



# Energy Market Monitoring Report

September 2023



## Market Results



# Summary Dashboard

Monthly Averages	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23
DAM (€/MWh)	136.09	143.12	276.52	162.16	159.19	145.25	125.57	105.19	117.11	96.24	106.46	111.62
% Change from previous month	-52%	5%	93%	-41%	-2%	-9%	-14%	-16%	11%	-18%	11%	5%
% Change from previous year	-37%	-30%	10%	-20%	-9%	-50%	-42%	-27%	-36%	-64%	-73%	-61%
Actual System Demand (MW)	4330	4733	4885	4885	4782	4833	4469	4276	4189	4101	4185	4335
% Change from previous month	3%	9%	3%	0%	-2%	1%	-8%	-4%	-2%	-2%	2%	4%
% Change from previous year	-1%	0%	2%	1%	-1%	3%	1%	2%	0%	0%	2%	3%
Actual Wind Generation (MW)	2047	2233	1647	1987	2026	1748	1545	884	878	1316	1401	1384
% Change from previous month	89%	9%	-26%	21%	2%	-14%	-12%	-43%	-1%	50%	6%	-1%
% Change from previous year	33%	45%	-16%	18%	-27%	12%	8%	-38%	-22%	54%	71%	28%
Gas Price p/therm	102.32	128.91	264.54	155.16	133.65	110.96	100.32	72.41	77.87	70.76	82.87	91.52
% Change from previous month	-57%	26%	105%	-41%	-14%	-17%	-10%	-28%	8%	-9%	17%	10%
% Change from previous year	-49%	-35%	-3%	-22%	-29%	-64%	-38%	-24%	-44%	-68%	-77%	-61%
Carbon Price (€/Tonne)	70.46	75.84	85.61	79.91	91.82	89.41	89.98	84.18	85.51	86.57	84.61	82.09
% Change from previous month	0%	8%	13%	-7%	15%	-3%	1%	-6%	2%	1%	-2%	-3%
% Change from previous year	19%	15%	8%	-5%	1%	20%	11%	-1%	2%	6%	-4%	17%
Coal Price (\$/tonne)	275.16	212.52	243.46	173.25	136.71	134.95	137.83	119.57	112.56	111.02	115.57	120.40
% Change from previous month	-19%	-23%	15%	-29%	-21%	-1%	2%	-13%	-6%	-1%	4%	4%
% Change from previous year	16%	48%	78%	14%	-27%	-61%	-55%	-63%	-67%	-71%	-67%	-65%
EWIC % Import Periods	30.51%	18.61%	30.58%	49.03%	38.91%	50.00%	50.56%	75.86%	77.72%	67.11%	68.11%	73.75%
EWIC % Export Periods	46.24%	54.10%	35.08%	23.66%	27.19%	16.47%	13.65%	8.28%	4.06%	9.21%	11.96%	8.89%
EWIC % Not Flow Periods	23.25%	27.29%	34.34%	27.32%	33.89%	23.86%	30.80%	15.88%	18.22%	22.68%	19.93%	17.36%
Moyle % Import Periods	40.52%	29.51%	44.19%	62.05%	53.65%	64.68%	77.50%	85.42%	92.22%	84.04%	75.24%	83.33%
Moyle % Export Periods	59.44%	69.83%	55.78%	37.95%	46.02%	25.50%	27.43%	14.58%	7.67%	15.89%	20.33%	16.60%
Moyle % Not Flow Periods	0.03%	0.66%	0.03%	0.00%	0.33%	0.13%	0.07%	0.00%	0.10%	0.07%	4.44%	0.07%

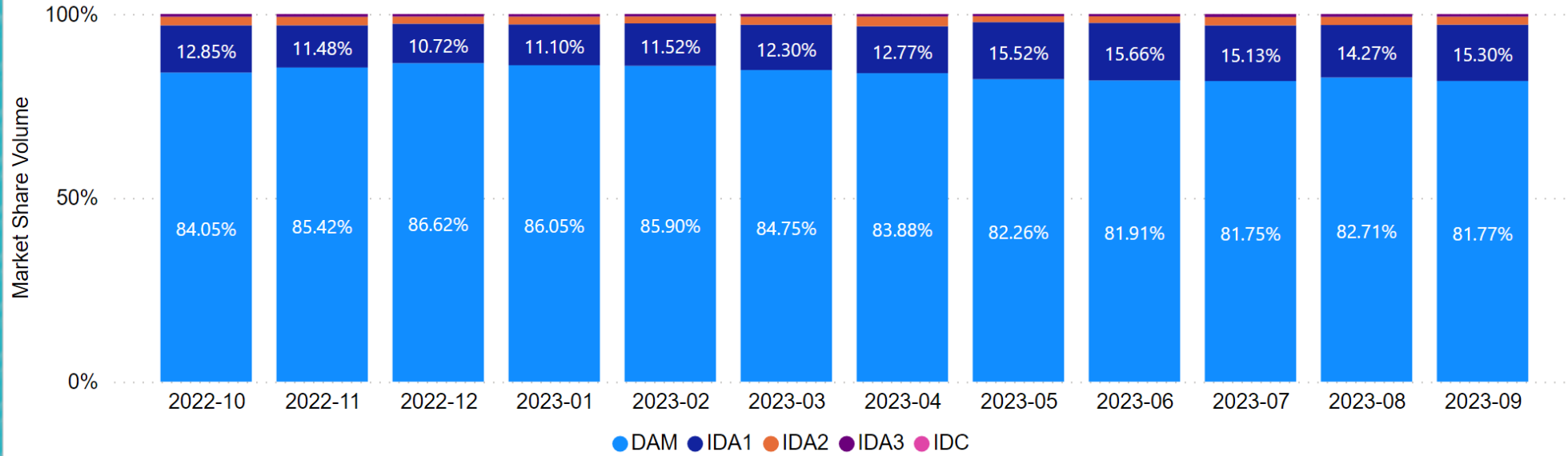
# Market Volumes September 2023

Daily Average Volume	MWh
DAM	107,836
IDA1	20,181
IDA2	2,877
IDA3	932
IDC	66

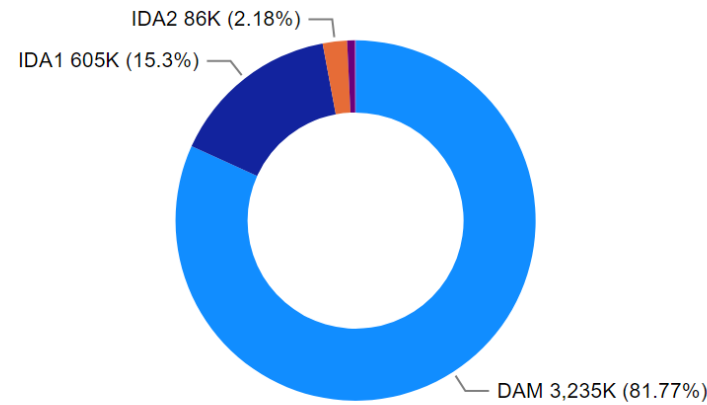
Total Monthly Volume	MWh
DAM	3,235,082
IDA1	605,444
IDA2	86,324
IDA3	27,954
IDC	1,712
<b>Total</b>	<b>3,956,515</b>

Total Market Value	€
DAM	€ 368,080,534
IDA1	€ 71,068,183
IDA2	€ 10,319,088
IDA3	€ 4,019,279
IDC	€ 225,675
<b>Total</b>	<b>€ 453,712,758</b>

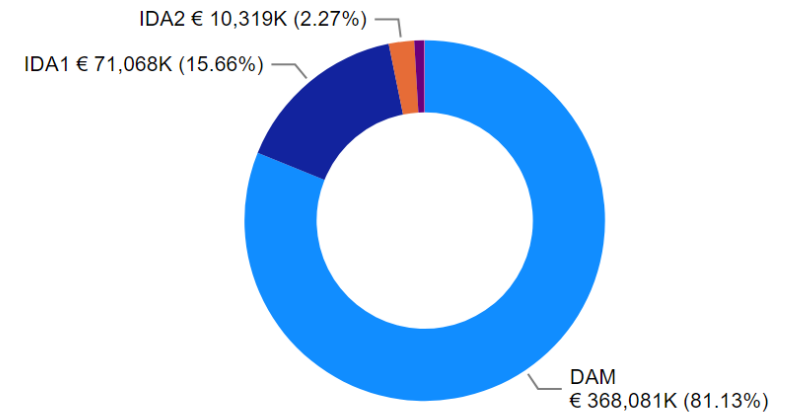
Ex-Ante Monthly Volume by Market



Ex-Ante Volumes (MWh)



Ex-Ante Values (€)



