

Split DE-AT: Observations after one year

19th Market European Stakeholder Committee

18 December 2019, Brussels

Main goals of the Bidding zone split DE-AT



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- Persistence of high trade possibilities for market participants within the existing market coupling
- Better alignment of commercial flows with physical flows
- Increase of the system security

Other major changes/influencing factors



- Providing 20% minRAM in CWE
- Changes in the topology
- Changes in fuel- and CO2-prices
- Availability of generation (e.g. nuclear)
- Variable renewable infeed

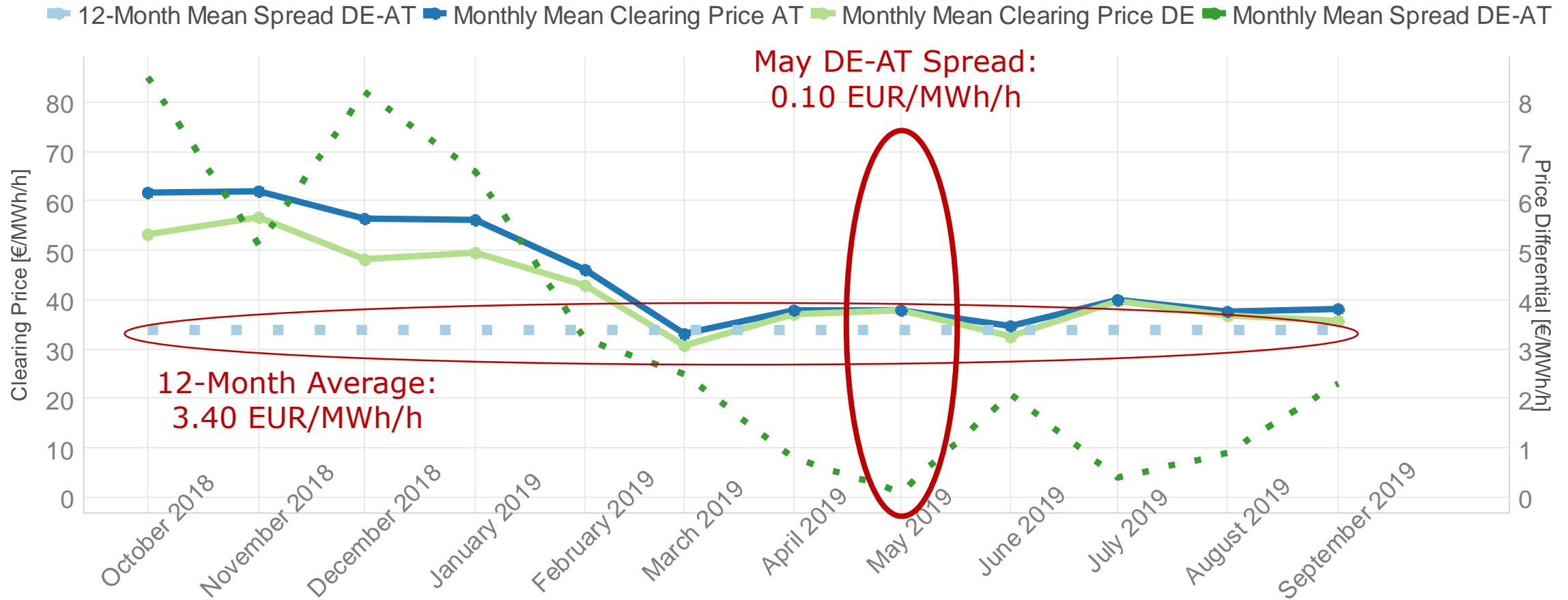
Results of the longterm capacity auctions

Month	€/MWh	
	DE-AT	AT-DE
Oct-18	0,88	0,02
Nov-18	5,75	0,03
Dec-18	3,82	0,03
Jan-19	6,08	0,04
Feb-19	5,06	0,06
Mar-19	3,21	0,07
Apr-19	1,37	0,11
May-19	0,50	0,08
Jun-19	0,44	0,15
Jul-19	0,59	0,21
Aug-19	0,44	0,17
Sep-19	1,43	0,16
Oct-19	3,28	0,12
Nov-19	3,85	0,07
Dec-19	3,55	0,06

