

# Energy Market Monitoring Report

November 2022





## Market Results

# Summary Dashboard

Monthly Averages	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22
DAM (€/MWh)	204.72	250.4	201.46	175.11	293.25	218.26	143.27	181.84	267.19	387.64	283.25	136.09	143.12
% Change from previous month	-5%	22%	-20%	-13%	67%	-26%	-34%	27%	47%	45%	-27%	-52%	5%
% Change from previous year	347%	326%	157%	204%	302%	155%	48%	91%	86%	195%	45%	-37%	-30%
Actual System Demand (MW)	4735	4789	4834	4833	4675	4408	4208	4169	4085	4099	4197	4330	4733
% Change from previous month	8%	1%	1%	0%	-3%	-6%	-5%	-1%	-2%	0%	2%	3%	9%
% Change from previous year	5%	2%	2%	3%	4%	3%	0%	2%	-1%	-1%	-2%	-1%	0%
Actual Wind Generation (MW)	1542	1971	1682	2777	1559	1426	1428	1129	854	817	1081	2047	2233
% Change from previous month	0%	28%	-15%	65%	-44%	-9%	0%	-21%	-24%	-4%	32%	89%	9%
% Change from previous year	-13%	-1%	11%	13%	-3%	31%	34%	13%	90%	-3%	24%	33%	45%
Gas Price p/therm	199.57	271.81	199.74	188.07	305.39	162.26	95.13	139.03	222.44	365.79	235.85	102.32	128.91
% Change from previous month	0%	36%	-27%	-6%	62%	-47%	-41%	46%	60%	64%	-36%	-57%	26%
% Change from previous year	442%	500%	240%	317%	586%	217%	45%	93%	145%	234%	52%	-49%	-35%
Carbon Price (€/Tonne)	66.22	78.99	84.16	90.96	74.69	81.09	85.41	83.74	81.34	88.20	70.29	70.46	75.84
% Change from previous month	11%	19%	7%	8%	-18%	9%	5%	-2%	-3%	8%	-20%	0%	8%
% Change from previous year	150%	155%	149%	138%	81%	77%	63%	59%	52%	56%	14%	19%	15%
Coal Price (\$/tonne)	143.61	136.80	152.64	188.51	348.03	308.61	321.33	337.07	383.18	354.67	341.33	275.16	212.52
% Change from previous month	-39%	-5%	12%	23%	85%	-11%	4%	5%	14%	-7%	-4%	-19%	-23%
% Change from previous year	174%	109%	124%	185%	418%	338%	284%	214%	196%	142%	96%	16%	48%
EWIC % Import Periods	30.97%	25.77%	17.61%	18.15%	68.75%	0.00%	12.33%	27.16%	33.03%	25.84%	16.25%	30.51%	18.61%
EWIC % Export Periods	31.18%	47.14%	48.19%	59.19%	17.04%	0.00%	23.49%	43.56%	56.52%	51.92%	41.81%	46.24%	54.10%
EWIC % Not Flow Periods	37.85%	27.08%	34.21%	33.37%	14.21%	100.00%	64.18%	29.28%	10.45%	22.24%	45.28%	23.25%	27.29%
Moyle % Import Periods	50.63%	24.29%	35.65%	27.31%	55.04%	56.33%	38.54%	40.44%	24.90%	31.55%	35.35%	40.52%	29.51%
Moyle % Export Periods	49.38%	75.71%	64.35%	72.69%	44.83%	43.63%	61.46%	59.56%	10.72%	66.26%	63.85%	59.44%	69.83%
Moyle % Not Flow Periods	0.00%	0.00%	0.00%	7.14%	0.13%	0.00%	0.00%	0.00%	64.38%	2.18%	0.80%	0.03%	0.66%

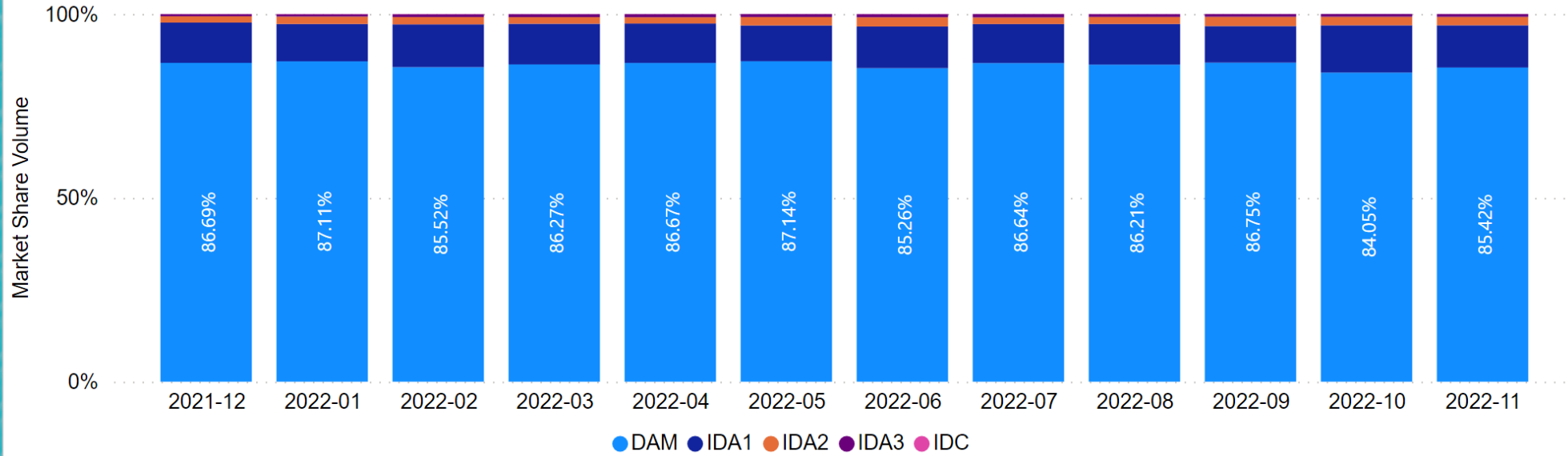
# Market Volumes November 2022

Daily Average Volume	MWh
DAM	123,159
IDA1	16,554
IDA2	3,323
IDA3	1,099
IDC	54

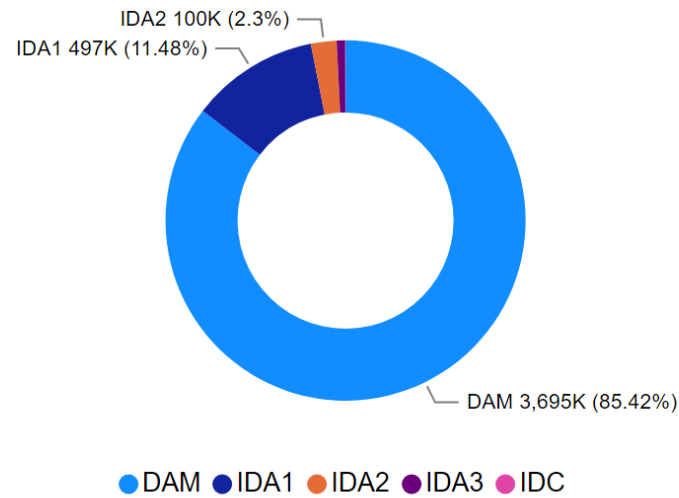
Total Monthly Volume	MWh
DAM	3,694,763
IDA1	496,611
IDA2	99,684
IDA3	32,974
IDC	1,306
<b>Total</b>	<b>4,325,337</b>

Total Market Value	€
DAM	€ 551,622,461
IDA1	€ 73,841,376
IDA2	€ 17,066,926
IDA3	€ 5,761,469
IDC	€ 208,270
<b>Total</b>	<b>€ 648,500,501</b>

