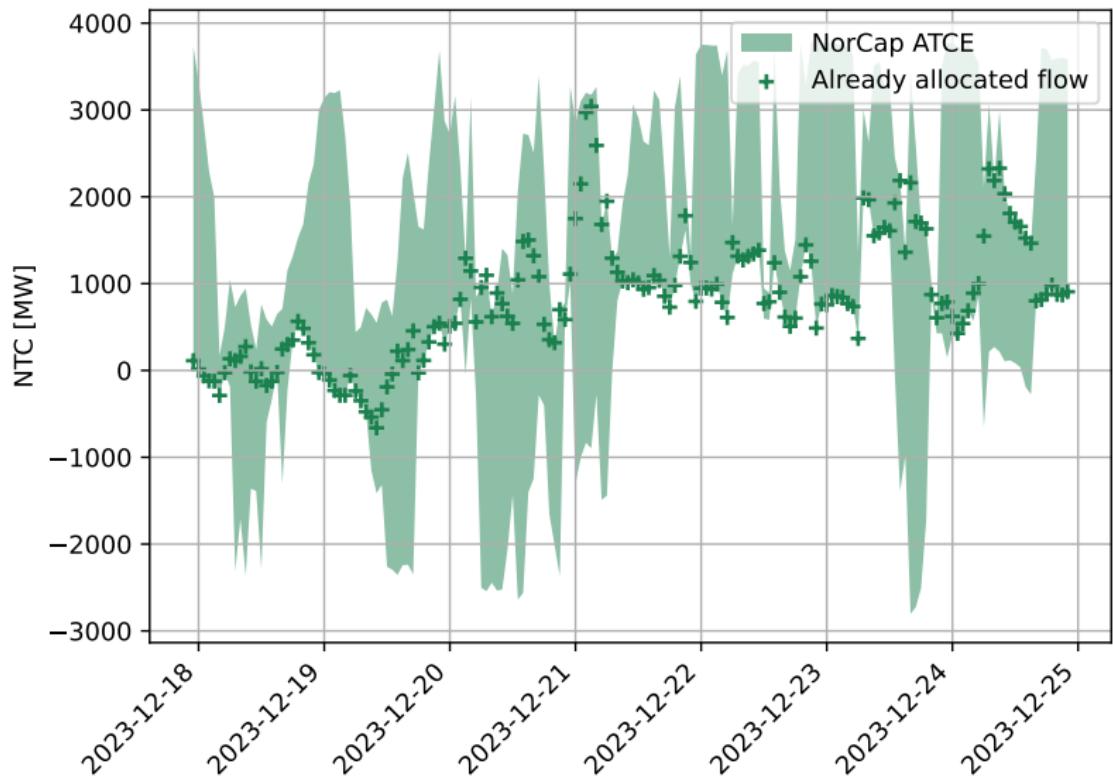
# NO1-NO2

NTC NO1-NO2

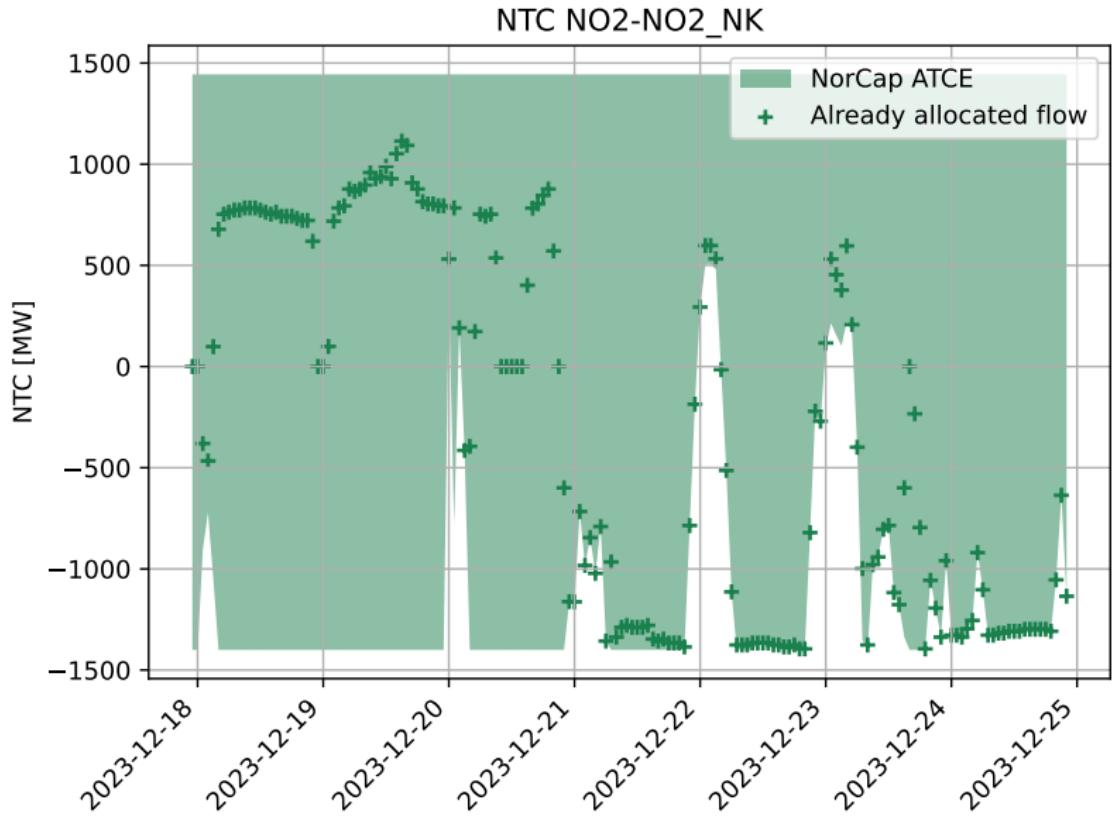


# NO2-NO1

NTC NO2-NO1

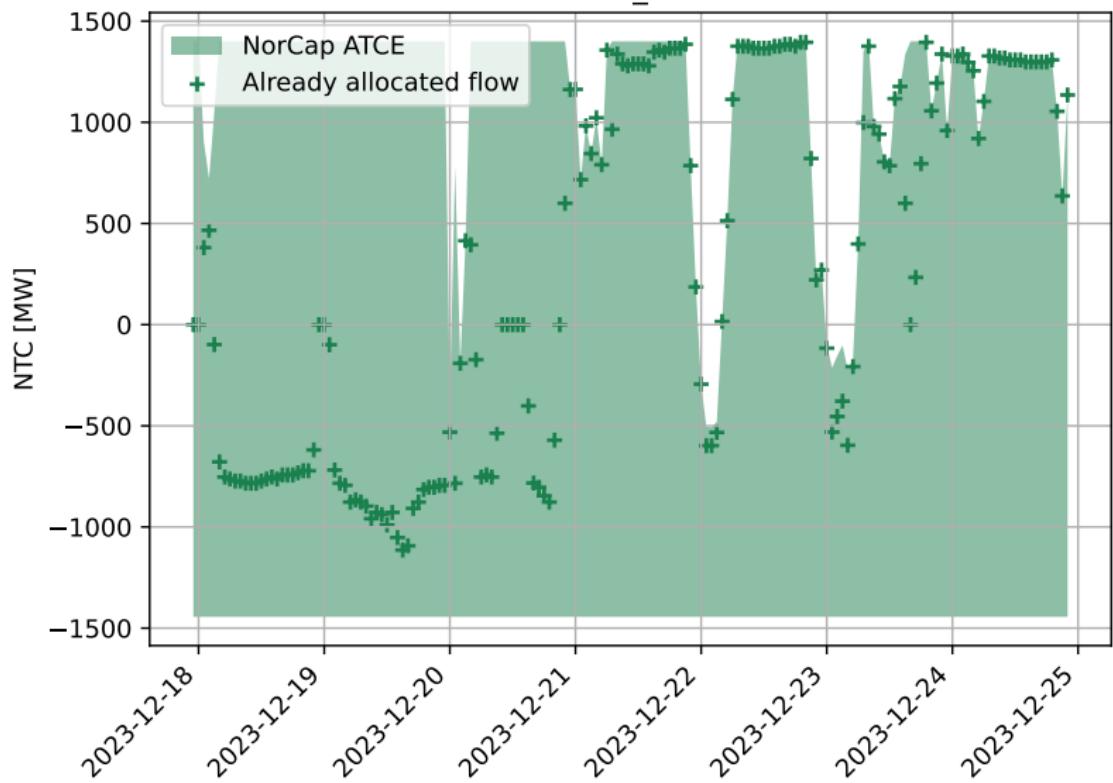


# NO2-NO2\_NK

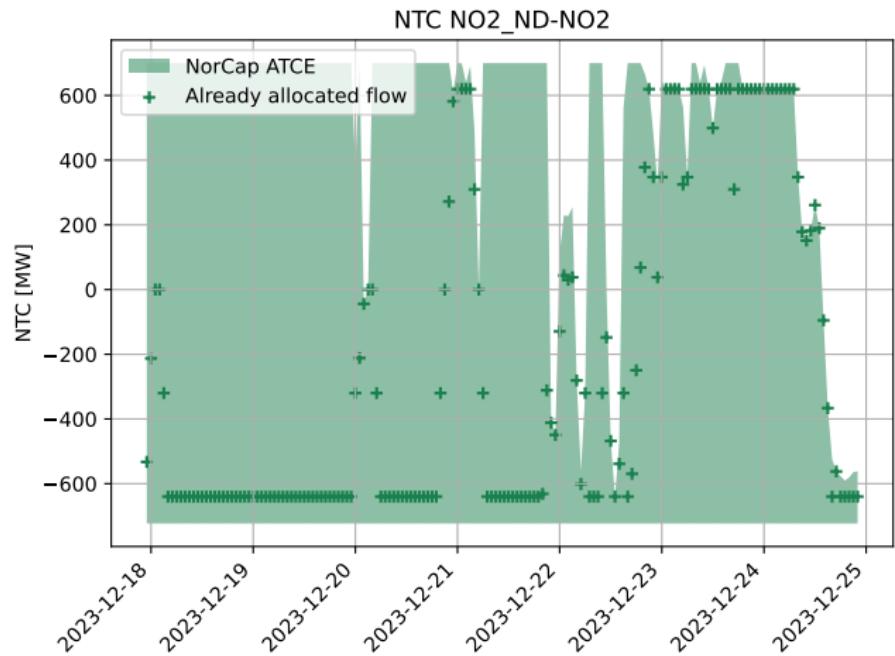


# NO2\_NK-NO2

NTC NO2\_NK-NO2

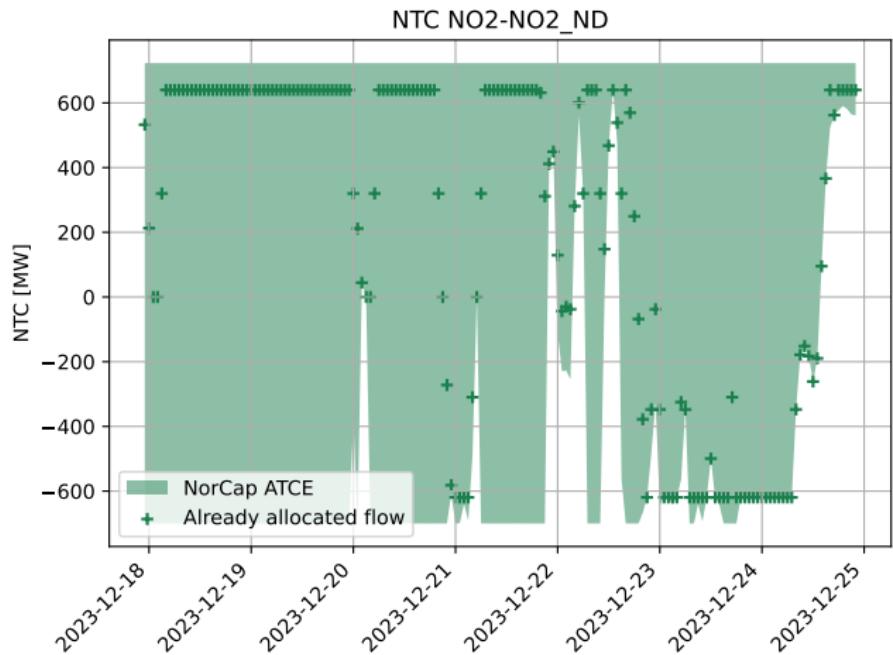


# NO2\_ND-NO2



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

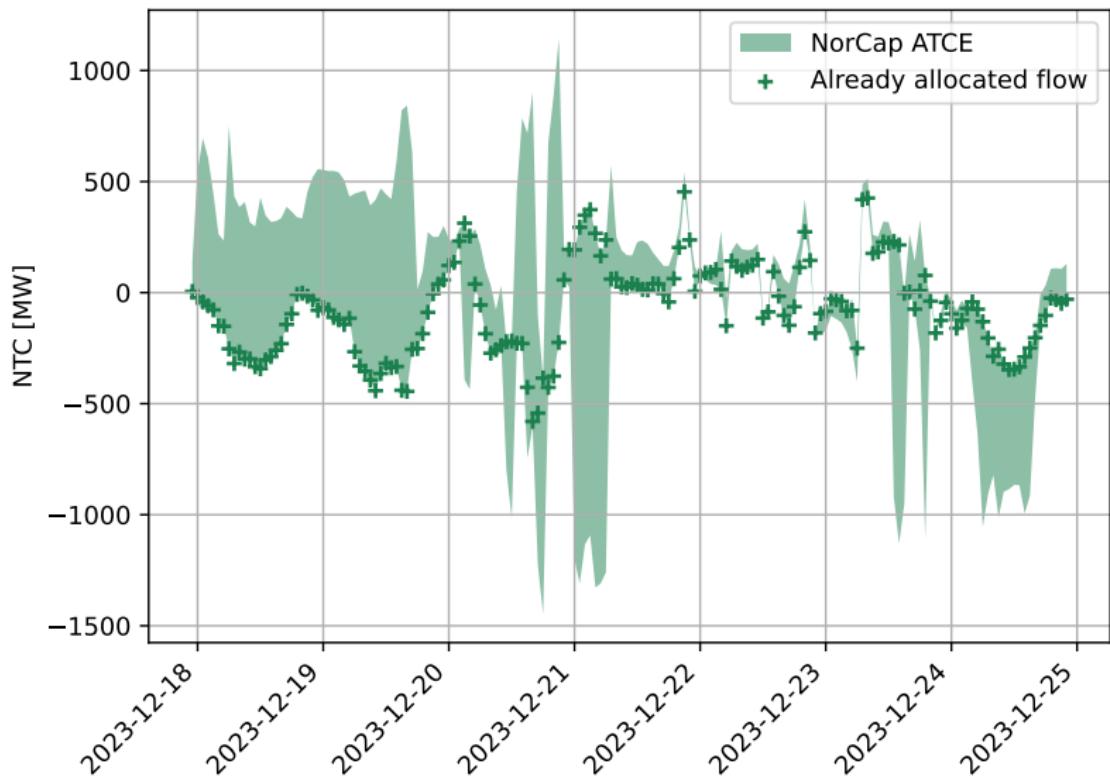
# NO2-NO2\_ND



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

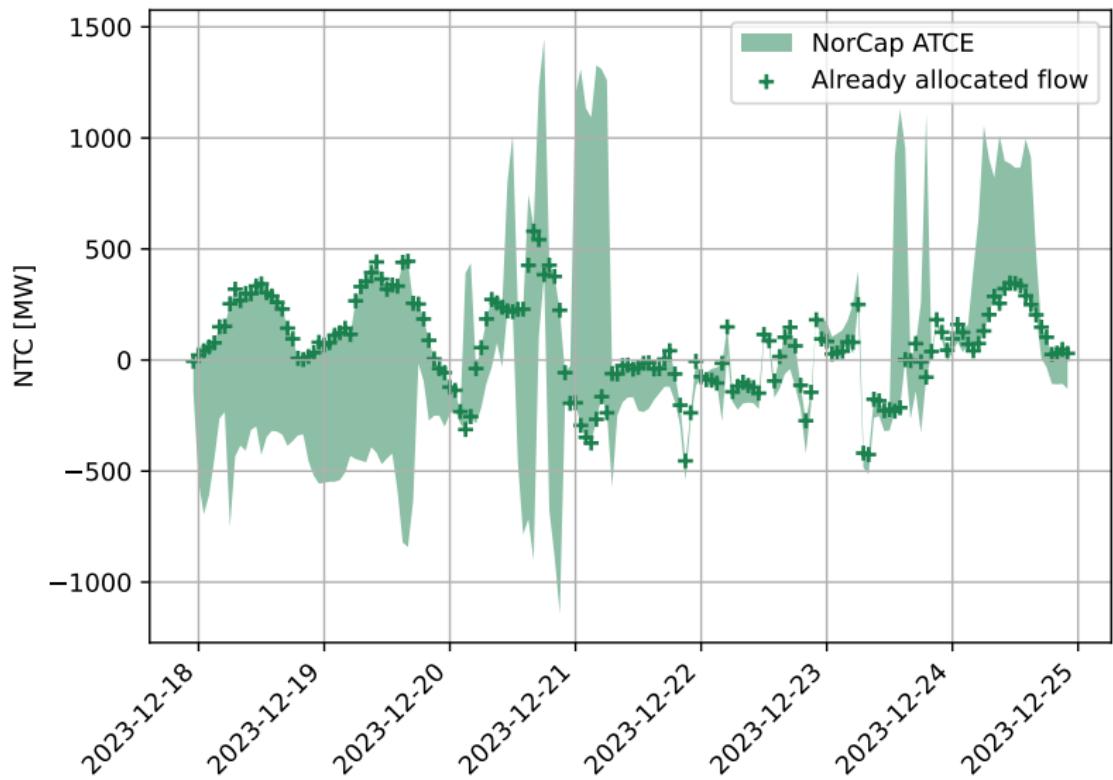
# NO2-NO5

NTC NO2-NO5



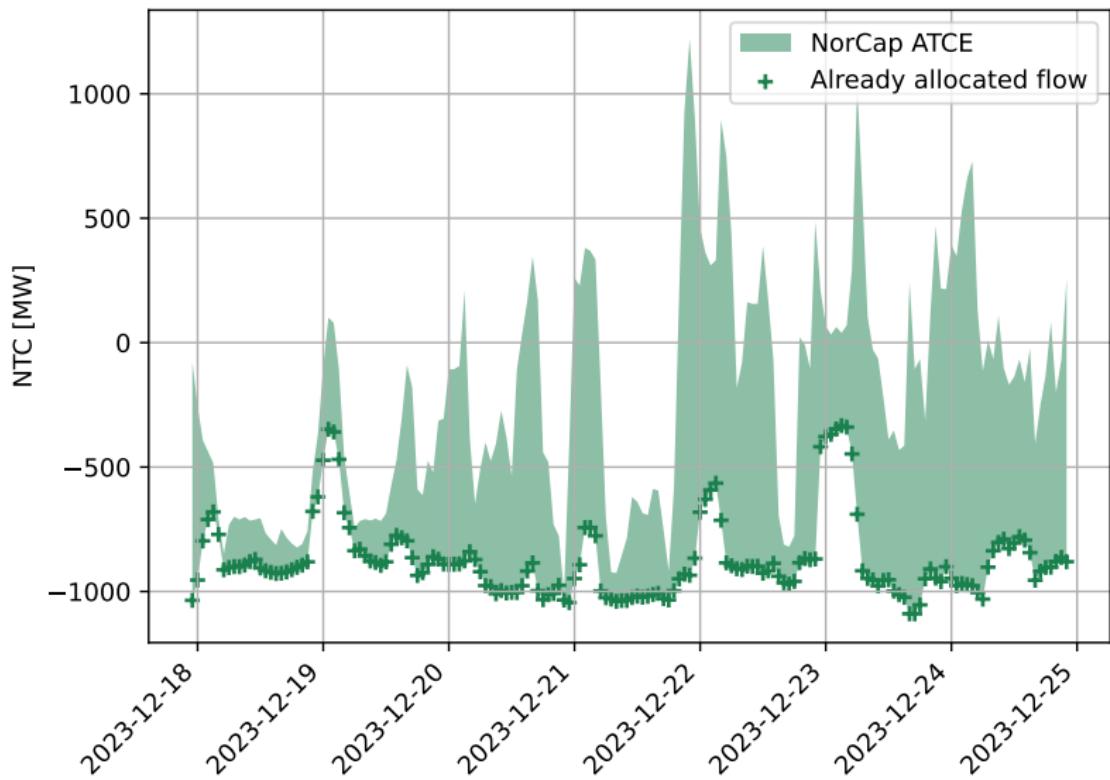
# NO5-NO2

NTC NO5-NO2



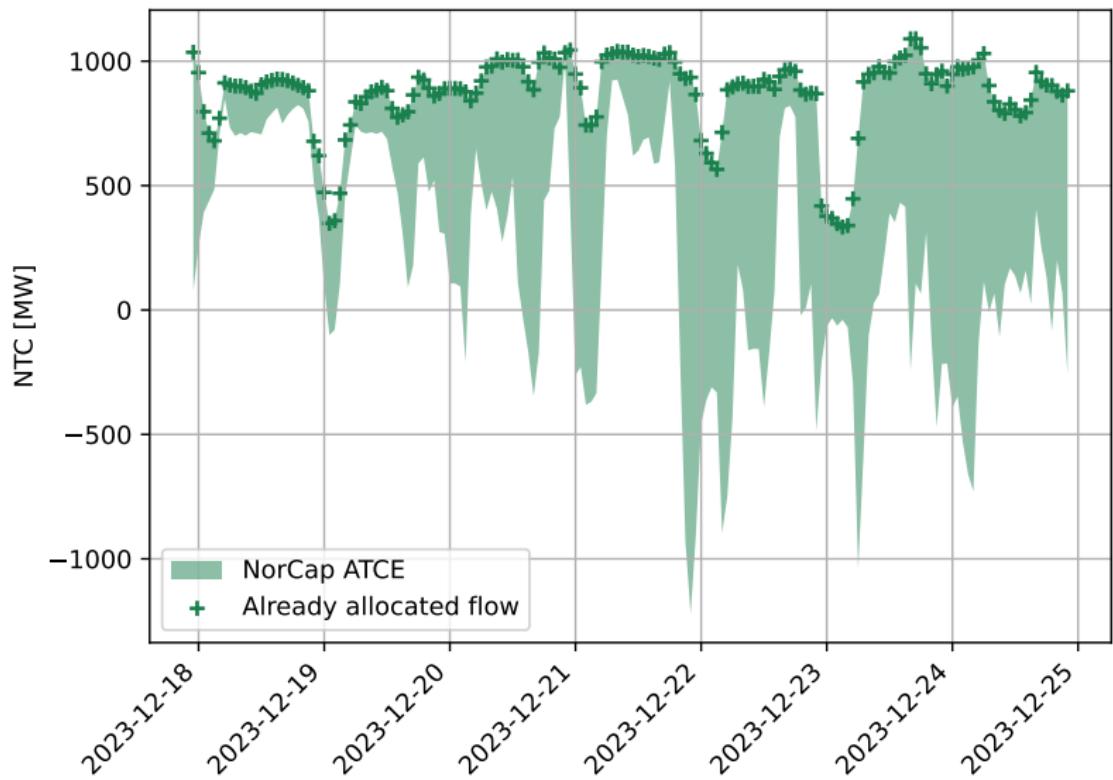
# NO3-NO4

NTC NO3-NO4



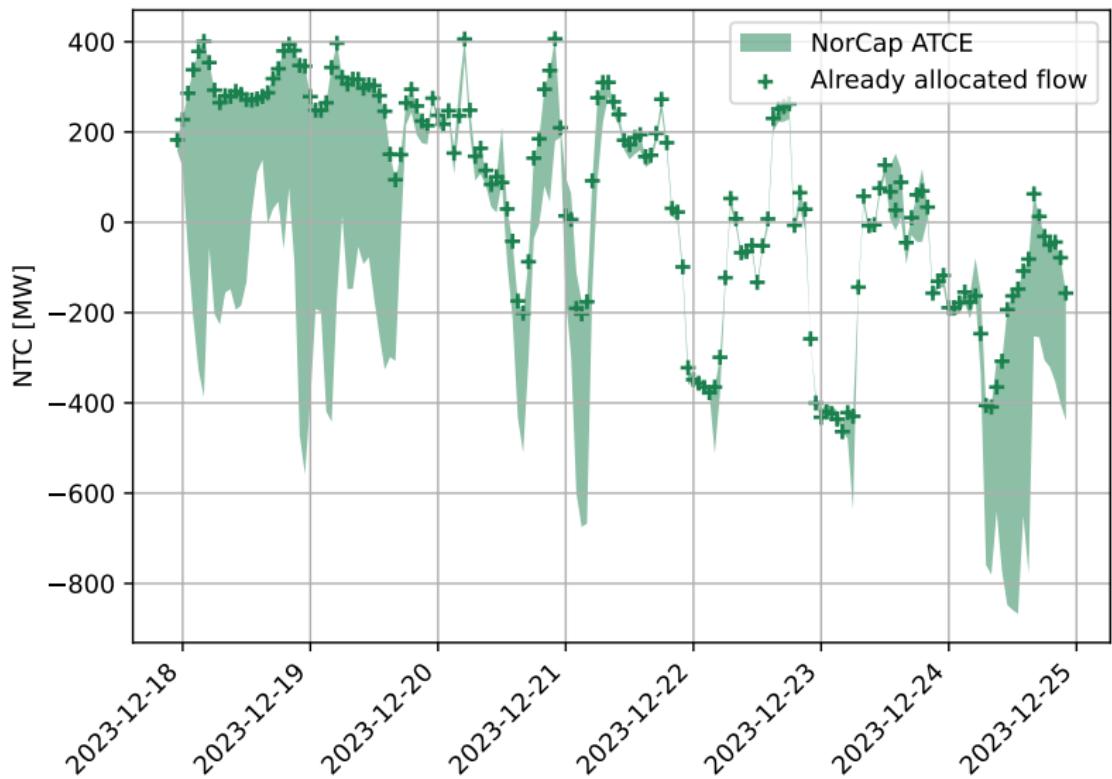