● DAM ● IDA1 ● IDA2 ● IDA3 ● IDC

● DAM ● IDA1 ● IDA2 ● IDA3 ● IDC

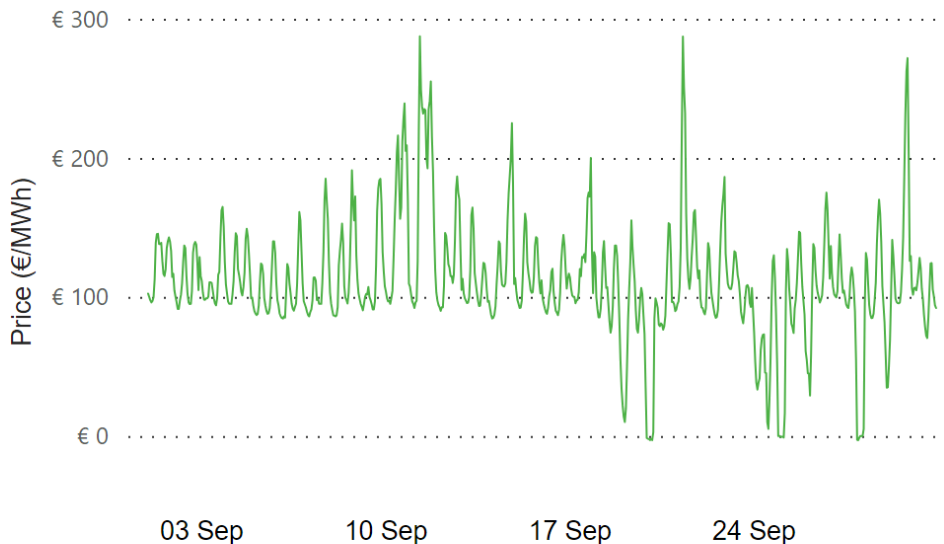


# Day Ahead Market September 2023

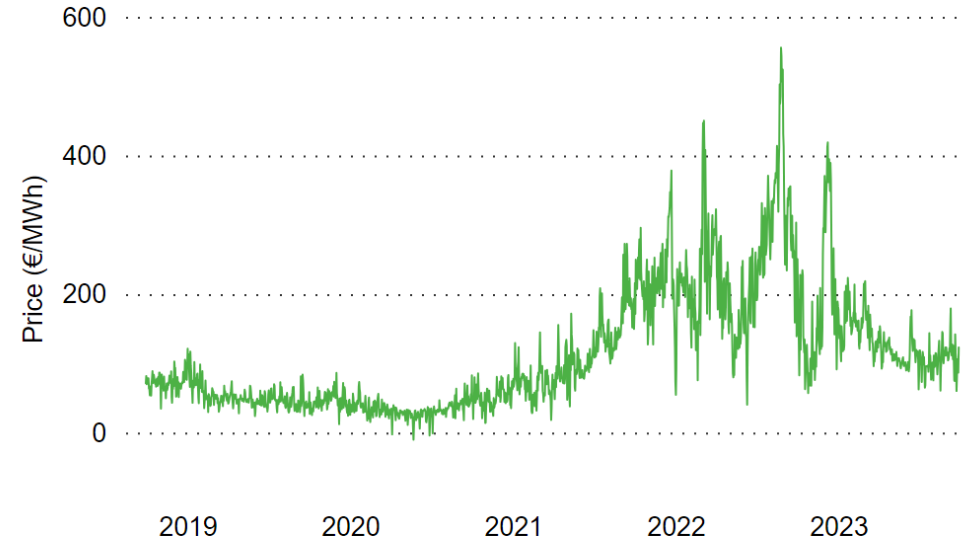
€ 111.62  
Average DAM Price  
-€ 3.00  
Min DAM Price  
€ 287.44  
Max DAM Price

The most frequent price range for  
September was between €100  
and €150

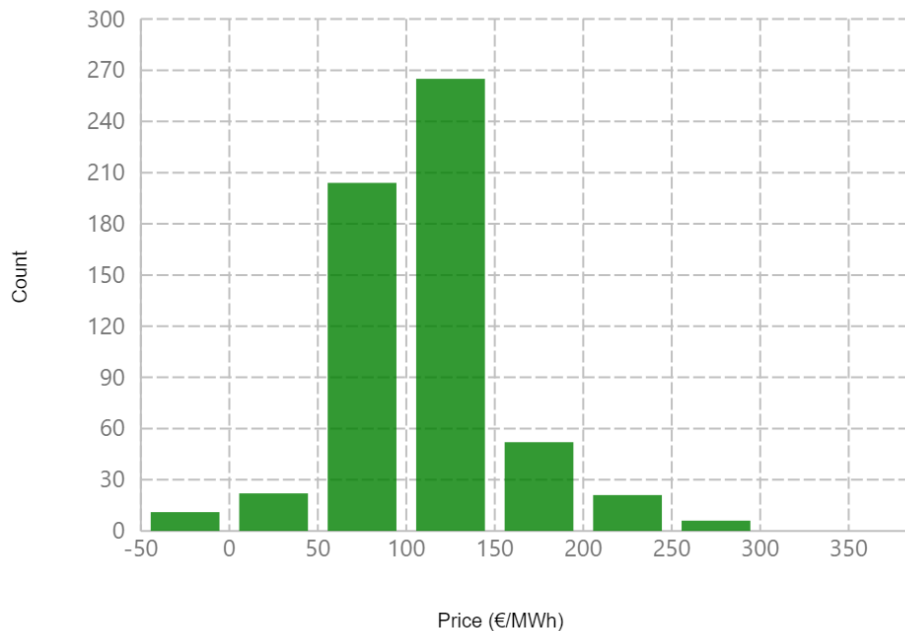
DAM Prices



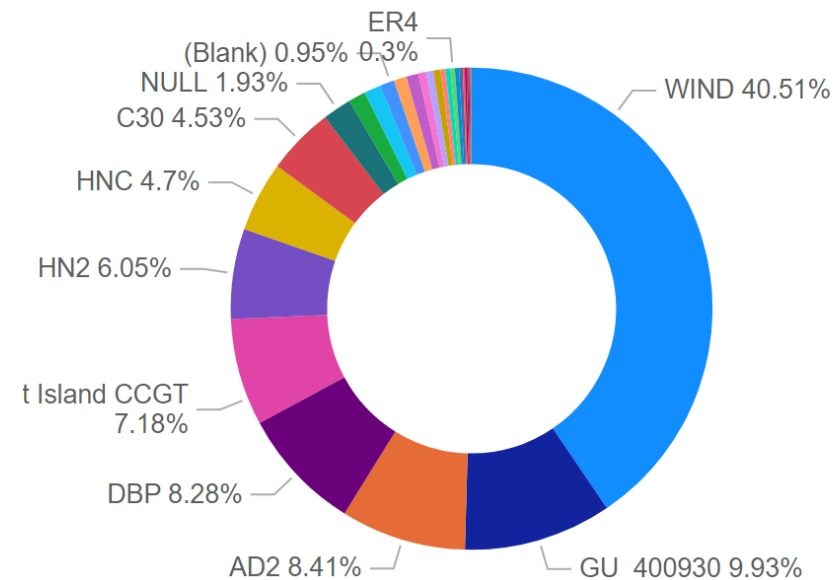
Historic Daily Average DAM Prices



Histogram of DAM Prices



DAM Sell Side Generator Order Results

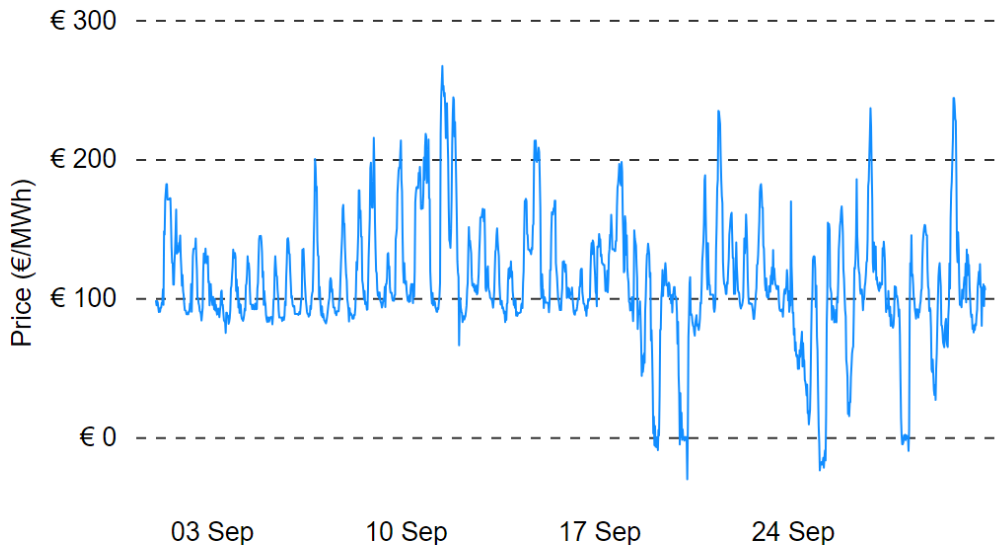


# Intraday Market September 2023

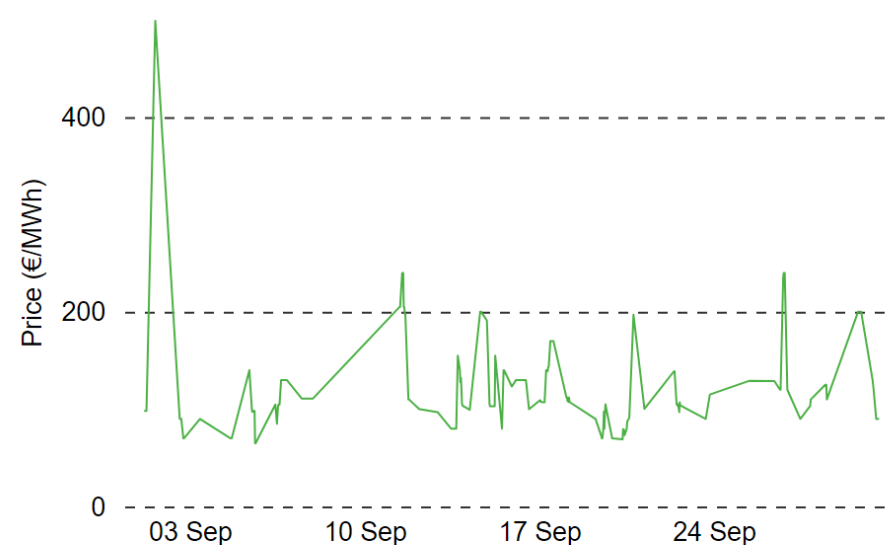
€ 110.46  
Average IDA1 Price  
-€ 30.47  
Min IDA1 Price  
€ 266.79  
Max IDA1 Price