Year	€/MWh	
	DE-AT	AT-DE
2019	3,33	0,07
2020	2,65	0,08

Day-Ahead Prices DE and AT & Spread DE-AT

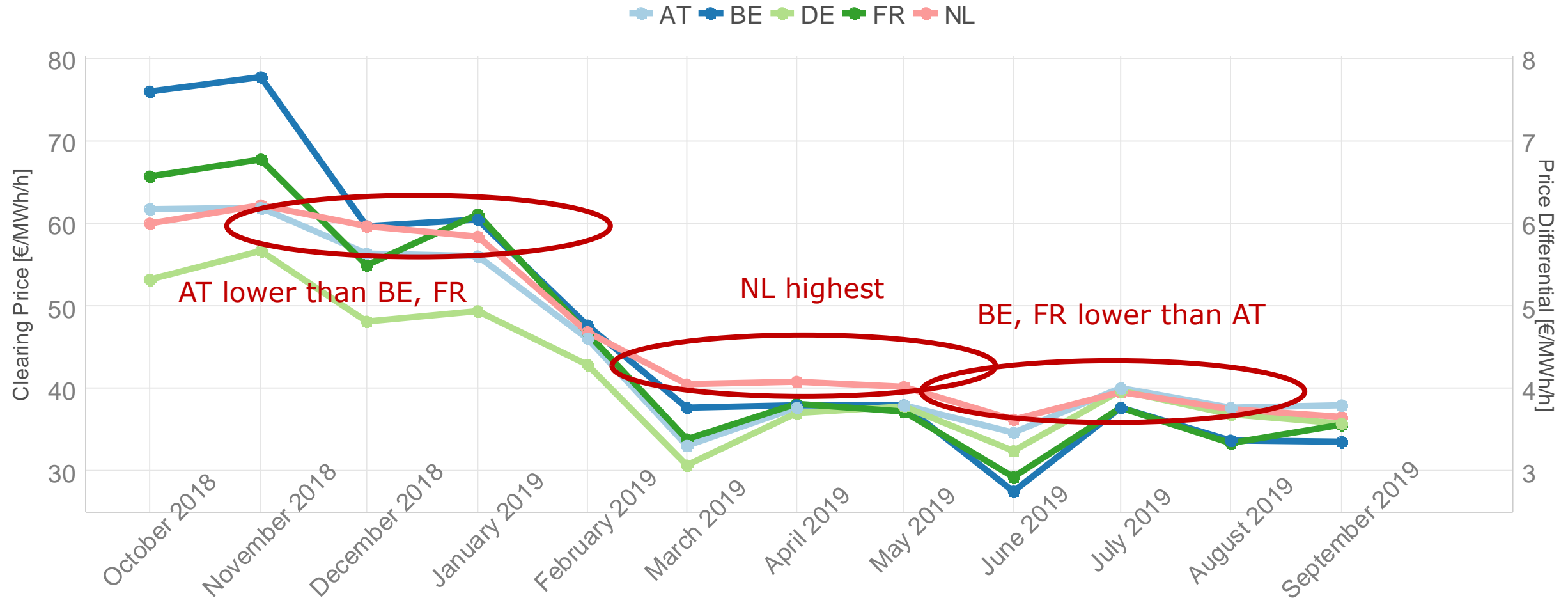
Monthly Averages and 12-Month Average. Lately Tendency to Converge.



Average spread since split until Nov. 2019: 3.20 EUR/MWh

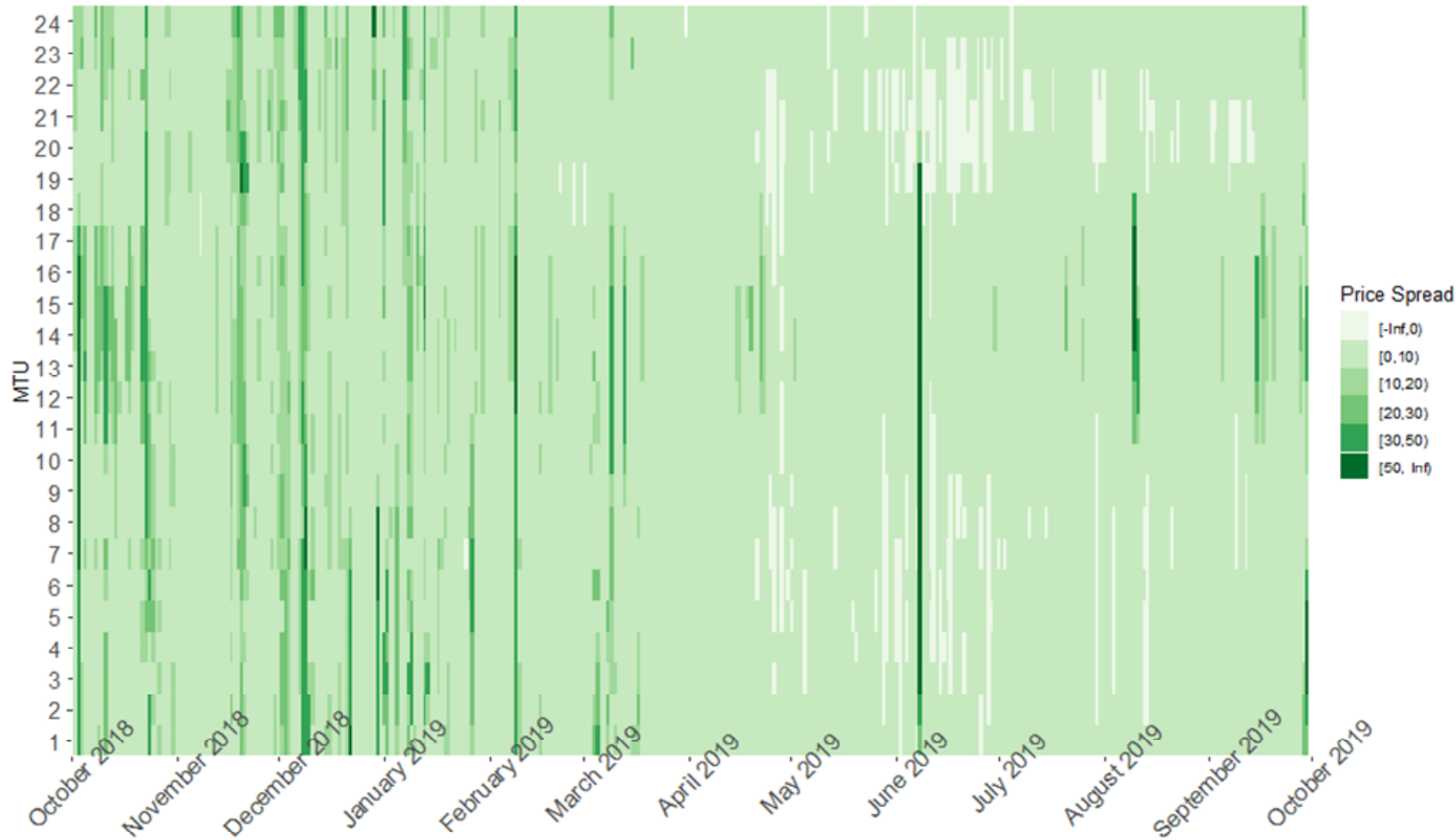
Day-Ahead Prices CWE

Impact: "Seasonal" Generation (Wind, PV, Hydro), "Fuel-Switch" and Nuclear Availability