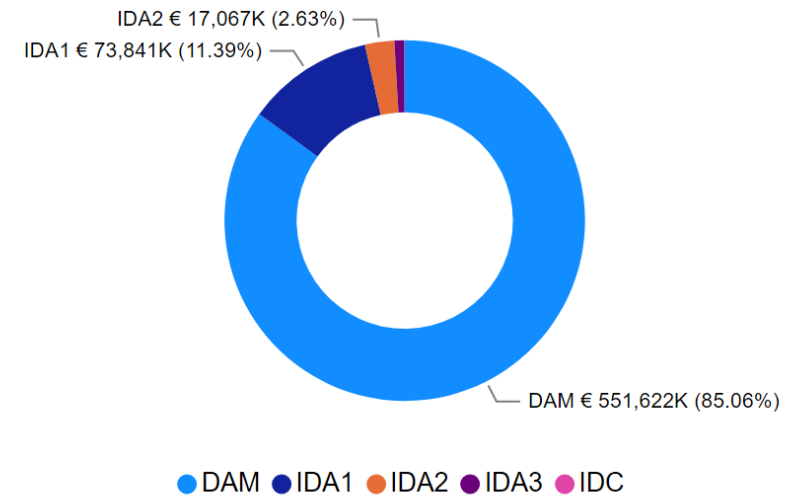
### Ex-Ante Monthly Volume by Market



### Ex-Ante Volumes (MWh)



### Ex-Ante Values (€)

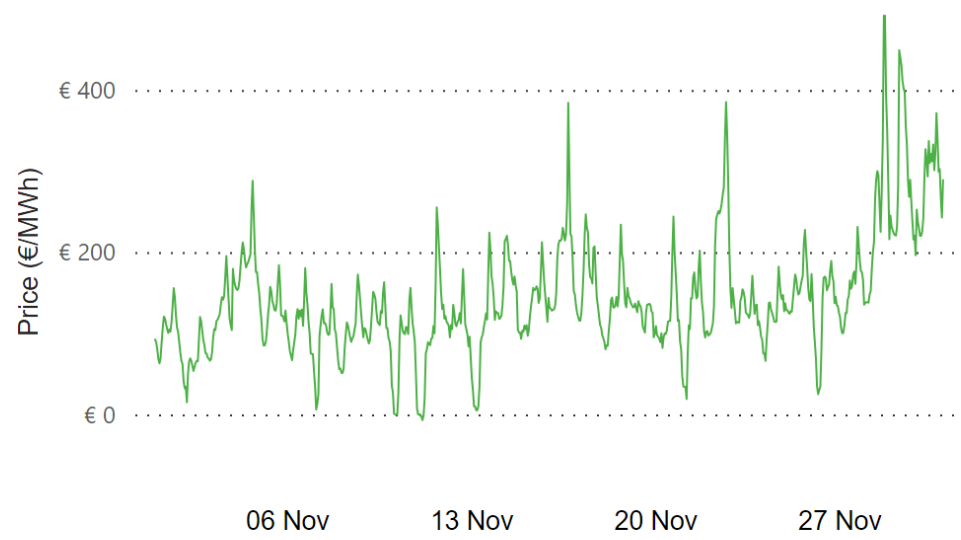


# Day Ahead Market November 2022

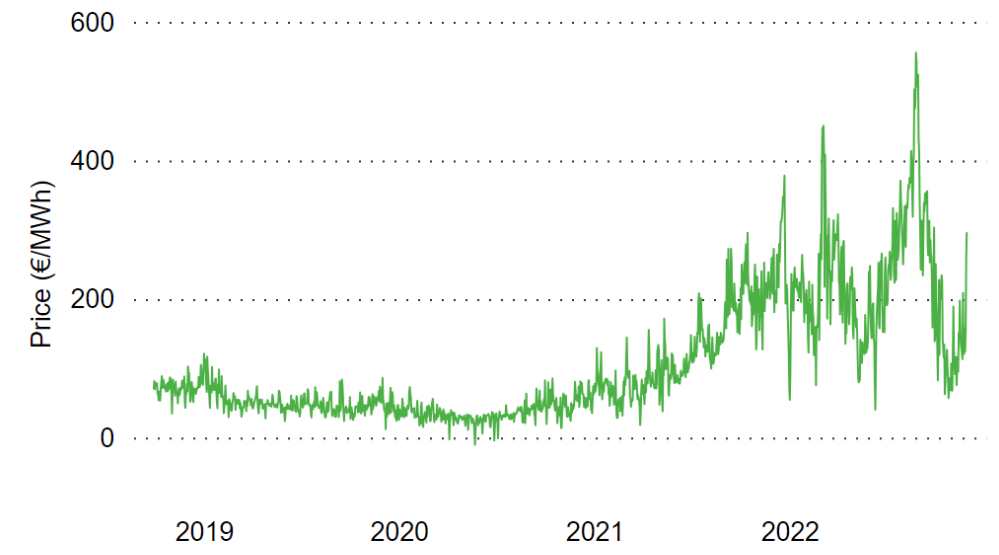
€ 143.12  
Average DAM Price  
-€ 7.00  
Min DAM Price  
€ 491.44  
Max DAM Price