The most frequent price range for September was between €80 and €120

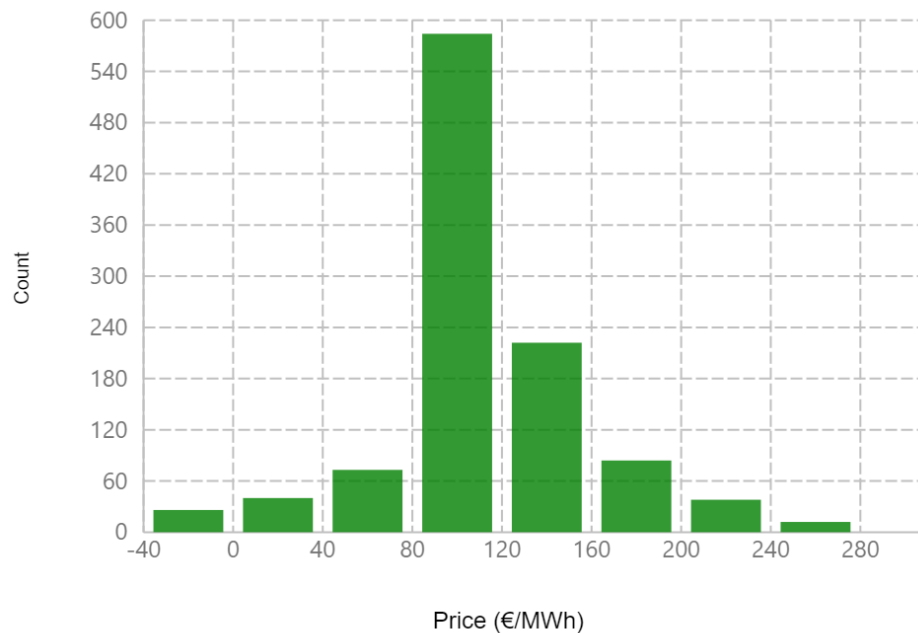
### IDA 1 Prices



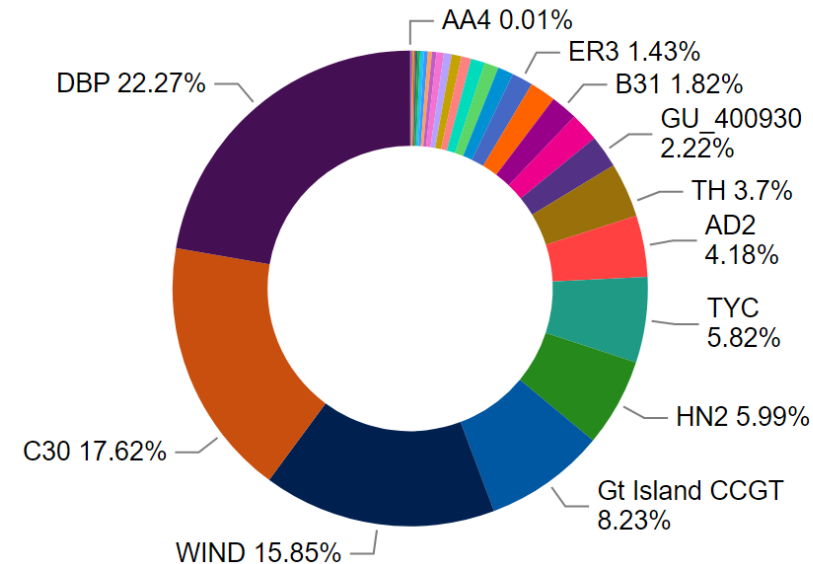
### IDC Prices



### Histogram of IDA1 Prices



### IDA1 Sell Order Results By Market Participant



# SEM vs GB

## September 2023

### SEM Day Ahead Price

€ 111.62  
Average Price

-€ 3.00  
Min Price

€ 287.44  
Max Price

### GB Day Ahead Price

€ 95.99  
Average Price

-€ 15.62  
Min Price

€ 202.86  
Max Price

### SEM IDA1 Price

€ 110.46  
Average Price

-€ 30.47  
Min Price

€ 266.79  
Max Price

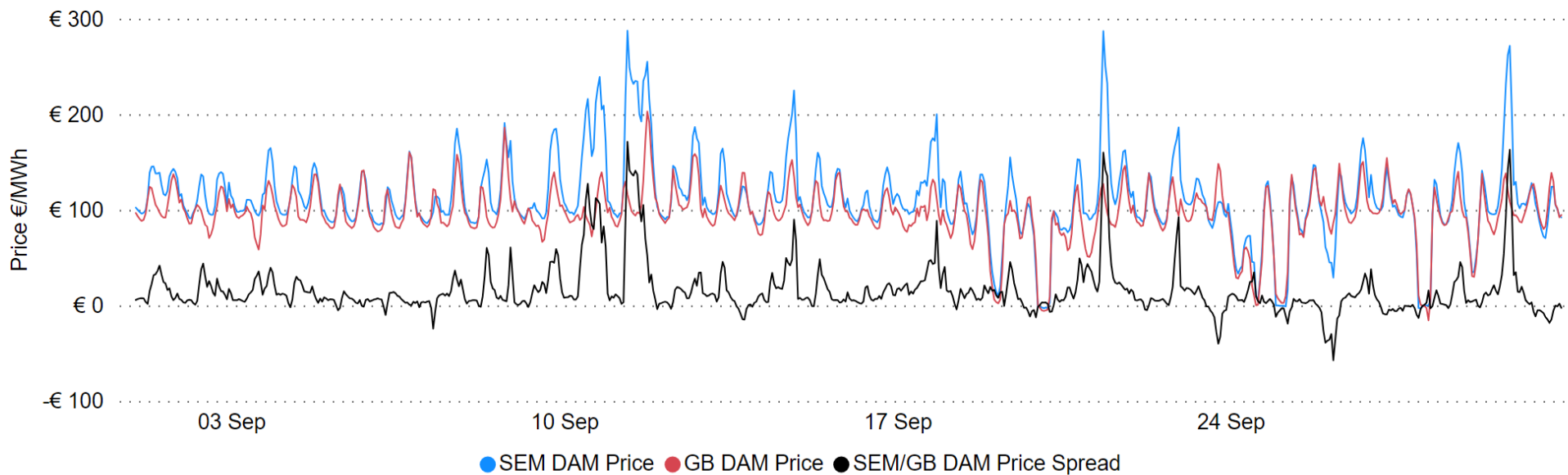
### GB IDA1 Prices

€ 97.29  
Average Price

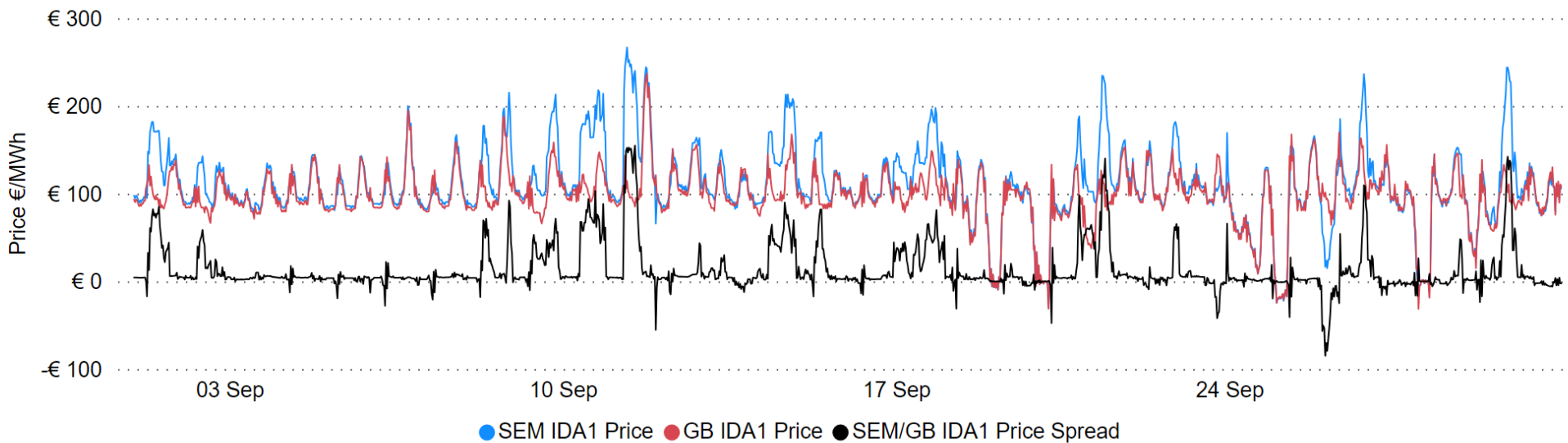
-€ 31.39  
Min Price

€ 236.89  
Max Price

### SEM & GB DAM Prices

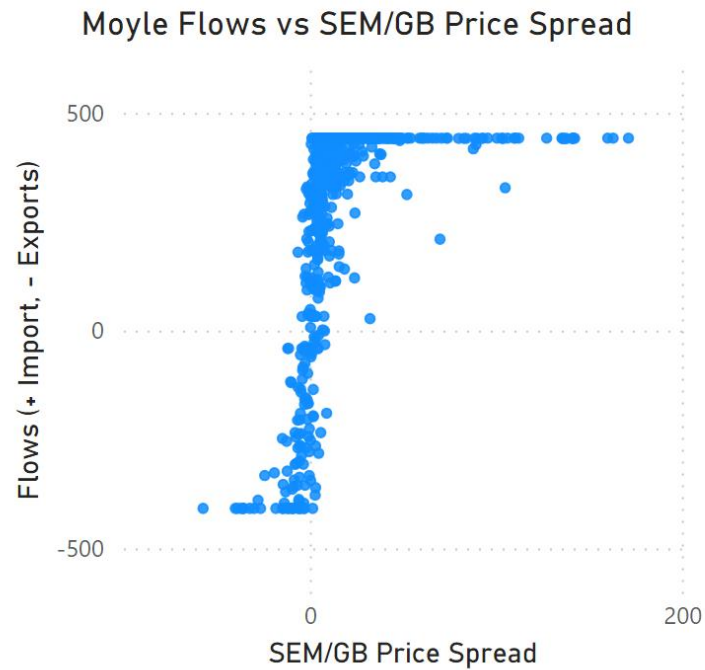
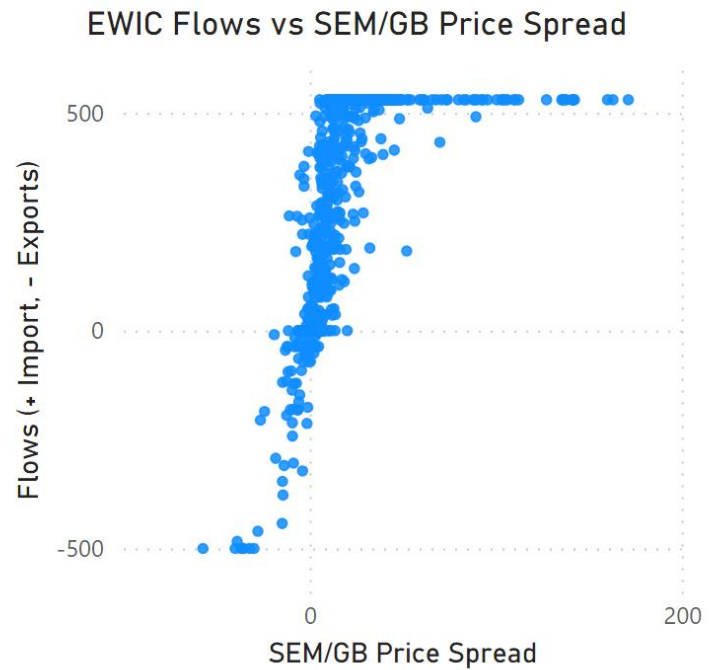
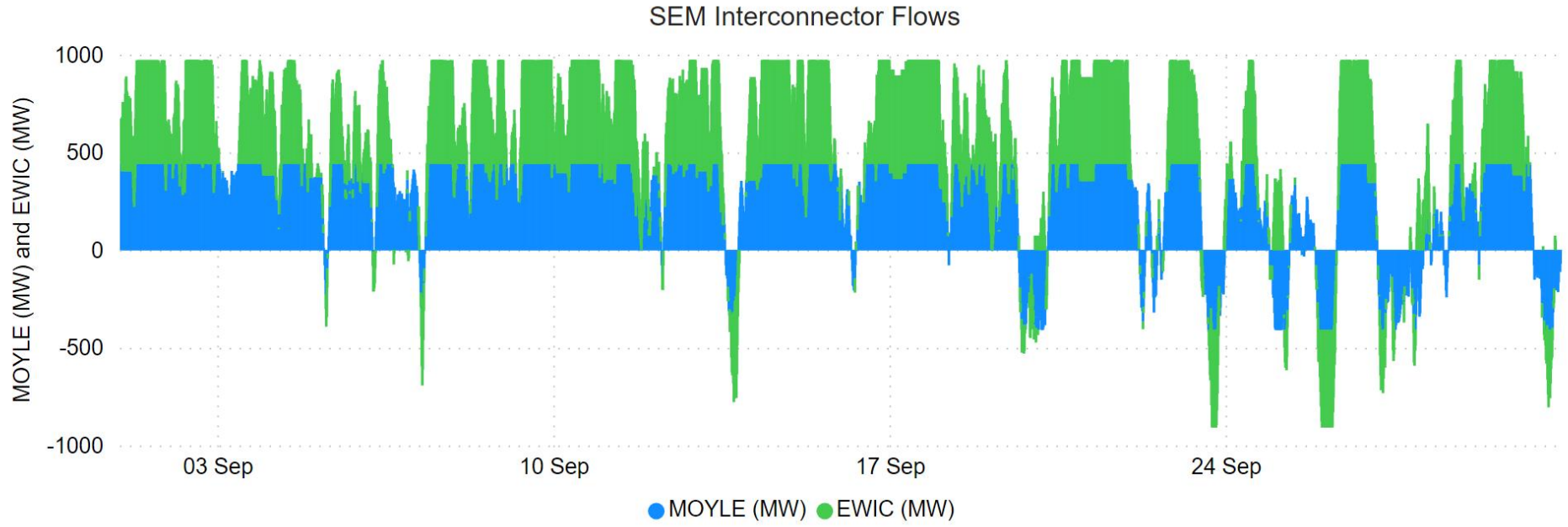