Day-Ahead Spread DE-AT

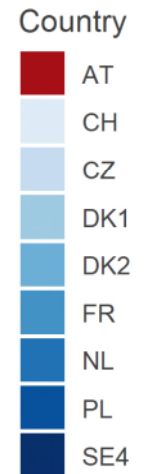
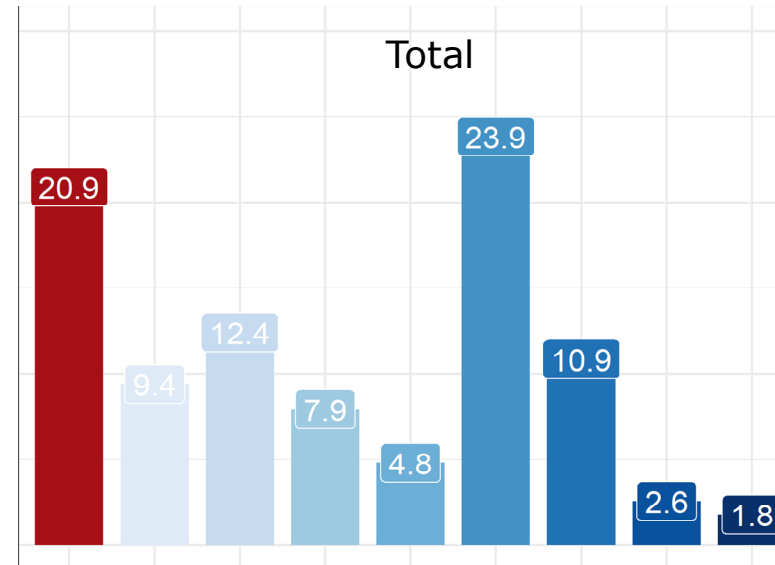
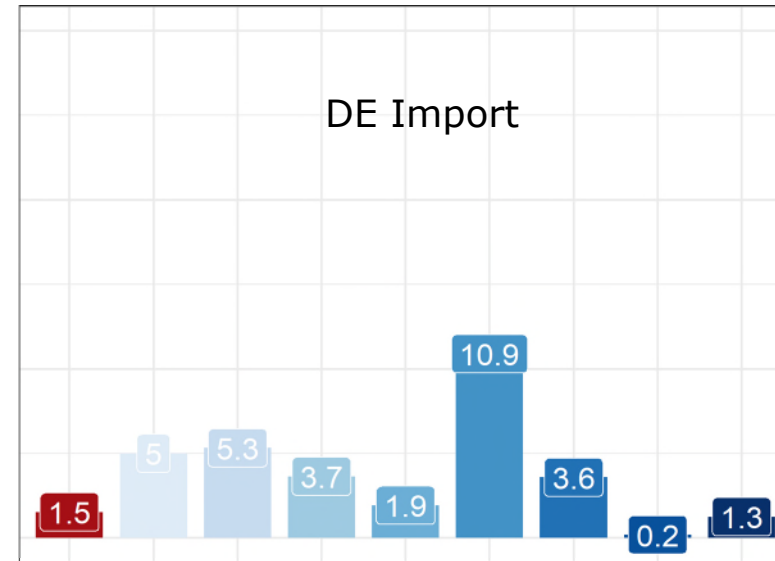
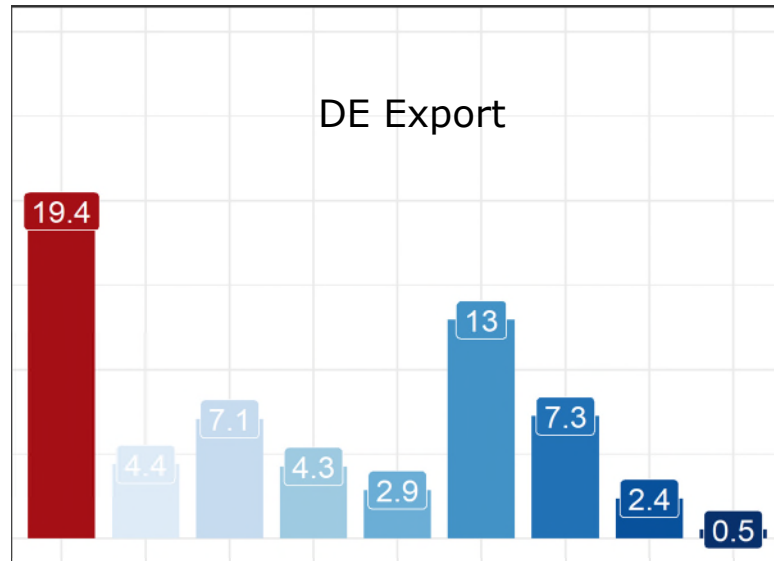
Heatmap Shows When DE-AT Price Spreads Open Up. April - September 2019 Good Convergence



- DE-AT spreads tend to open up around noon
- Most often between 0 and 10 EUR/MWh/h
- Price convergence during 50% of MTUs (4439/8760 or median of DE-AT spread = 0)
- Minimum / maximum DE-AT spread: -9.26 EUR/MWh/h / 119.02 EUR/MWh/h*