The most frequent price range for November was between €80 and €160

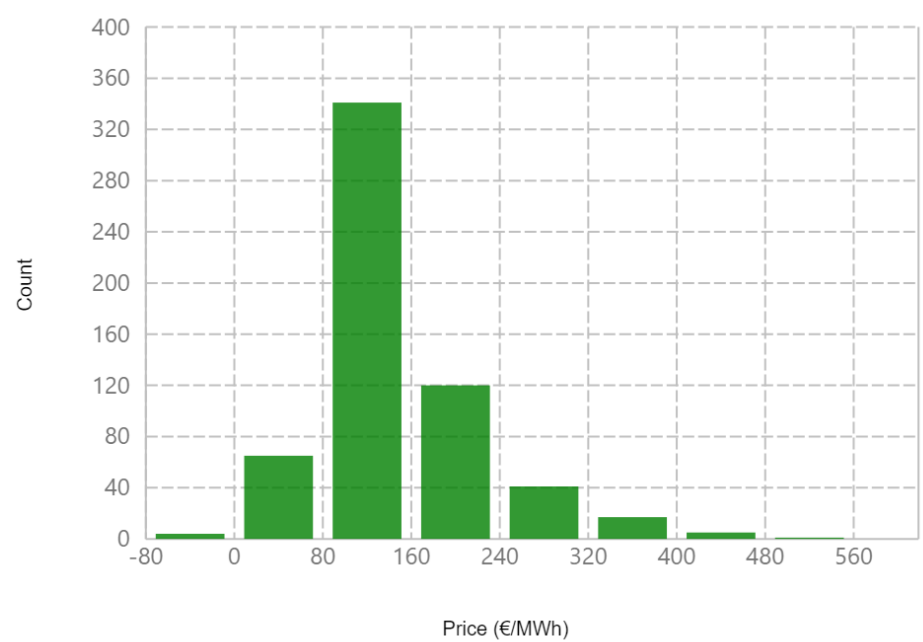
DAM Prices



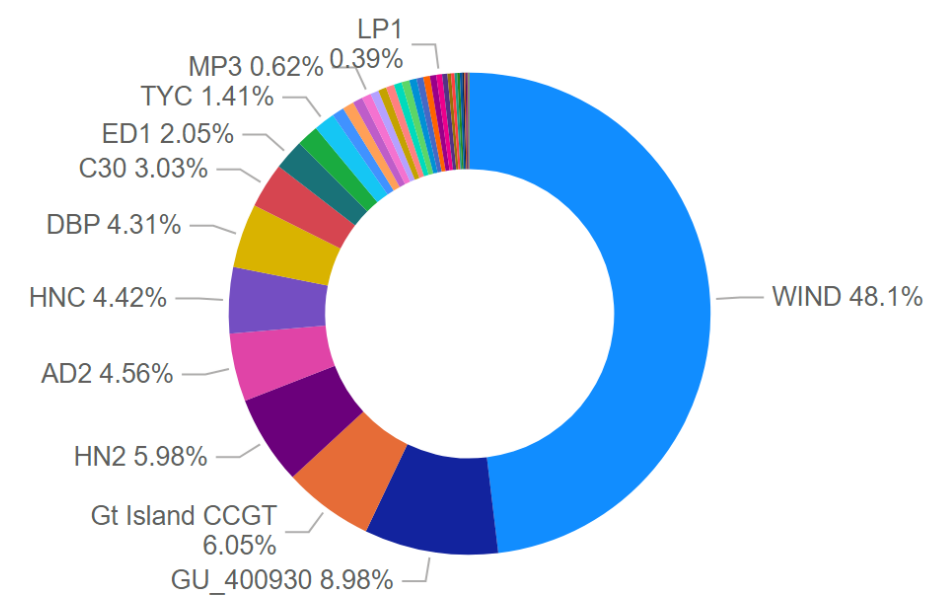
Historic Daily Average DAM Prices



Histogram of DAM Prices



DAM Sell Side Generator Order Results



# Intraday Market November 2022

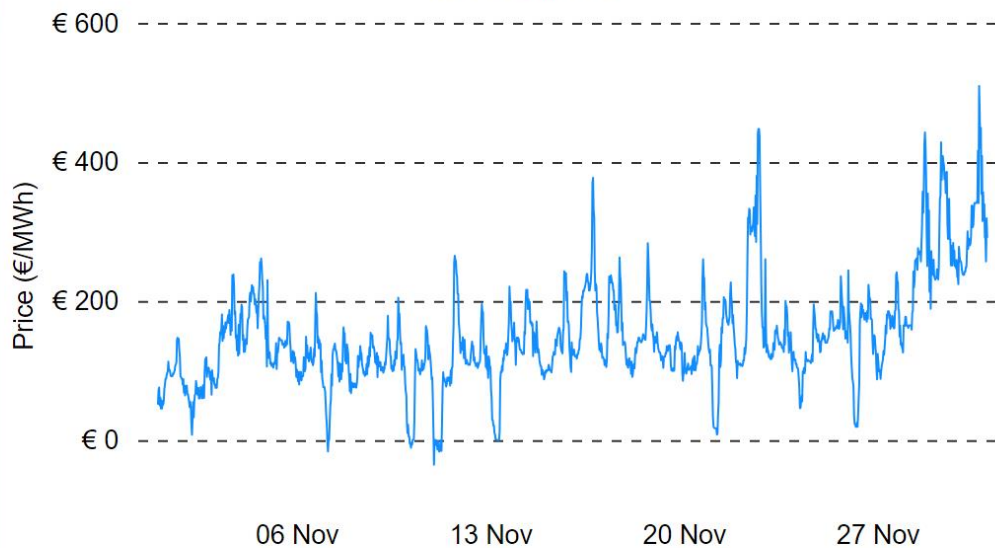
€ 148.20  
Average IDA1 Price

-€ 35.47  
Min IDA1 Price

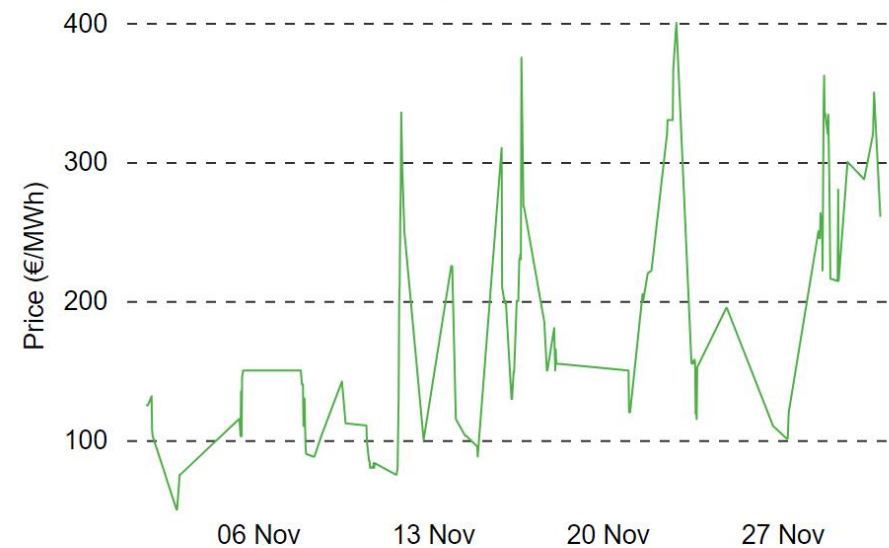
€ 509.00  
Max IDA1 Price

The most frequent price range for November was between €80 and €160

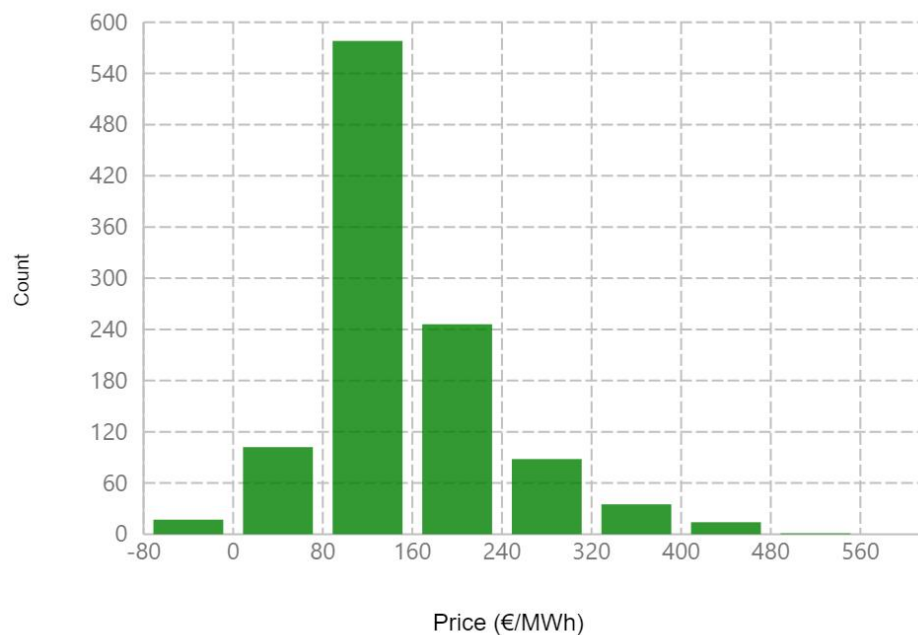
### IDA 1 Prices



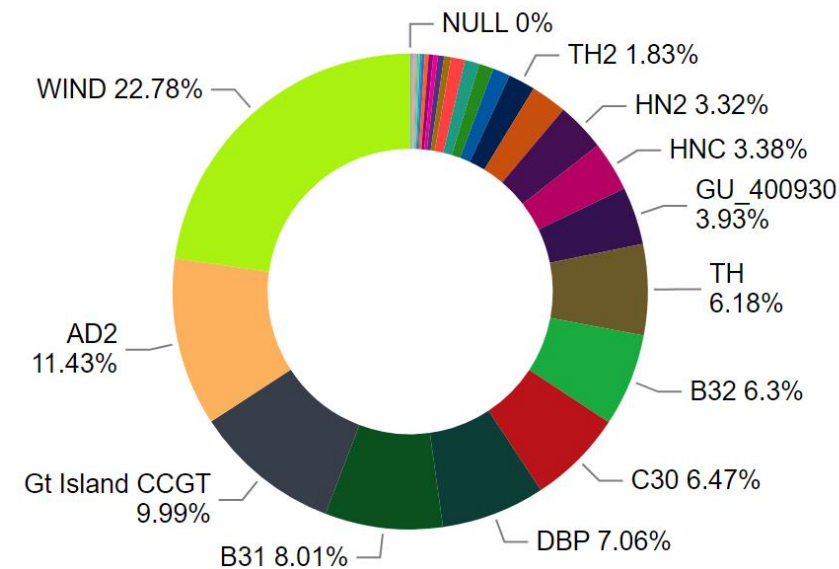
### IDC Prices



### Histogram of IDA1 Prices



### IDA1 Sell Order Results By Market Participant



# SEM vs GB

## November 2022

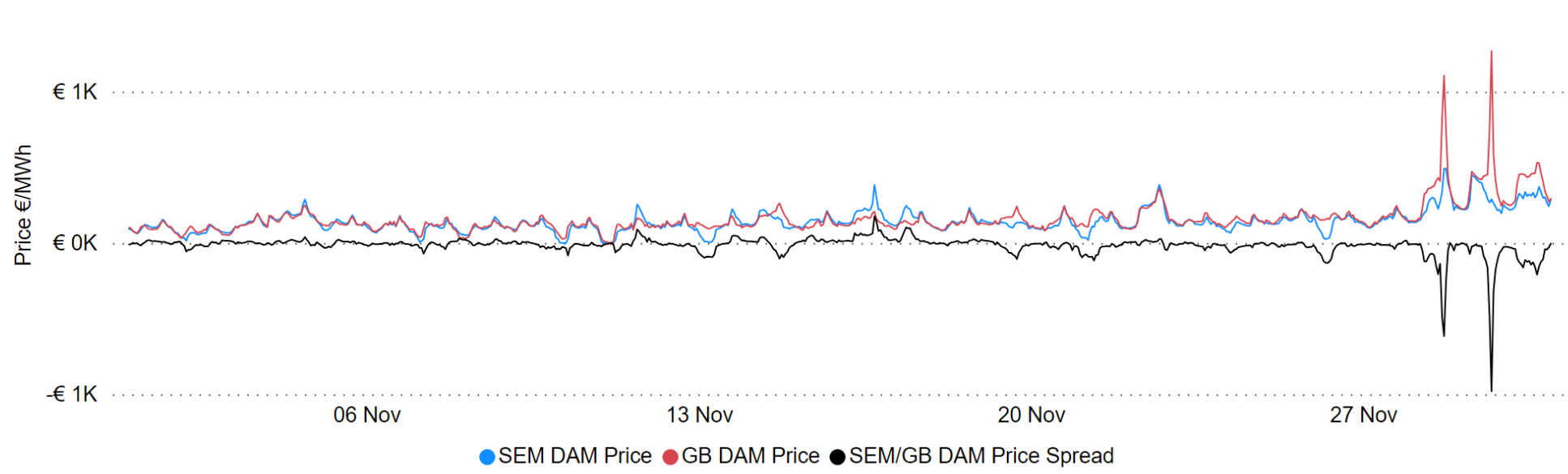
**SEM Day Ahead Price**  
 € 143.12  
 Average Price  
 -€ 7.00  
 Min Price  
 € 491.44  
 Max Price

**GB Day Ahead Price**  
 € 159.70  
 Average Price  
 -€ 10.17  
 Min Price  
 € 1,268.84  
 Max Price

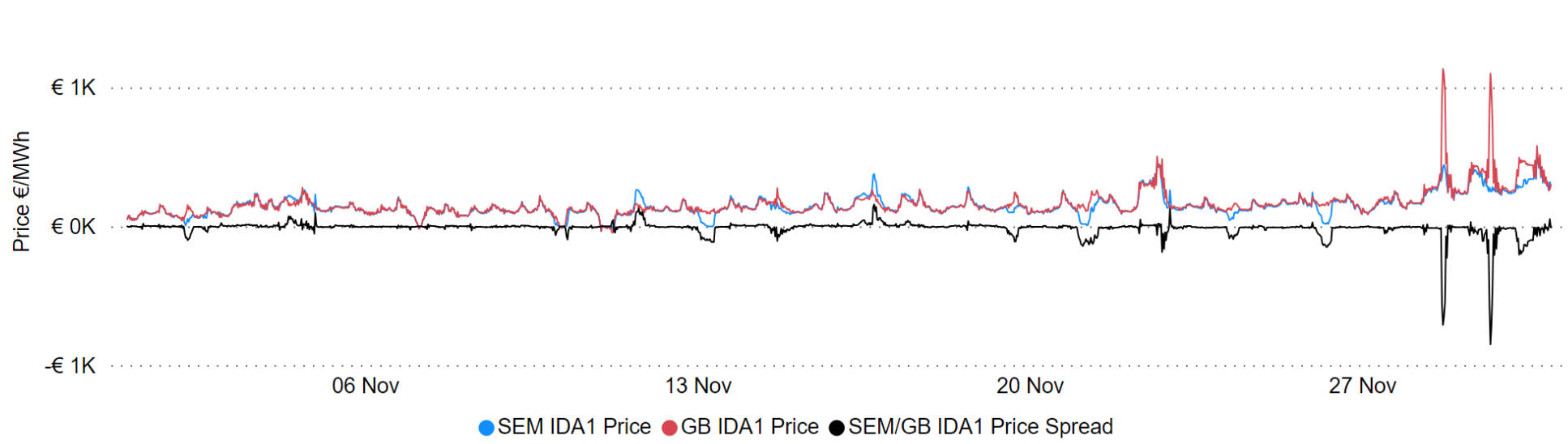
**SEM IDA1 Price**  
 € 148.20  
 Average Price  
 -€ 35.47  
 Min Price  
 € 509.00  
 Max Price