### SEM & GB IDA1 Prices





# SEM Interconnectors September 2023

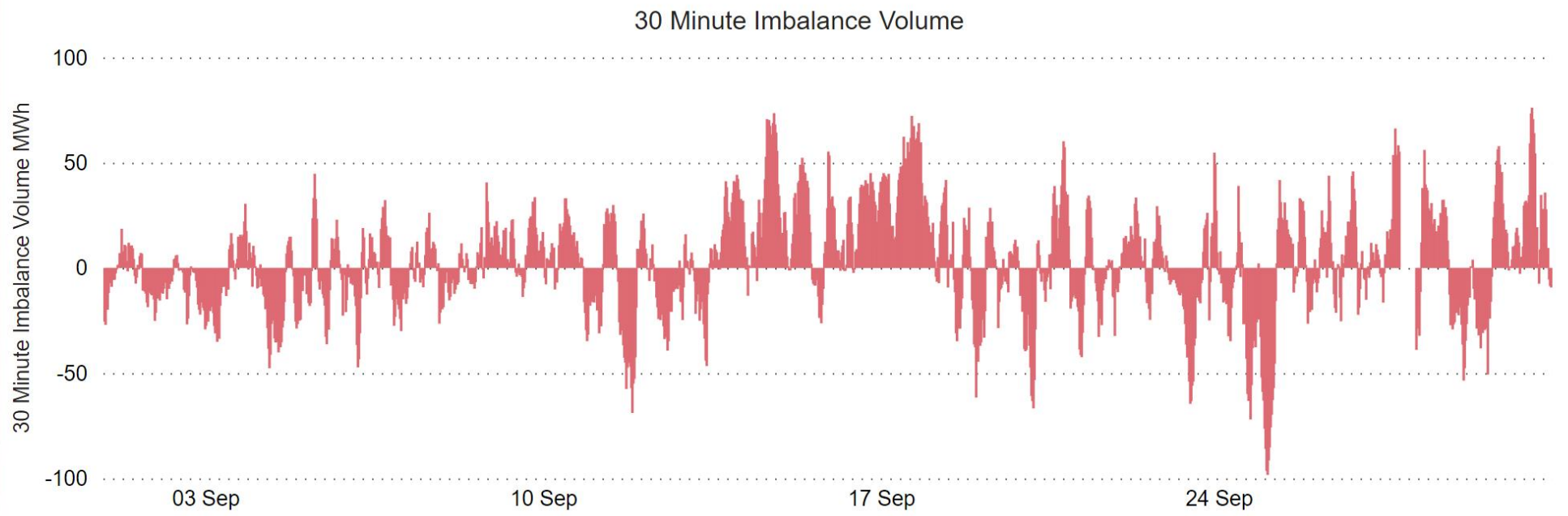
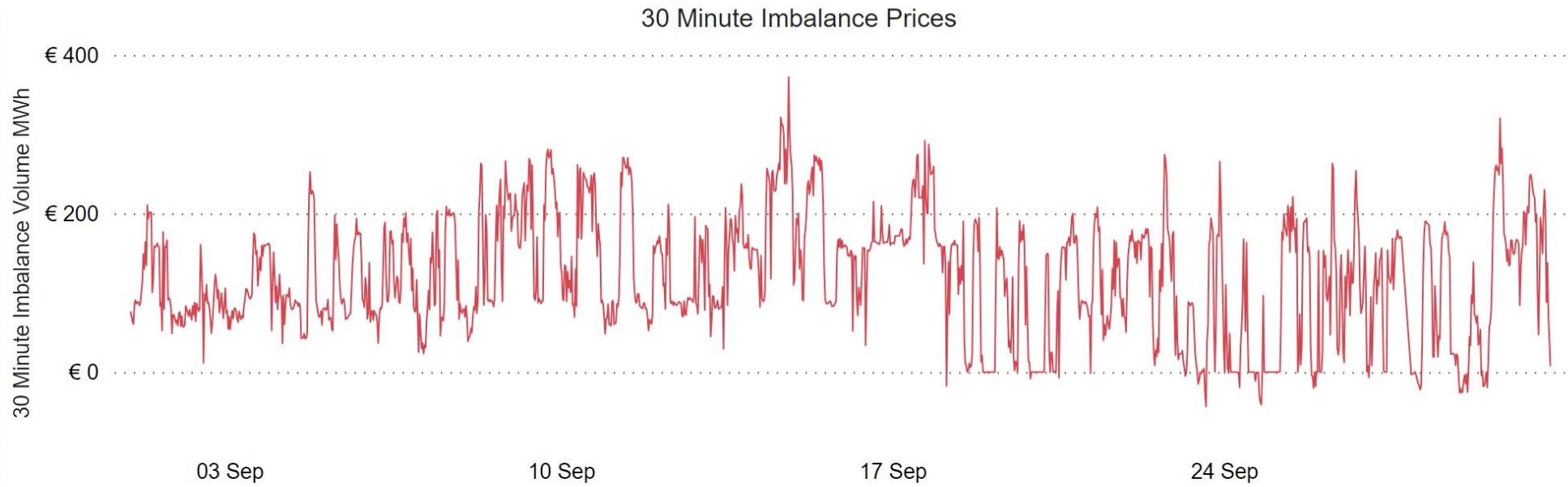


### Interconnector Flows

September 2023	MW
Moyle Imports	373
EWIC Imports	369
Moyle Exports	-230
EWIC Exports	-179
SEM Imports	690
SEM Exports	-316
SEM Net Import/Export	529

# Balancing Market September 2023

30 Minutes Imbalance Price  
€ 119.59  
Average Price  
-€ 43.71  
Lowest Price  
€ 372.04  
Highest Price



## Demand and Generation Mix



# Demand September 2023

## SEM Demand (MW)

4,335.04	4,197.34
SEM Average 2023	SEM Average 2022
3,310.10	3,137.73
SEM Min 2023	SEM Min 2022
5,060.60	4,914.03
SEM Max 2023	SEM Max 2022

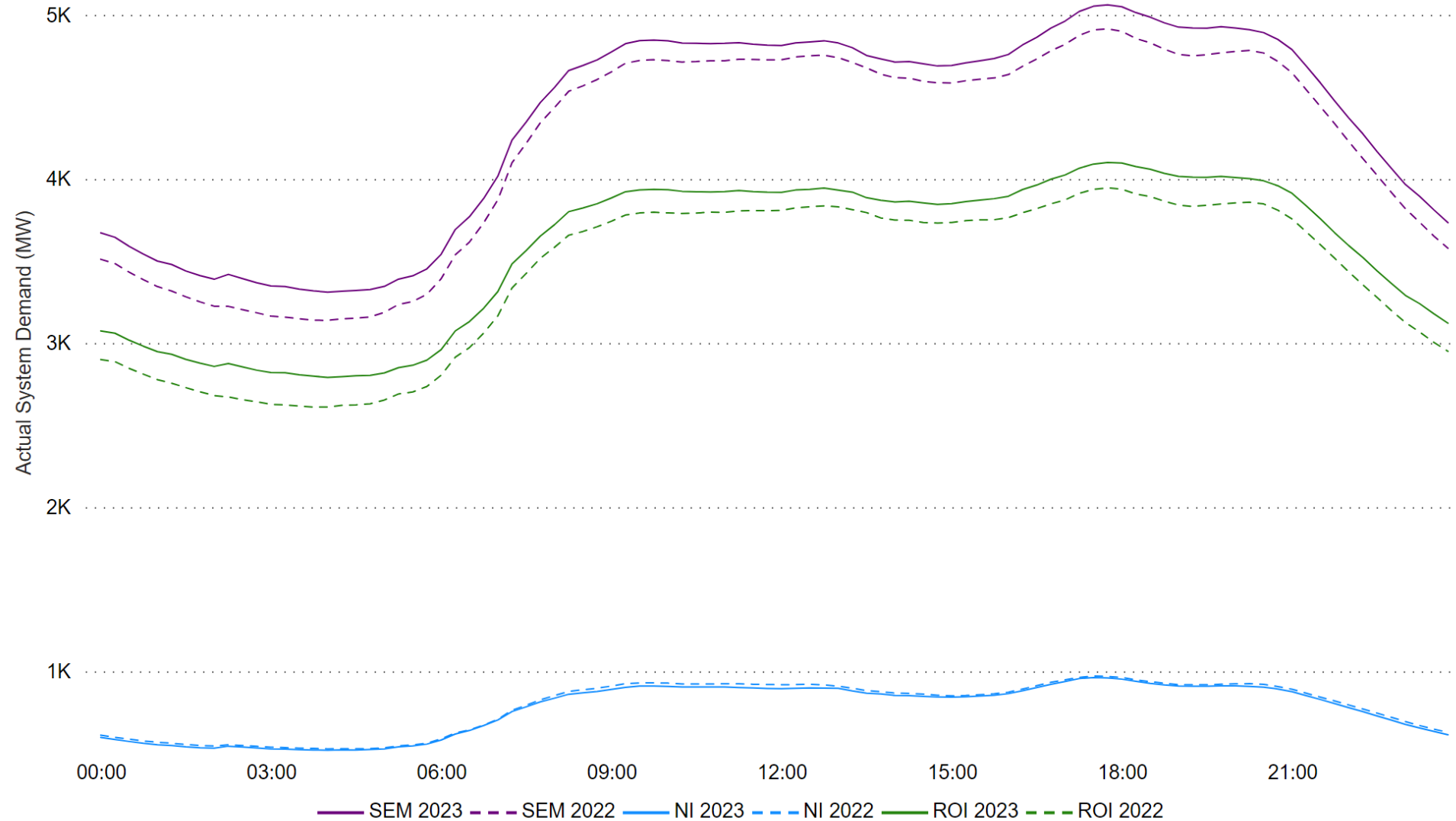
## NI Demand (MW)

