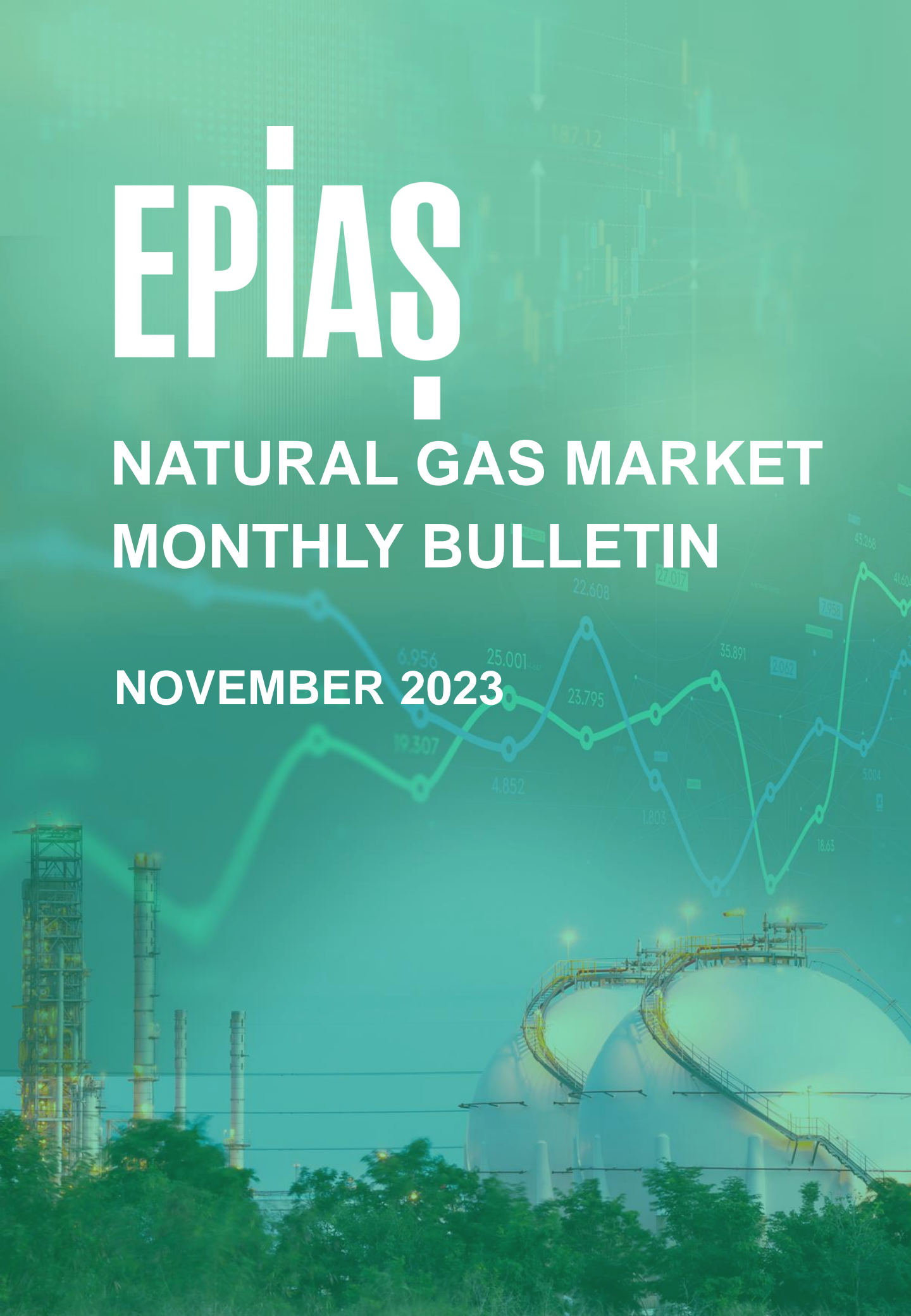


EPIAS

NATURAL GAS MARKET MONTHLY BULLETIN

NOVEMBER 2023



SUMMARY DATA (1/2)

Arithmetic Means

	November 2023	October 2023	Monthly Change	November 2022	Annual Change
Number of Ordered Participants	6	6	-4.5%	10	-38.0%
Number of Trades	6	7	-14.2%	7	-16.6%
Number of Orders	16	18	-10.2%	23	-28.5%
BGSP (TL/'000 Sm ³)	11.031	10.410	6.0%	19.349	-43.0%
DRP (TL/'000 Sm ³)	11.611	10.958	6.0%	20.518	-43.4%
BGPP (TL/'000 Sm ³)	12.222	11.512	6.2%	21.319	-42.7%
Traded Volume (mio.Sm ³)	1,33	1,61	-17.6%	2,69	-50.7%
Transaction Volume (TL)	15.272.062	17.638.867	-13.4%	54.669.279	-72.1%
Gas Entry Volume (mio.Sm ³)	150,76	108,63	38.8%	137,87	9.3%
Gas Exit Volume (mio.Sm ³)	150,61	108,60	38.7%	137,27	9.7%
WRP (TL/'000 Sm ³)	-	-	-	-	-