# NO4-NO3

NTC NO4-NO3



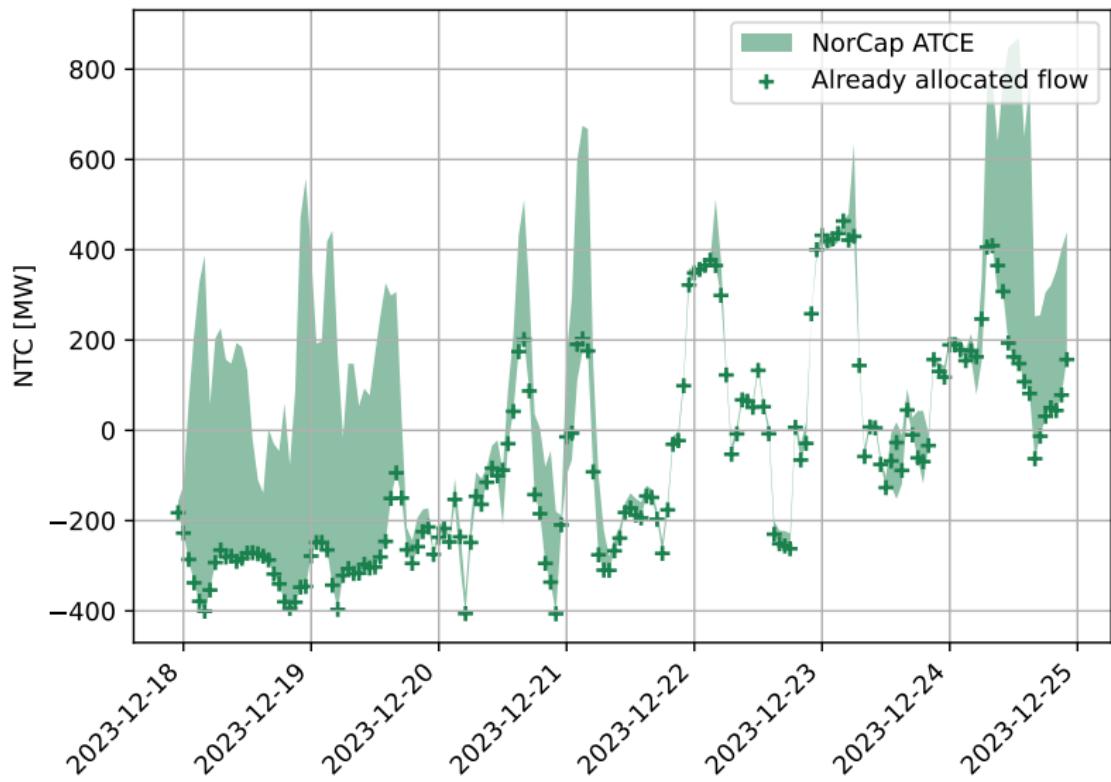
# NO3-NO5

NTC NO3-NO5



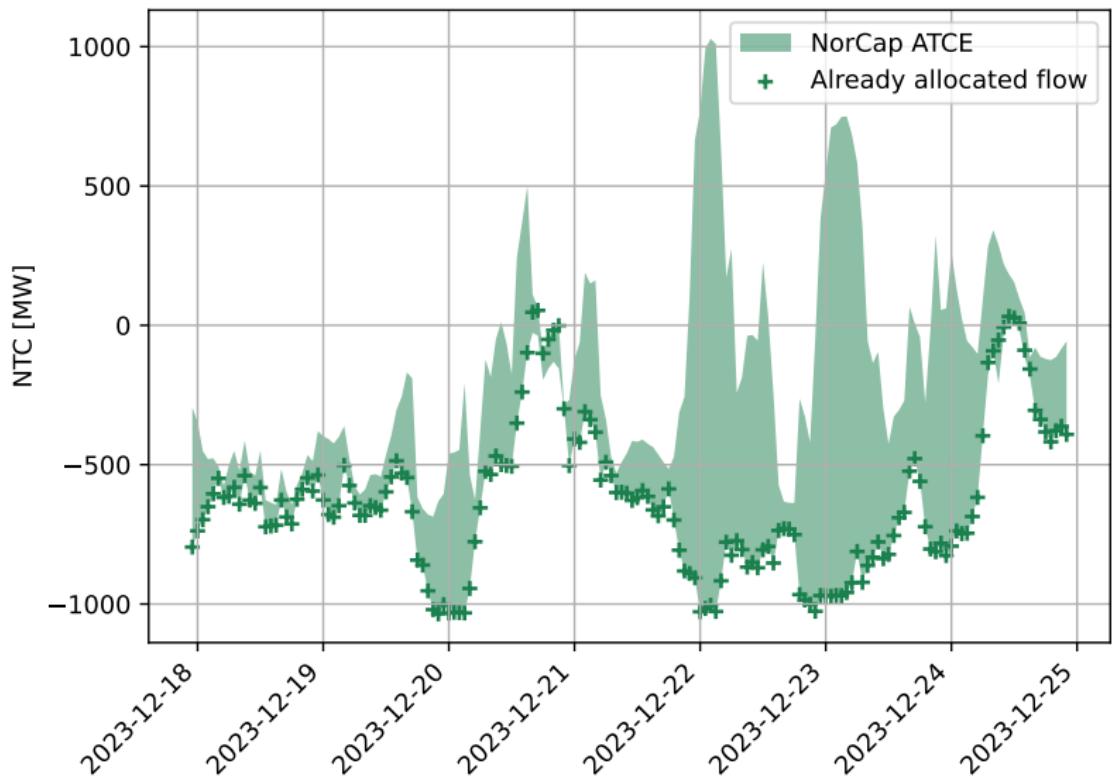
# NO5-NO3

NTC NO5-NO3



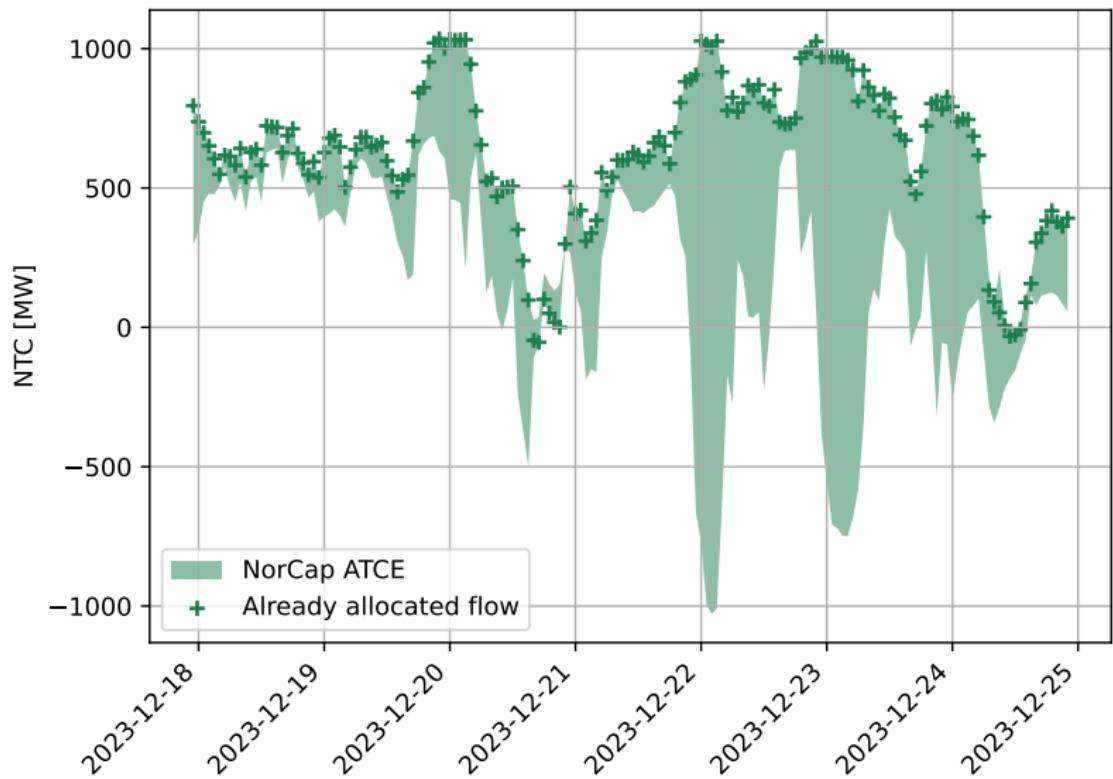
# NO3-SE2

NTC NO3-SE2

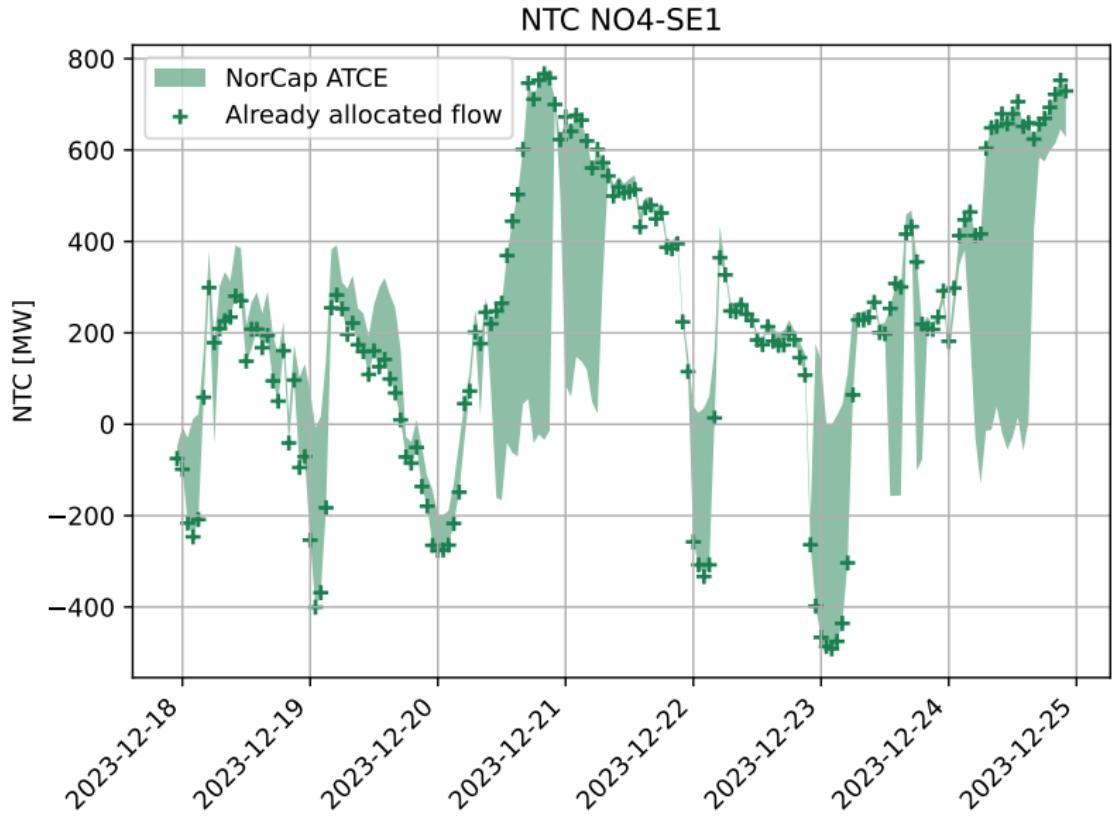


# SE2-NO3

NTC SE2-NO3

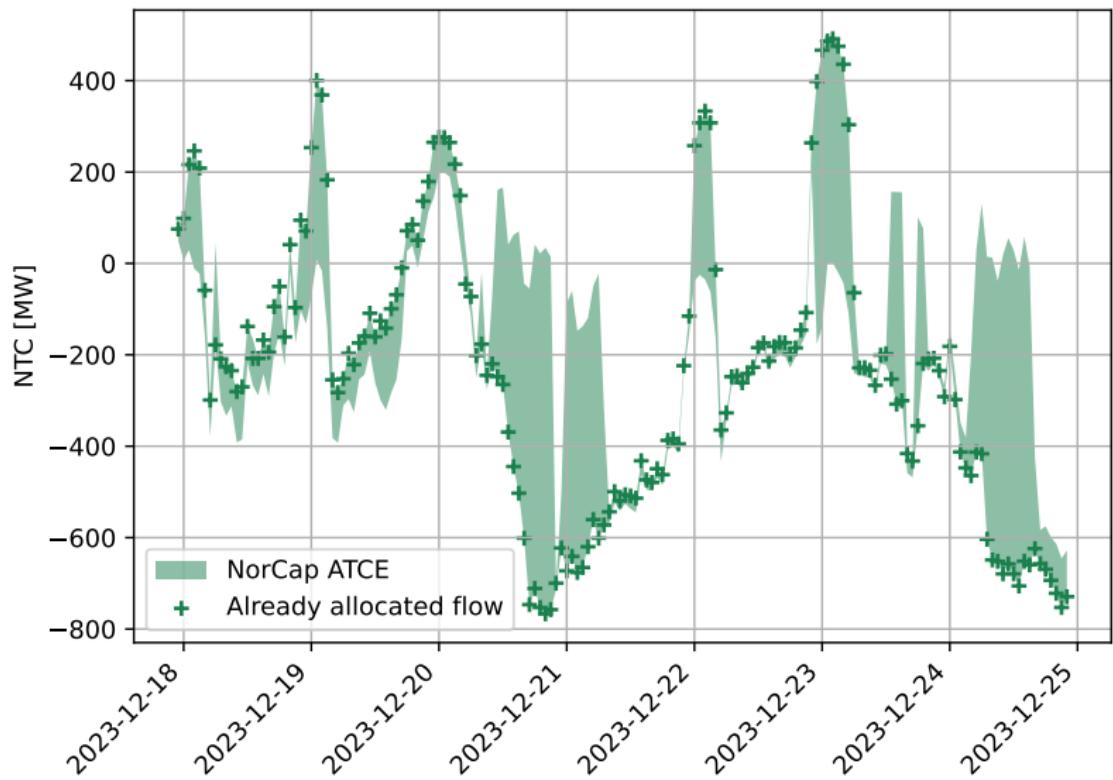


NO4-SE1



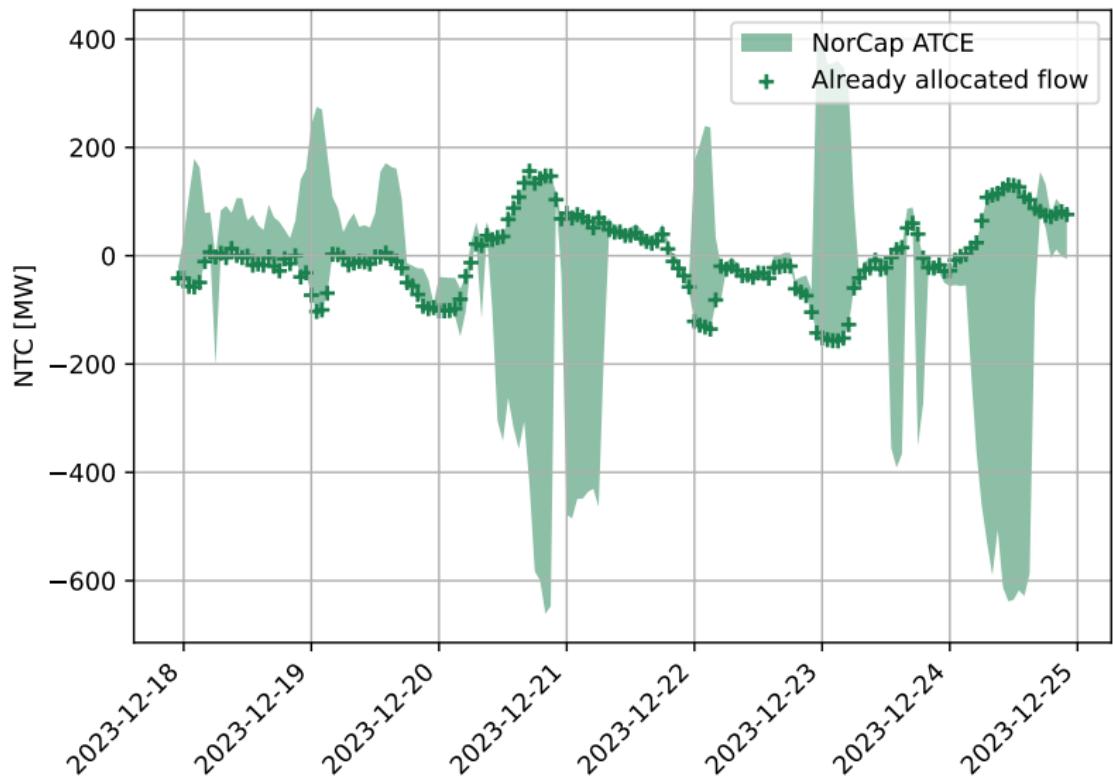
# SE1-NO4

NTC SE1-NO4



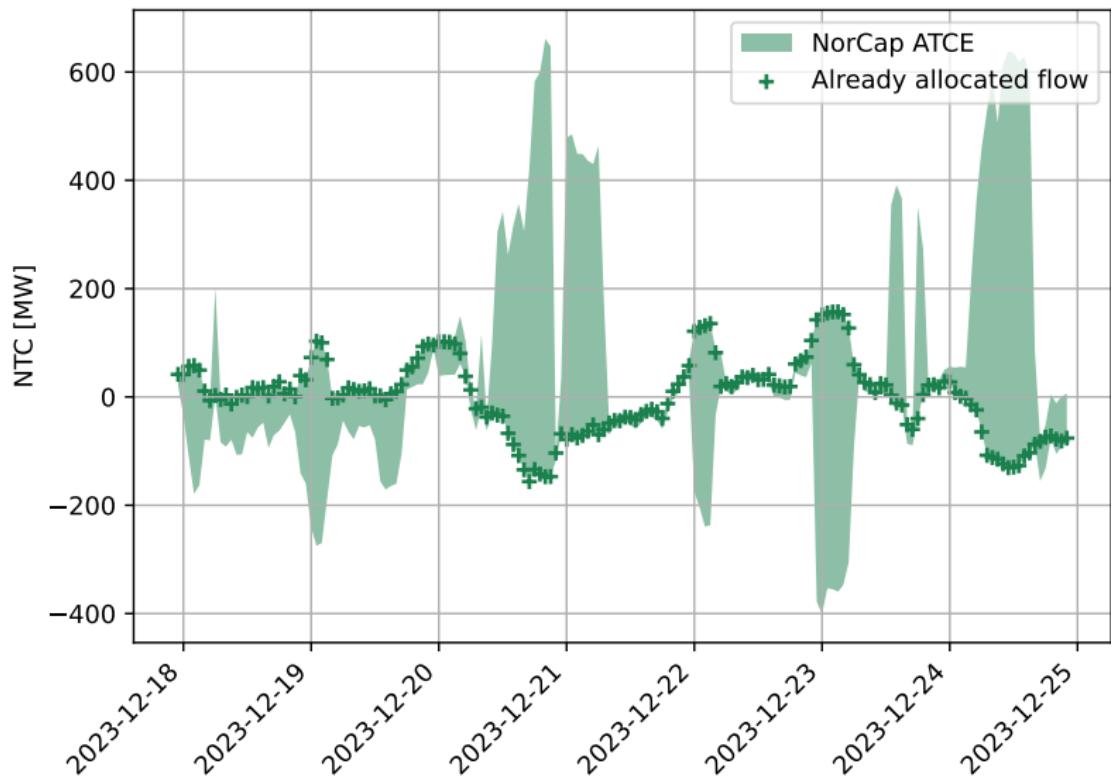
# NO4-SE2

NTC NO4-SE2



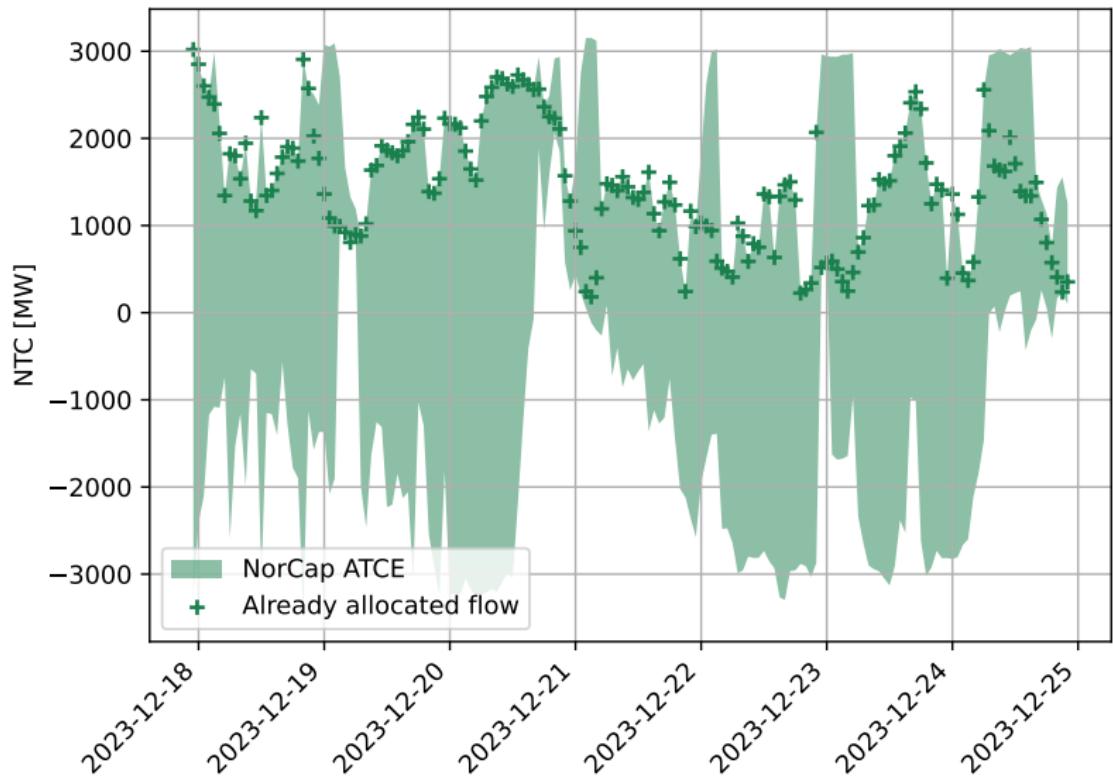
# SE2-NO4

NTC SE2-NO4



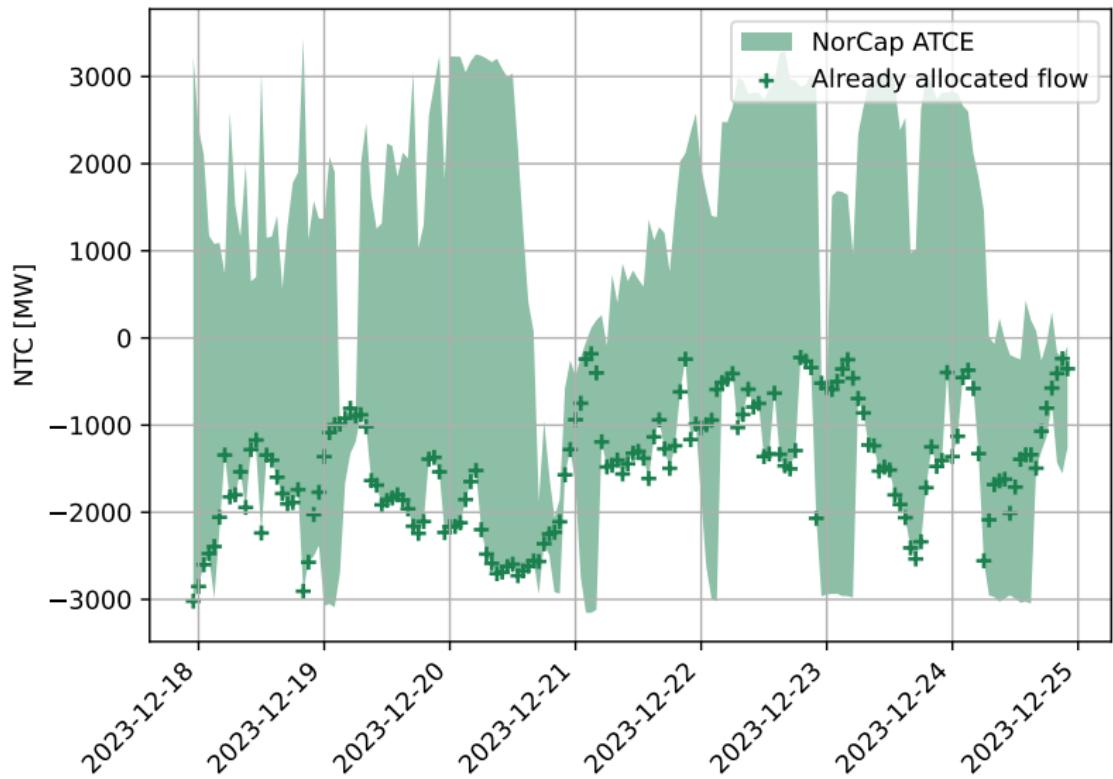
# SE1-SE2

NTC SE1-SE2



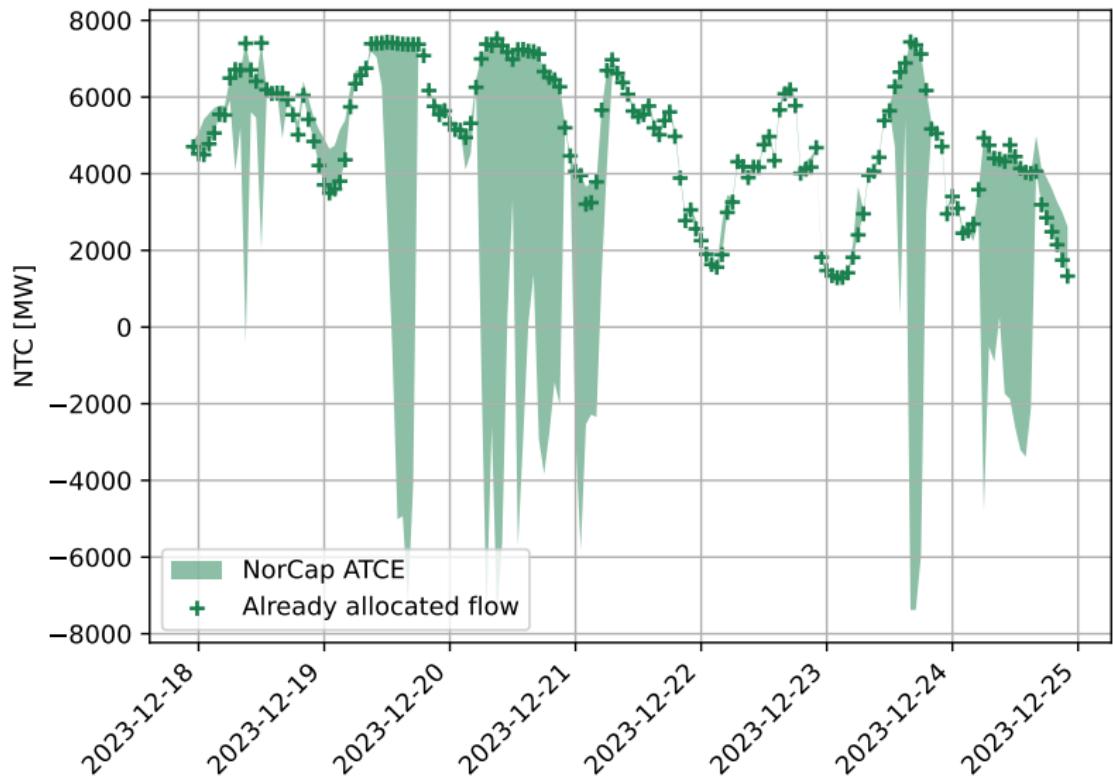
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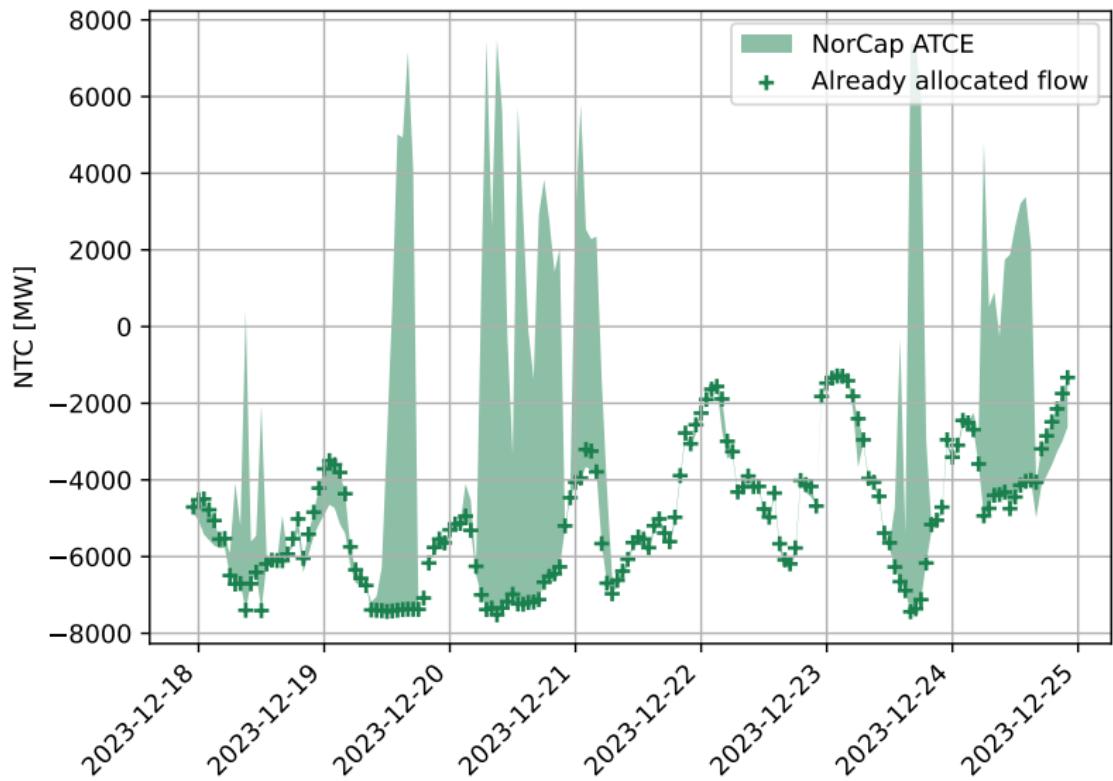
# SE2-SE3