770.34	783.44
NI Average 2023	NI Average 2022
519.23	527.37
NI Min 2023	NI Min 2022
961.73	971.40
NI Max 2023	NI Max 2022

## ROI Demand (MW)

3,564.71	3,413.92
ROI Average 2023	ROI Average 2022
2,790.67	2,609.47
ROI Min 2023	ROI Min 2022
4,100.83	3,945.77
ROI Max 2023	ROI Max 2022

### Monthly Average Hourly Demand Curves

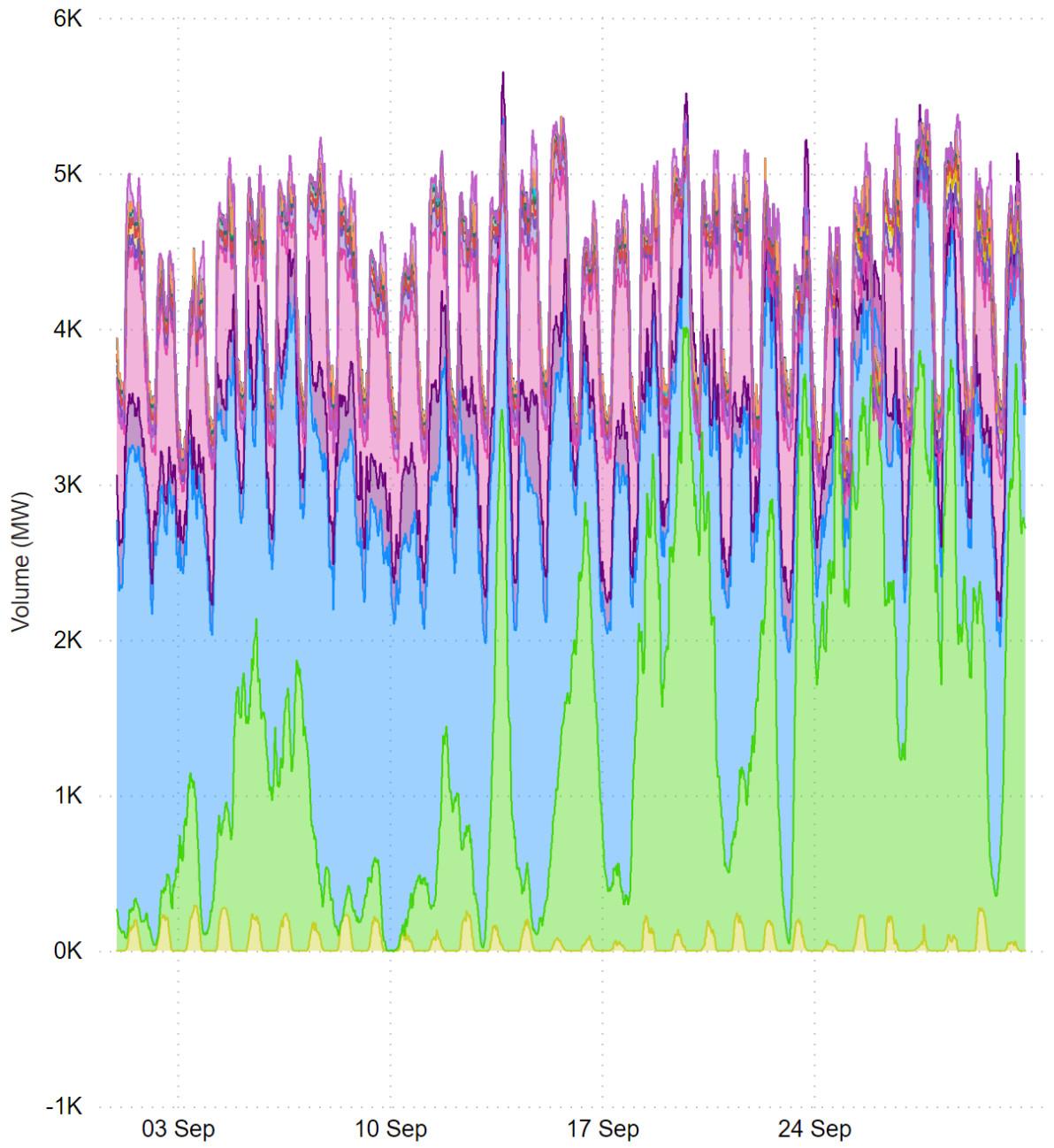


# Fuel Mix September 2023

Fuel Type	Average (MW)	%
CCGT	1,763	41.1%
WIND	1,384	32.2%
INTERCONNECTOR	528	12.3%
COAL	272	6.3%
HYDRO	73	1.7%
CHP	130	3.0%
PEAT	12	0.3%
WASTE	73	1.7%
SOLAR	53	1.2%
DSR	23	0.5%
OIL	1	0%
OCGT	2	0%
BATTERY	-3	-0.1%
PUMPED STORAGE	-15	-0.3%

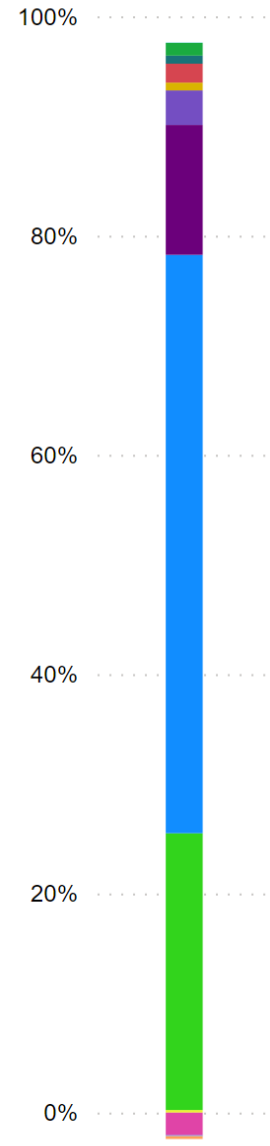
Fuel Type	Max (MW)	Min (MW)
CCGT	2,984	331
WIND	4,007	-4
INTERCONNECTOR	978	-900
COAL	641	96
HYDRO	146	14
CHP	161	63
PEAT	81	0
WASTE	80	9
SOLAR	291	0
DSR	102	0
OIL	70	0
OCGT	66	0
BATTERY	51	-14
PUMPED STORAGE	292	-302