* MTU 15 on 8 June 2019 during decoupling of EPEX Spot markets

German commercial exchanges in TWh 2019 (Jan –Nov)



- DE-AT exchanges are the second highest of all neighbours
- DE exports to AT are the highest

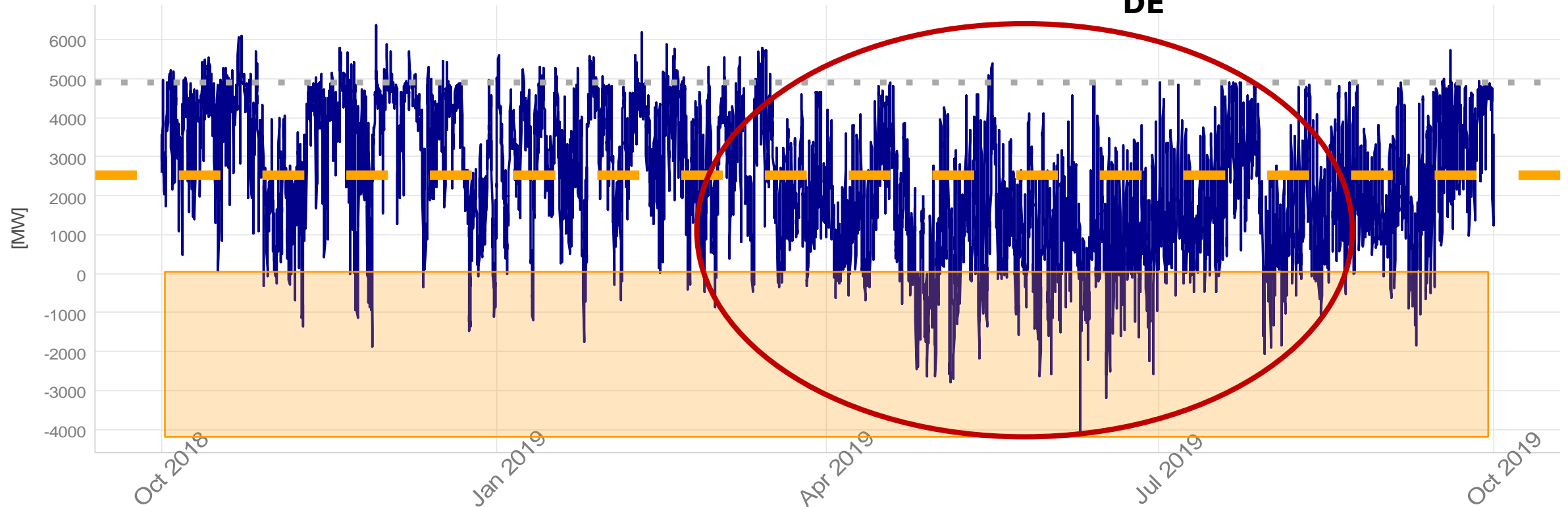
DE-AT split

18 December 2019

Day-Ahead Schedules DE-AT

Mean of 2524 MW from DE to AT. When Negative, Schedule from AT to DE.

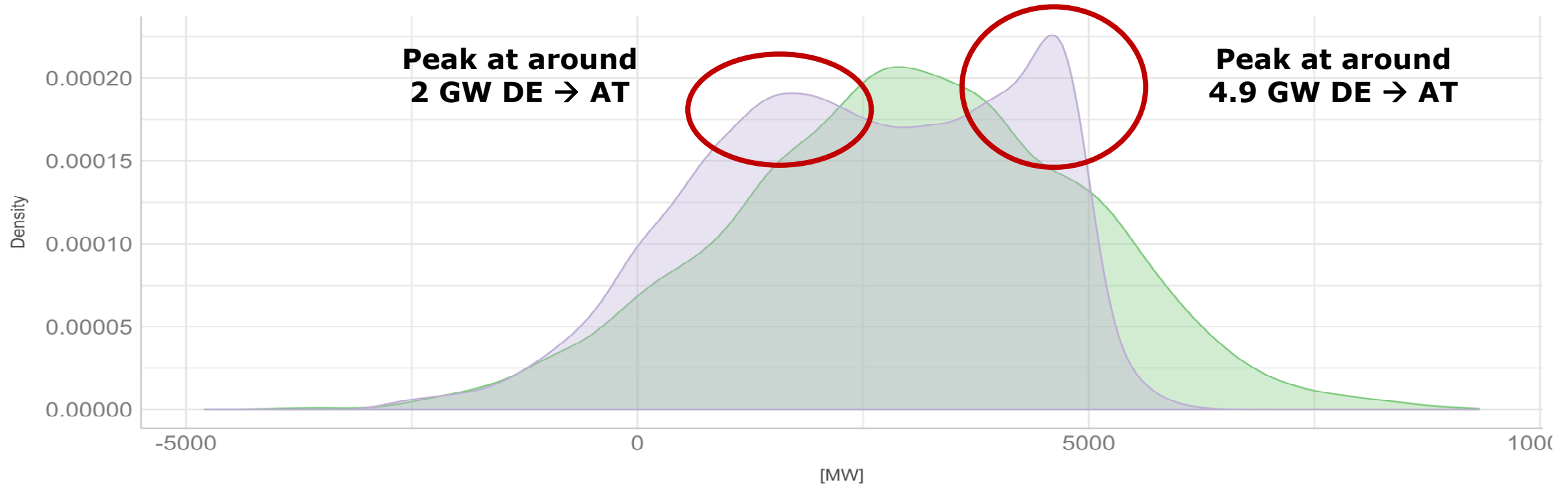
Well stocked hydro in AT & low wind in DE