NTC SE2-SE3



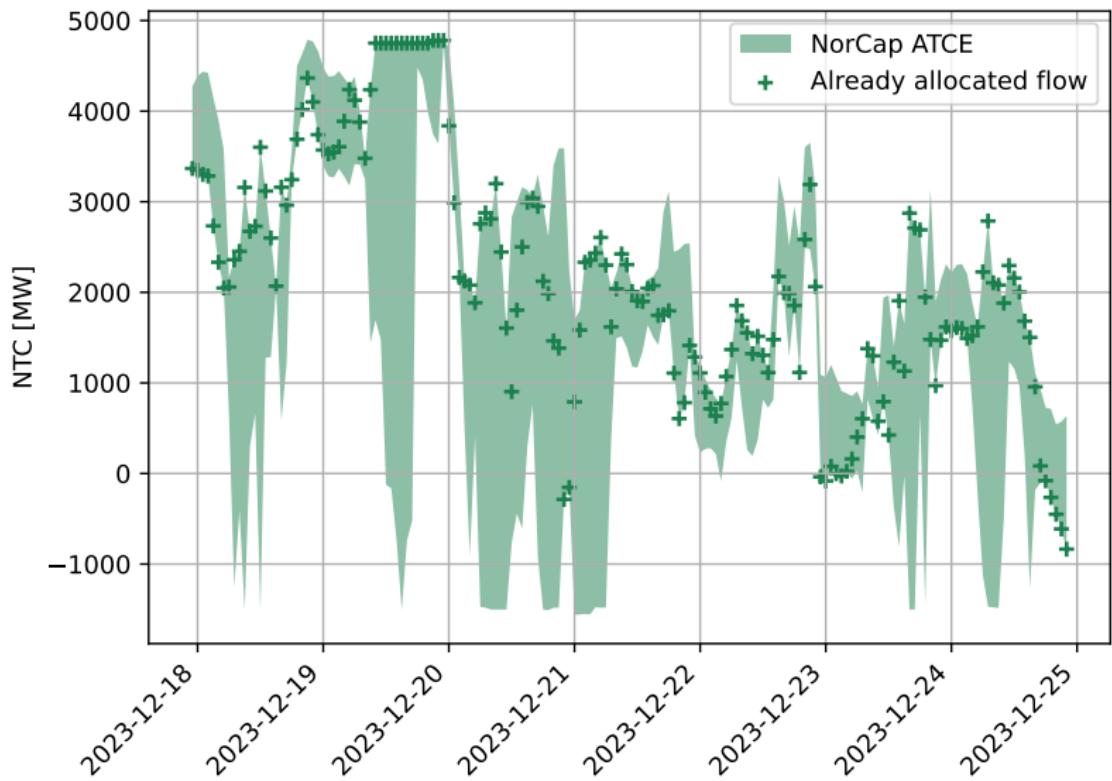
# SE3-SE2

NTC SE3-SE2



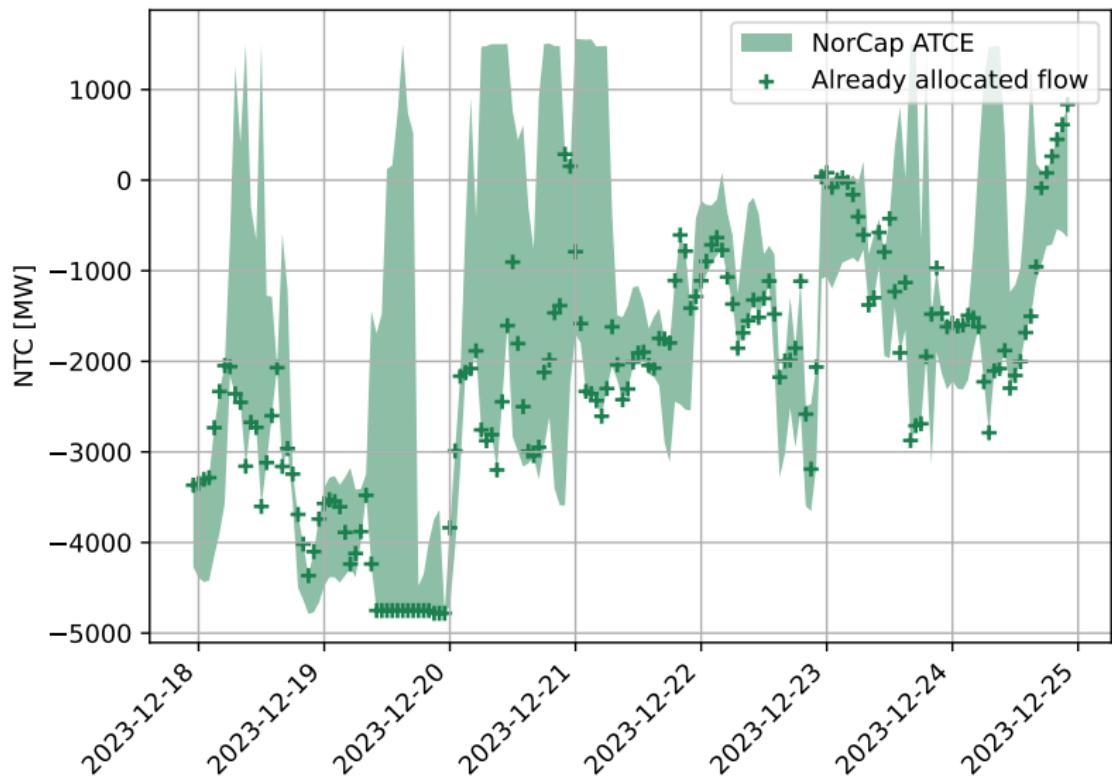
# SE3-SE4

NTC SE3-SE4

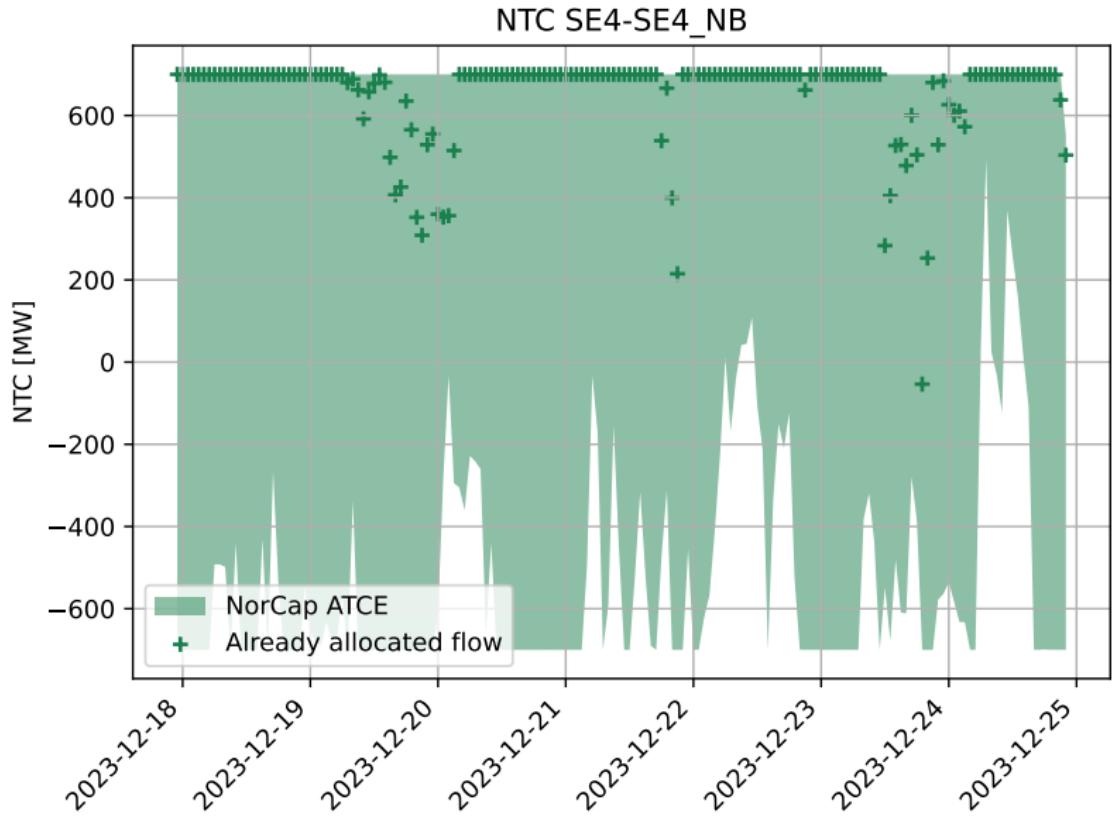


# SE4-SE3

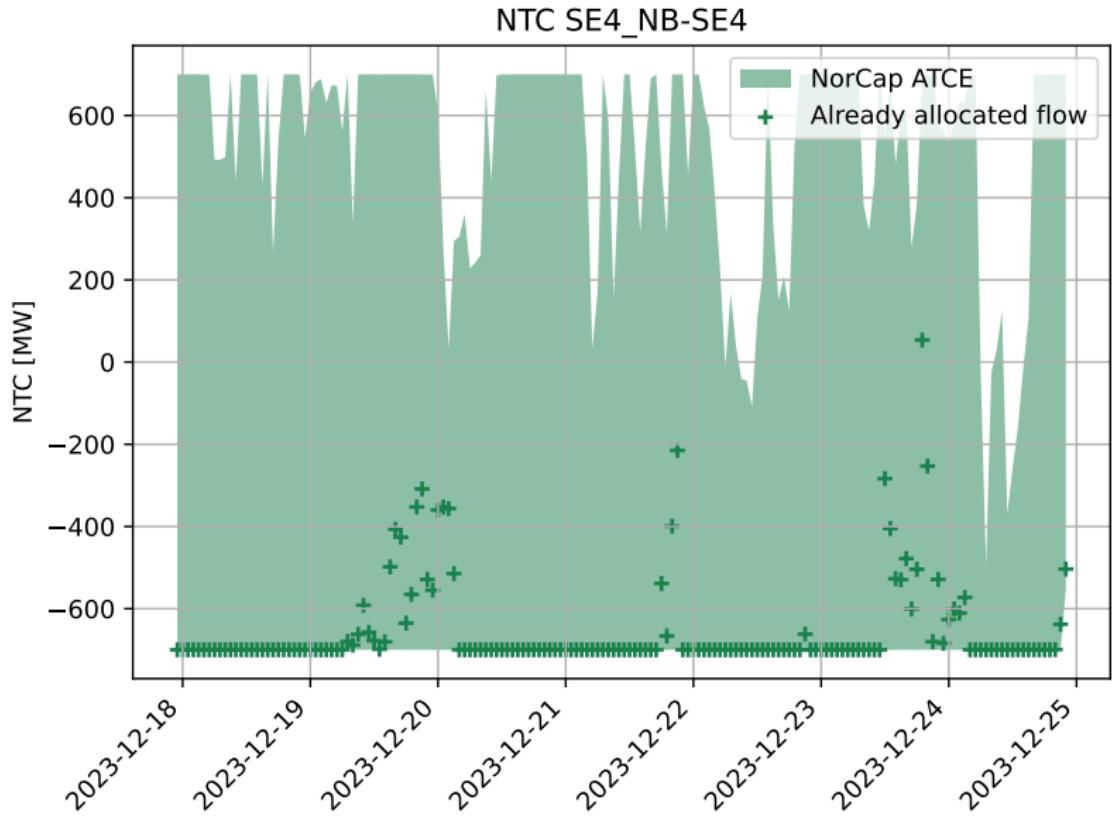
NTC SE4-SE3



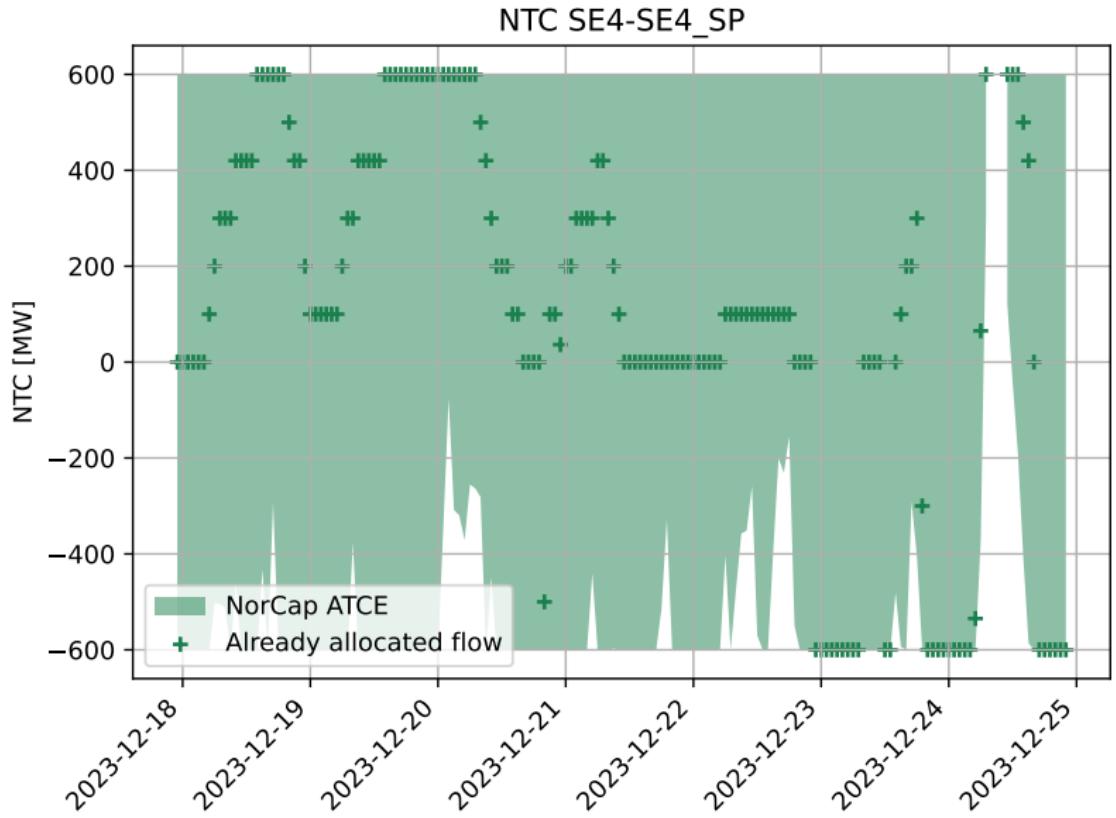
# SE4-SE4\_NB



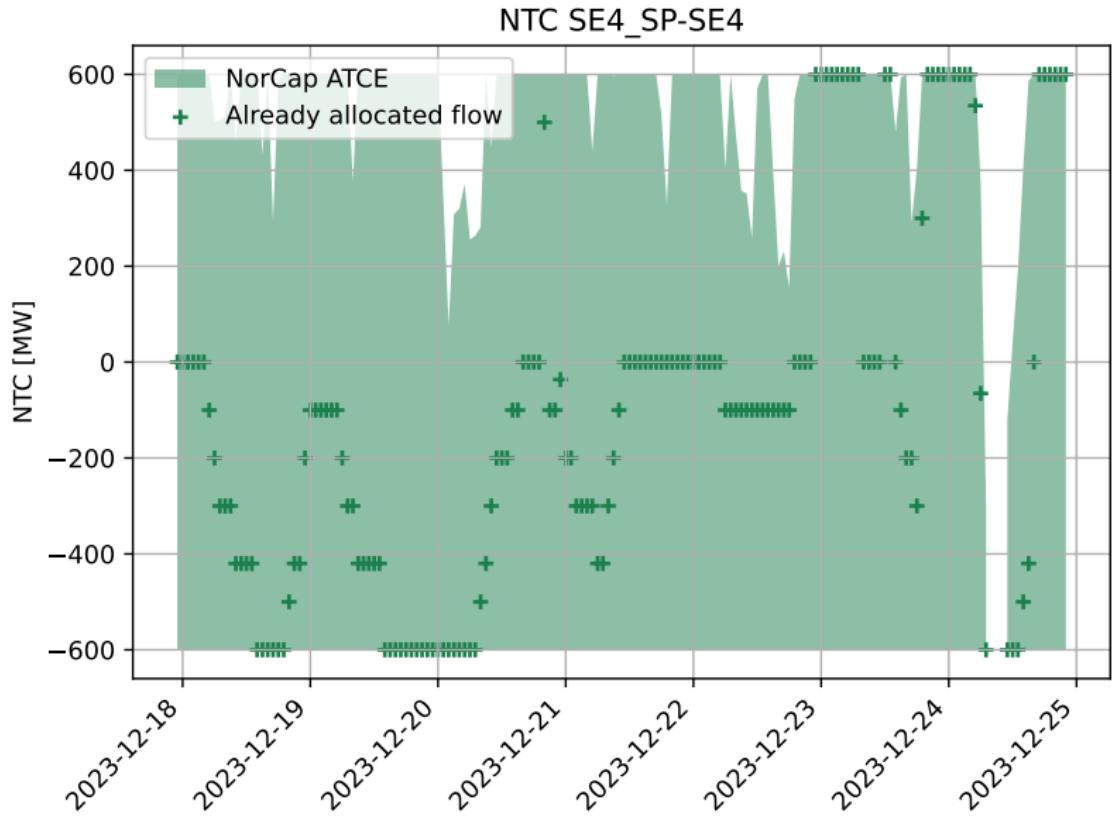
# SE4\_NB-SE4



# SE4-SE4\_SP



# SE4\_SP-SE4

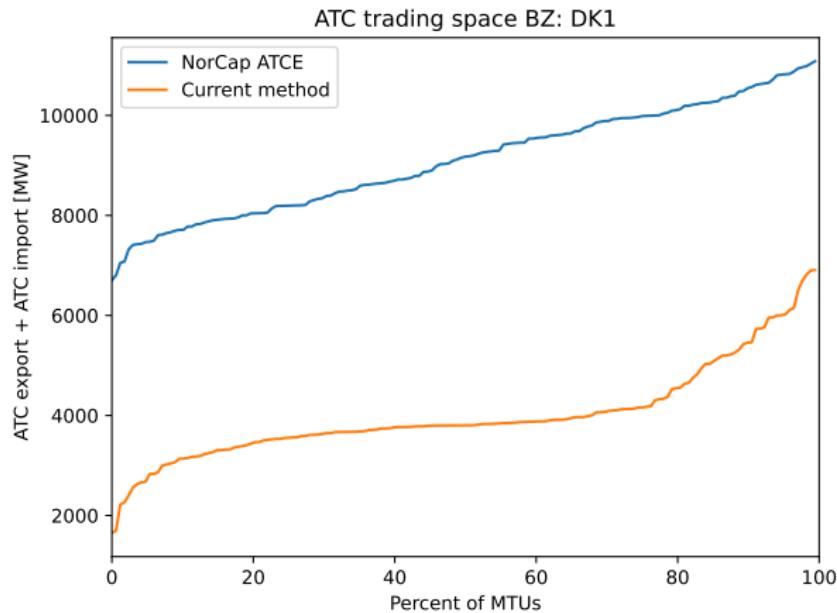


# Bidding zone trading space

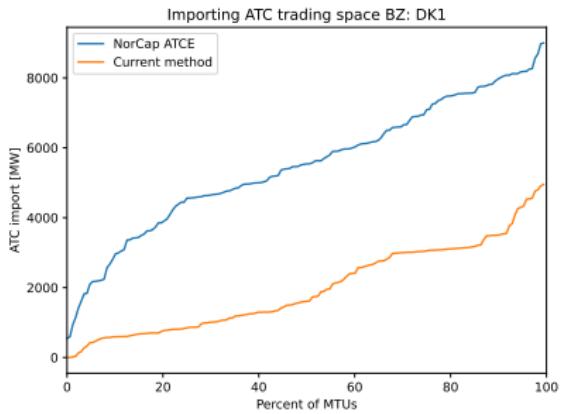
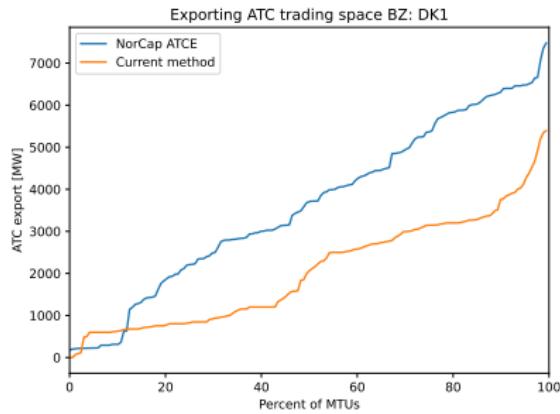
The total trading space of a bidding zone for a given MTU is the sum of export capacity and import capacity on all borders of that bidding zone for that MTU. The directional trading space is the sum of ATC on all borders of a bidding zone in either exporting or importing direction.

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.

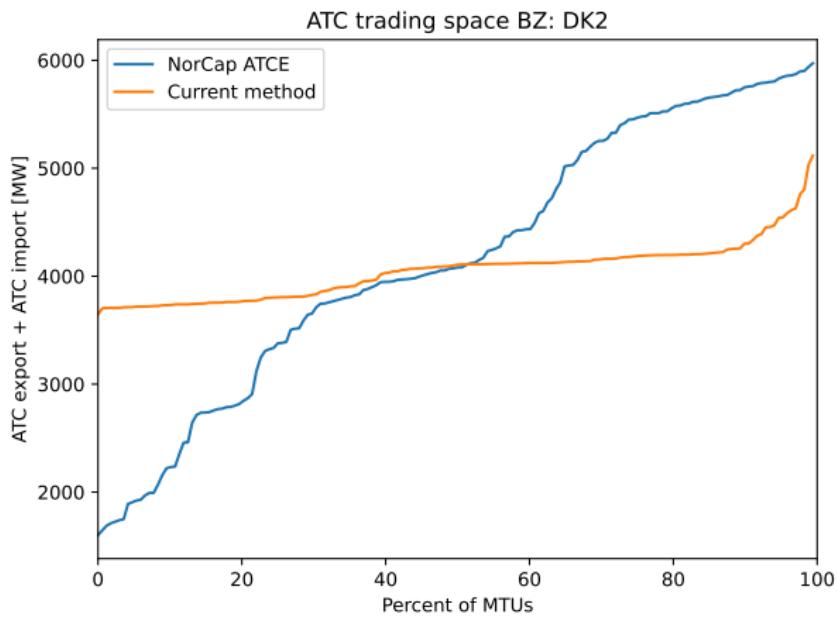
# DK1 - Total trading space



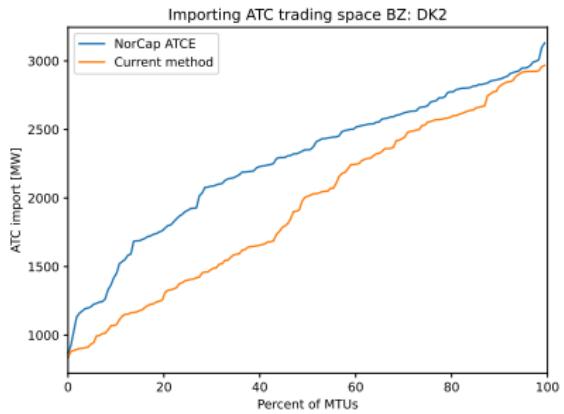
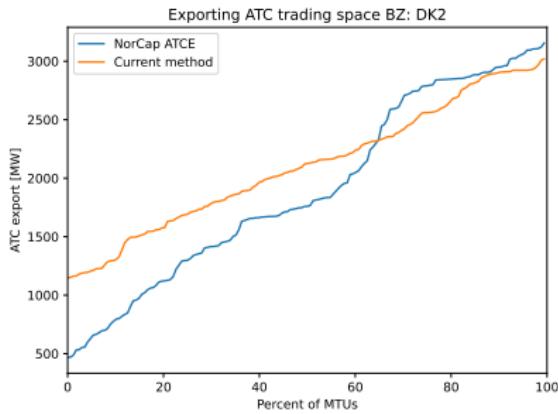
# DK1 - Directional trading space



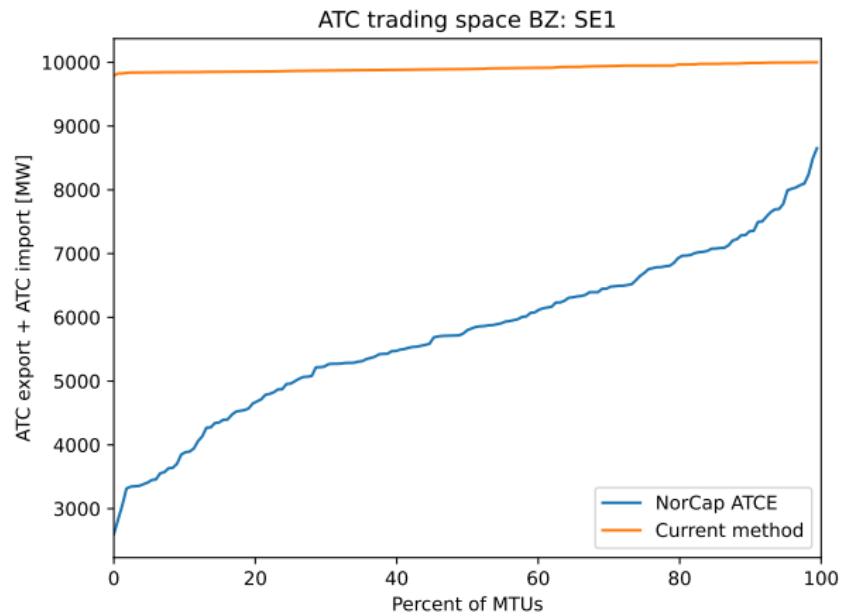
## DK2 - Total trading space



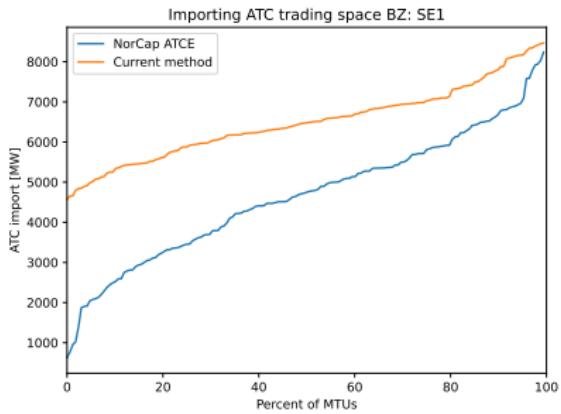
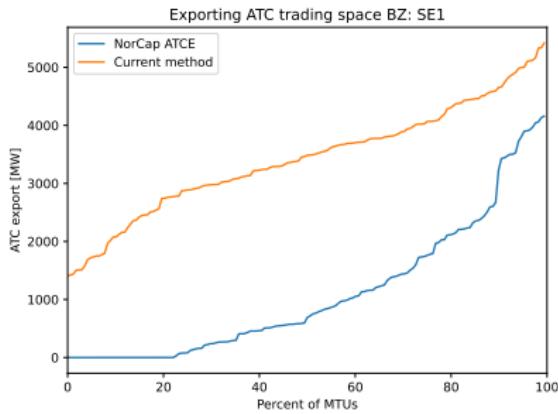
## DK2 - Directional trading space



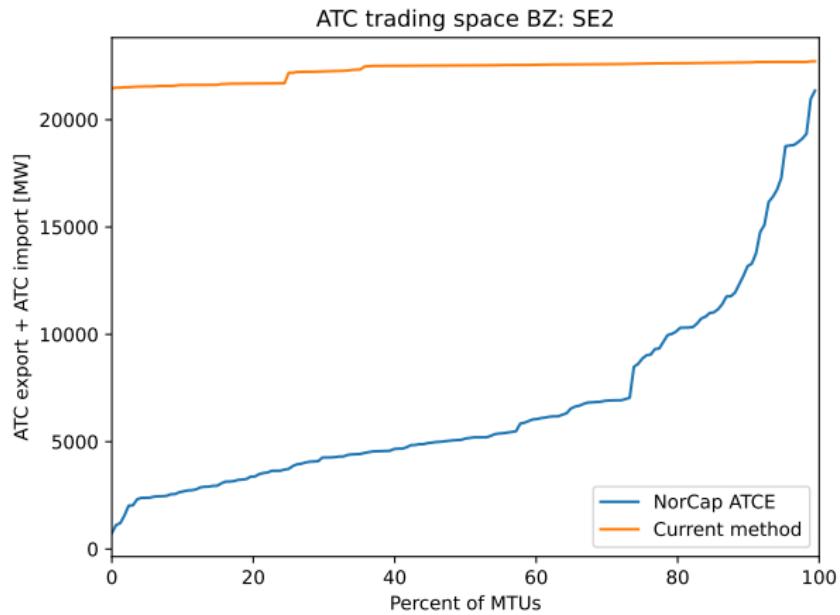
# SE1 - Total trading space



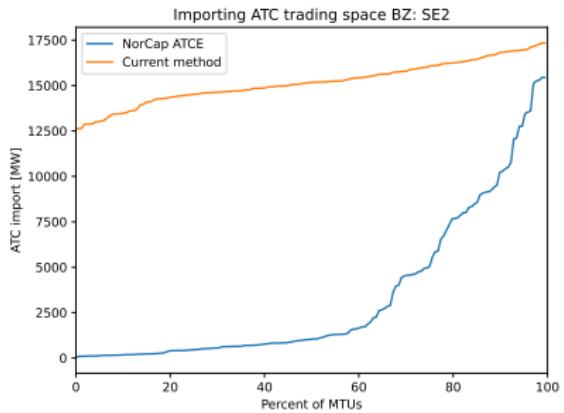
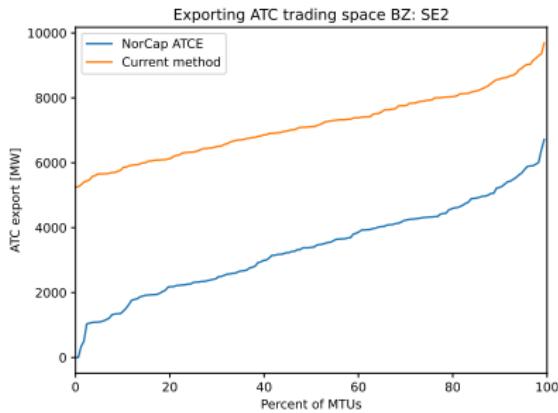
# SE1 - Directional trading space