**GB IDA1 Prices**  
 € 160.93  
 Average Price  
 -€ 45.61  
 Min Price  
 € 1,134.55  
 Max Price

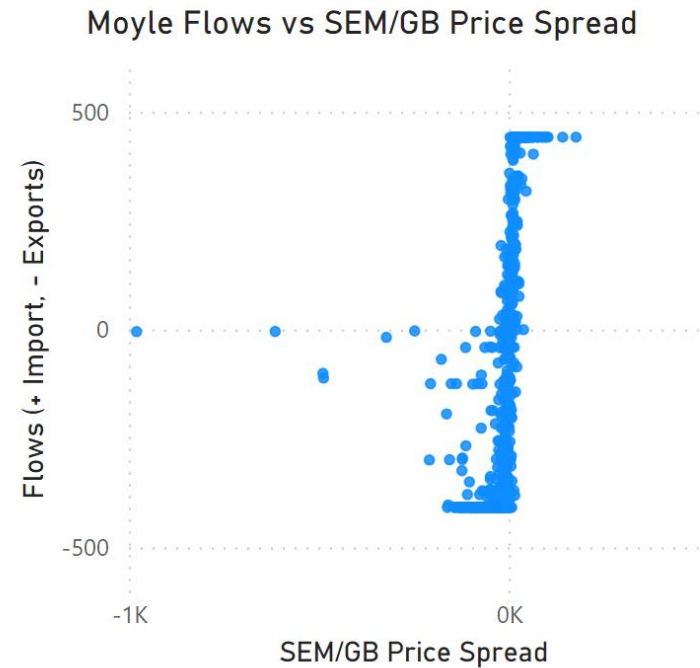
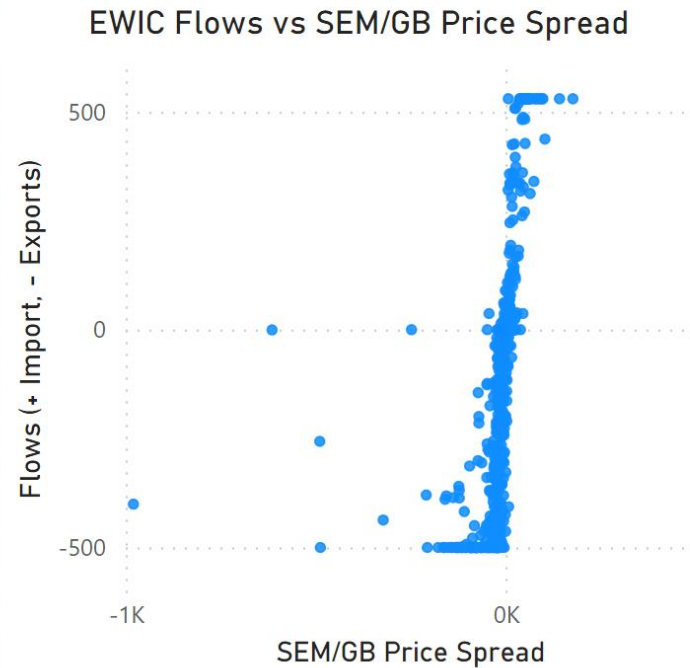
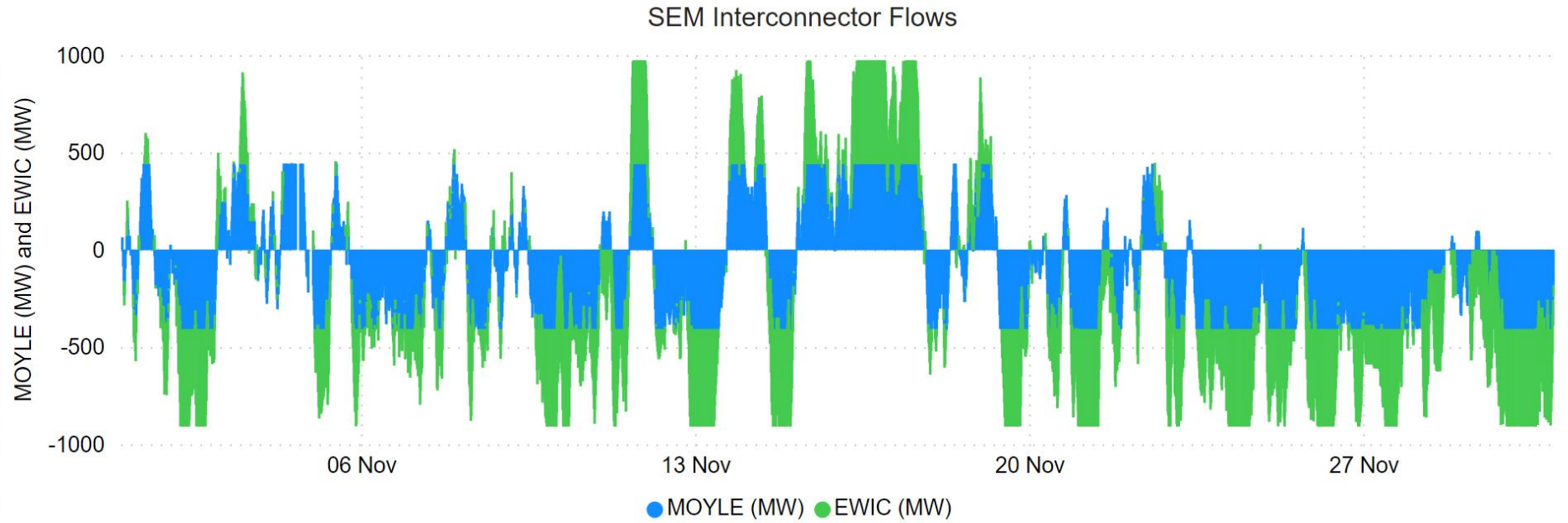
SEM & GB DAM Prices



SEM & GB IDA1 Prices



# SEM Interconnectors November 2022



### Interconnector Flows

November 2022	MW
Moyle Imports	290
EWIC Imports	231
Moyle Exports	-300
EWIC Exports	-290
SEM Imports	432
SEM Exports	-520
SEM Net Import/Export	-238



# Balancing Market November 2022

30 Minutes Imbalance Price

€ 156.14

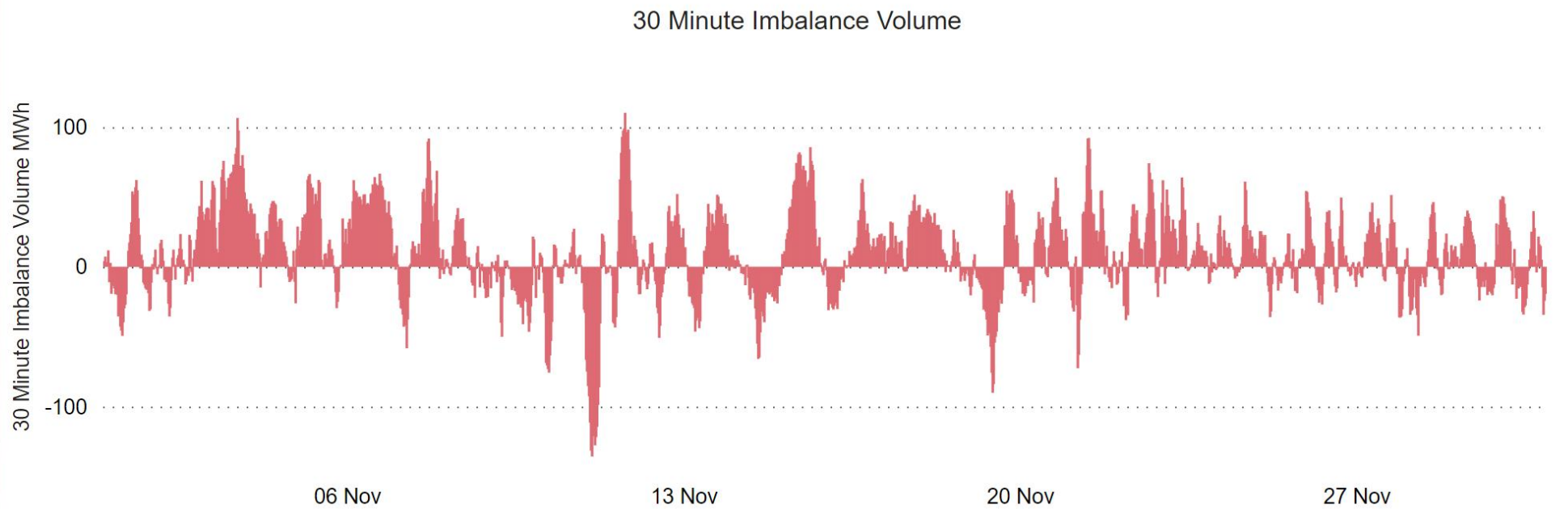
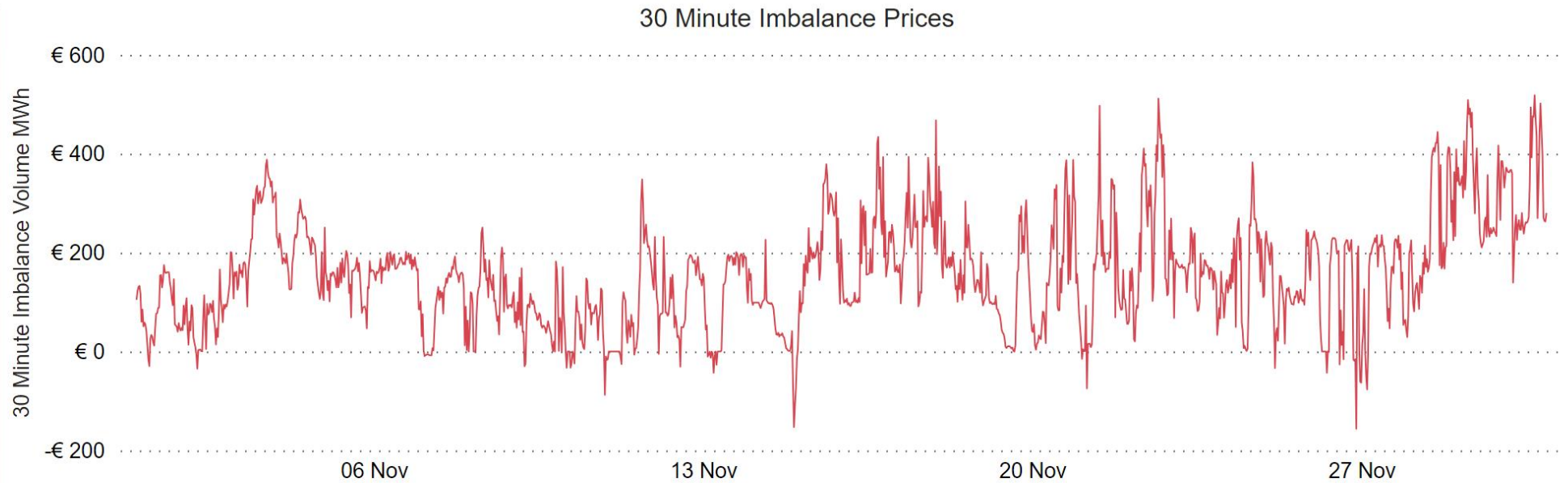
Average Price