- Mean of 2524 MW from DE to AT
- Flows from AT to DE become "visible"

Day-Ahead Schedules DE-AT

Density Distribution – Comparison Between 12 Months Before and 12 Months after Split



Mean day-ahead DE-AT schedule:

- 10-2017 – 09-2018: **2591 MW**
- 10-2018 – 09-2019: **2524 MW**

Redispatch Volumes in DE

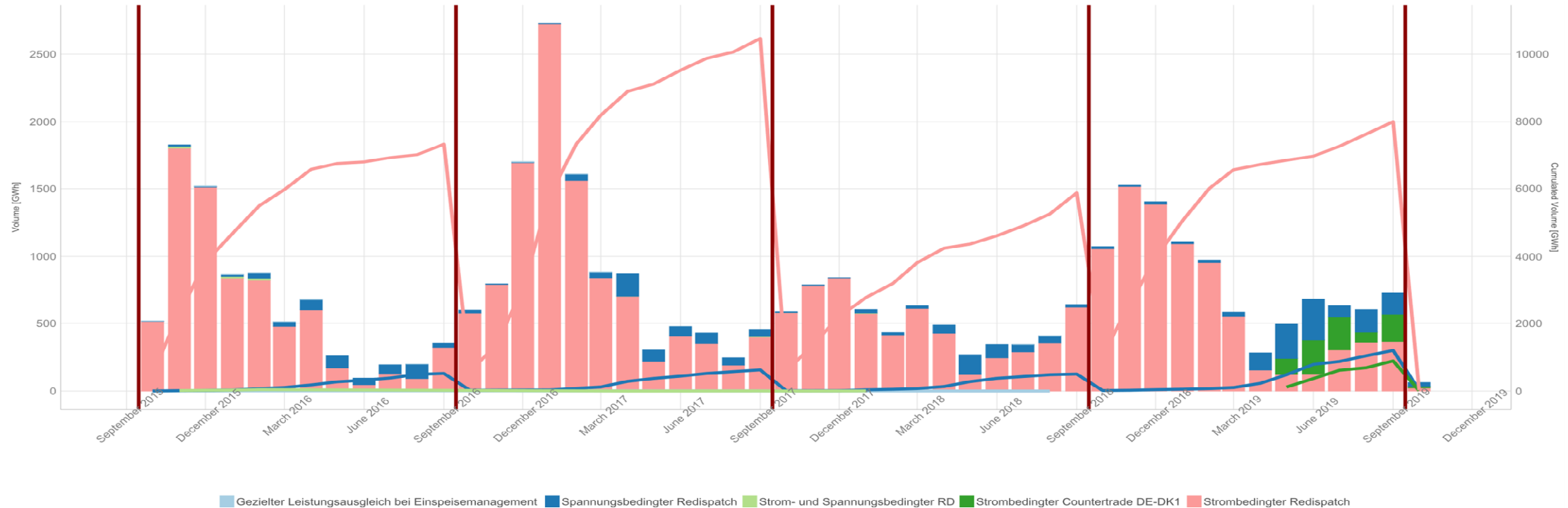
In 12 Months Before DE-AT Split Lower Volume than in the 12 Months Following Split.
High Variability.



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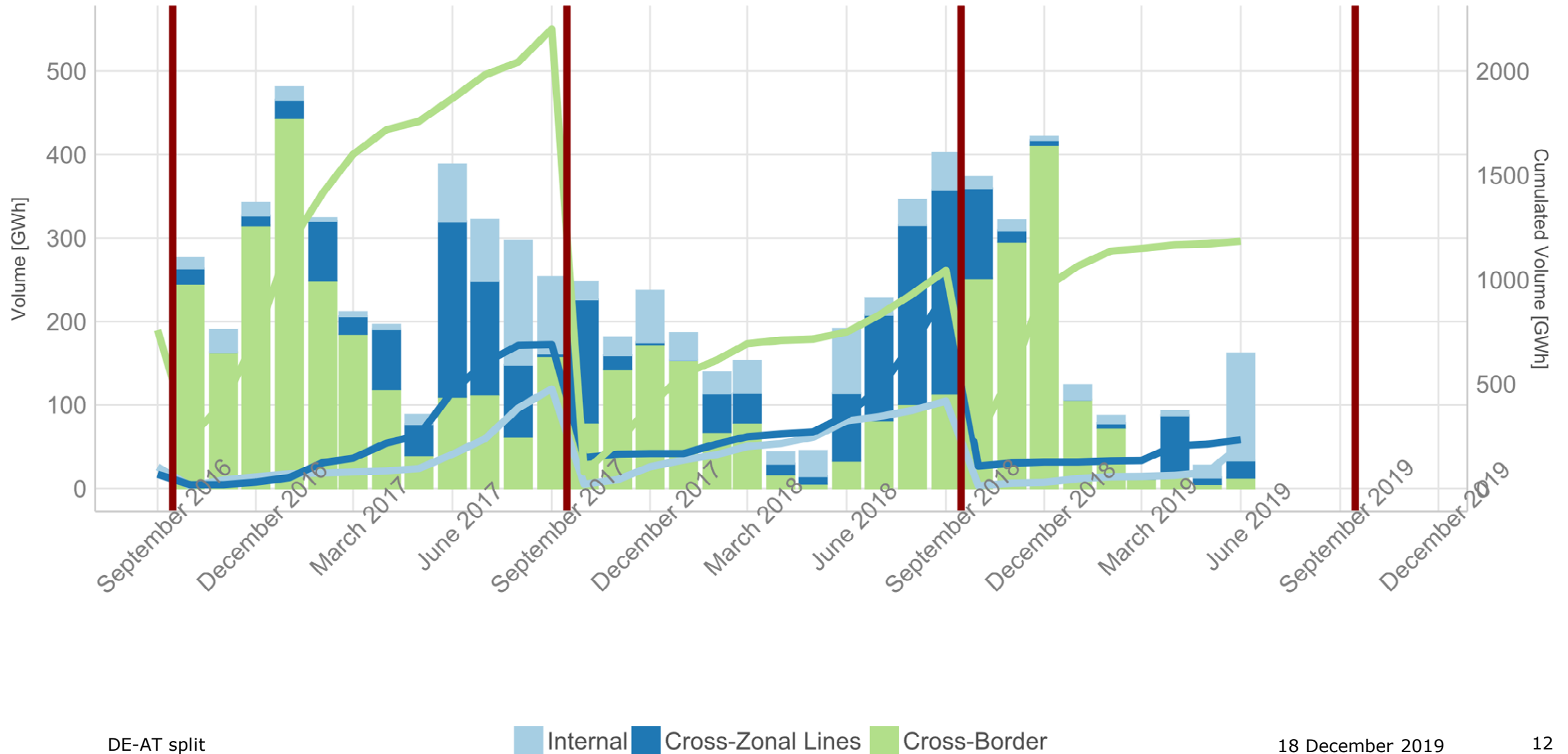
Source: <https://www.netztransparenz.de/>