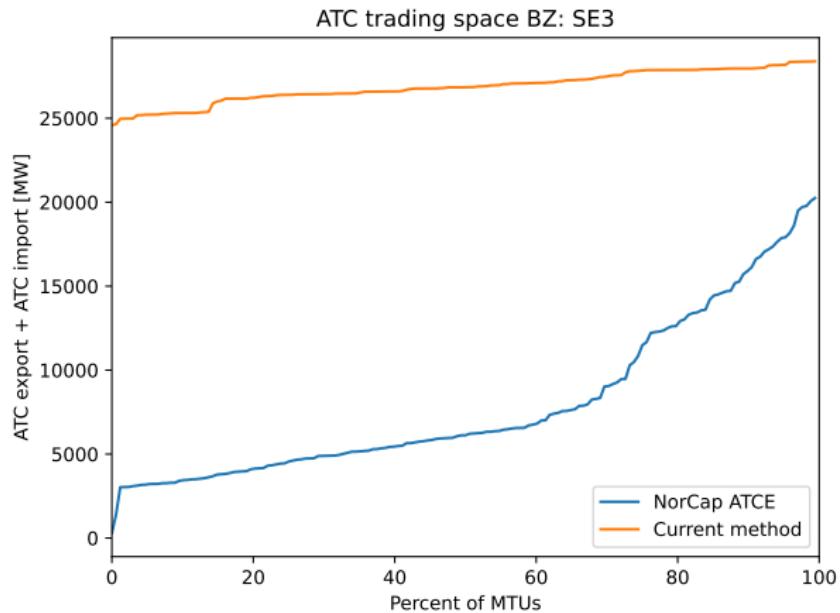
## SE2 - Total trading space



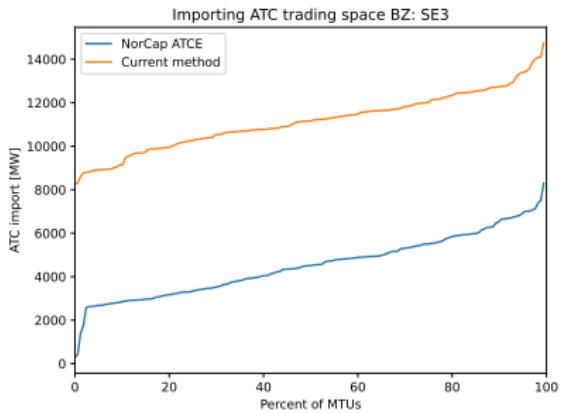
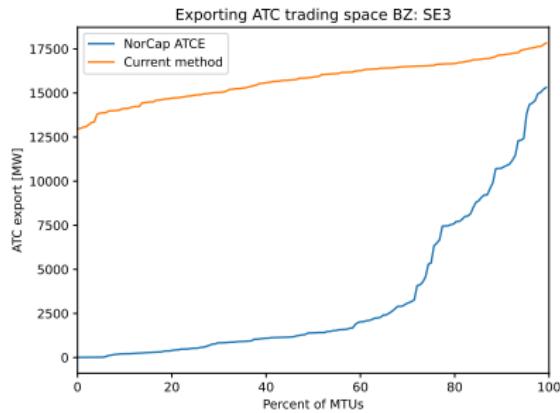
# SE2 - Directional trading space



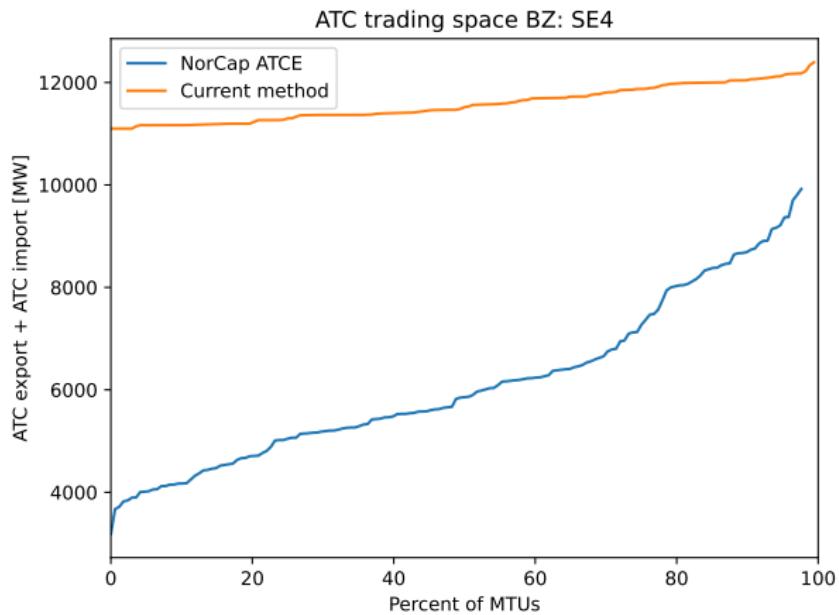
# SE3 - Total trading space



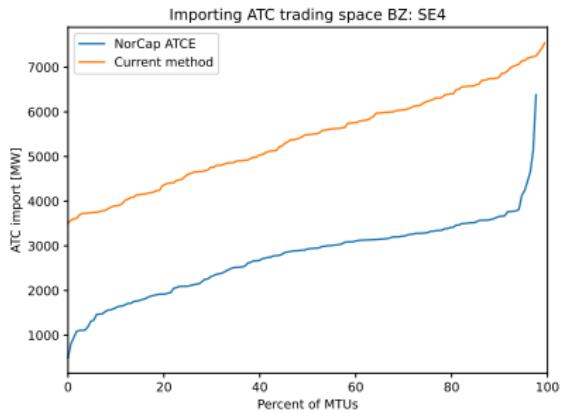
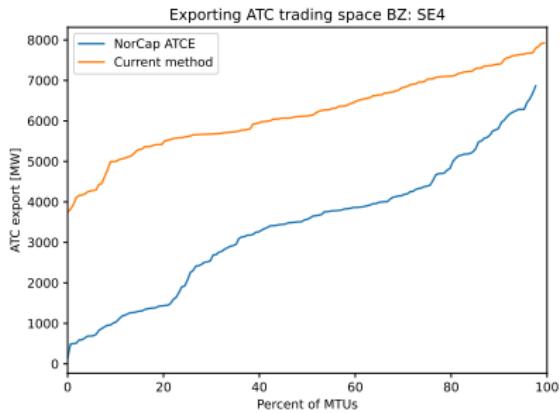
# SE3 - Directional trading space



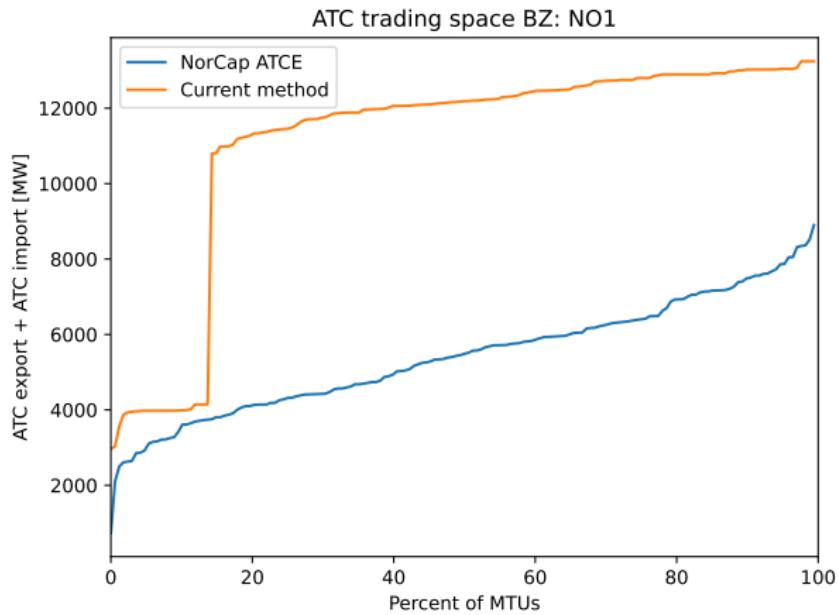
## SE4 - Total trading space



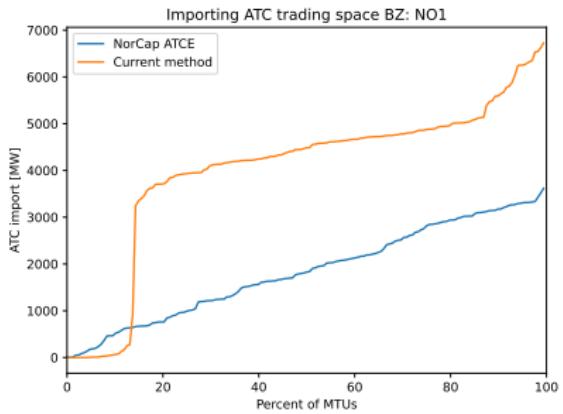
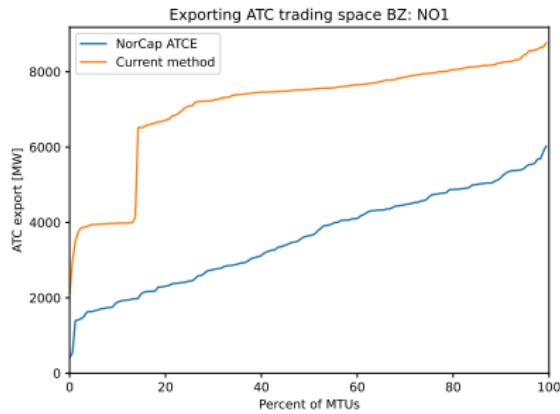
# SE4 - Directional trading space



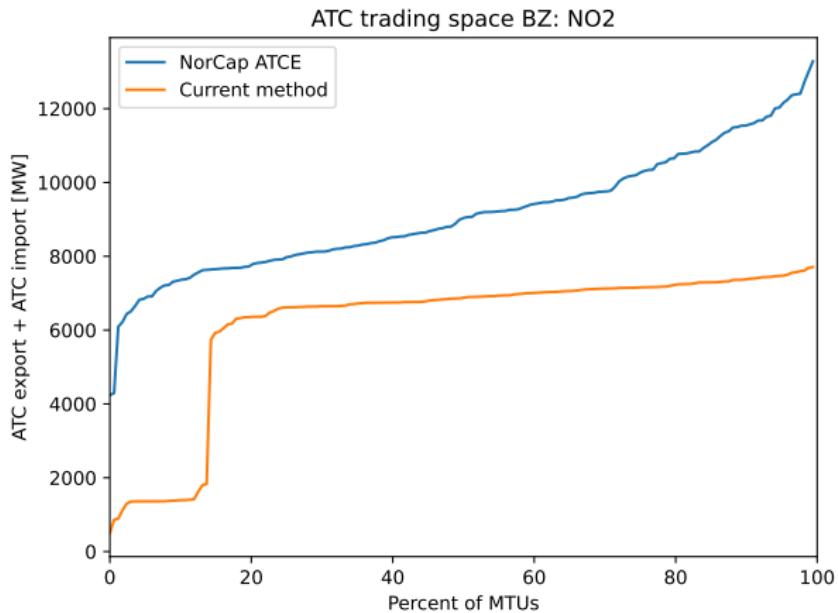
# NO1 - Total trading space



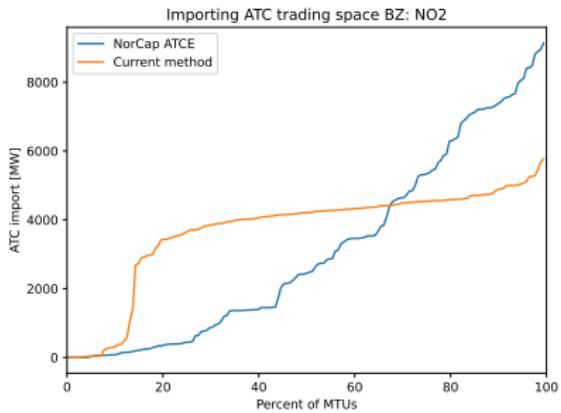
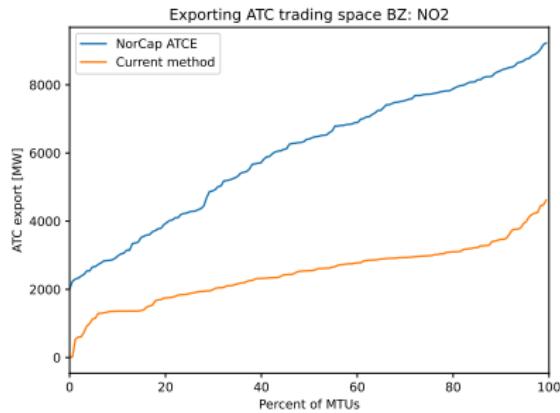
# NO1 - Directional trading space



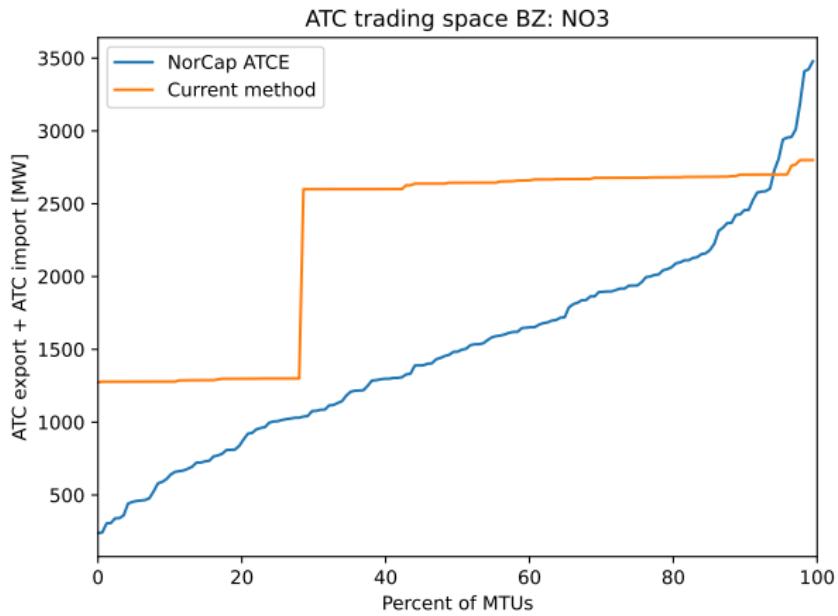
# NO2 - Total trading space



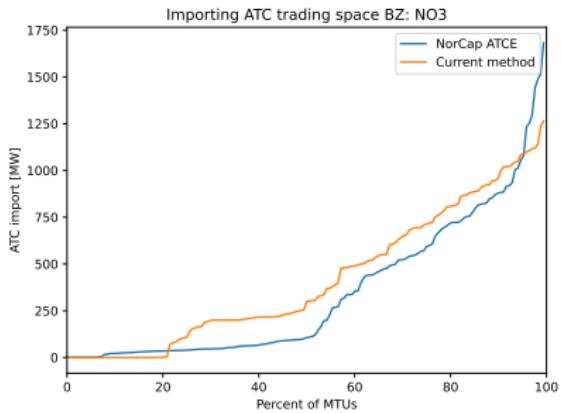
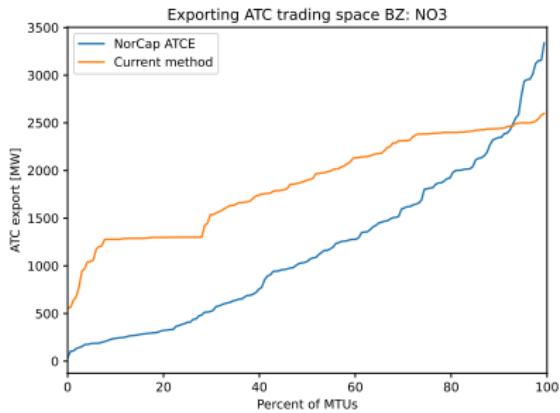
# NO2 - Directional trading space



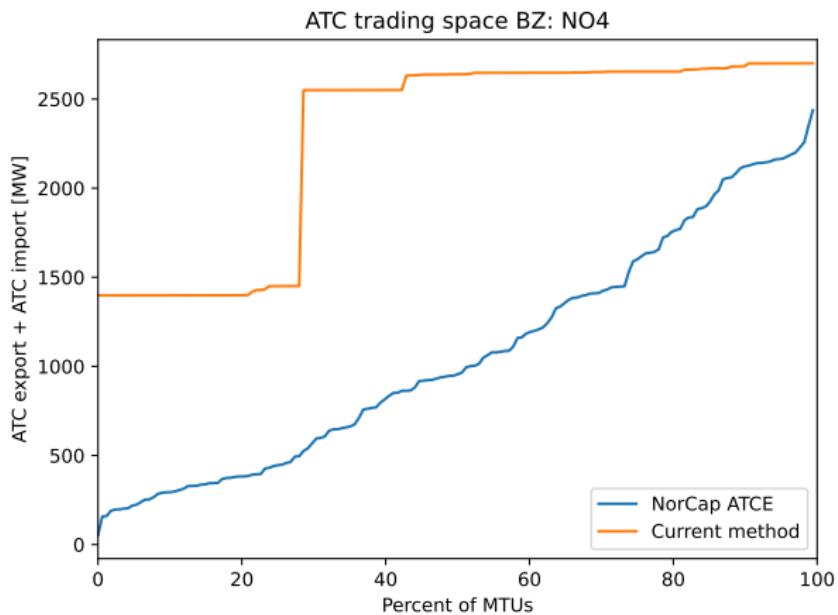
## NO3 - Total trading space



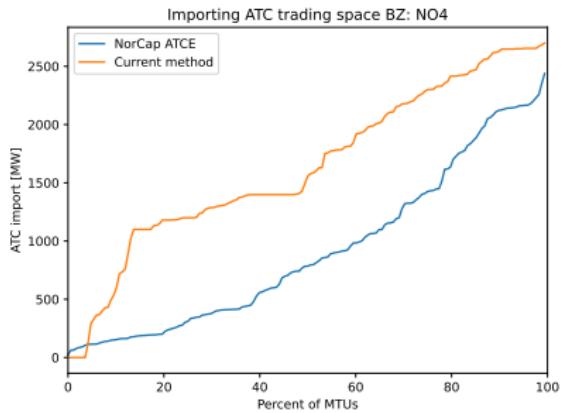
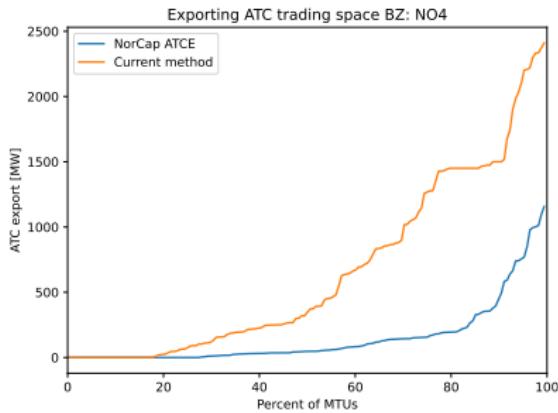
# NO3 - Directional trading space



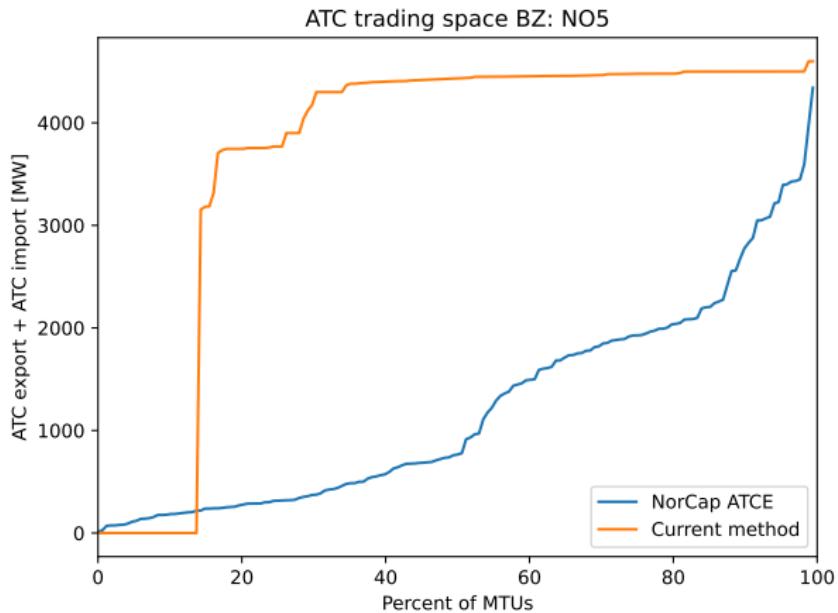
## NO4 - Total trading space



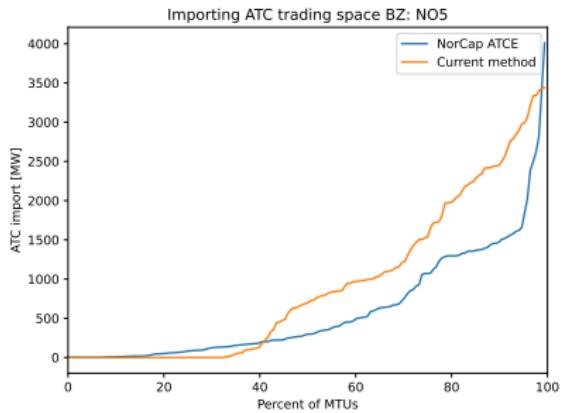
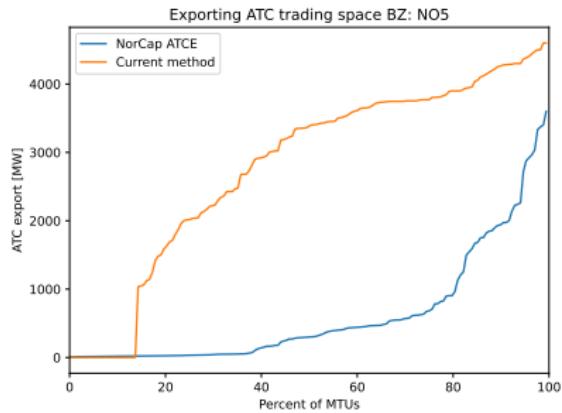
# NO4 - Directional trading space



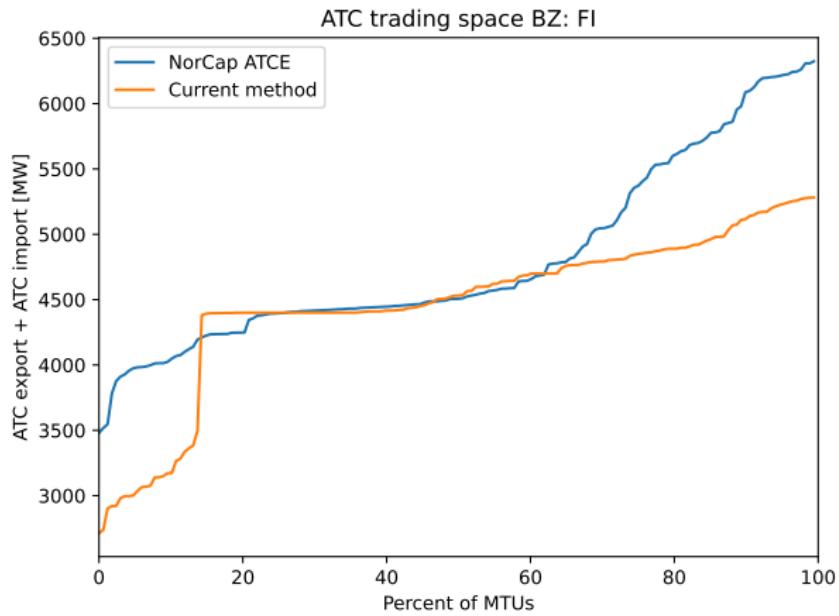
## NO5 - Total trading space



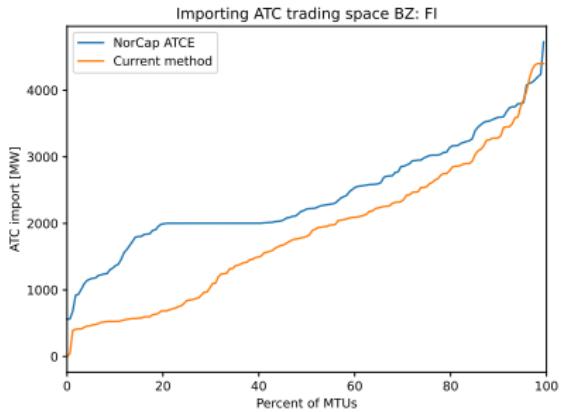
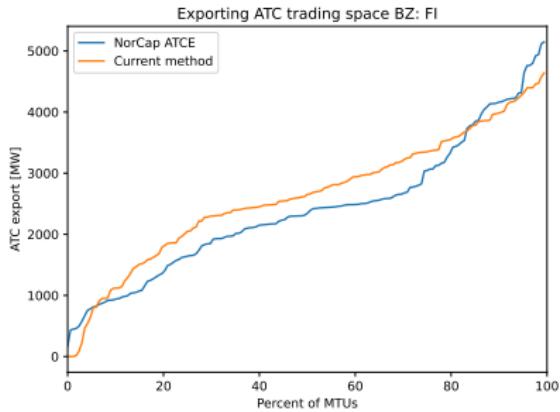
# NO5 - Directional trading space