SEM 30 Minute Fuel Mix

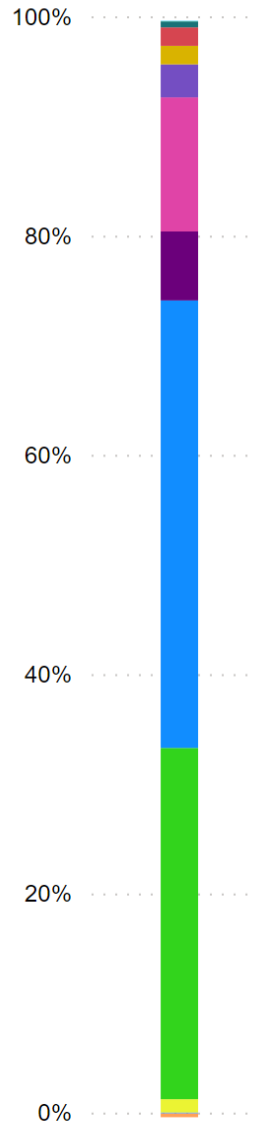


- SOLAR
- WIND
- CCGT
- COAL
- IC
- CHP
- HYDRO
- PEAT
- WASTE
- DSR
- OIL
- OCGT
- BATTERY
- PS

SEM Fuel Mix  
September 2022



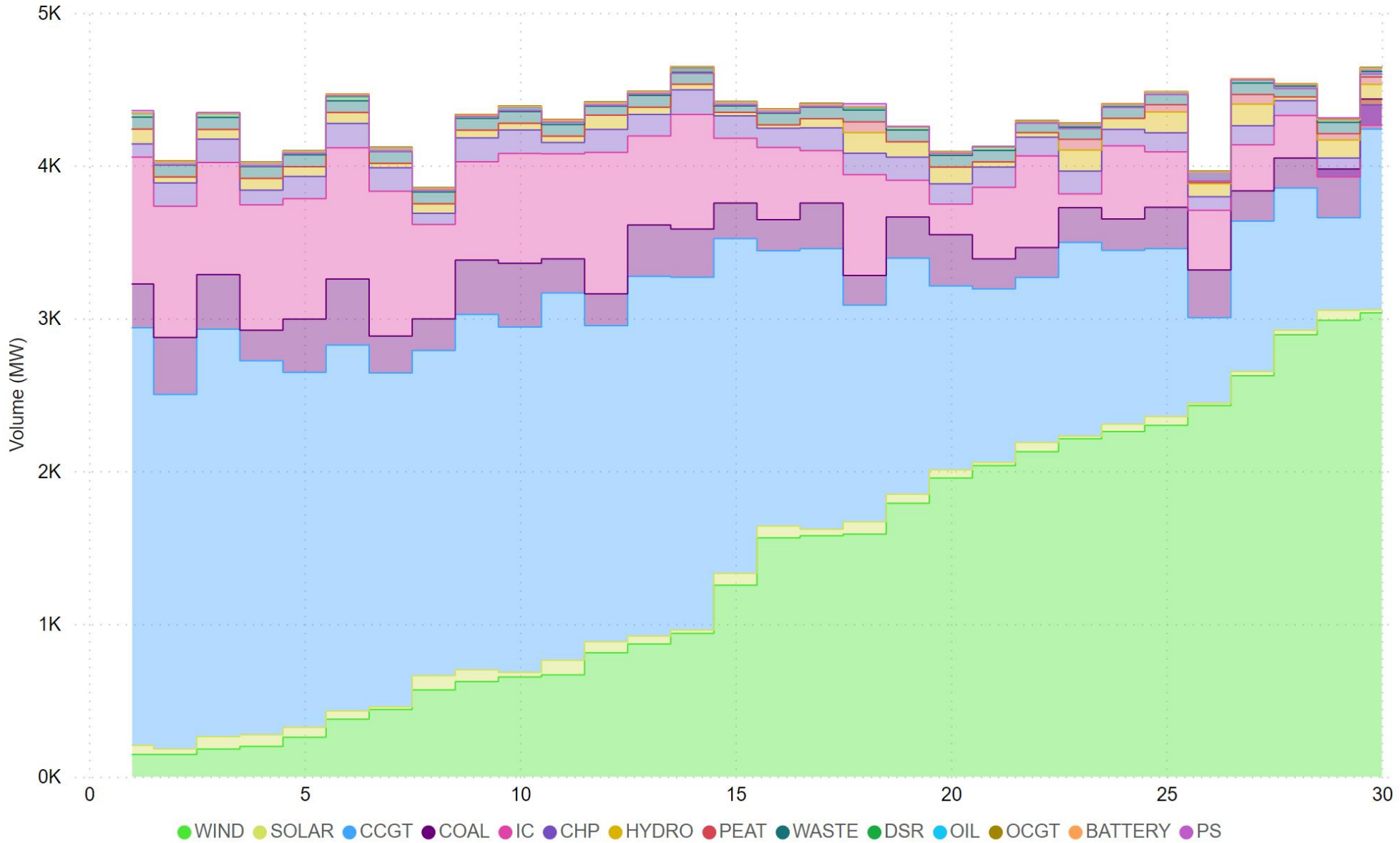
SEM Fuel Mix  
September 2023



# Fuel Mix Ranked by Wind Volume September 2023

This chart shows the average daily fuel mix for the month but instead of being a timeline chart it is ranked by level of wind available from smallest to largest.

Daily SEM Fuel Mix Ranked by Wind Volume for the Month





# North-South Tie Line September 2023

Average Flow NI to ROI (MW)

-256.68

Average Flow ROI to NI (MW)

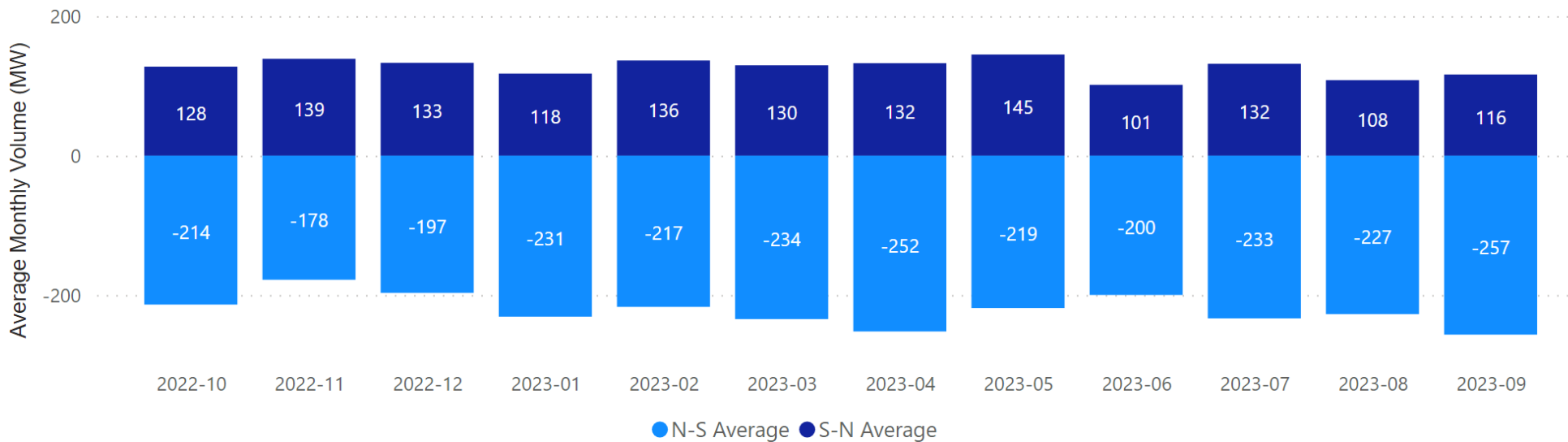
116.30

Average Net Flow (MW)