First winter with 20% minRAM in CWE
and higher wind-infeed are the main
driver for the RD increase 2017 to 2018

TWh	DE-AT-LU	DE-LU	
	10/17-10/18	10/18-10/19	
Wind Offshore	18,6	23,1	24%
Wind Onshore	92,4	91,9	-1%
Sum	110,9	114,9	4%

Redispatch Volumes in AT

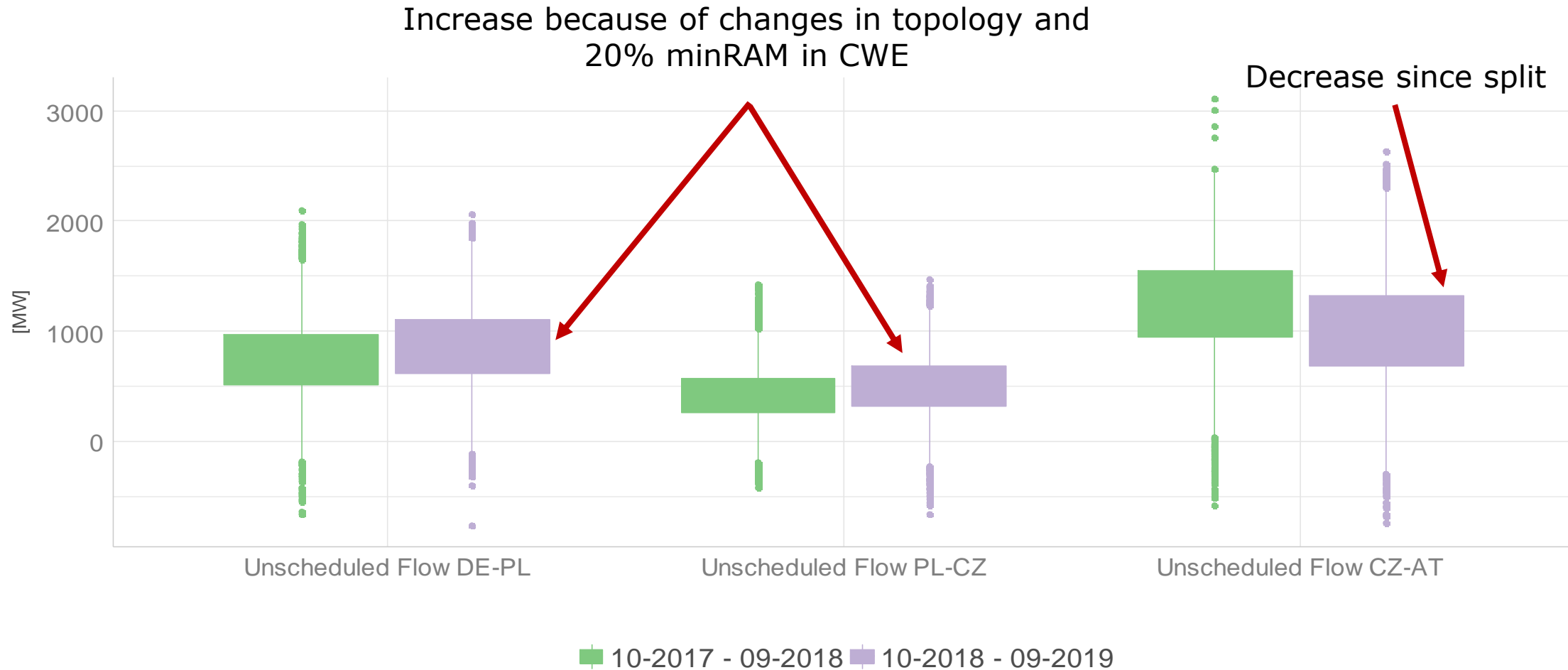
Higher volume in 12 months before split than in 12 months following split.