# FI - Total trading space

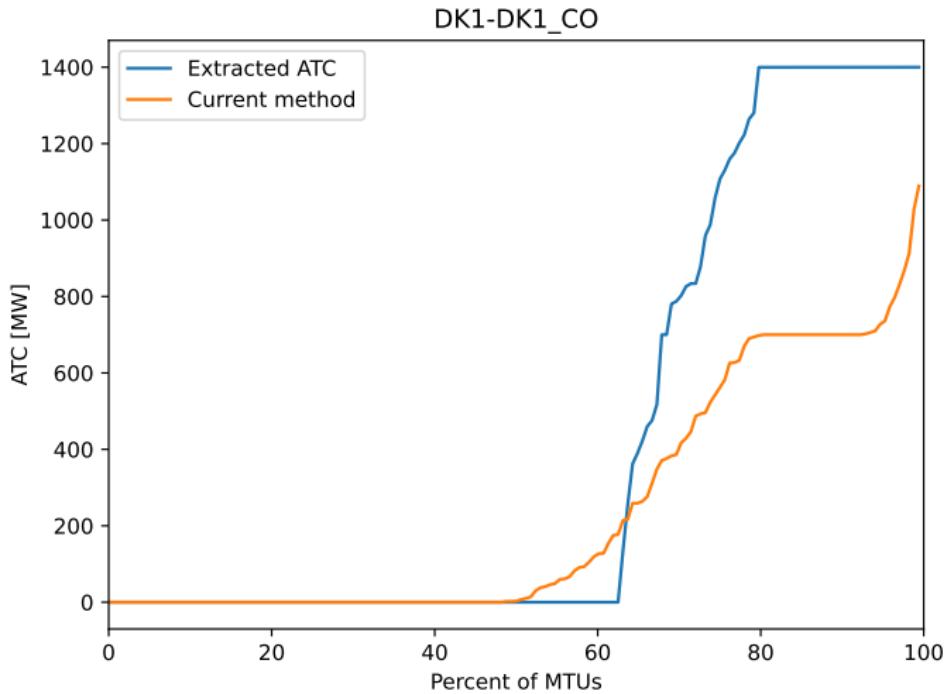


# FI - Directional trading space

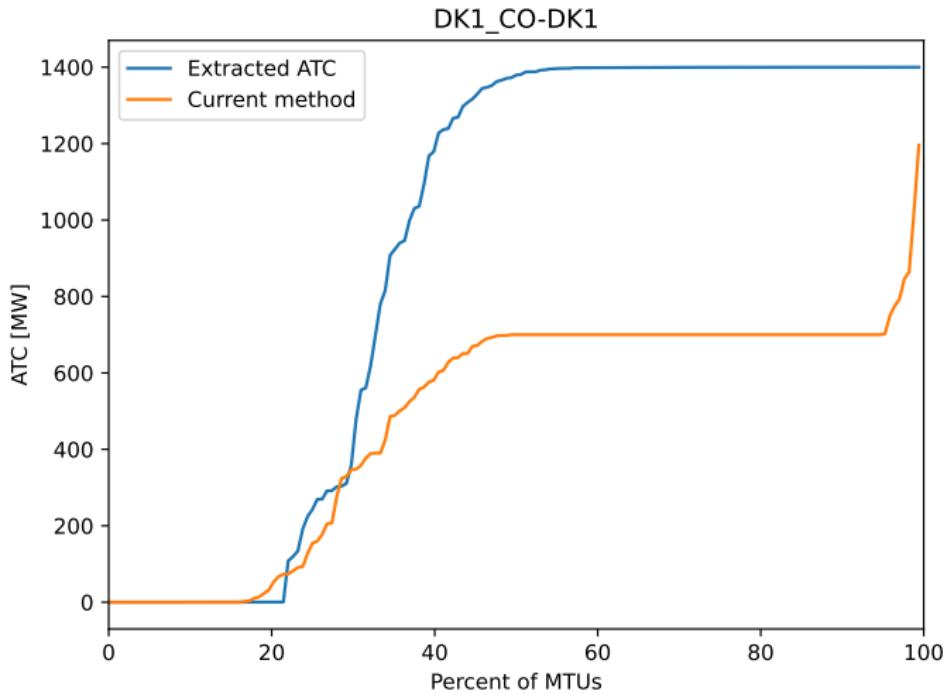


# Capacity duration curves

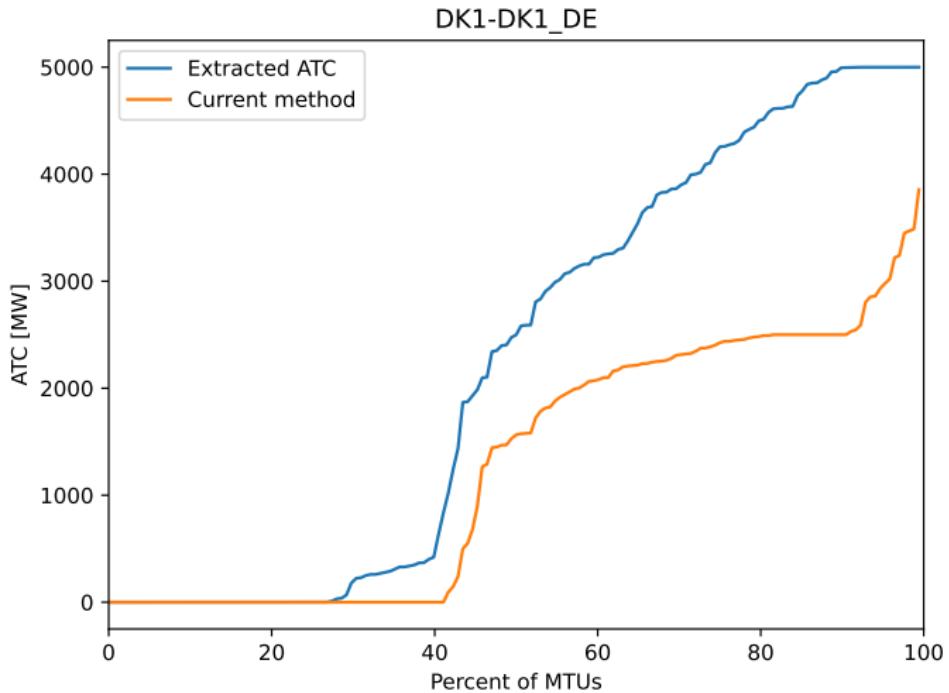
# DK1-DK1\_CO ATC duration curves



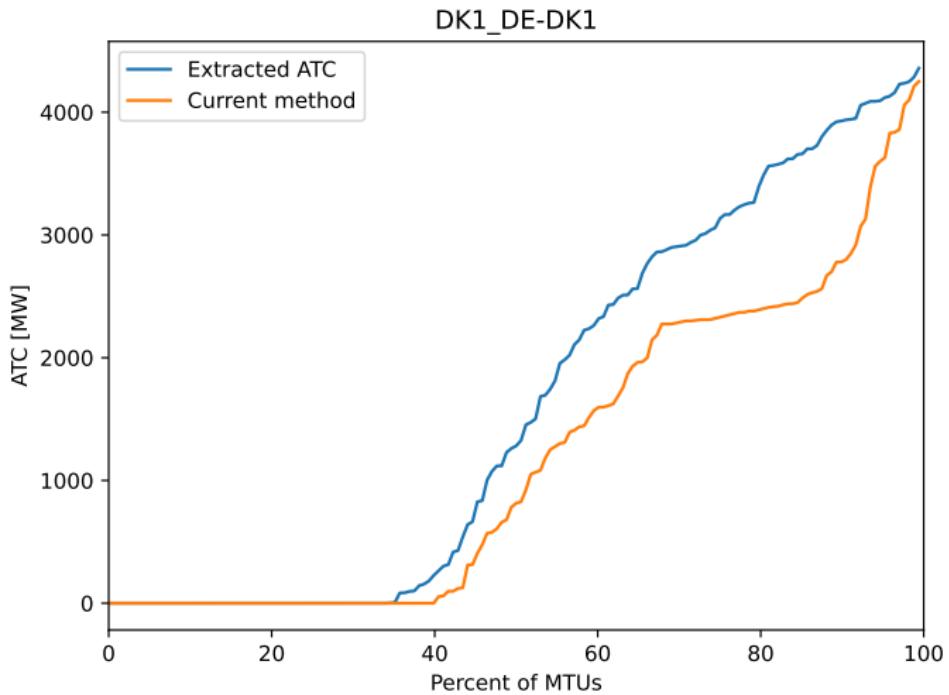
# DK1\_CO-DK1 ATC duration curves



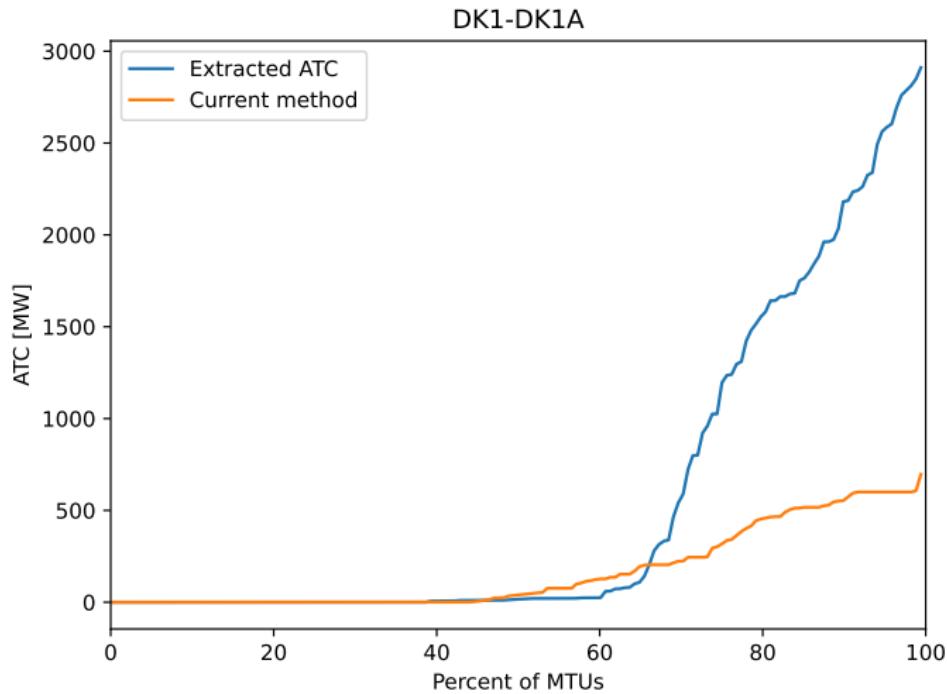
# DK1-DK1\_DE ATC duration curves



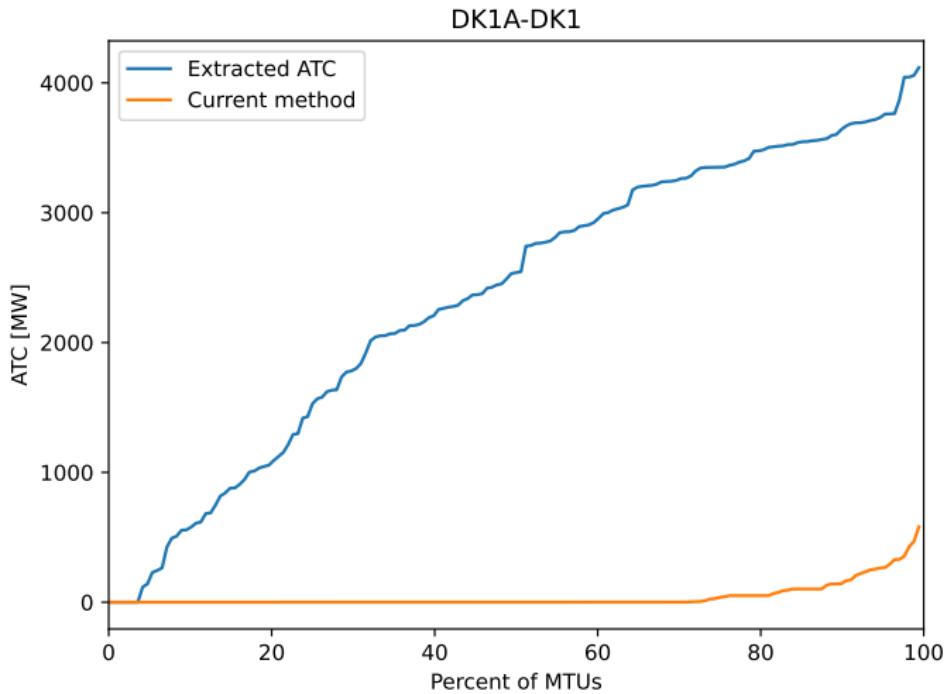
# DK1\_DE-DK1 ATC duration curves



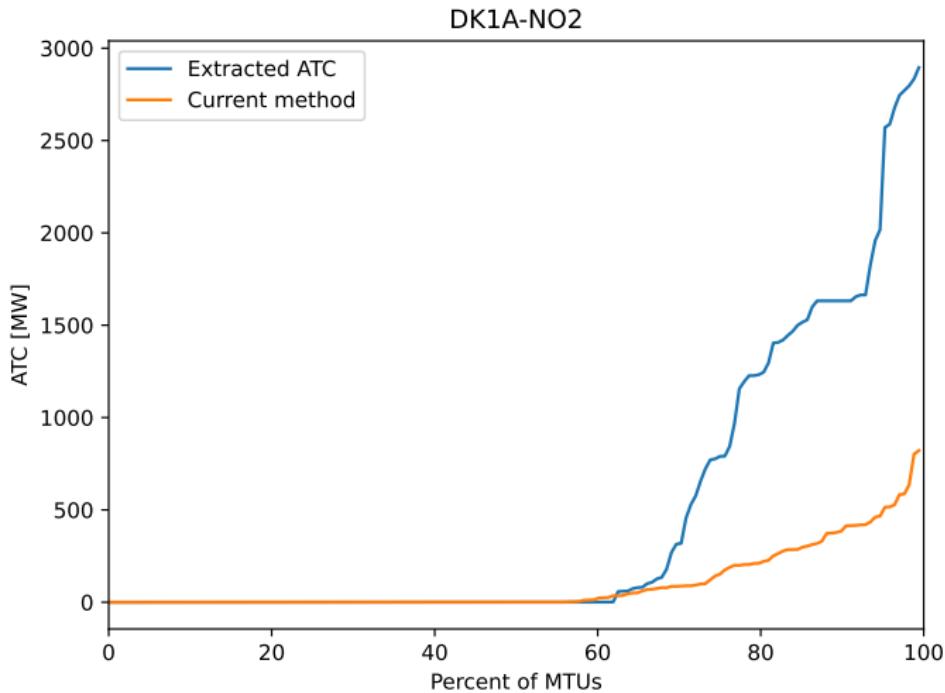
# DK1-DK1A ATC duration curves



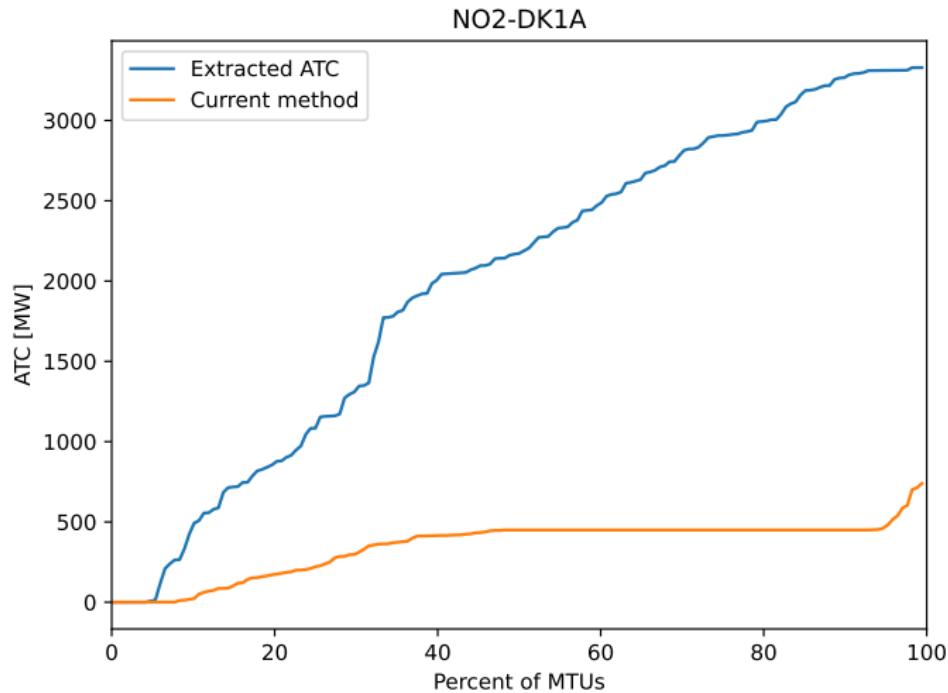
# DK1A-DK1 ATC duration curves



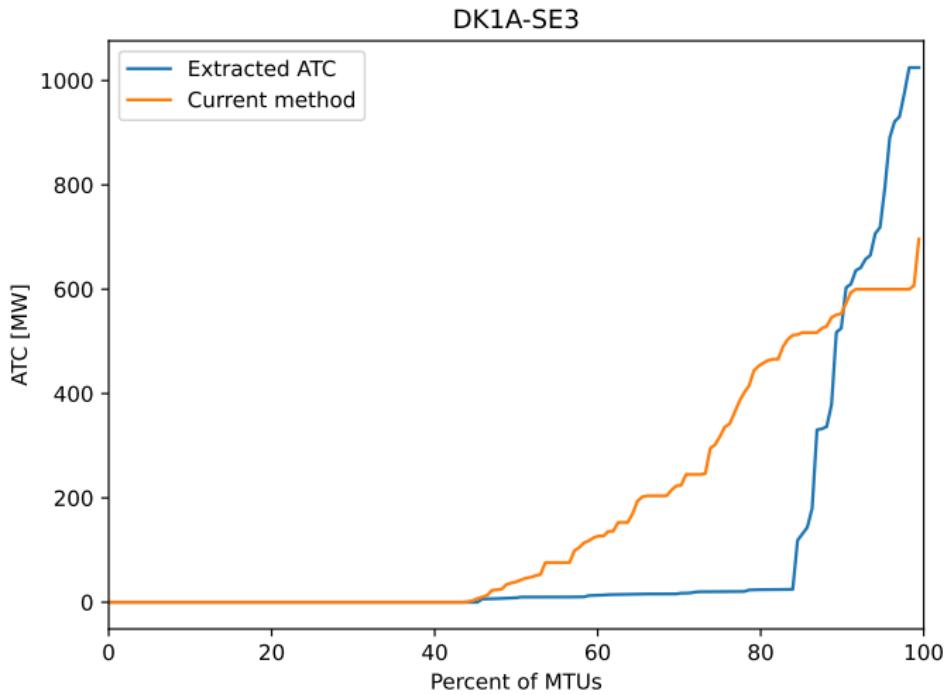
# DK1A-NO2 ATC duration curves



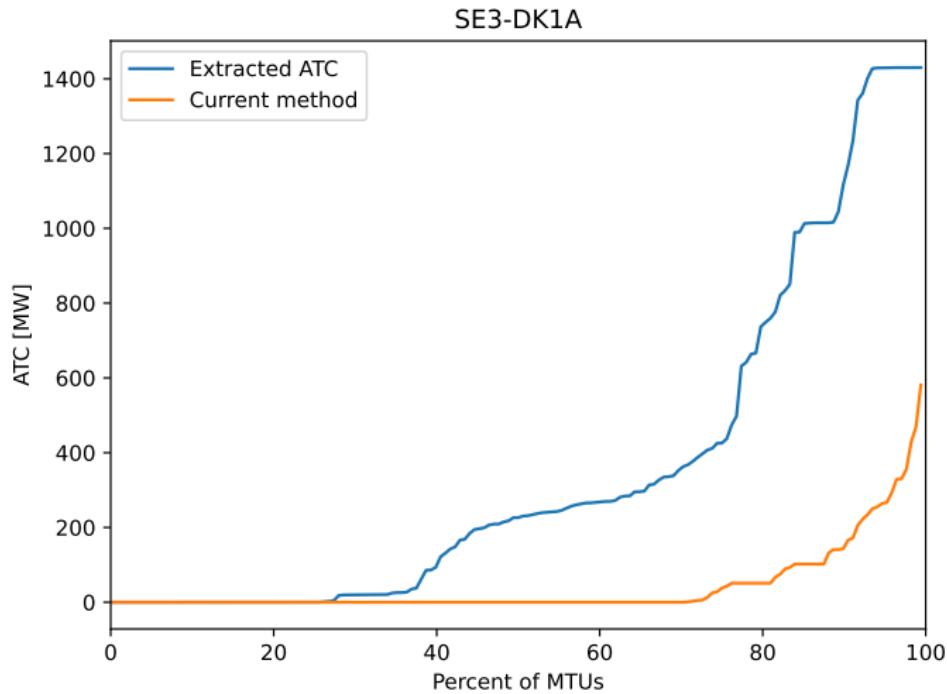
# NO2-DK1A ATC duration curves



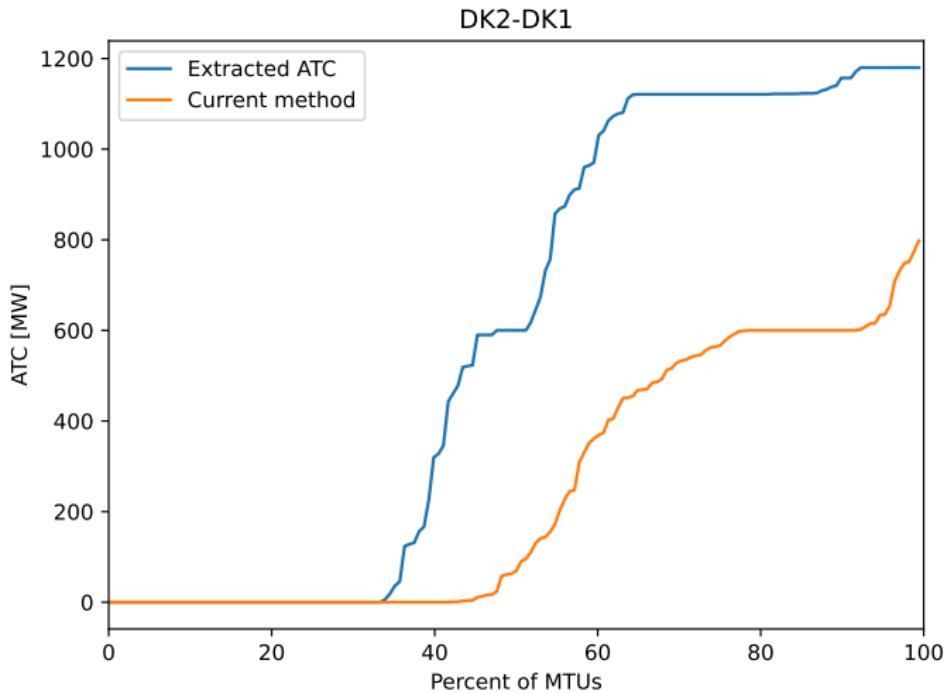
# DK1A-SE3 ATC duration curves



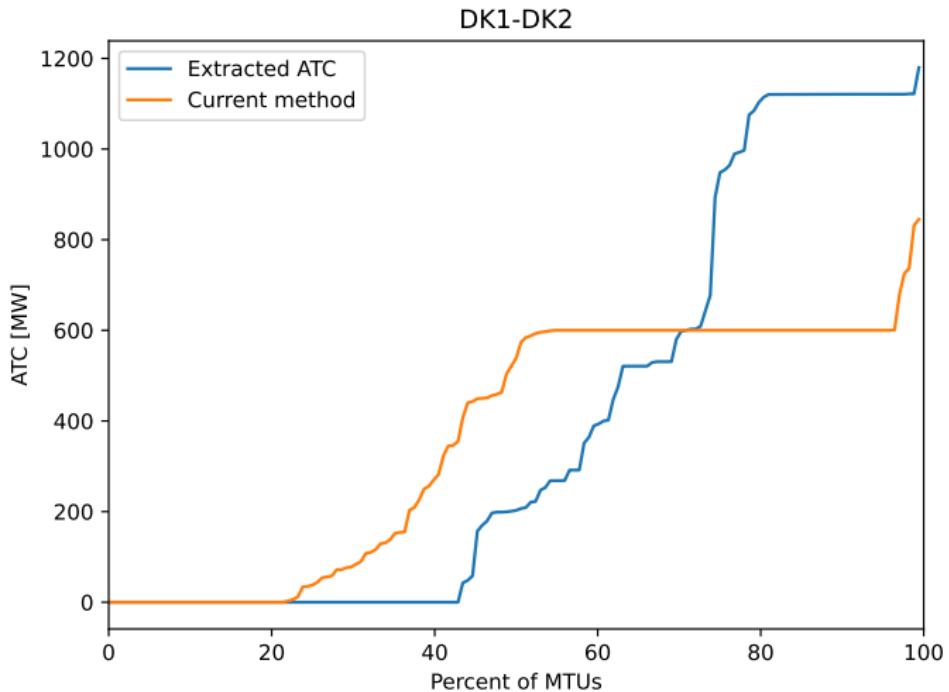
# SE3-DK1A ATC duration curves



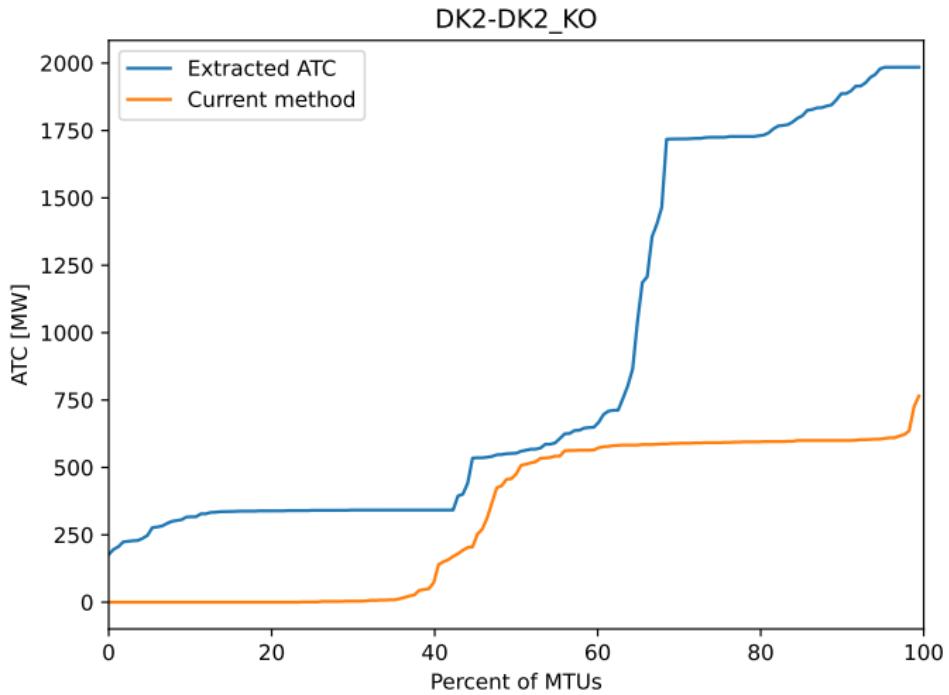
# DK2-DK1 ATC duration curves



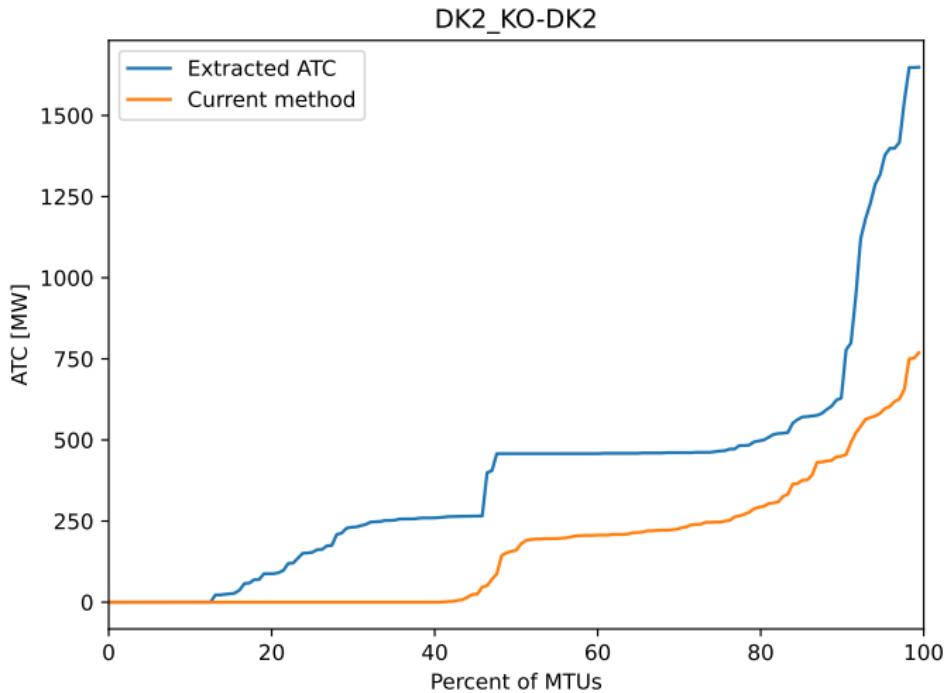