-€ 155.91

Lowest Price

€ 518.34

Highest Price



## Demand and Generation Mix

# Demand November 2022

## SEM Demand (MW)

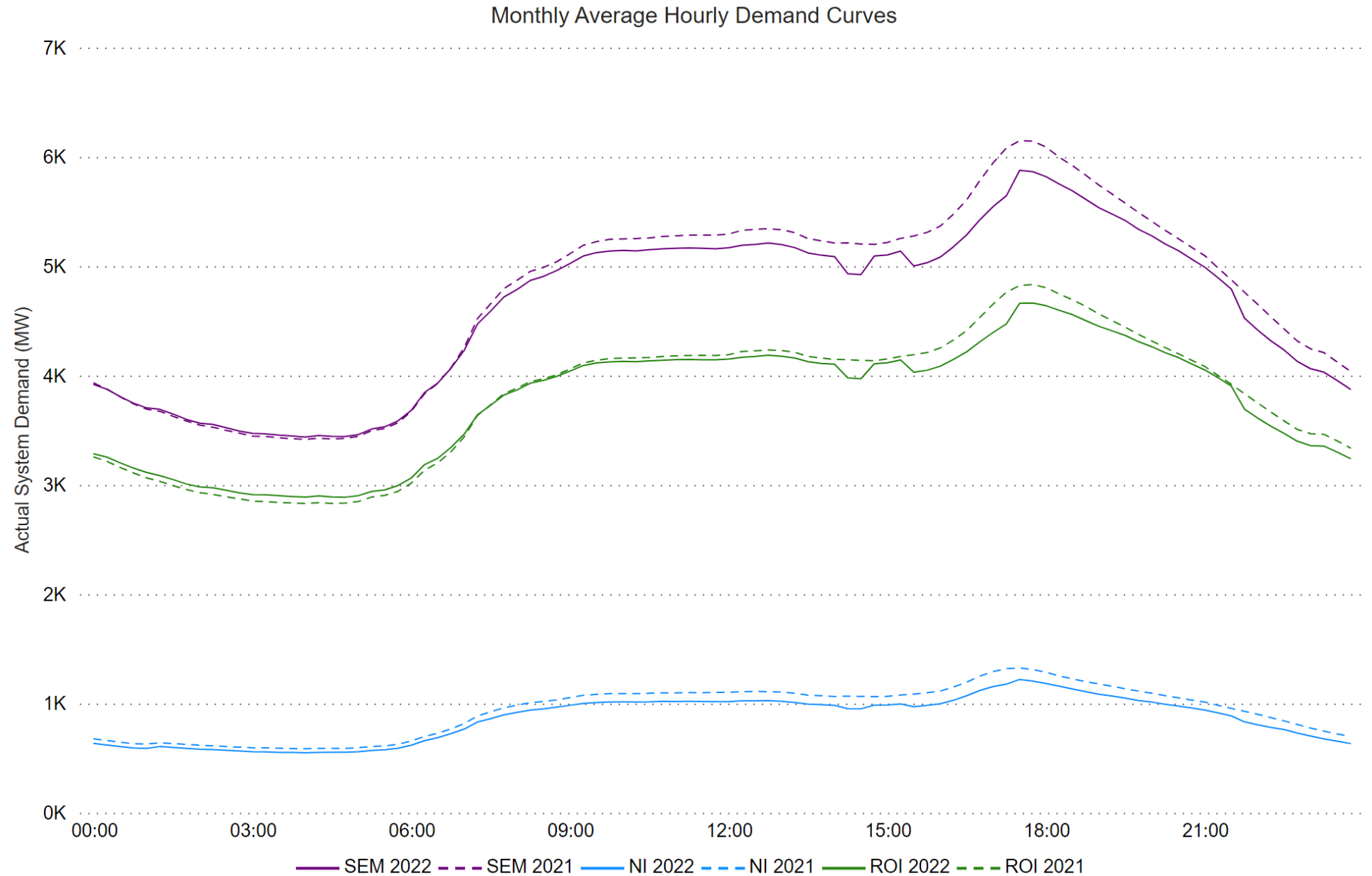
4,621.37	4,735.18
SEM Average 2023	SEM Average 2022
3,437.83	3,416.71
SEM Min 2023	SEM Min 2022
5,876.83	6,148.77
SEM Max 2023	SEM Max 2022

## NI Demand (MW)

862.81	934.42
NI Average 2023	NI Average 2022
549.97	586.42
NI Min 2023	NI Min 2022
1,220.43	1,325.55
NI Max 2023	NI Max 2022

## ROI Demand (MW)

3,758.88	3,800.75
ROI Average 2023	ROI Average 2022
2,887.60	2,830.29
ROI Min 2023	ROI Min 2022
4,663.57	4,832.84
ROI Max 2023	ROI Max 2022

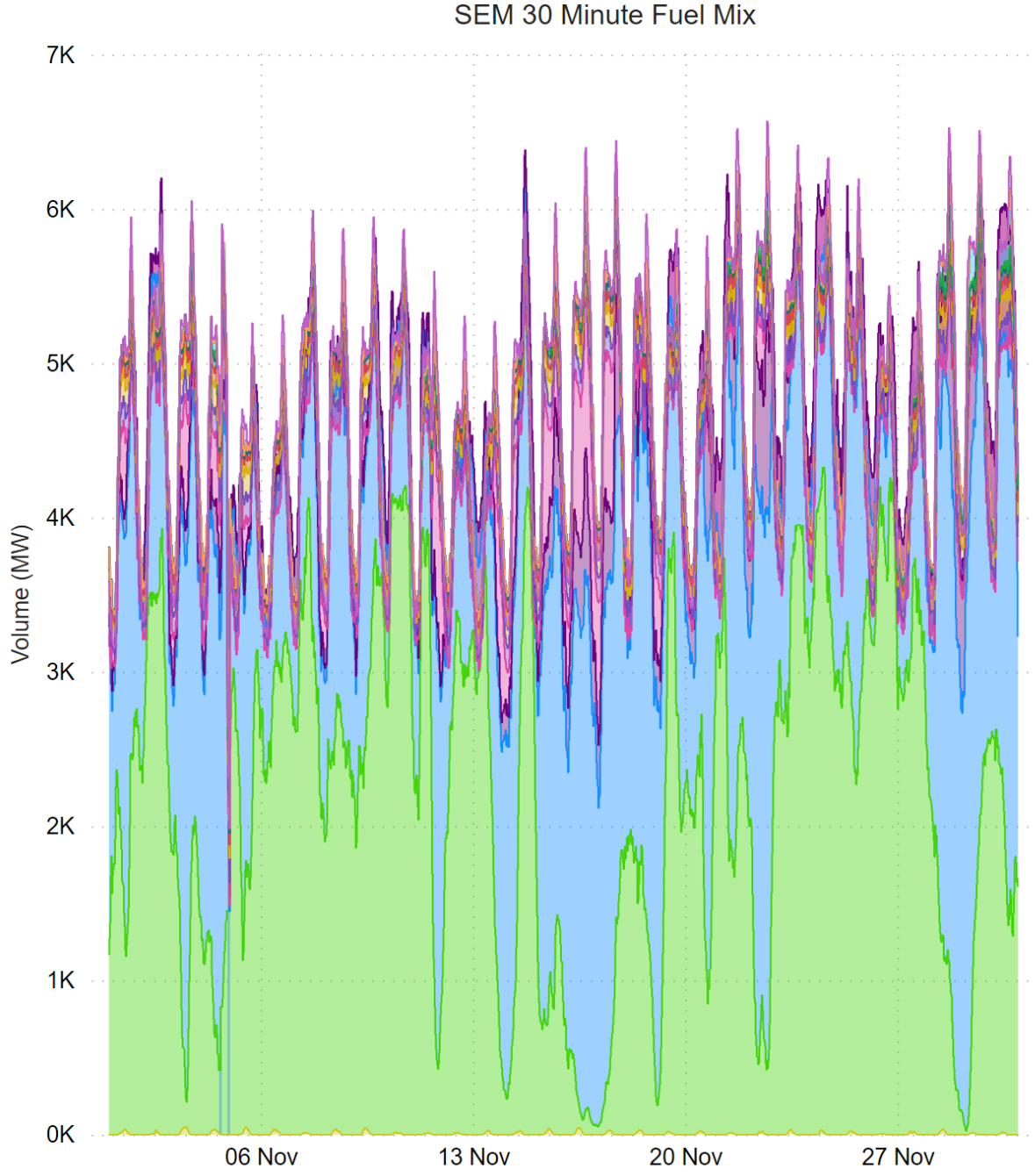


# Fuel Mix

## November 2022

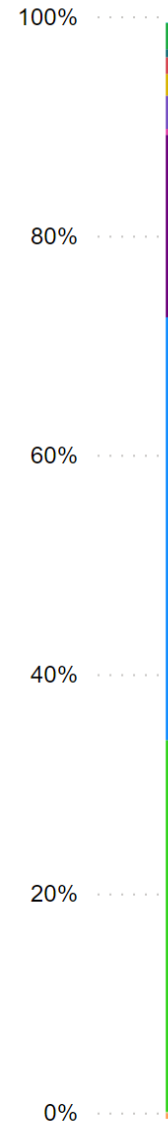
Fuel Type	Average (MW)	%
CCGT	1,924	40.7%
WIND	2,246.8	47.57%
INTERCONNECTOR	-234.8	-5.0%
COAL	329.2	7.0%
HYDRO	156.6	3.3%
CHP	126.2	2.7%
PEAT	75.0	1.6%
WASTE	68.0	1.4%
SOLAR	4.9	0.1%
DSR	25.6	0.5%
OIL	22.0	0.5%
OCGT	1.5	0.0%
BATTERY	-3.2	-0.1%
PUMPED STORAGE	-18.7	-0.4%