- Root were **Loop Flows** from DE/AT via PL and CZ
 - (Note: For Loop Flows, both source and sink are located in same BZ)
- Former **Loop Flows** are now **Transit Flows**
 - (Note: For Transit Flows, the source is located in one BZ and the sink is located in another BZ)
- Both flow types belong to the family of **Unscheduled Flows** on these borders
- As soon as CORE Flow-Based Market Coupling starts the transit flows within the CORE region will become scheduled flows reflected in the capacity calculation

Changes in Flow Patterns DE-PL-CZ-AT

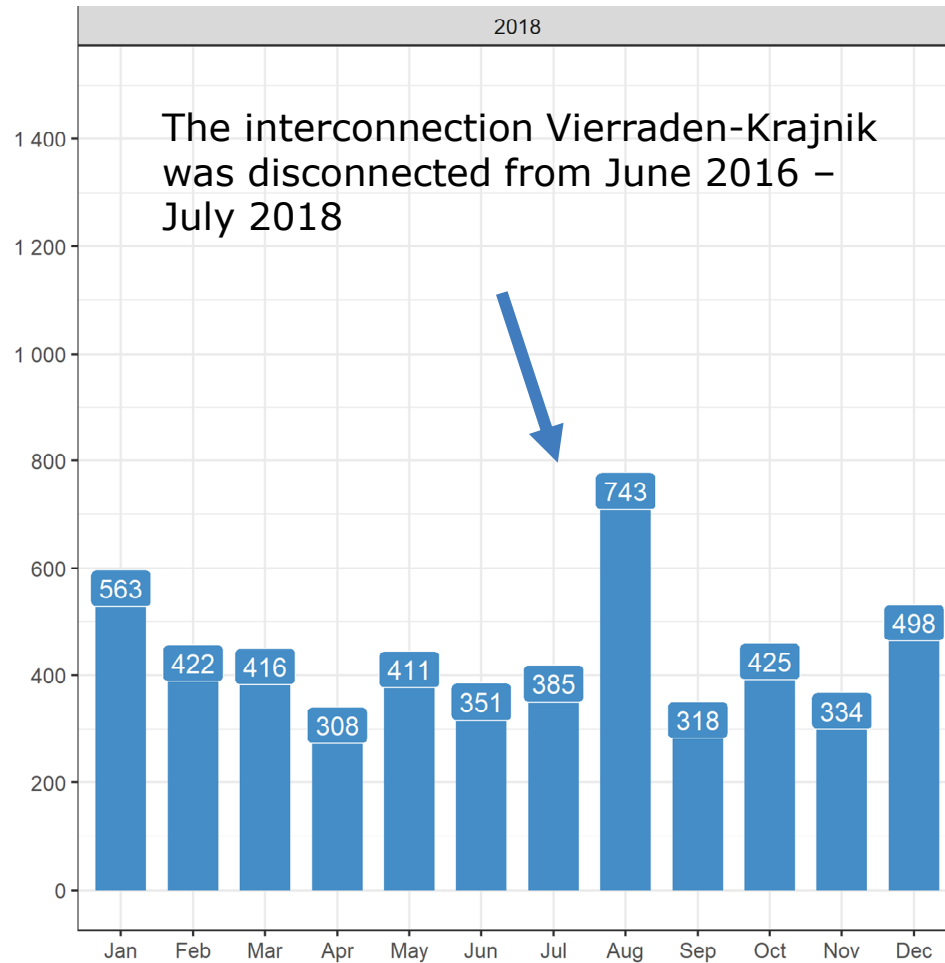
Unscheduled Flows on DE-PL and PL-CZ increased. Many Contributing Factors (RES, DE-PL Outages, CO₂ Price)