# DK1-DK2 ATC duration curves



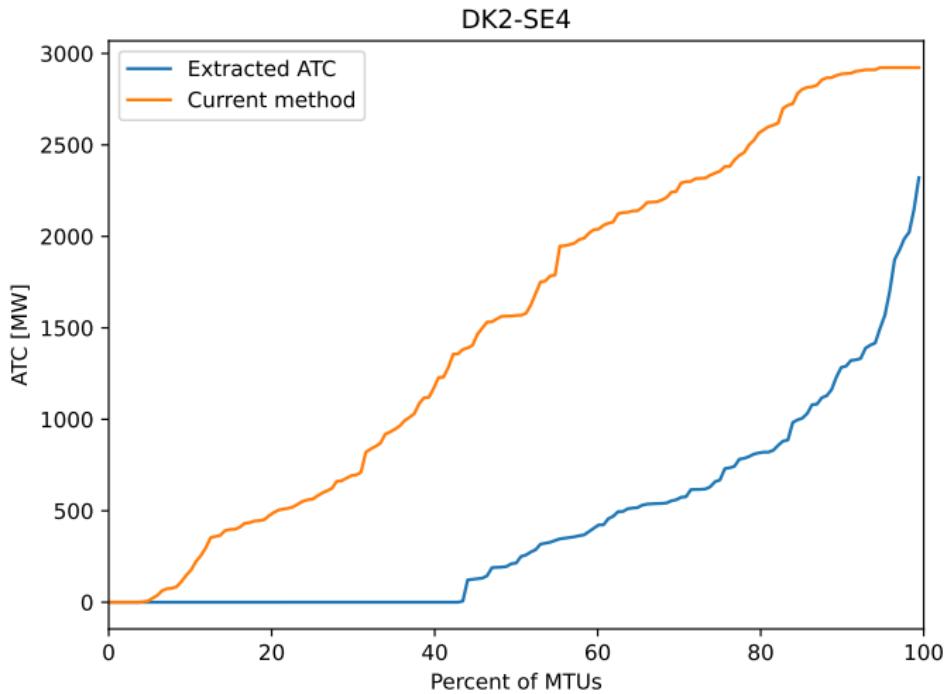
# DK2-DK2\_KO ATC duration curves



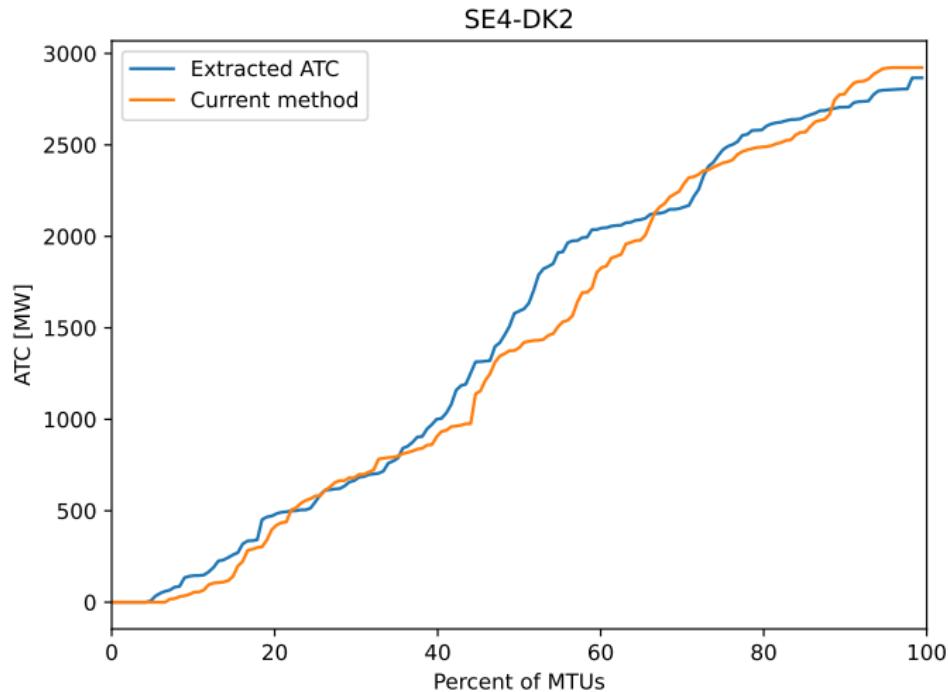
# DK2\_KO-DK2 ATC duration curves



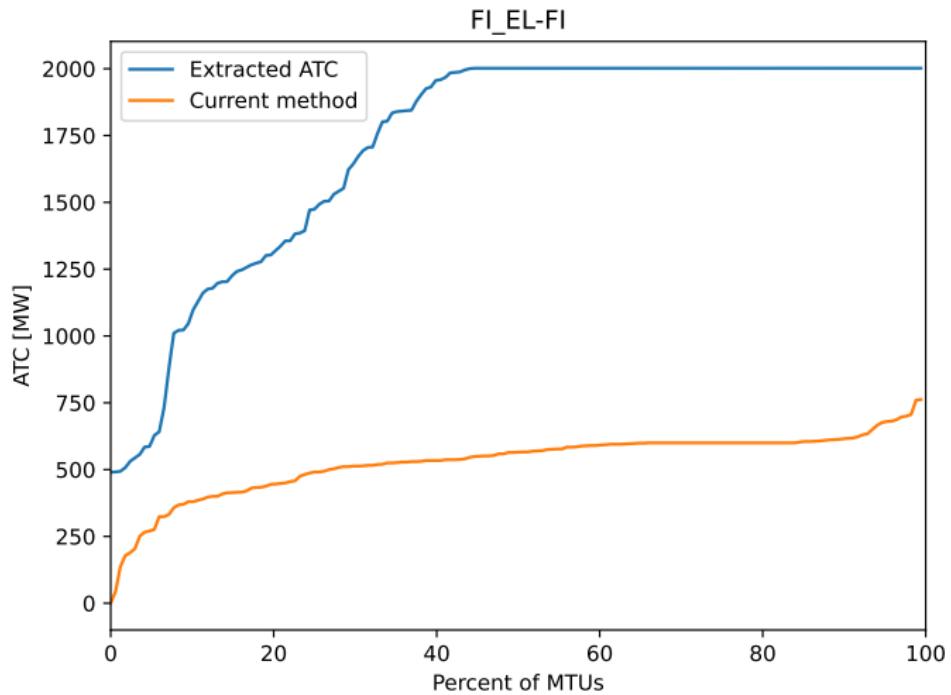
# DK2-SE4 ATC duration curves



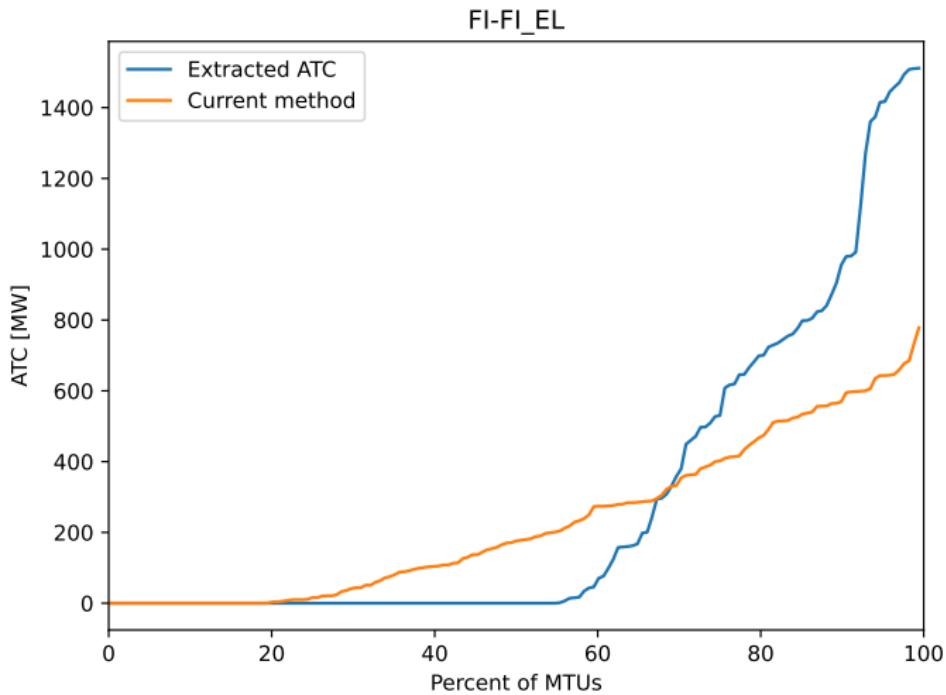
# SE4-DK2 ATC duration curves



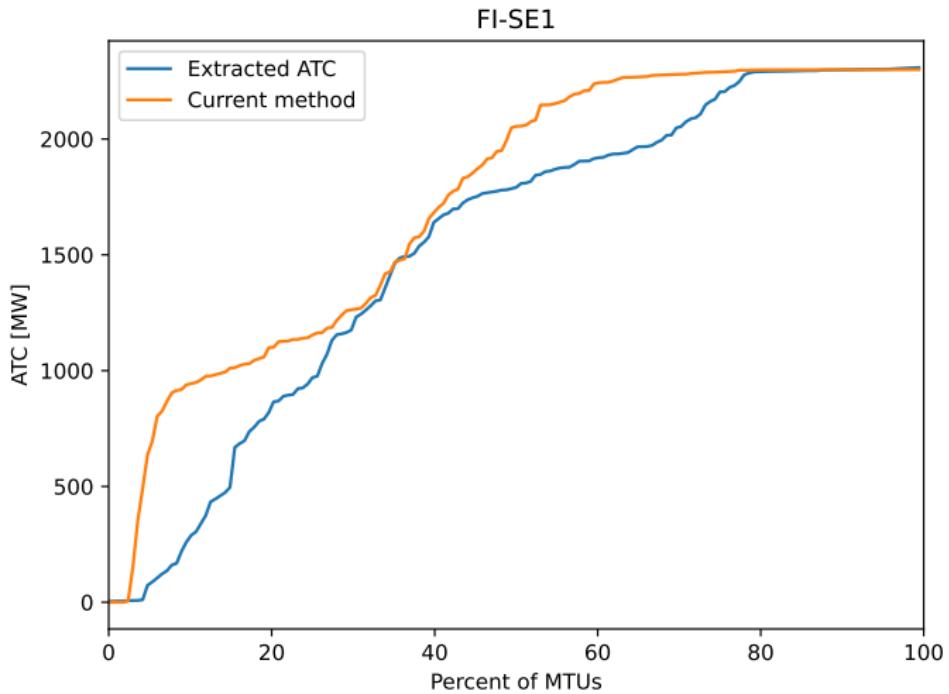
# FI\_EL-FI ATC duration curves



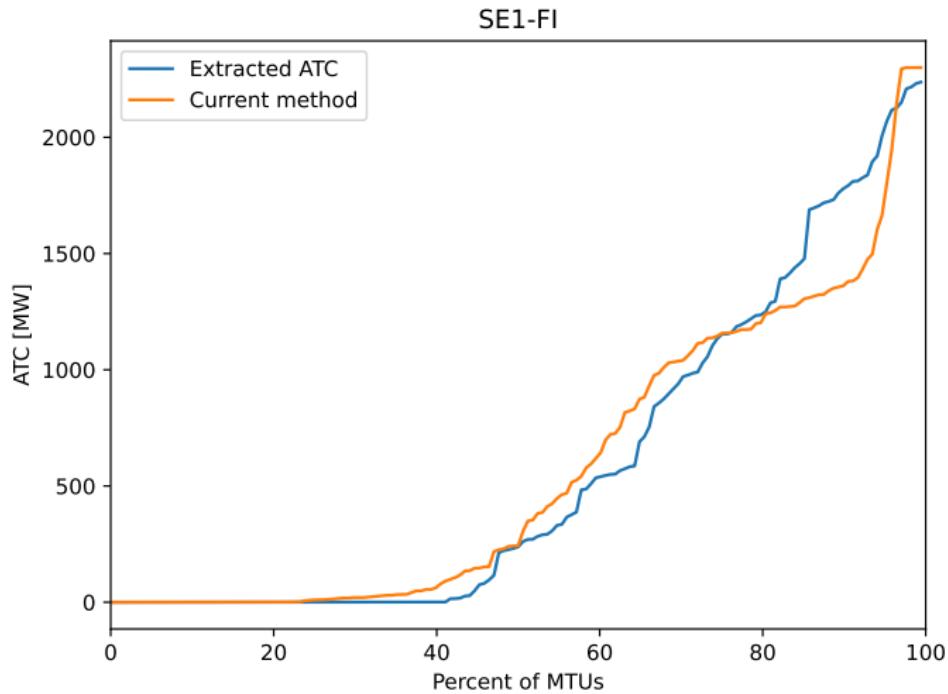
# FI-FI\_EL ATC duration curves



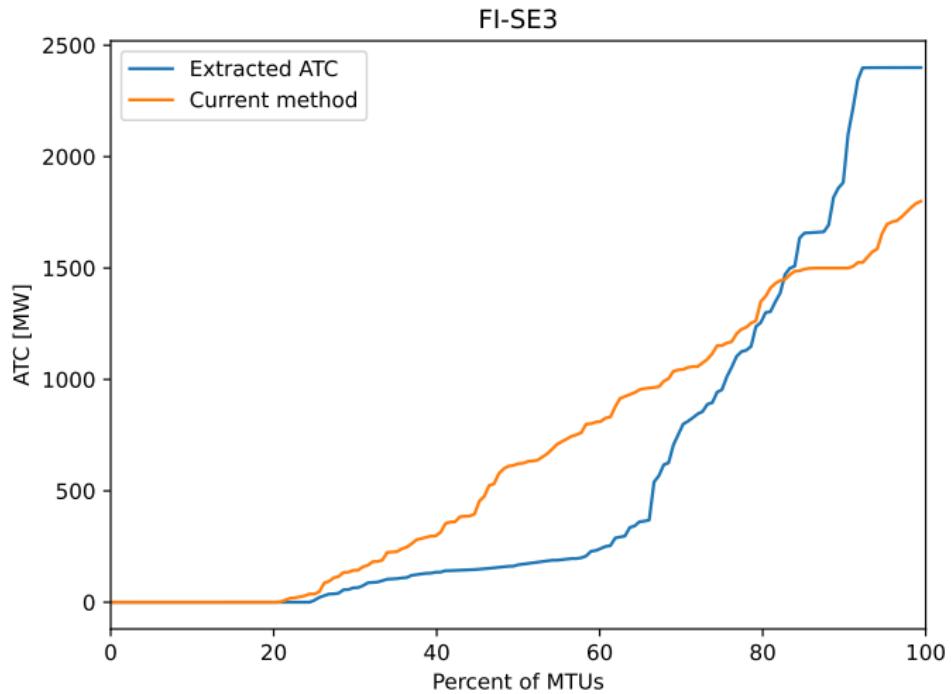
# FI-SE1 ATC duration curves



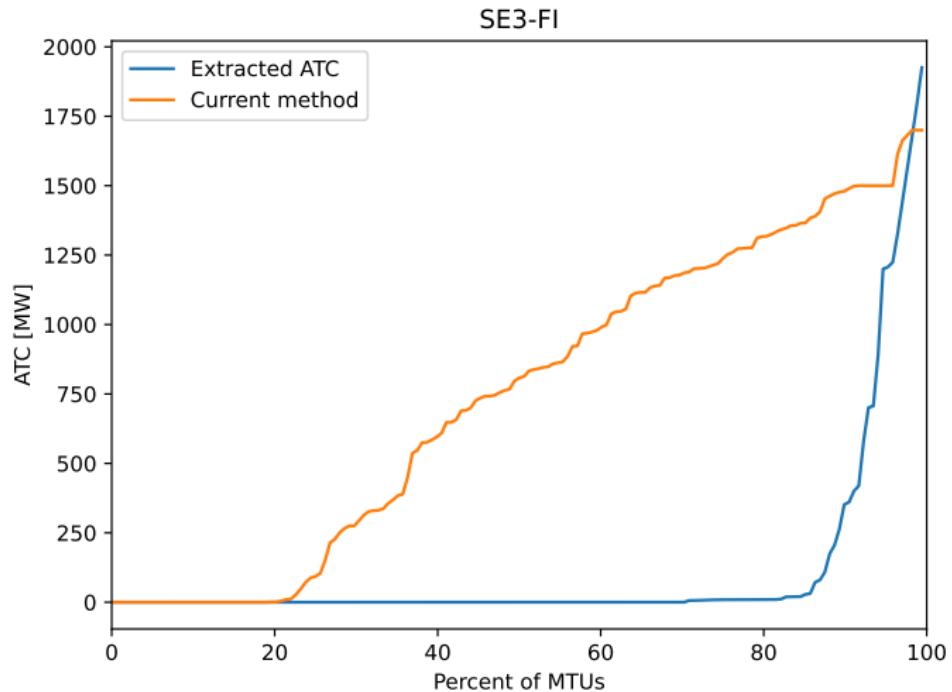
# SE1-FI ATC duration curves



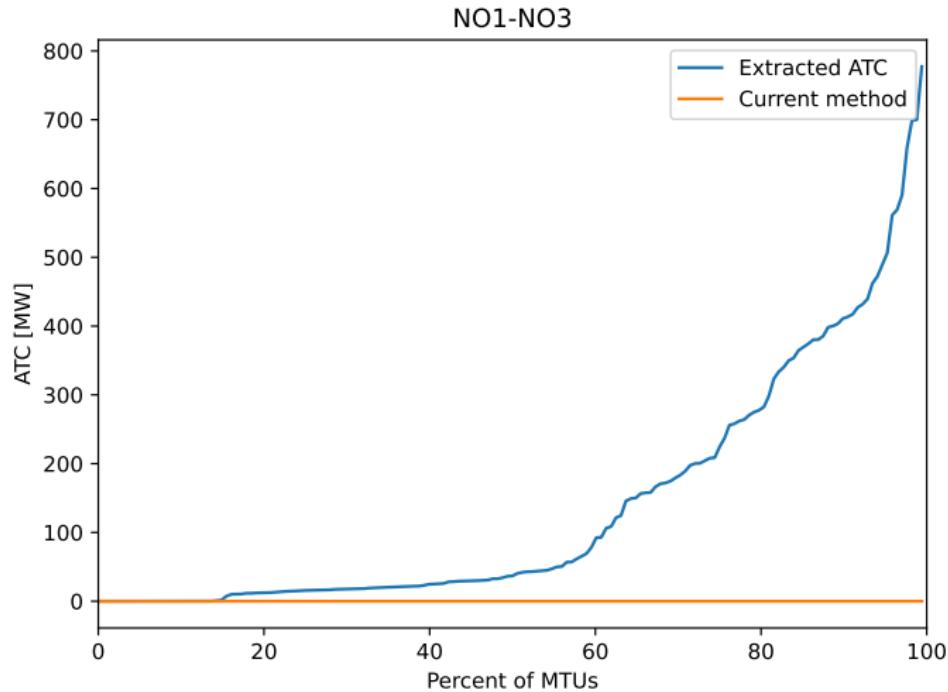
# FI-SE3 ATC duration curves



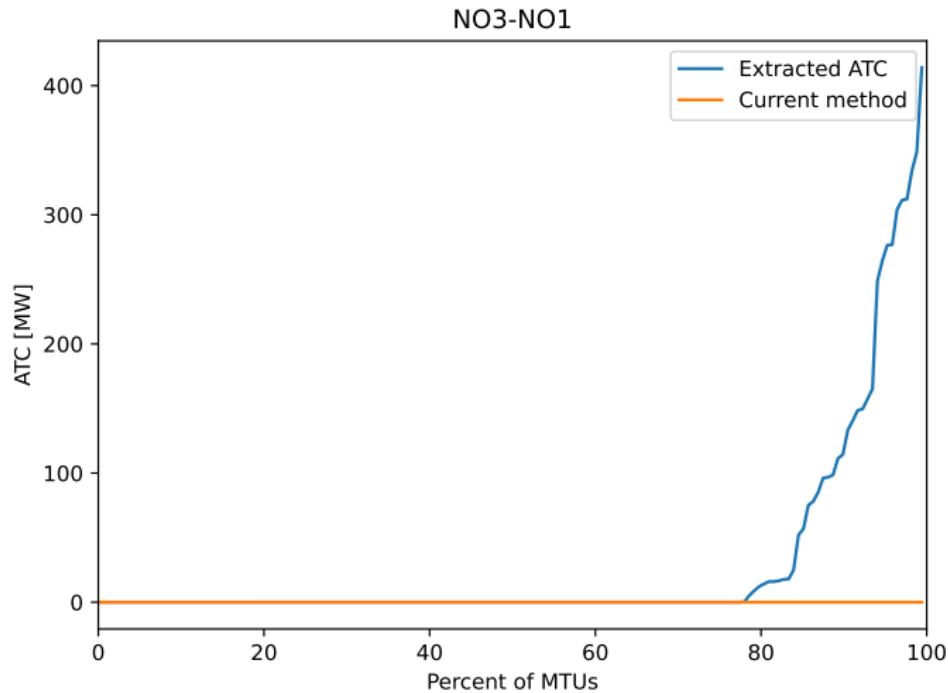
# SE3-FI ATC duration curves



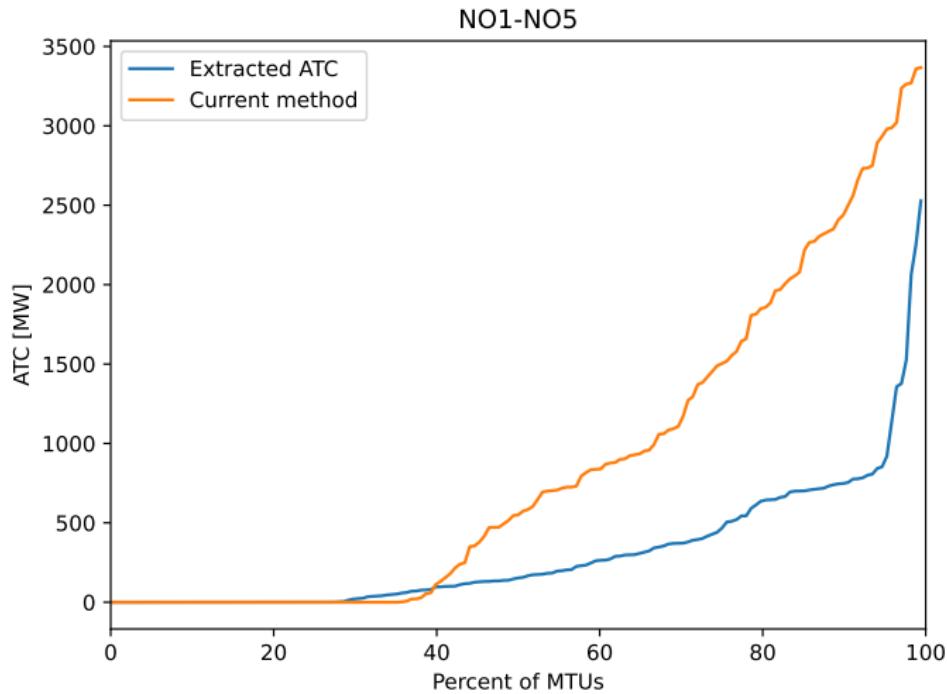
# NO1-NO3 ATC duration curves



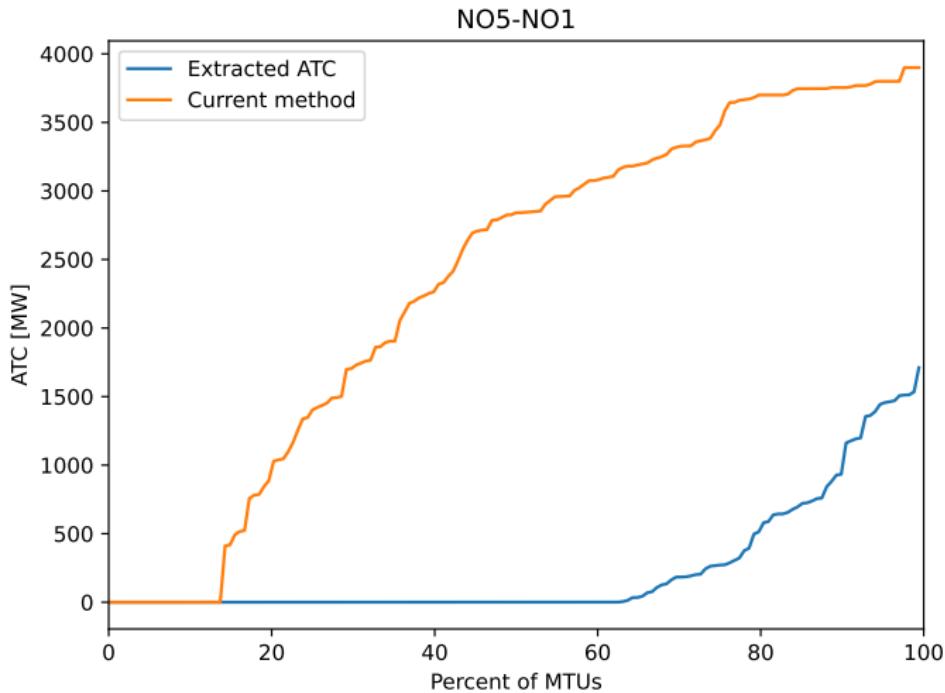
# NO3-NO1 ATC duration curves



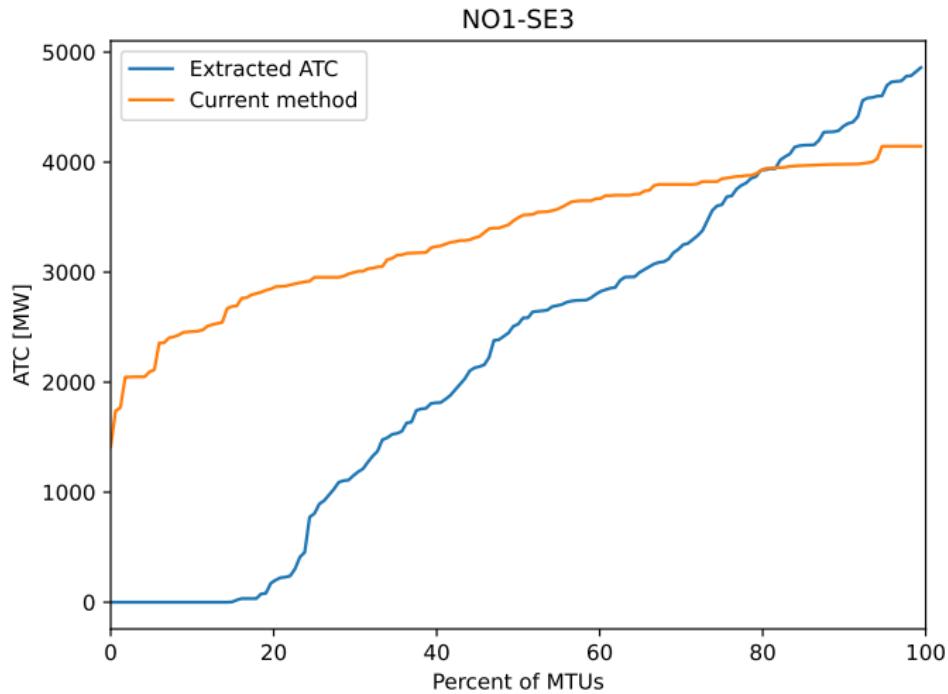
# NO1-NO5 ATC duration curves



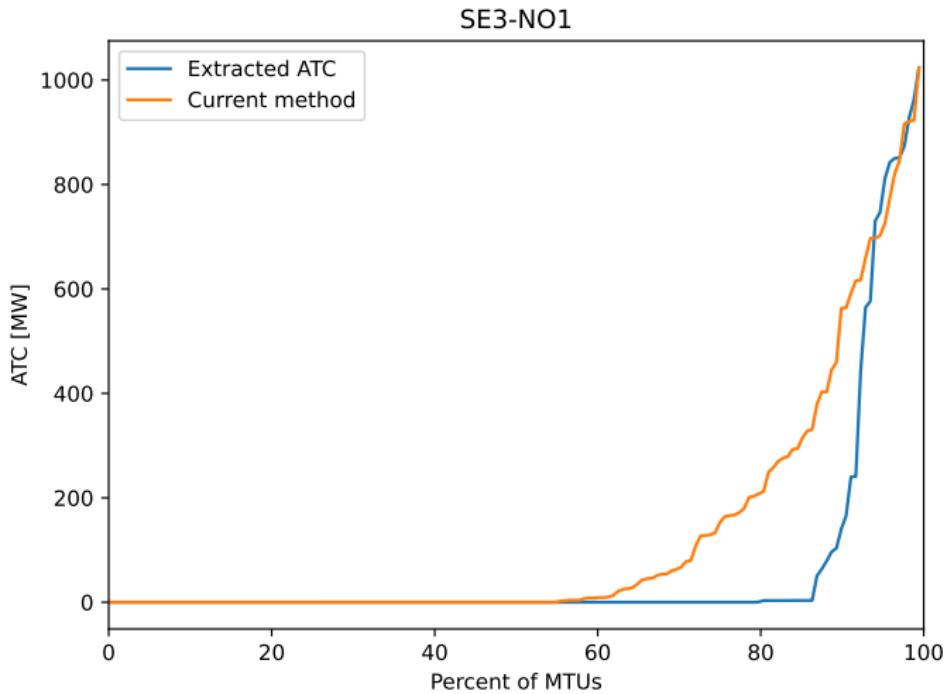