Fuel Type	Max (MW)	Min (MW)
CCGT	3,877	549
WIND	4,309	23
INTERCONNECTOR	976	-935
COAL	1,261	0
HYDRO	185	62
CHP	166	41
PEAT	97	0
WASTE	80	31
SOLAR	49	0
DSR	212	0
OIL	386	0
OCGT	84	0
BATTERY	104	-27
PUMPED STORAGE	292	-293

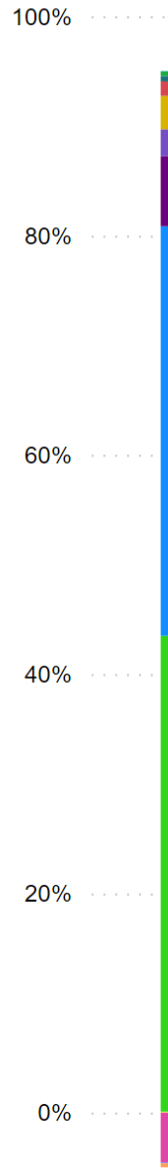


- SOLAR
- WIND
- CCGT
- COAL
- IC
- CHP
- HYDRO
- PEAT
- WASTE
- DSR
- OIL
- OCGT
- BATTERY
- PS

SEM Fuel Mix November 2021



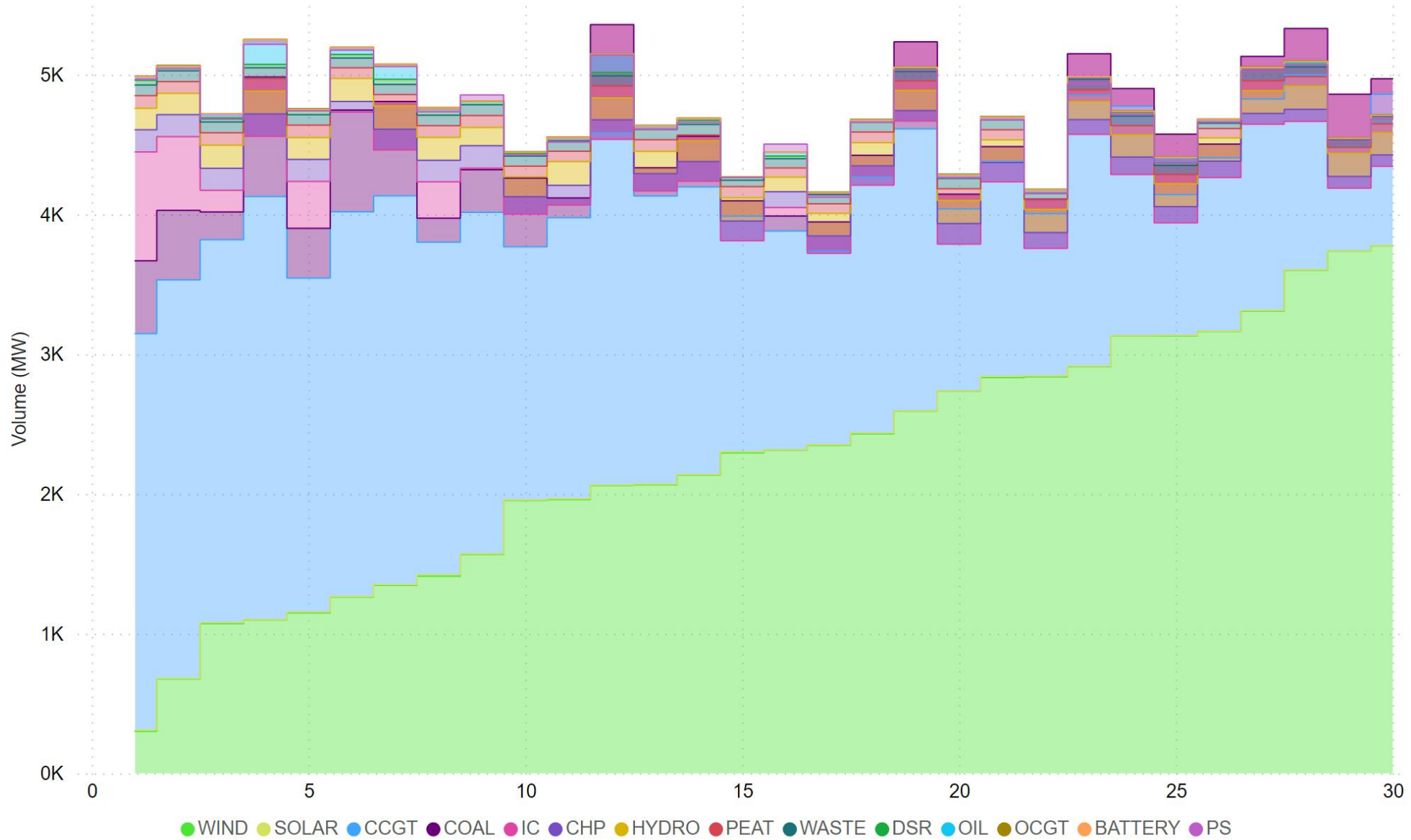
SEM Fuel Mix November 2022



# Fuel Mix Ranked by Wind Volume November 2022

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.

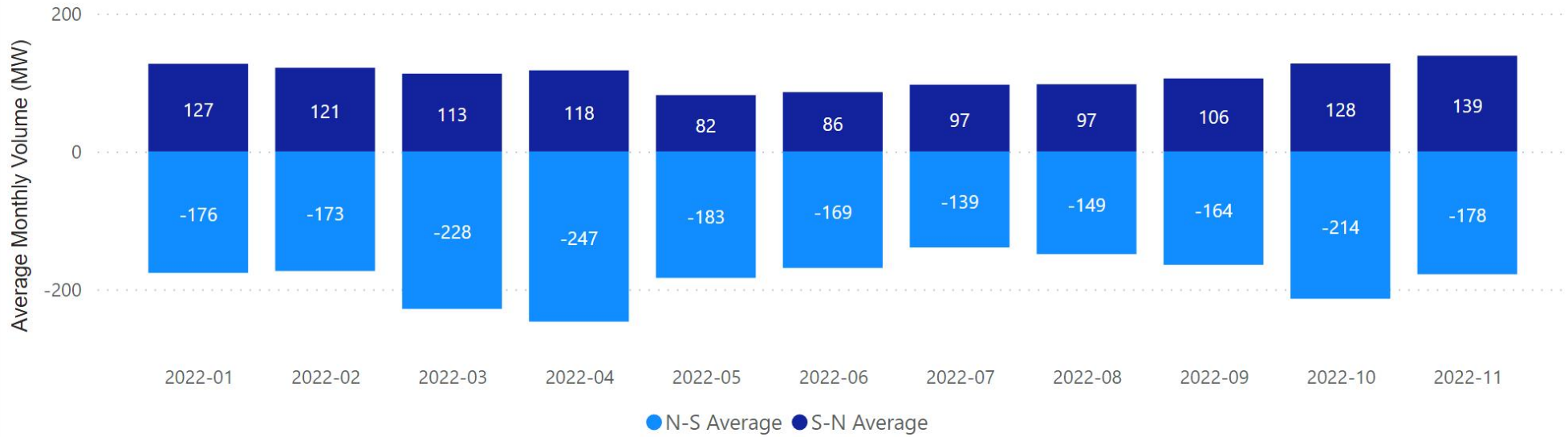
Daily SEM Fuel Mix Ranked by Wind Volume for the Month



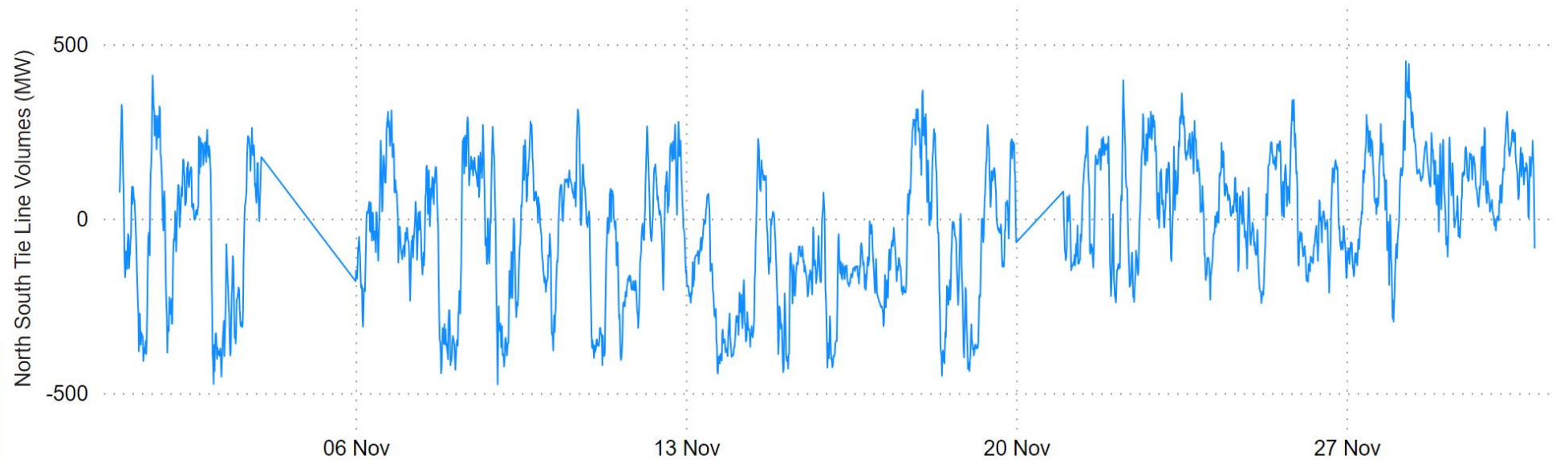
# North-South Tie Line November 2022

Flow Direction (Average)	MW
NI to ROI	178.07
ROI to NI	139.78
NET NI to ROI	28.49