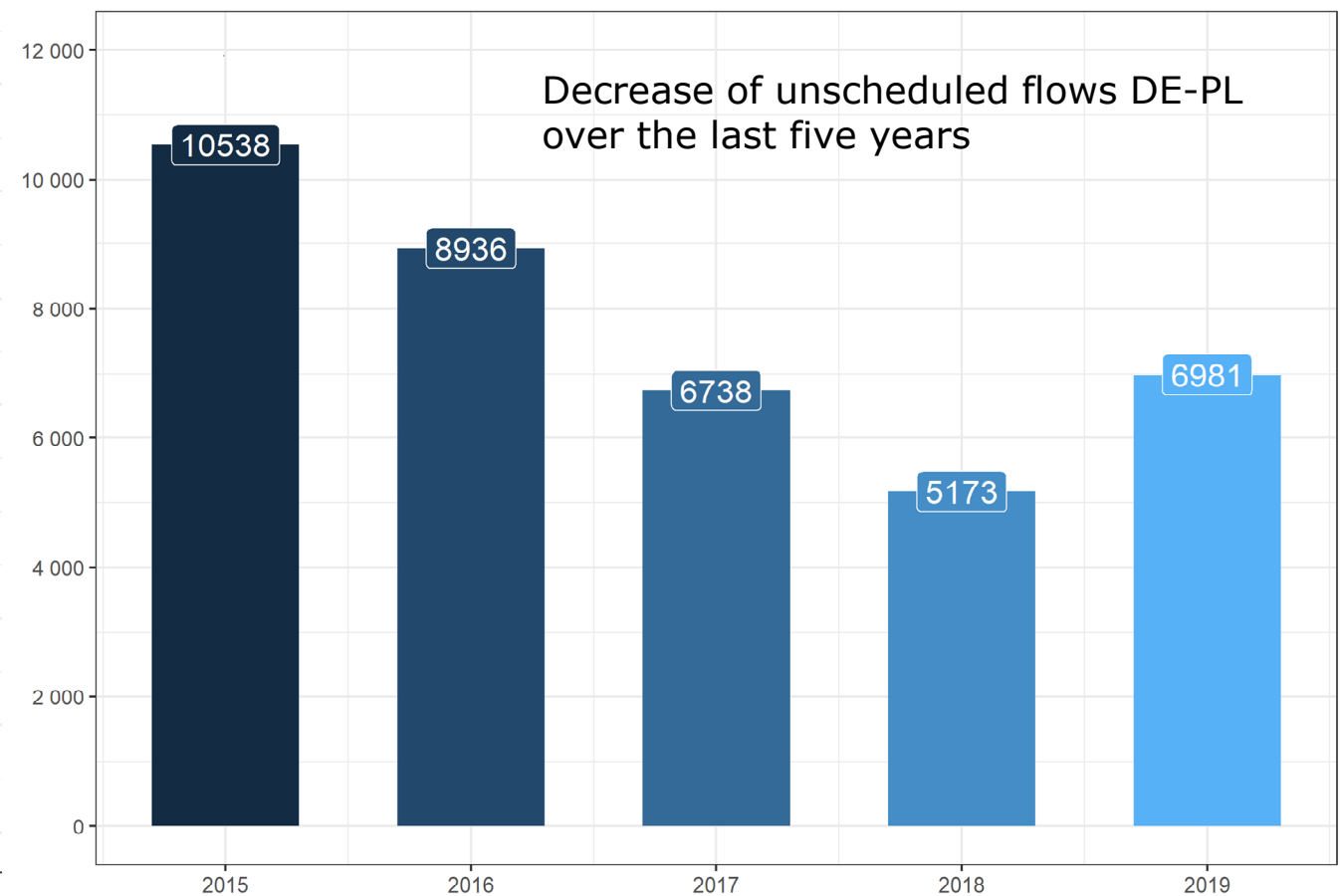
Changes in Flow Patterns DE-PL

Unscheduled Flows on DE-PL

Unscheduled commercial exchanges in GWh



Unscheduled commercial exchanges in GWh



- Very high trade volume between DE-AT with the highest amount of DE exports compared to all other neighbours
- Cross-border trading capacity in day-ahead given to the market could be provided at all time due to redispatch capacity in Austria
- Price spread of 3.20 €/MWh since split
- Yearly capacity for 2020 for 2.65 €/MWh
- The impact on the trade in the CWE region is difficult to estimate as other measures as the 20% minRAM were implemented in parallel.

Thank you!

Split DE-AT: Observations after one year

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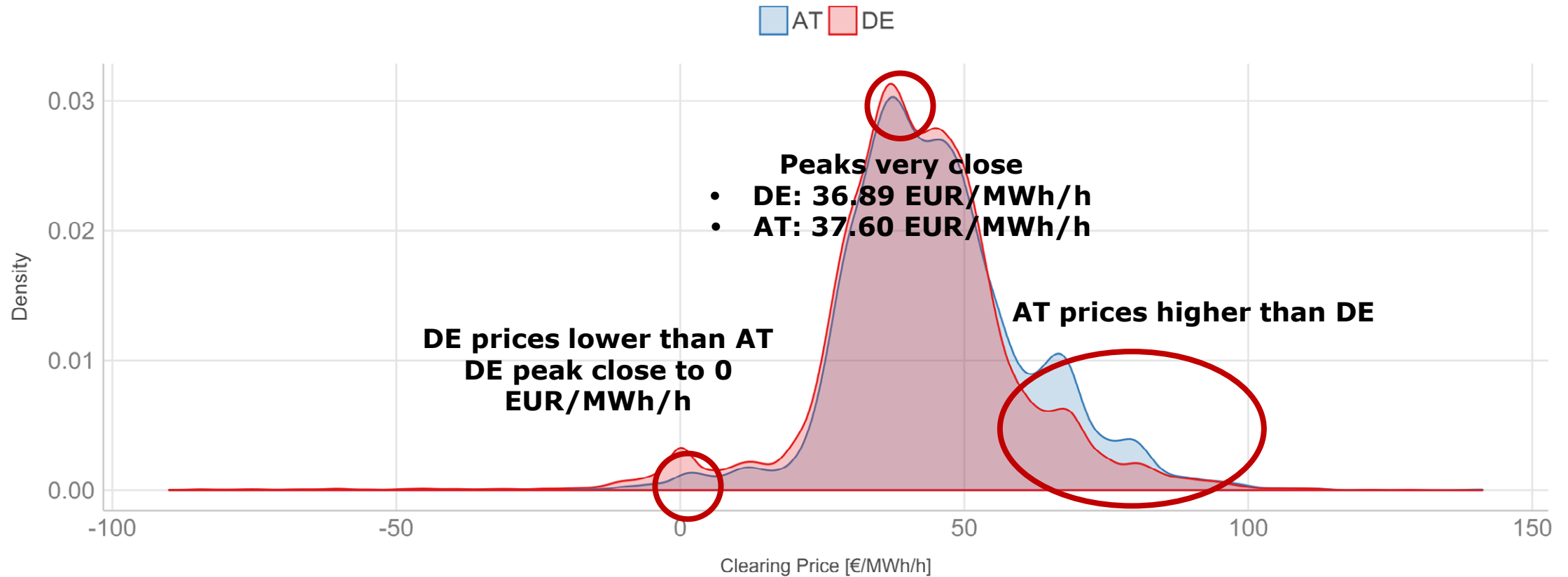


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ANNEX

Day-Ahead Prices DE and AT

Density Distribution of Clearing Prices in the 12 Months Following DE-AT Split



Day-Ahead Schedules DE-AT

Heatmap Shows Pattern of DE-AT Schedules

- Scheduled flows from AT to DE become “visible” (morning and evening MTUs May - August)