# NO5-NO1 ATC duration curves



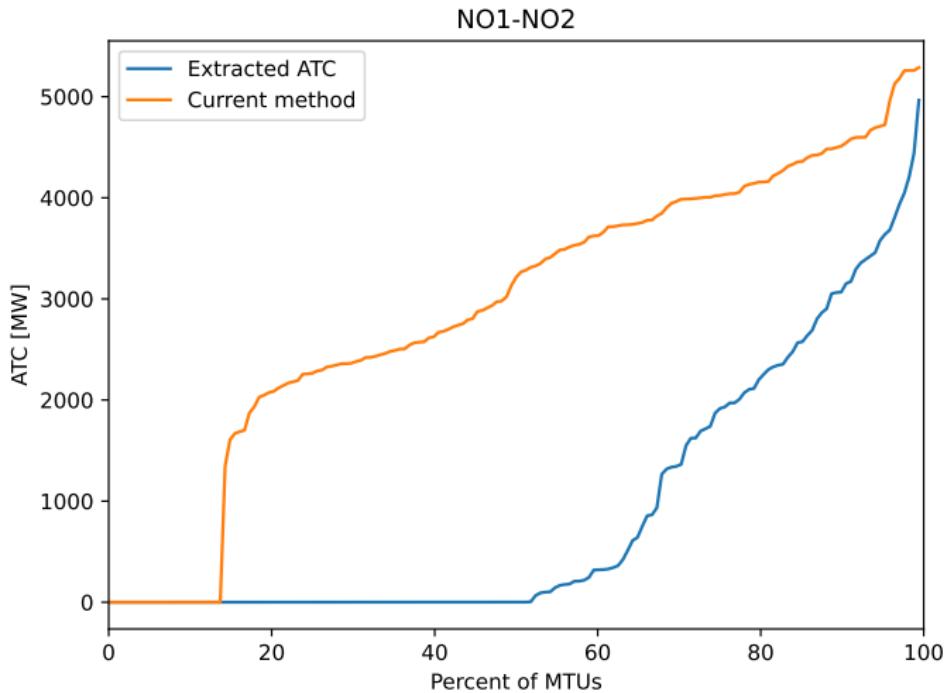
# NO1-SE3 ATC duration curves



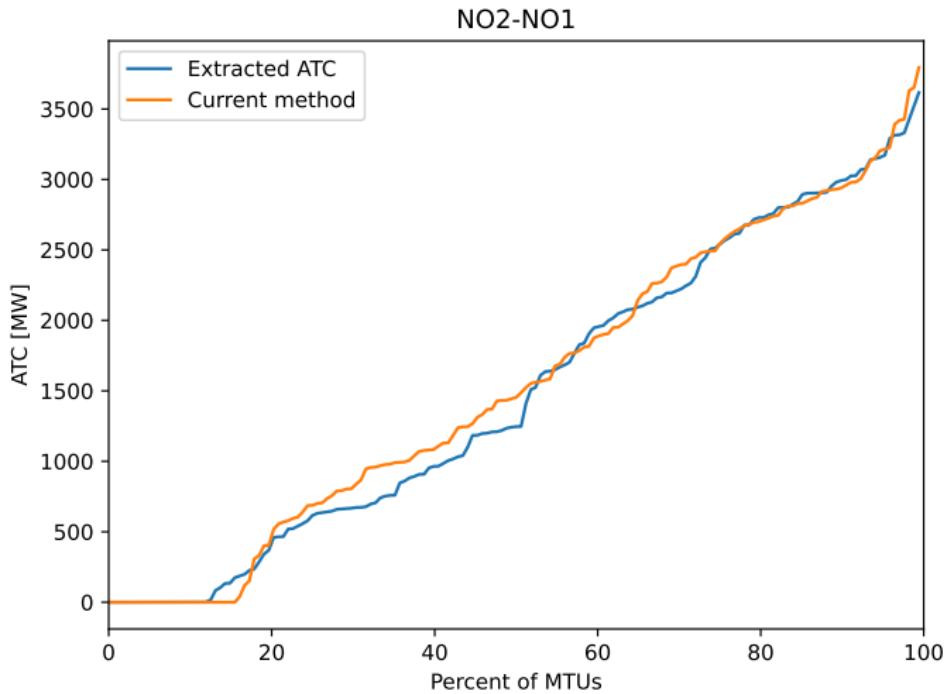
# SE3-NO1 ATC duration curves



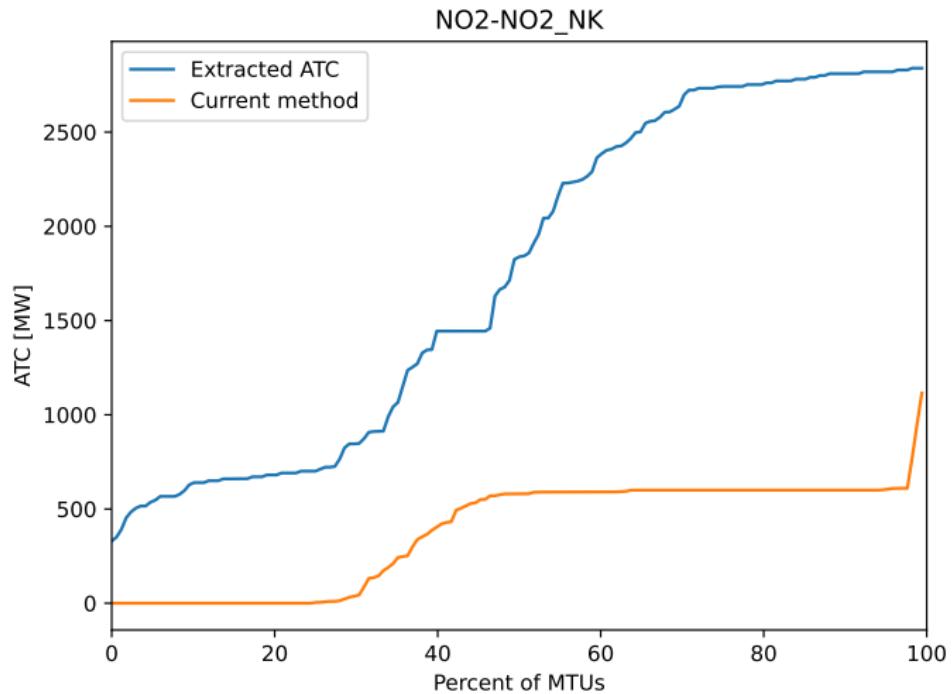
# NO1-NO2 ATC duration curves



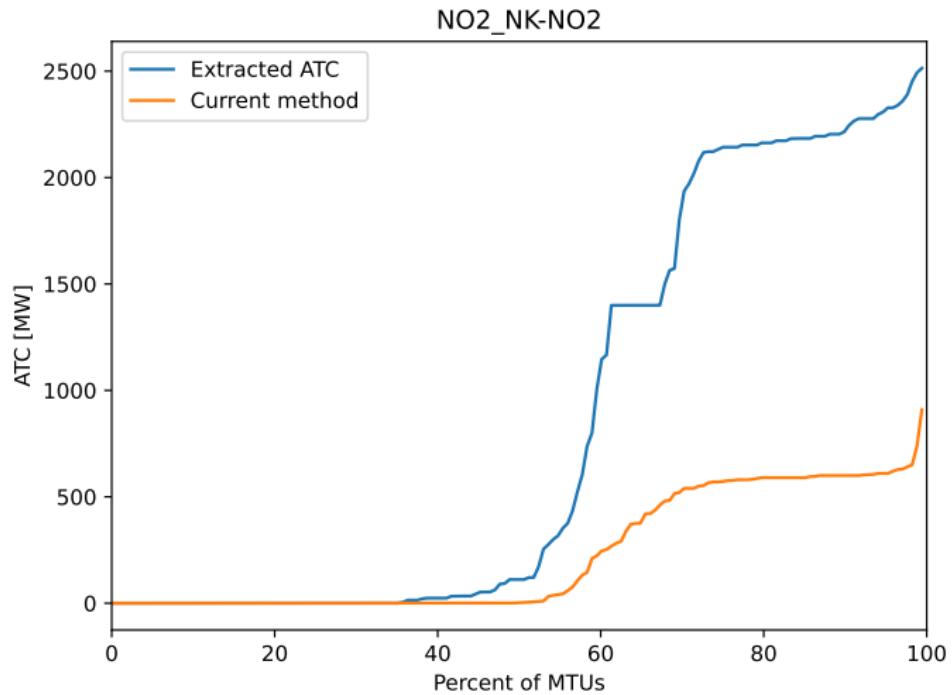
# NO2-NO1 ATC duration curves



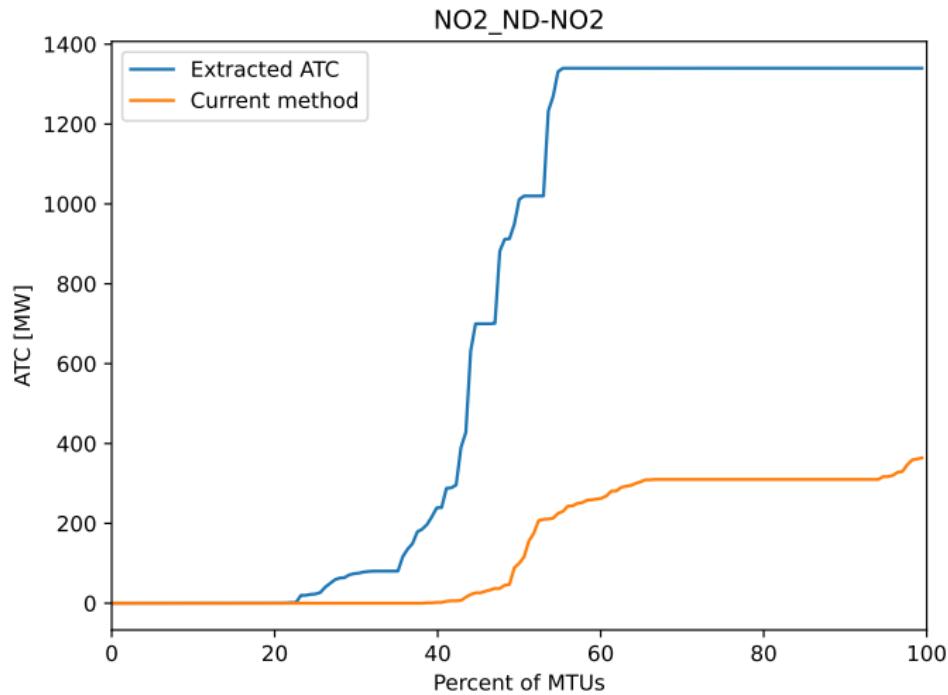
# NO2-NO2\_NK ATC duration curves



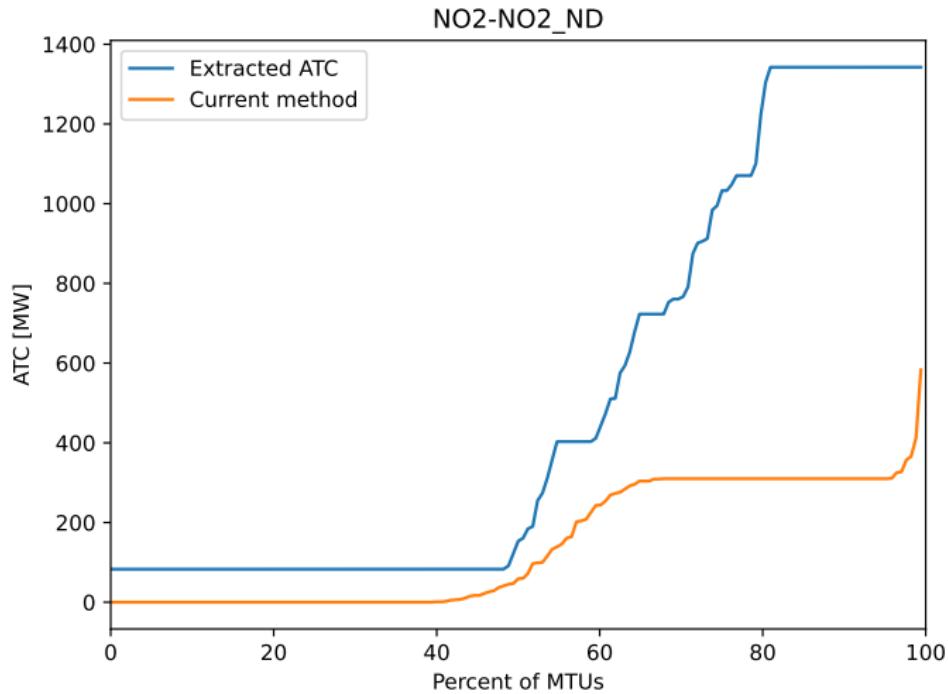
# NO2\_NK-NO2 ATC duration curves



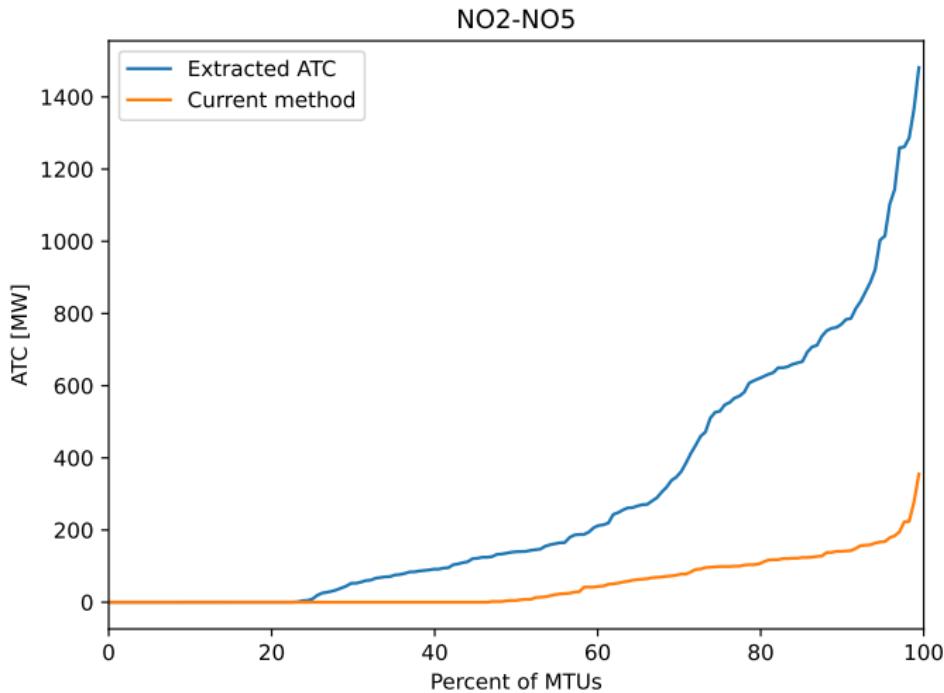
# NO2\_ND-NO2 ATC duration curves



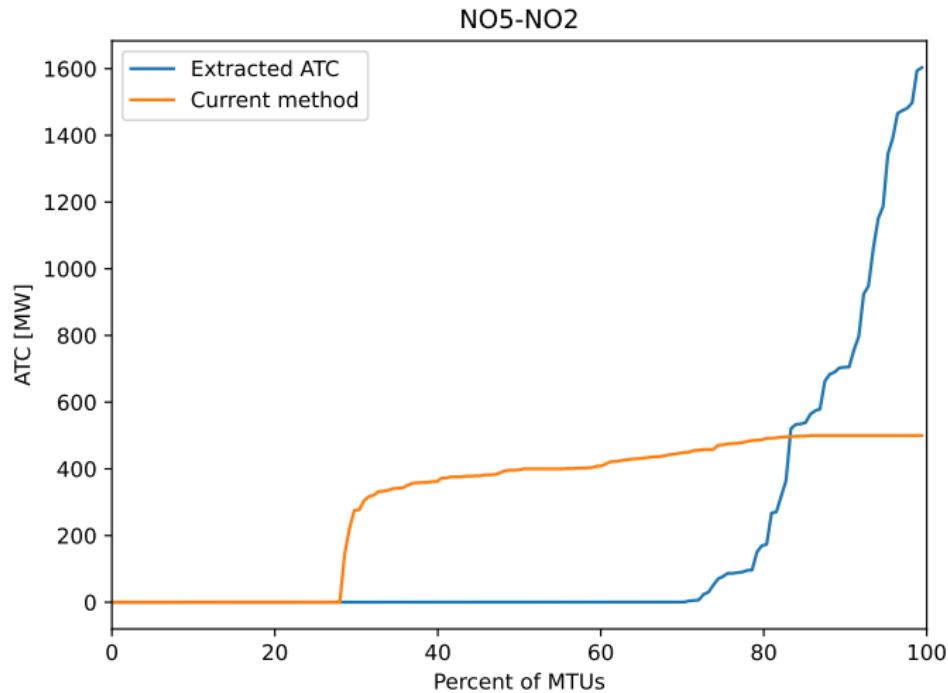
# NO2-NO2\_ND ATC duration curves



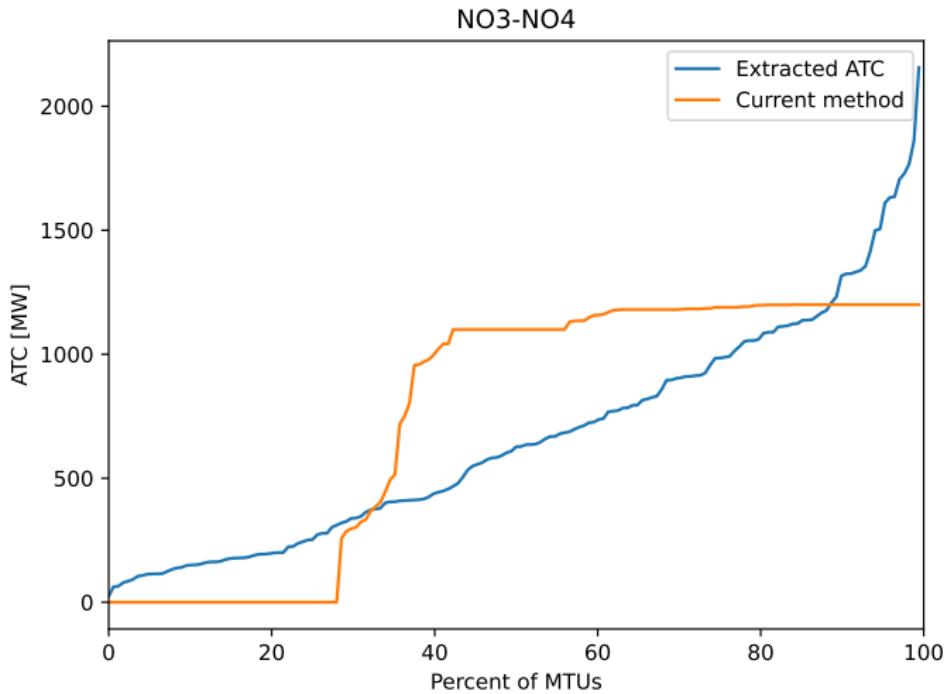
# NO2-NO5 ATC duration curves



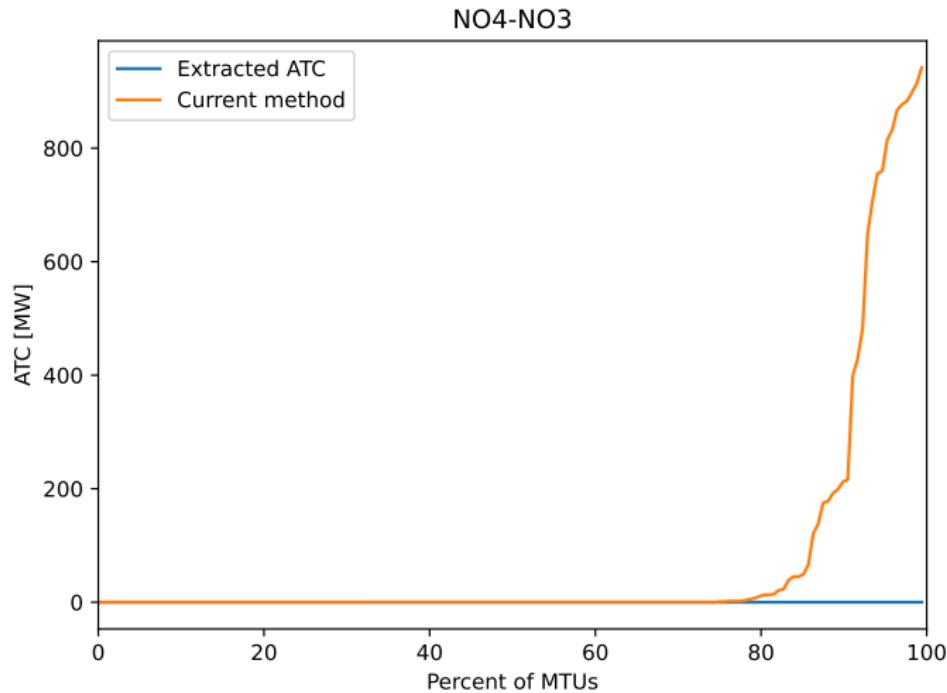
# NO5-NO2 ATC duration curves



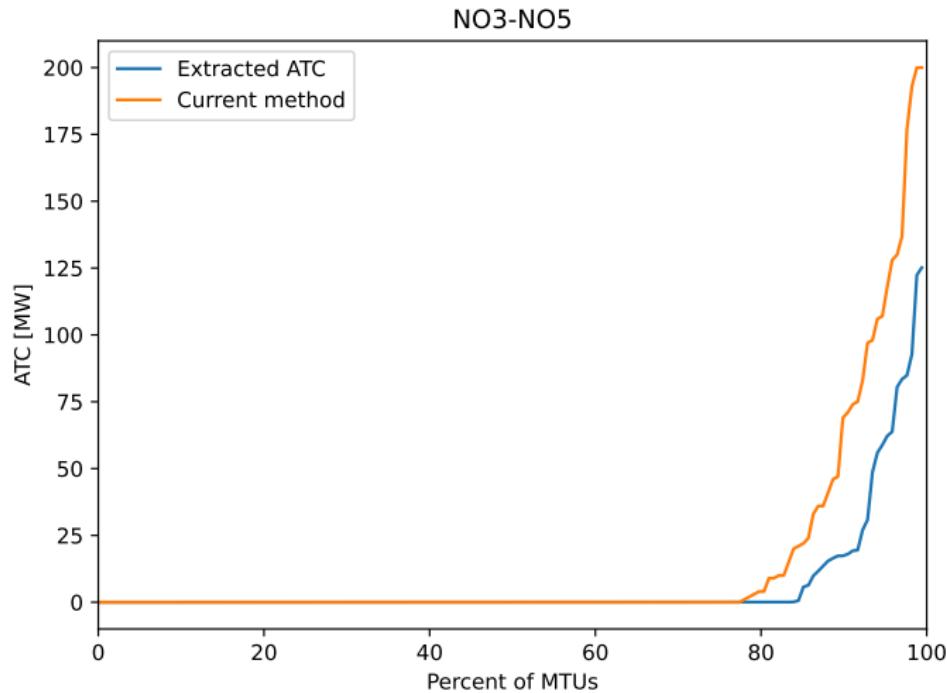
# NO3-NO4 ATC duration curves



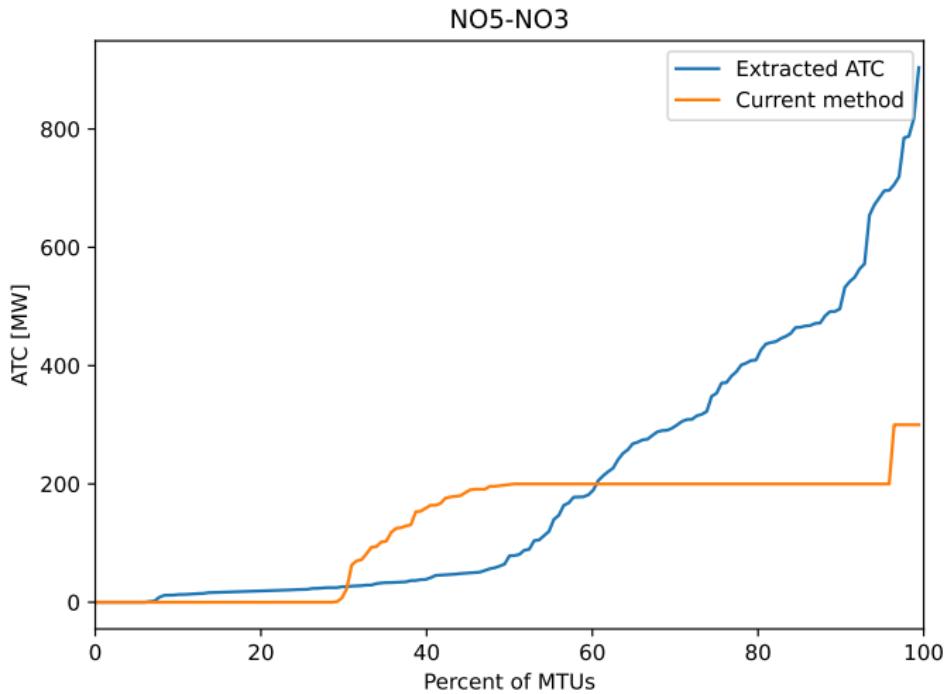
# NO4-NO3 ATC duration curves



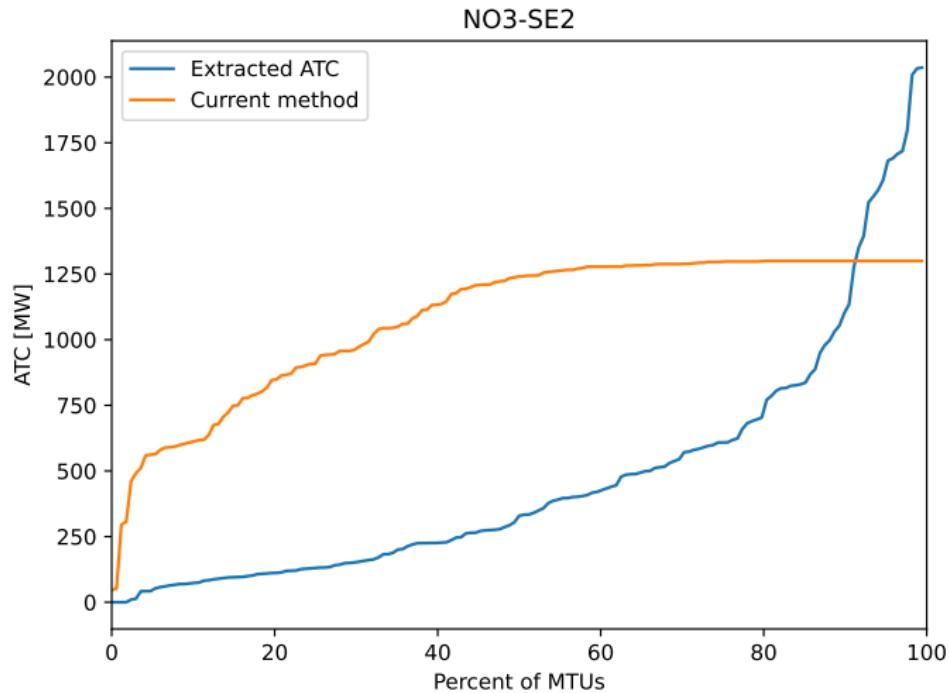
# NO3-NO5 ATC duration curves



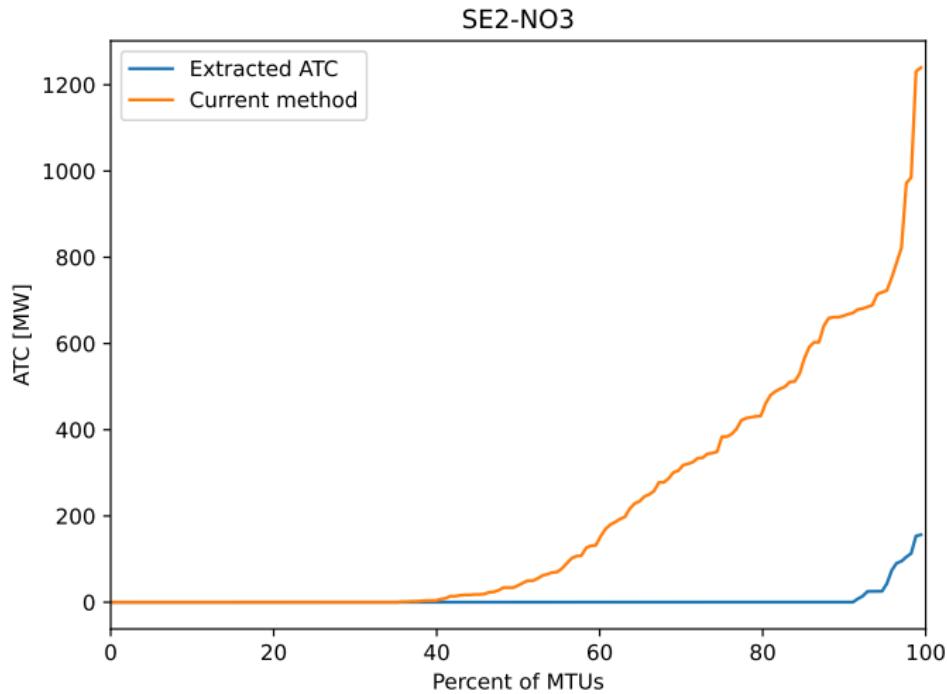
# NO5-NO3 ATC duration curves



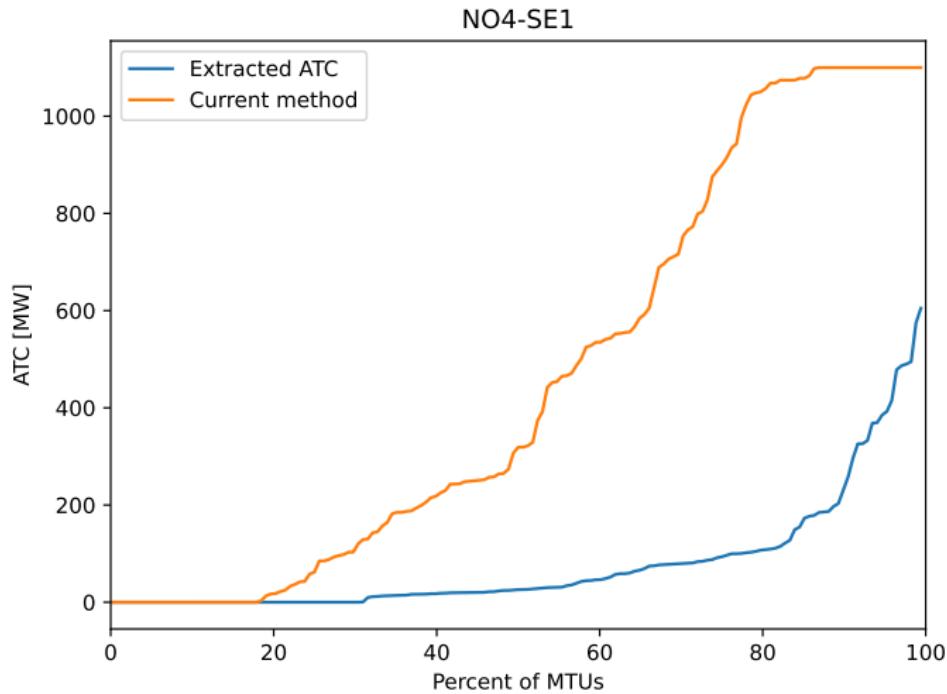