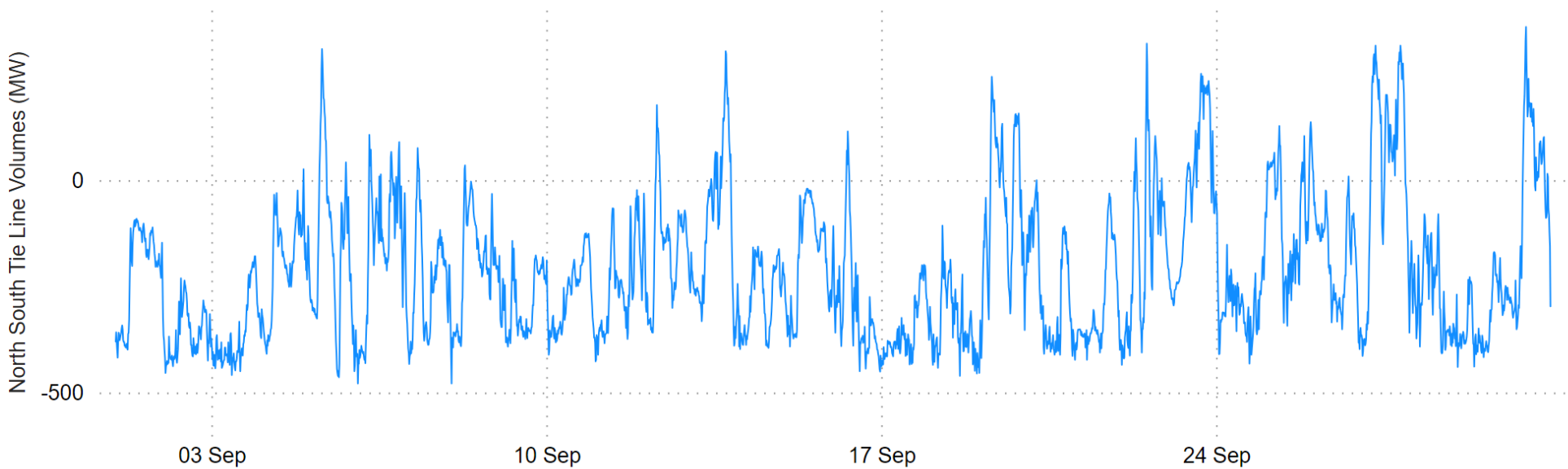
-214.12

-ve flow NI to ROI  
+ve flow ROI to NI

Average Flows N-S Tie Line Long Term Trend



North South Tie Line Volumes 15 minute periods



# Wind Generation September 2023

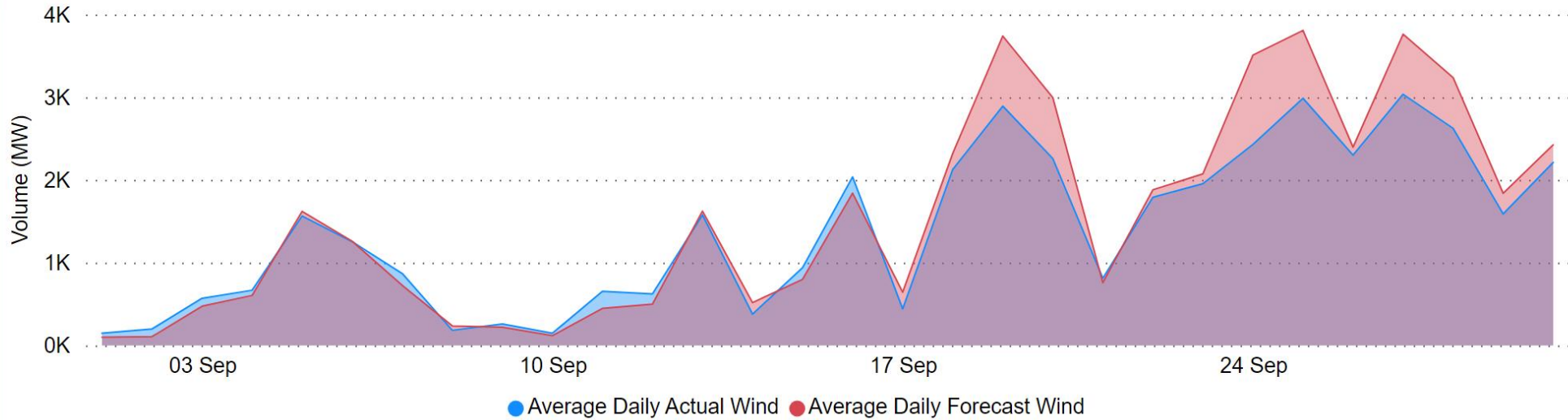
Average Daily Actual Wind (MW)  
1,384

Average Daily Forecast Wind (MW)  
1,552

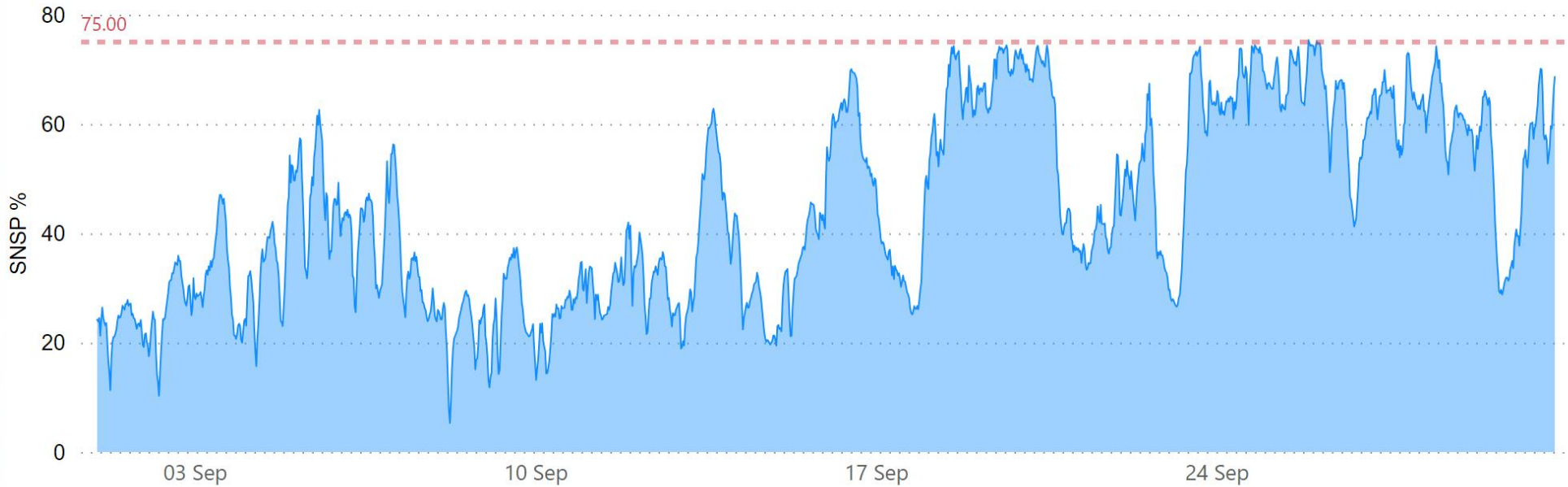
Min SNSP%  
5.34

Max SNSP%  
75.38

Actual Daily Average Wind Relative to Forecast Daily Average Wind



SNSP %



# CO<sub>2</sub> September 2023

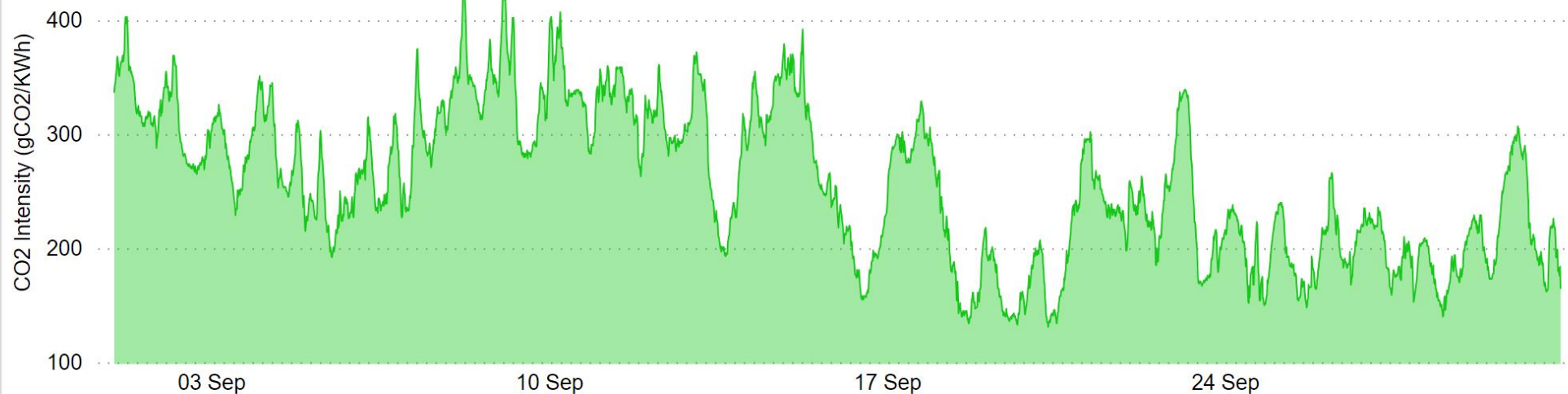
**CO2 Intensity**  
257.23  
Monthly Average (gCO<sub>2</sub>/KWh)  
131  
Monthly Low (gCO<sub>2</sub>/KWh)  
437  
Monthly High (gCO<sub>2</sub>/KWh)

**CO2 Emissions**  
1122.81  
Monthly Average (tCO<sub>2</sub>/hr)  
652  
Monthly Low (tCO<sub>2</sub>/hr)  
1912  
Monthly High (tCO<sub>2</sub>/hr)

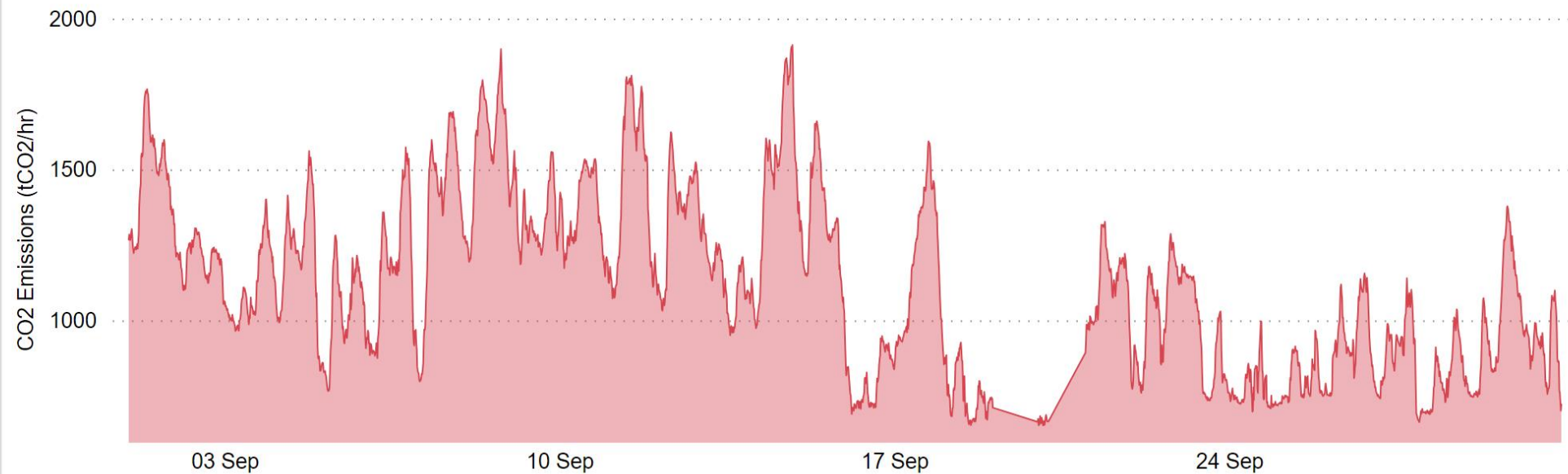
**Note**  
CO<sub>2</sub> Emissions data missing  
19th Sep 01:30 - 20th Sep 00:00

Data sourced from - SONI/ERIGRID

CO2 Intensity



CO2 Emissions

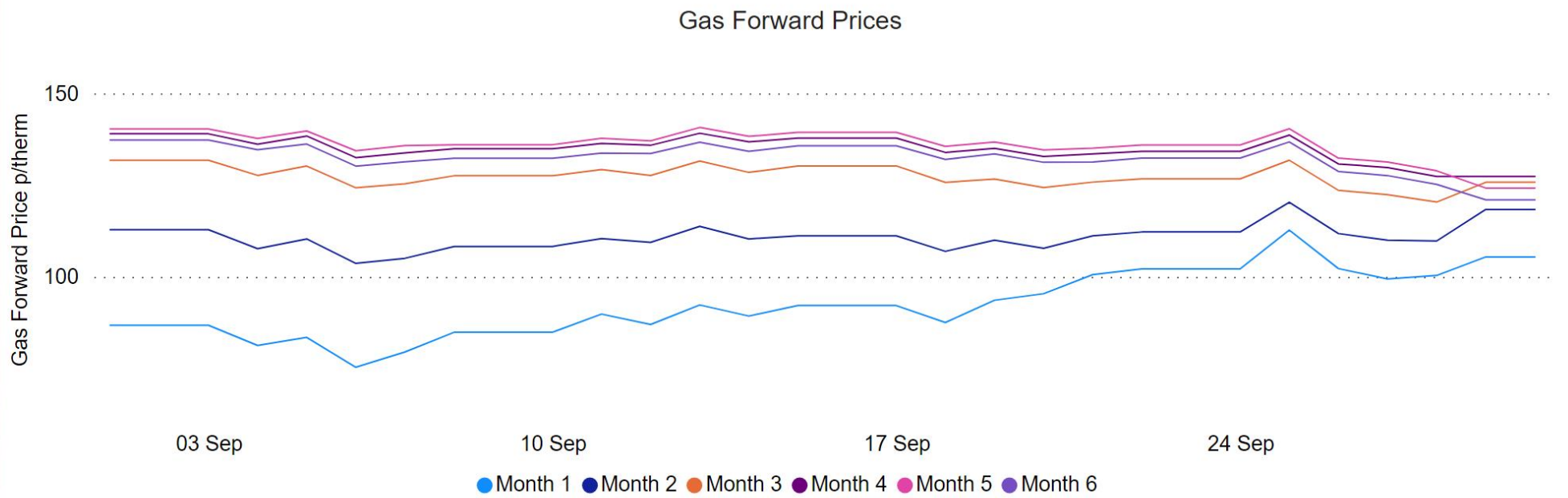
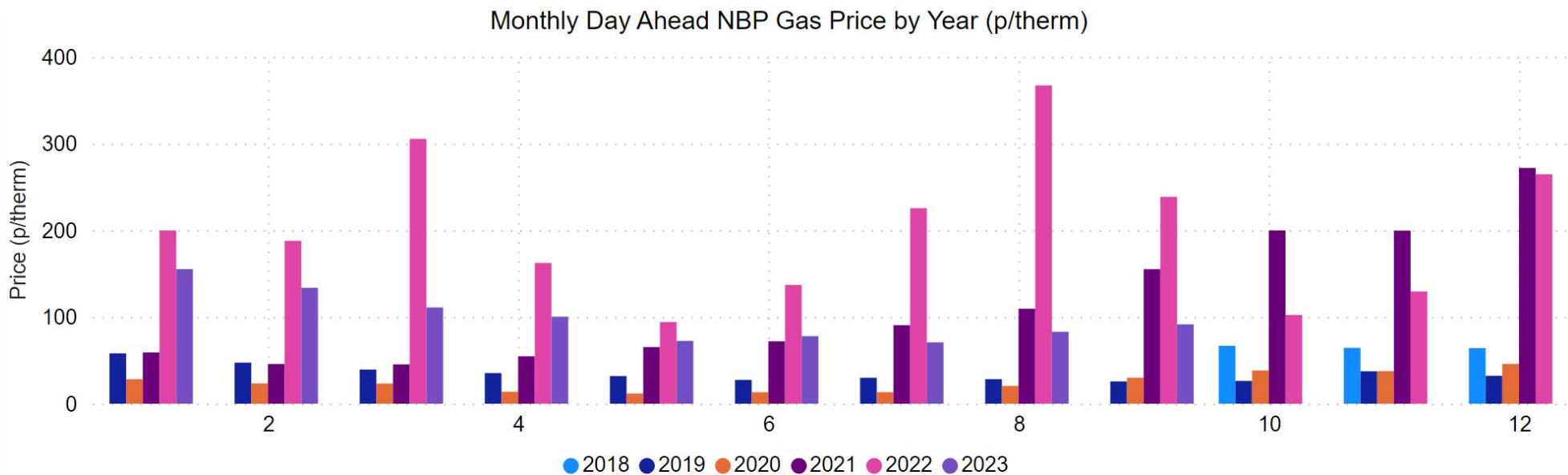