### Average Flows N-S Tie Line Long Term Trend



### North South Tie Line Volumes 15 minute periods



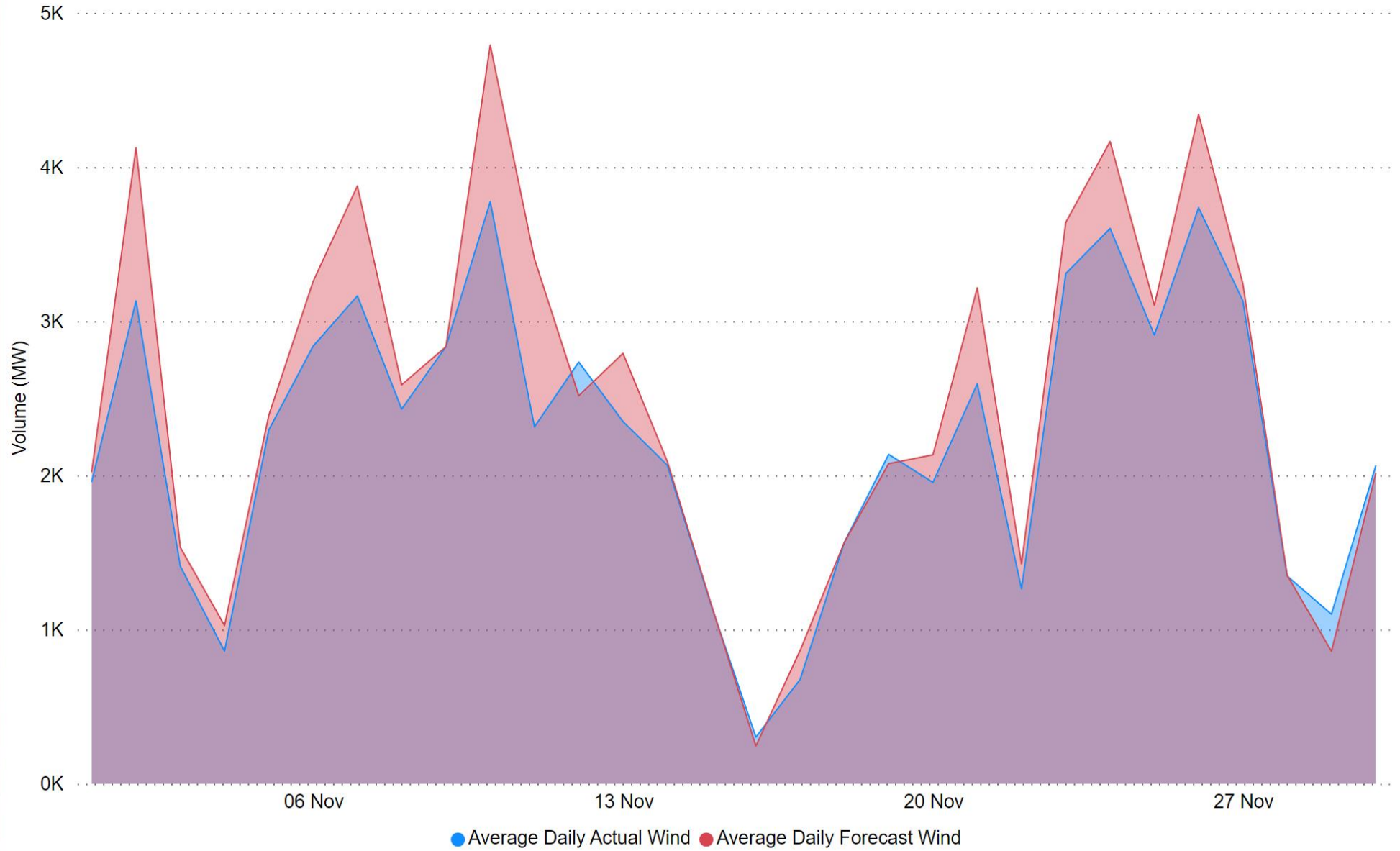
Note  
 N-S tie line data missing  
 4th November 00:00 - 6th November 00:00  
 20th November 00:00 - 21st November 00:00

# Wind Generation November 2022

Average Daily Actual Wind (MW)  
2,233

Average Daily Forecast Wind (MW)  
2,488

### Actual Daily Average Wind Relative to Forecast Daily Average Wind



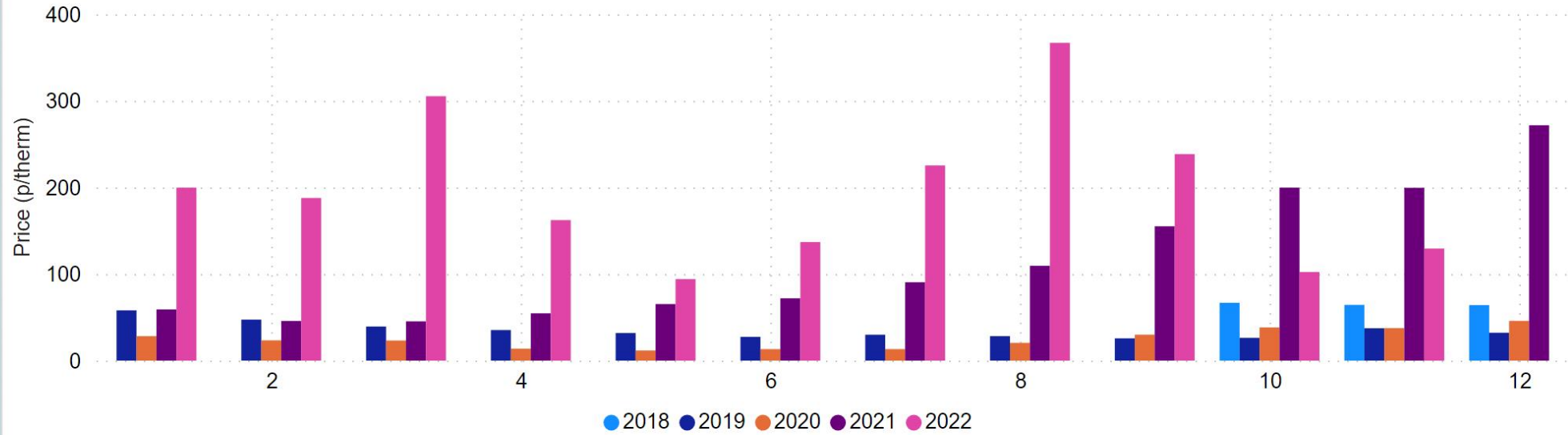
## Fuel Costs and Spreads



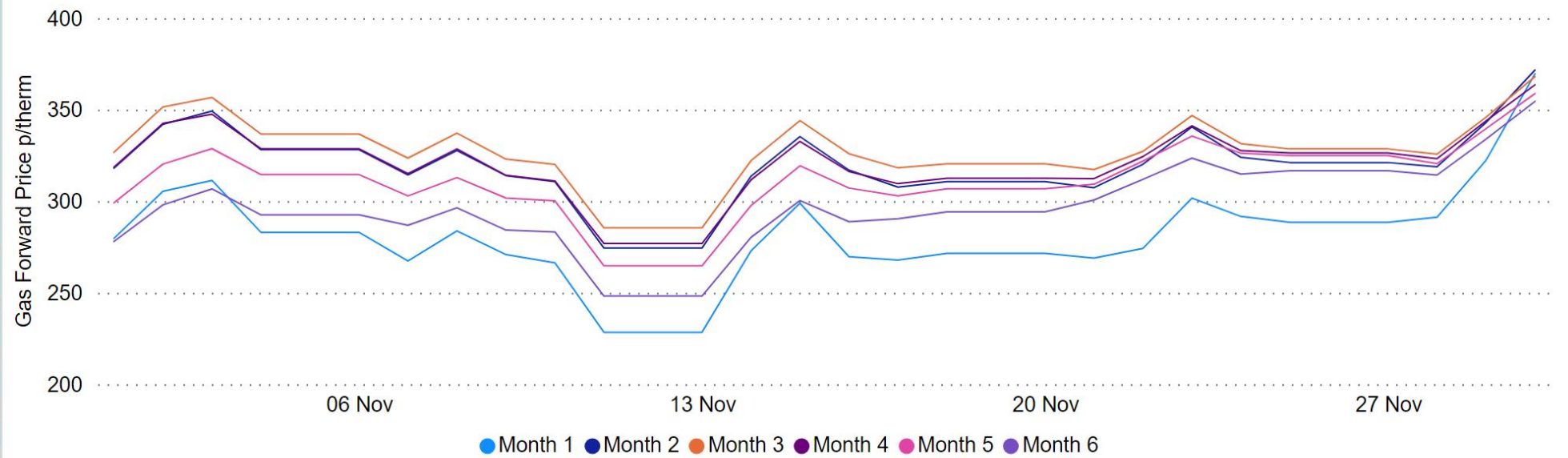
# Gas Price November 2022

129.40  
Monthly Average (p/therm)  
62.50  
Monthly Low (p/therm)  
338.05  
Monthly High (p/therm)

Monthly Day Ahead NBP Gas Price by Year (p/therm)