# NO3-SE2 ATC duration curves



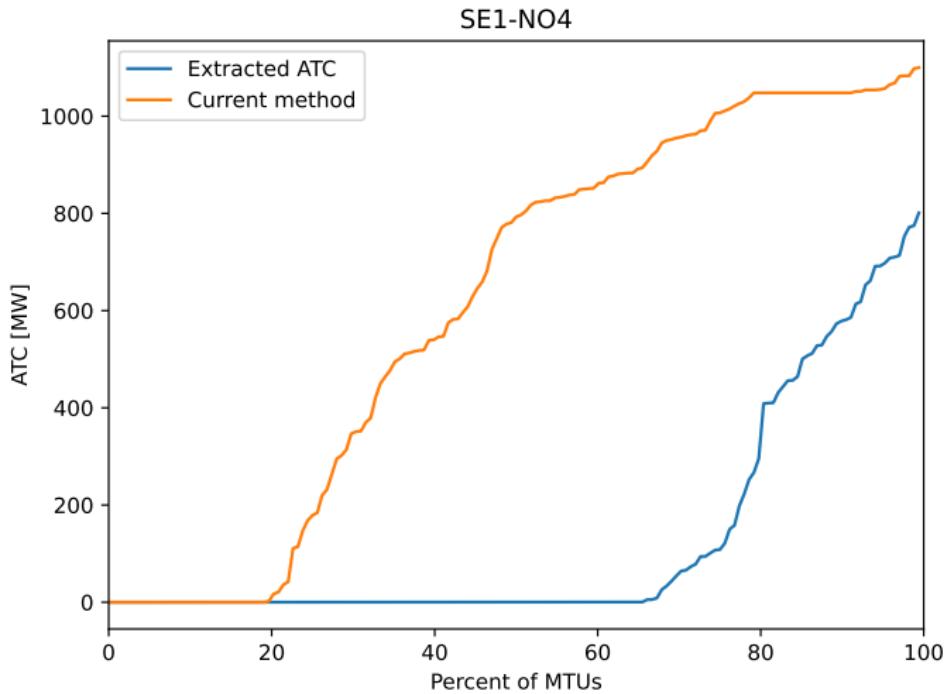
# SE2-NO3 ATC duration curves



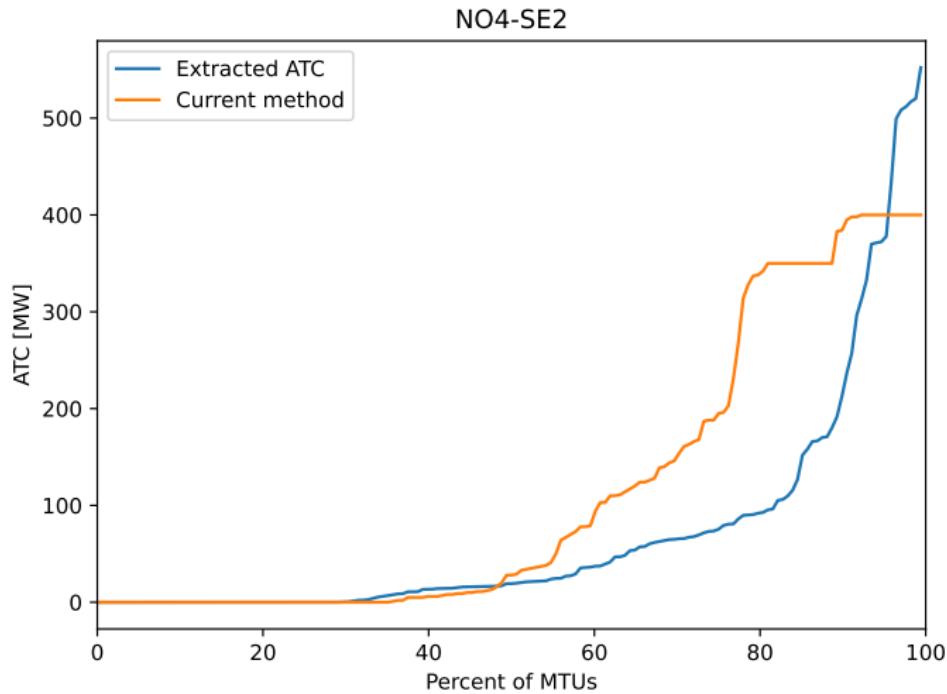
# NO4-SE1 ATC duration curves



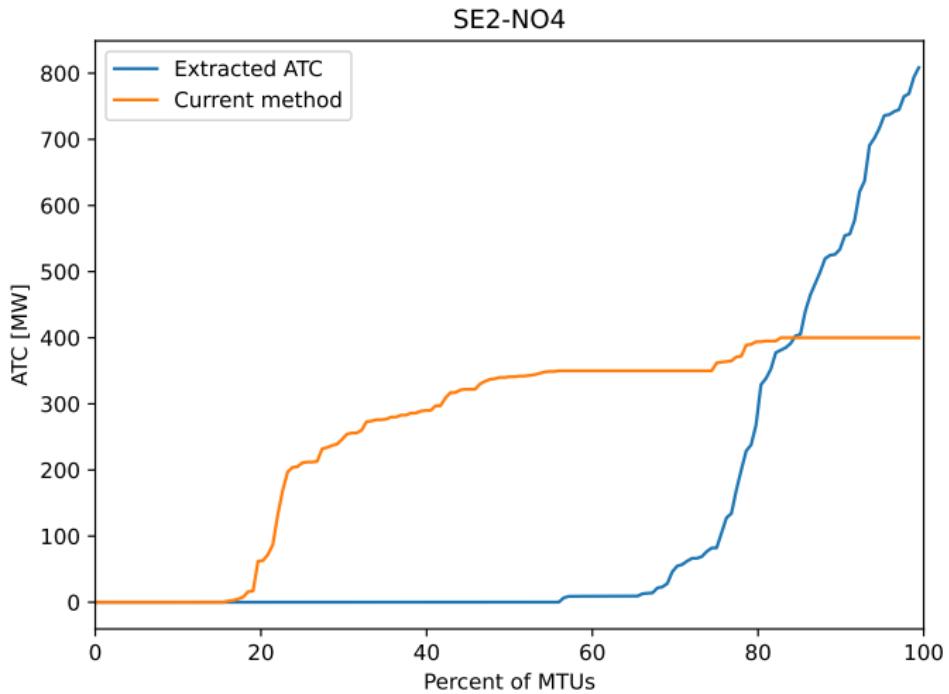
# SE1-NO4 ATC duration curves



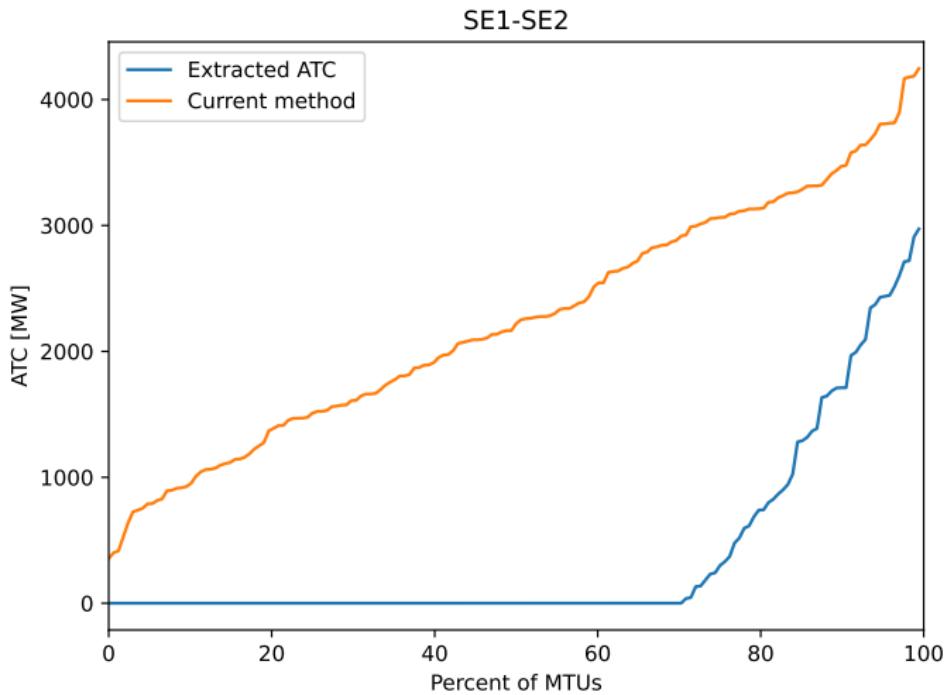
# NO4-SE2 ATC duration curves



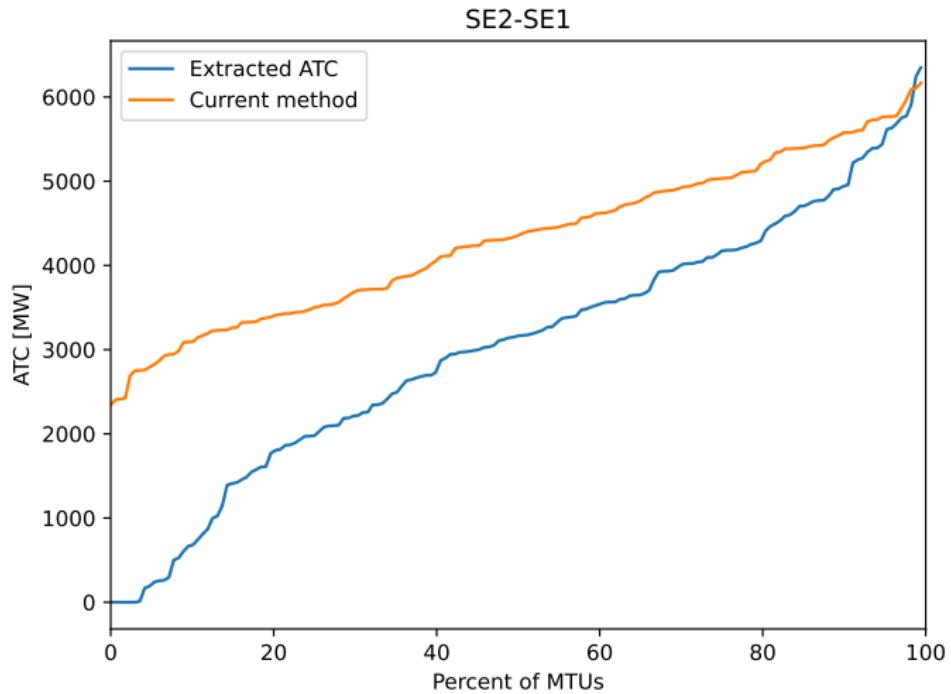
# SE2-NO4 ATC duration curves



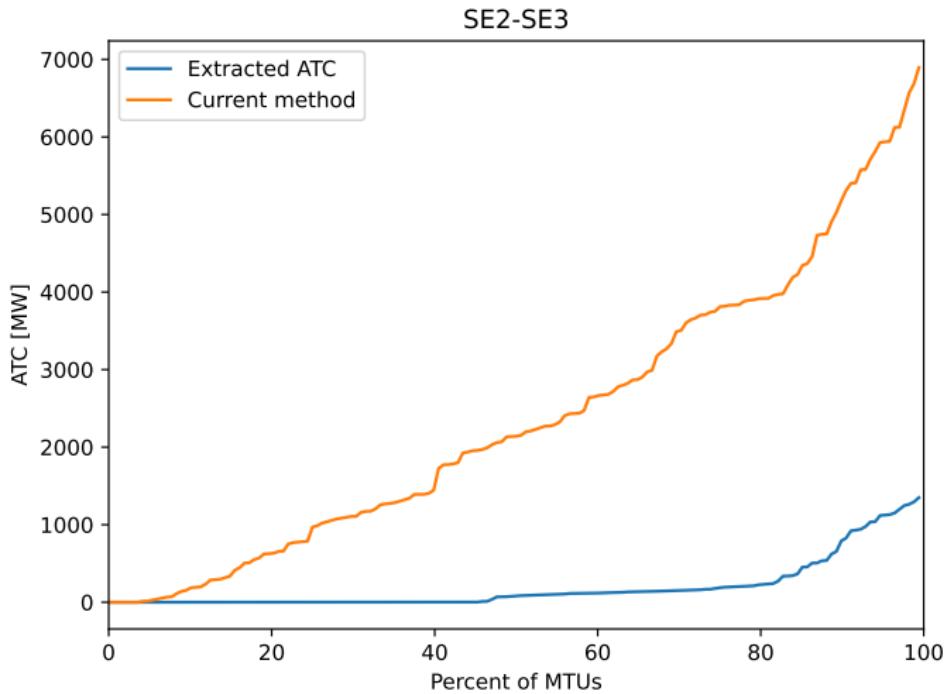
# SE1-SE2 ATC duration curves



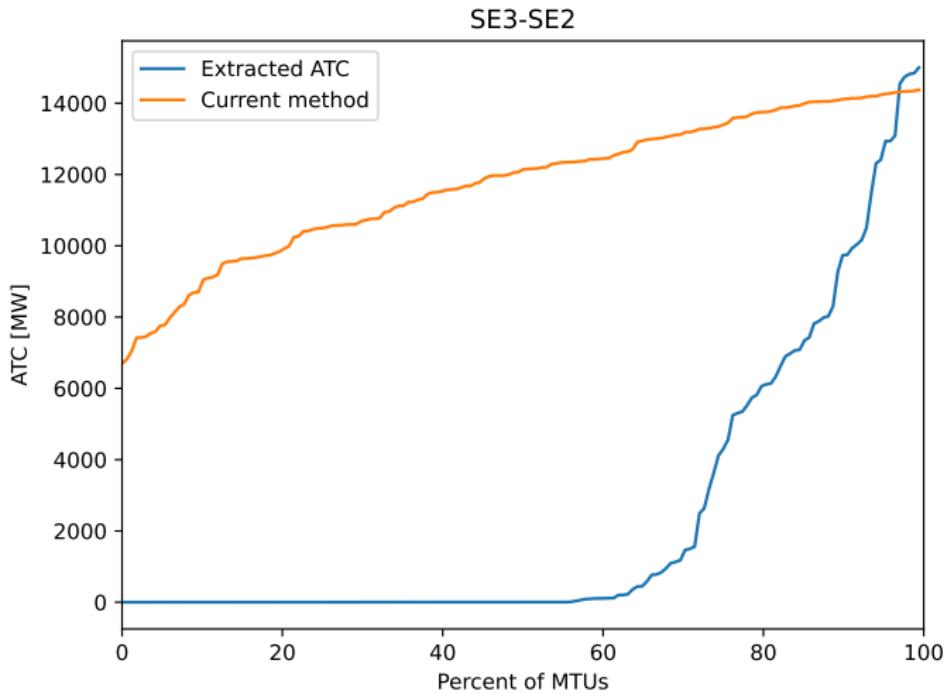
# SE2-SE1 ATC duration curves



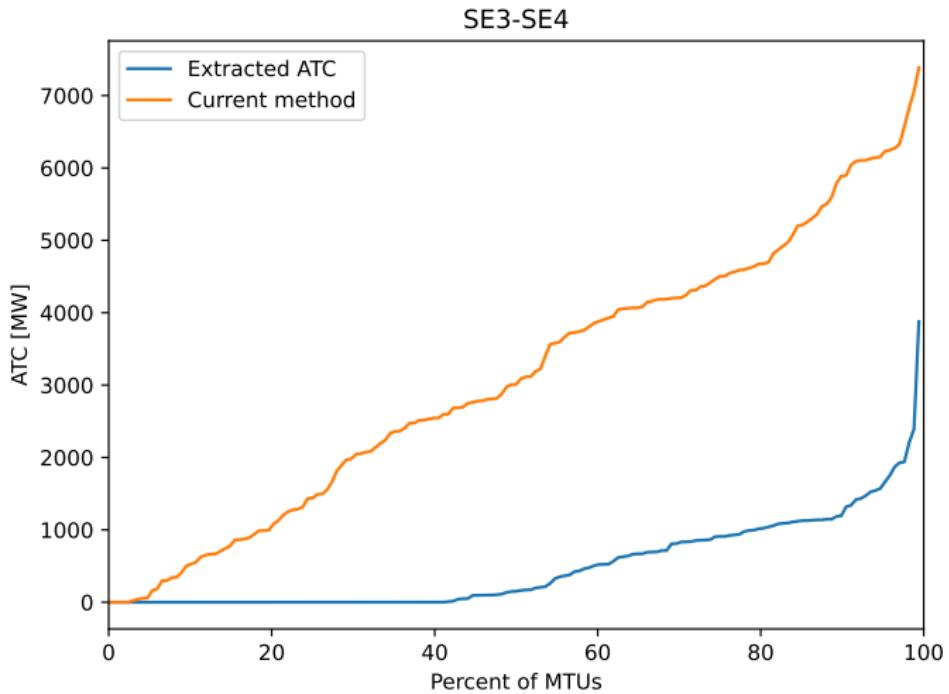
# SE2-SE3 ATC duration curves



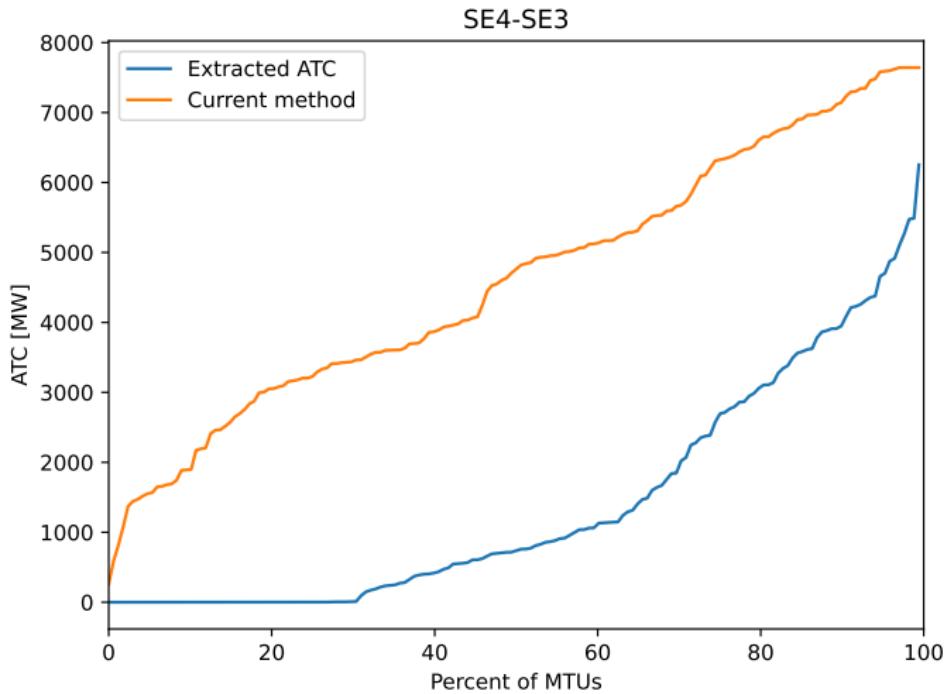
# SE3-SE2 ATC duration curves



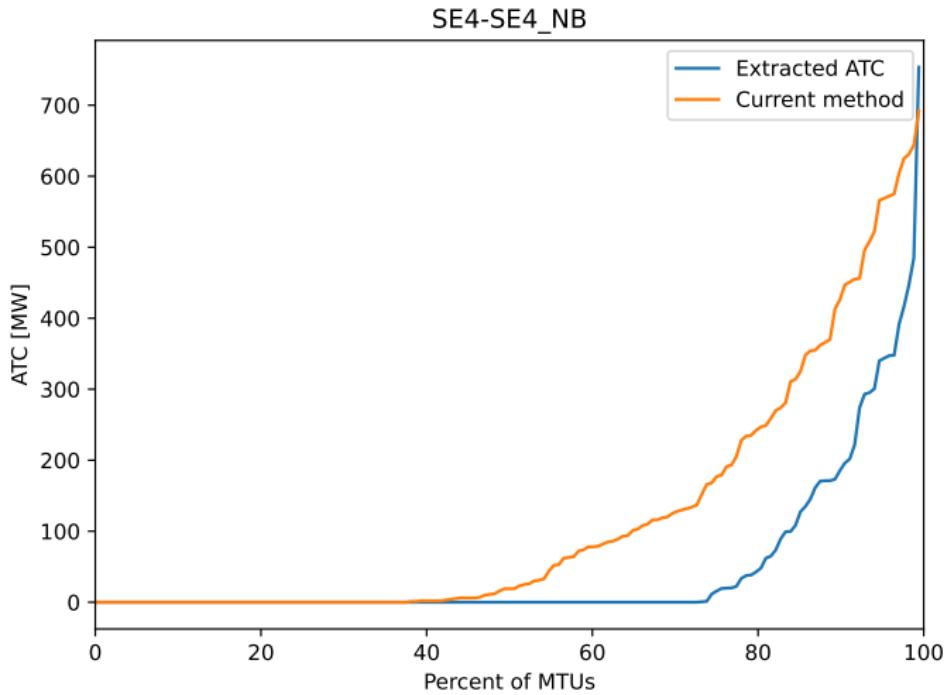
# SE3-SE4 ATC duration curves



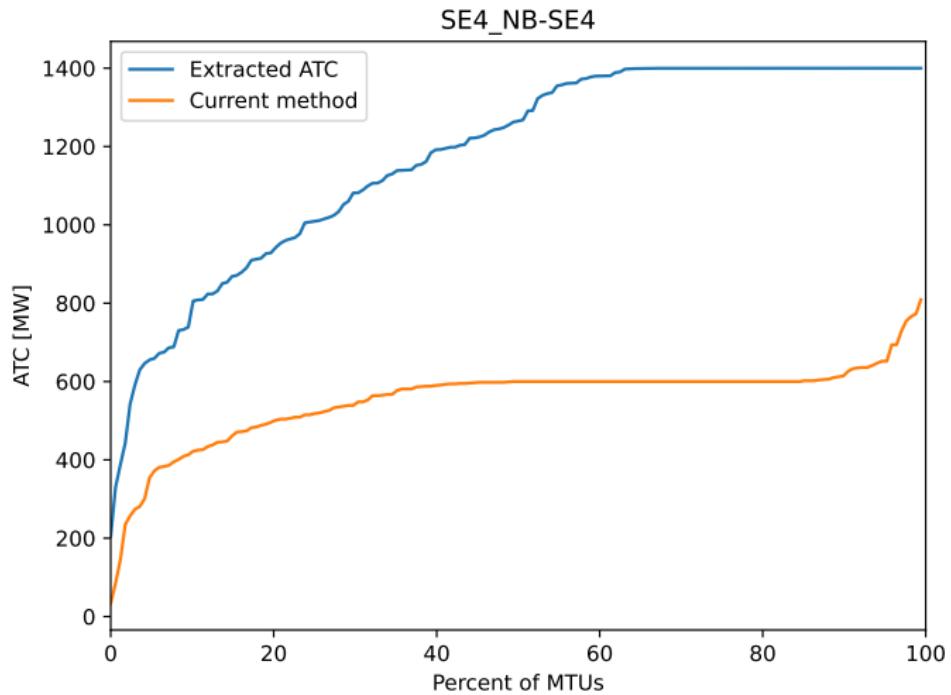
# SE4-SE3 ATC duration curves



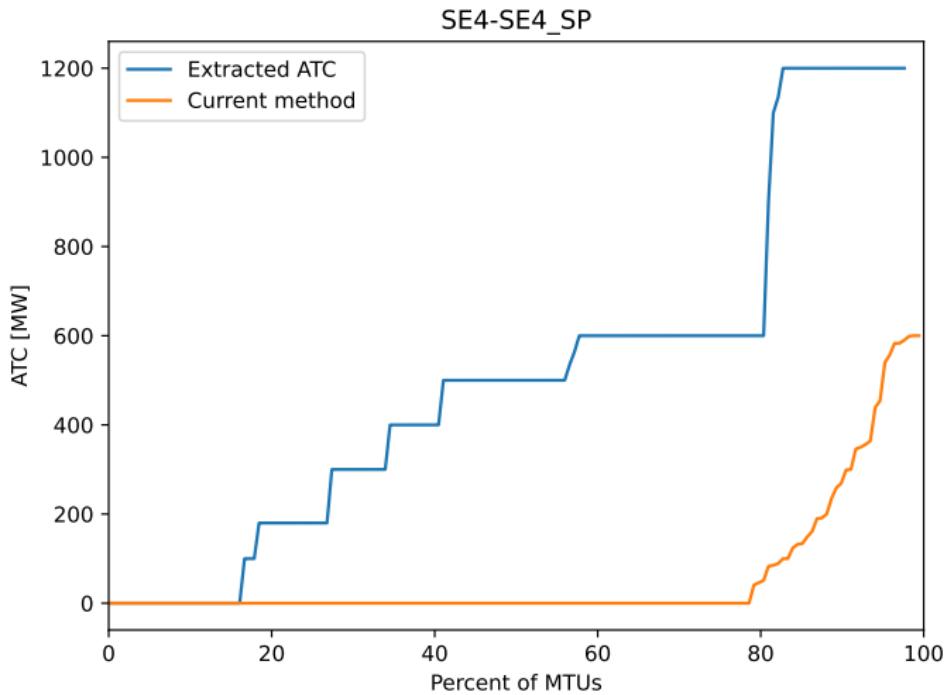
# SE4-SE4\_NB ATC duration curves



## SE4\_NB-SE4 ATC duration curves



# SE4-SE4\_SP ATC duration curves



# SE4\_SP-SE4 ATC duration curves