## Fuel Costs and Spreads

# Gas Price September 2023

91.52  
Monthly Average (p/therm)  
76.00  
Monthly Low (p/therm)  
111.50  
Monthly High (p/therm)

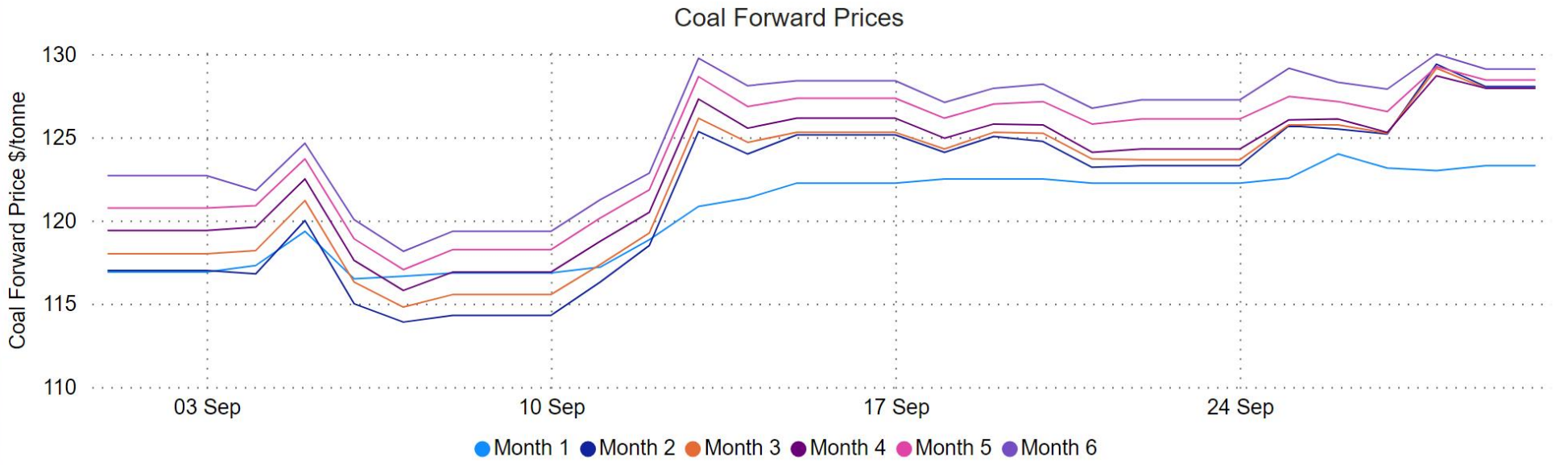
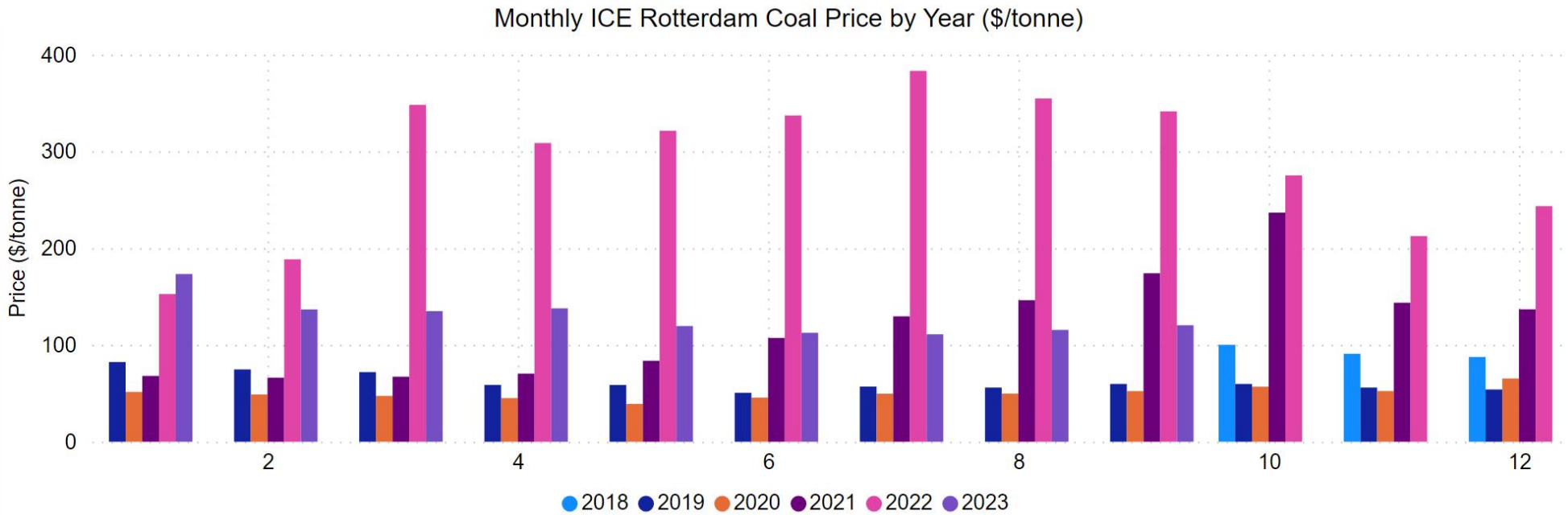


# Coal Price September 2023

\$120.40  
Monthly Average \$/tonne

\$116.50  
Monthly Low \$/tonne

\$124.00  
Monthly High \$/tonne



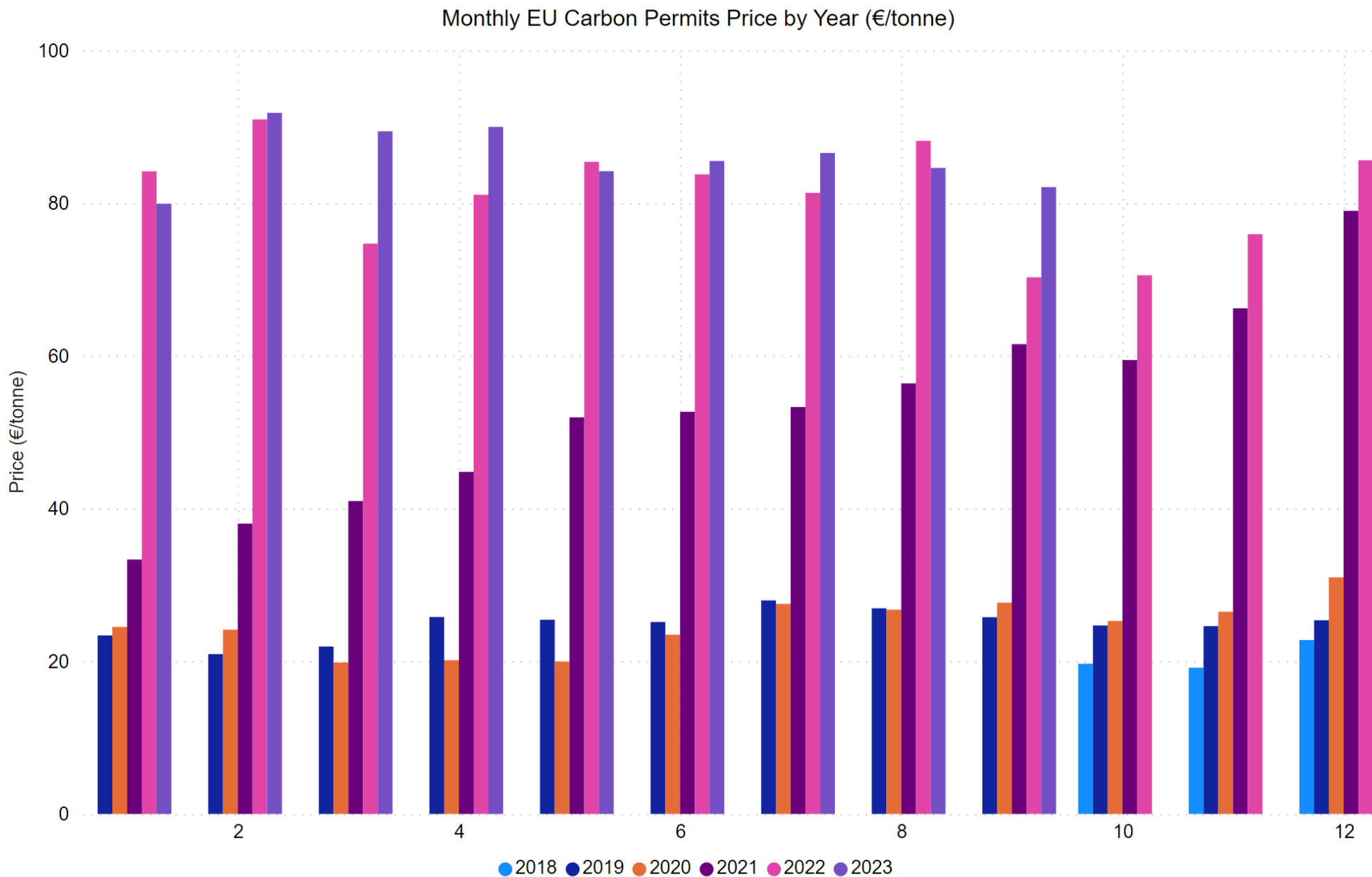


# Carbon Price September 2023

€ 82.09  
Monthly Average €/tonne

€ 80.05  
Monthly Low €/tonne

€ 84.22  
Monthly High €/tonne



# Spark Spreads September 2023

**Clean Dark Spread** measure the profitability of coal fired power generation based on the variable cost of inputs (coal and carbon credits) and the value of the output (electricity).

**Clean Spark Spread** is the difference between the price received by a generator for electricity produced and the cost of the natural gas + Carbon needed to produce that electricity.