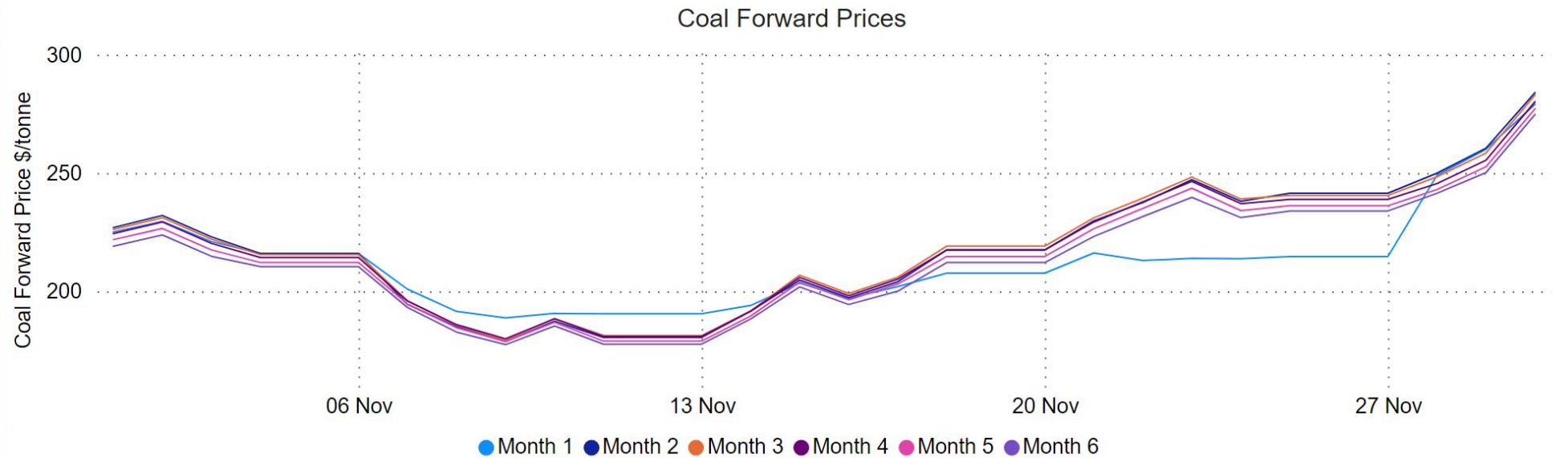
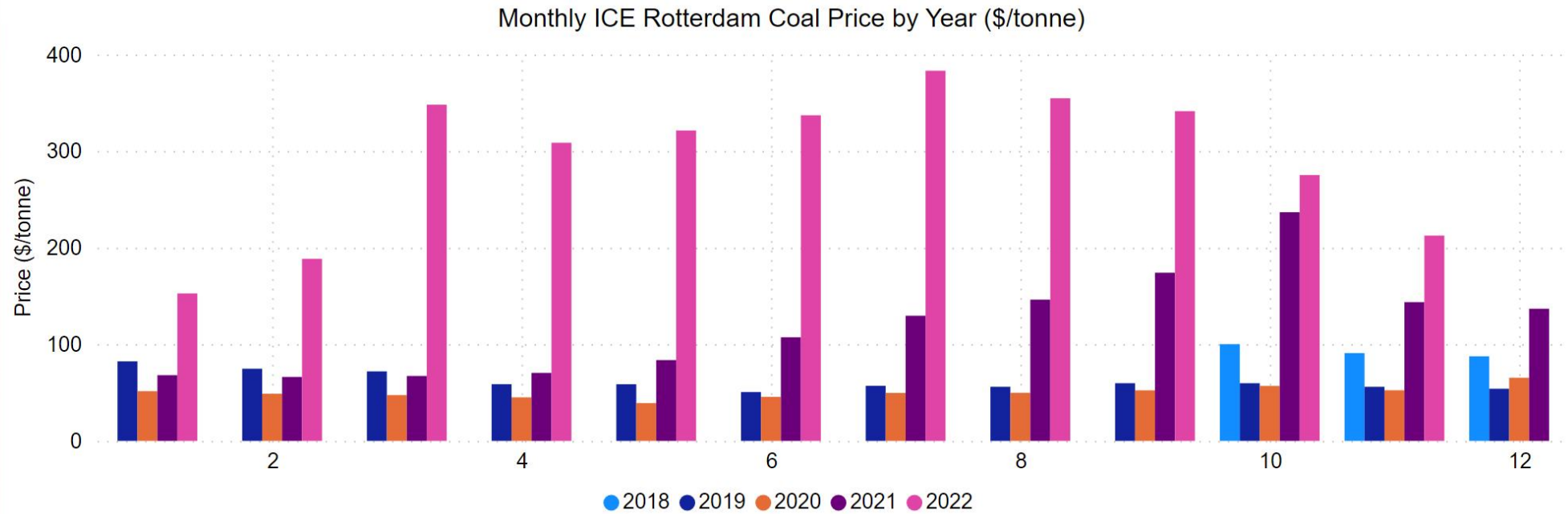


Gas Forward Prices



# Coal Price November 2022

\$212.52  
Monthly Average \$/tonne  
\$188.80  
Monthly Low \$/tonne  
\$279.00  
Monthly High \$/tonne

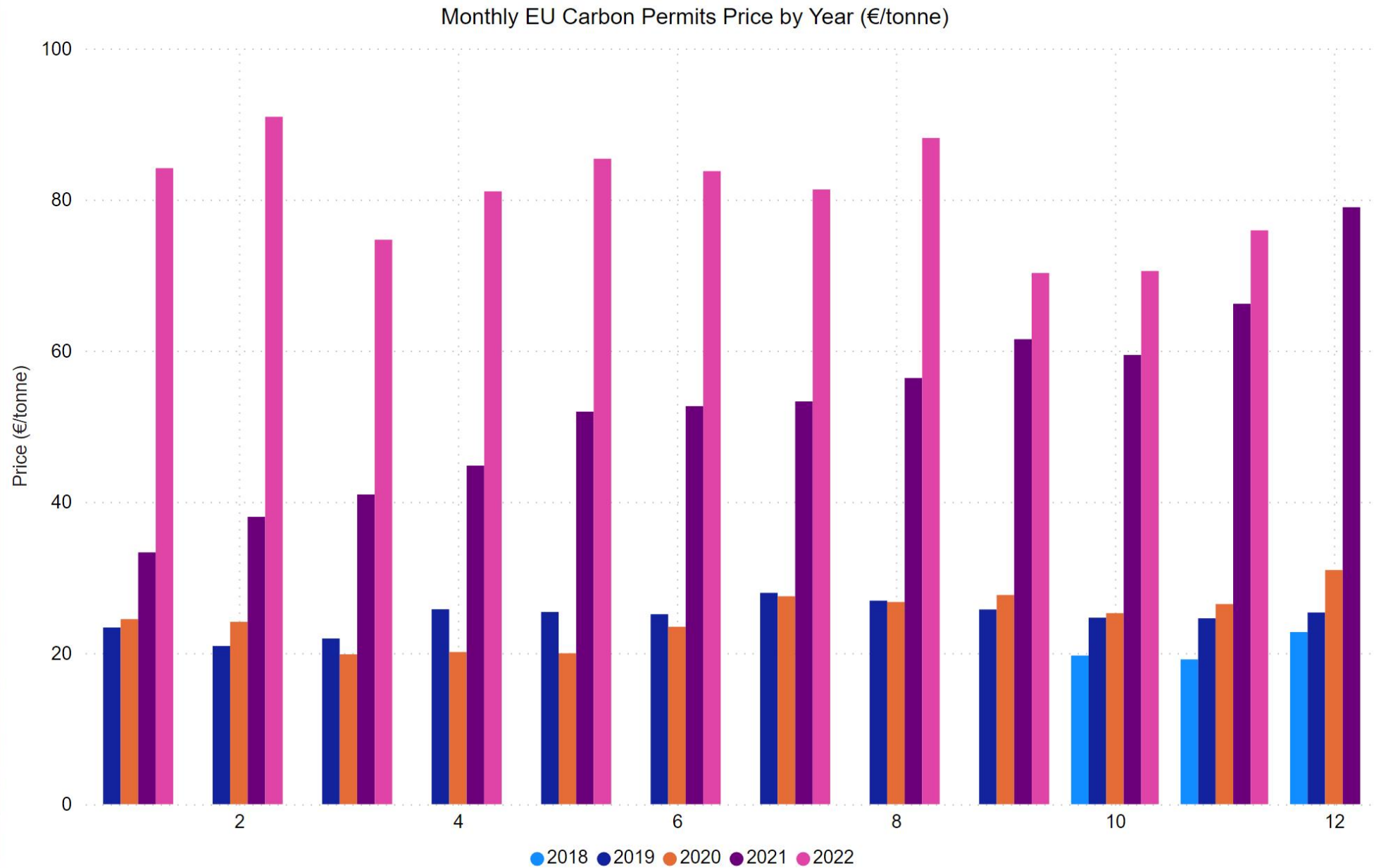


# Carbon Price November 2022

€ 75.93  
Monthly Average €/tonne

€ 71.89  
Monthly Low €/tonne

€ 84.75  
Monthly High €/tonne

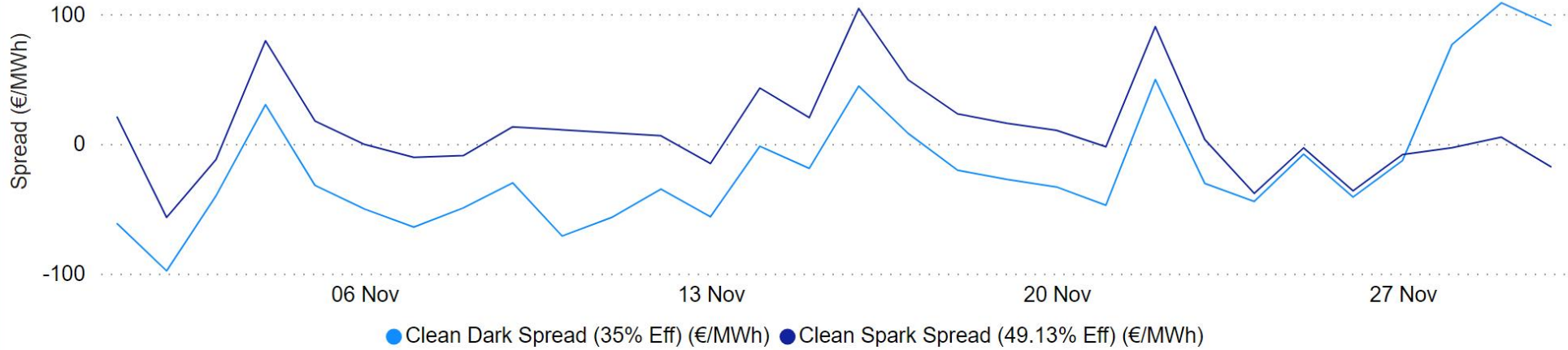


# Spark Spreads November 2022

**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.

Clean Dark Spread v Clean Spark Spread



Clean Dark Spread v Clean Spark Spread (October 2018 Onwards)