Maximum / Minimum Levels

	November 2023		October 2023		November 2022	
	Max	Min	Max	Min	Max	Min
Number of Trades	12	2	11	3	16	3
Number of Ordered Participants	8	5	8	5	11	8
Number of Orders	24	11	34	11	29	14
BGSP (TL/'000 Sm ³)	12.196	10.201	10.639	10.298	22.050	4.488
DRP (TL/'000 Sm ³)	12.838	10.738	11.199	10.840	22.732	13.994
BGPP (TL/'000 Sm ³)	13.480	11.705	11.759	11.382	23.414	19.377
Traded Volume (mio.Sm ³)	2,97	0,20	3,65	0,42	10,39	0,23
Transaction Volume (TL)	33.131.046	2.414.991	39.751.534	4.567.893	235.337.893	4.709.250
Gas Exit Volume (mio.Sm ³)	217,12	91,12	137,82	78,73	191,41	94,44
Gas Entry Volume (mio.Sm ³)	216,98	91,26	137,91	77,78	194,05	94,70
WRP (TL/'000 Sm ³)	-	-	-	-	-	-

SUMMARY DATA (2/2)

Totals

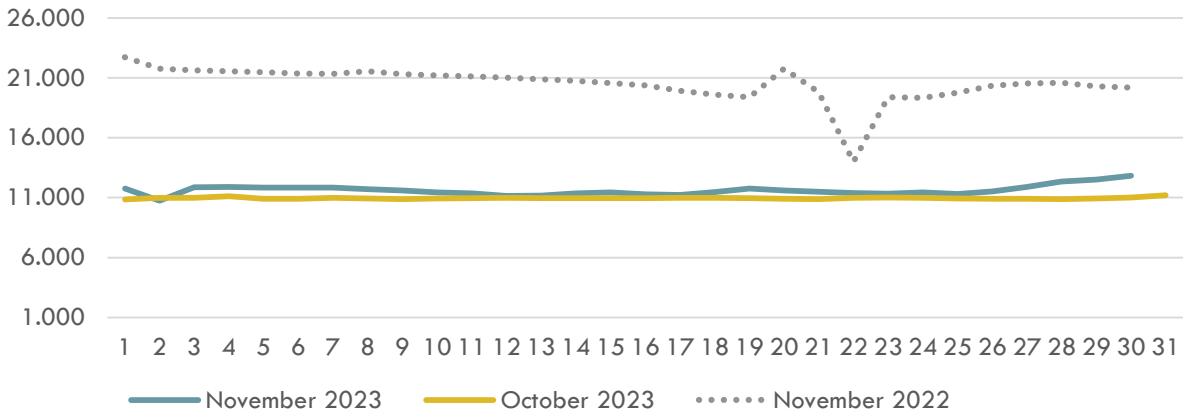
	November 2023	October 2023	Monthly Change	November 2022	Annual Change
Ratio of Natural Gas Based Generation to Total Electricity Generation (%)	18	21	-14.5%	19	-5.3%
Total Production of Natural Gas Based Power Plants (MWh)	4.201.340	4.907.070	-14.4%	4.213.462	-0.3%
Total Electricity Generation (MWh)	23.709.703	23.669.116	0.2%	22.514.413	5.3%
Number of Trades	171	206	-17.0%	205	-16.6%
Number of Orders	489	563	-13.1%	684	-28.5%
Traded Volume (mio.Sm ³)	39,81	49,92	-20.2%	80,68	-50.7%
Transaction Volume (TL)	458.161.852	546.804.880	-16.2%	1.640.078.378	-72.1%
Gas Entry Volume (mio.Sm ³)	4.522,79	3.367,47	34.3%	4.136,18	9.3%
Gas Exit Volume (mio.Sm ³)	4.518,39	3.366,60	34.2%	4.118,03	9.7%

Brent Oil and TTF Prices

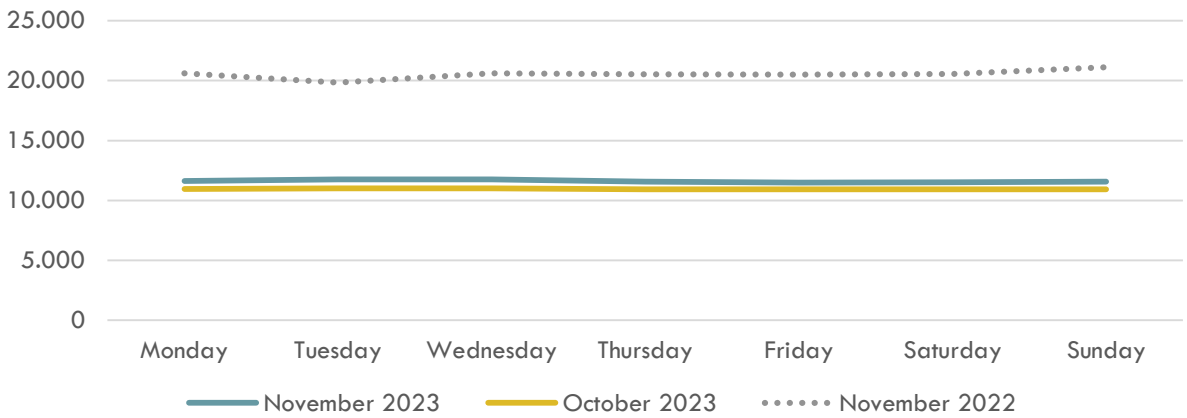
	November 2023	October 2023	Aylık Değişim	November 2022	Yıllık Değişim
Brent Oil (\$/bl)	82,03	88,70	-7.5%	90,68	-9.5%
TTF (€/MWh)	43,27	43,33	-0.1%	93,27	-53.6%

PRICES (1/2)

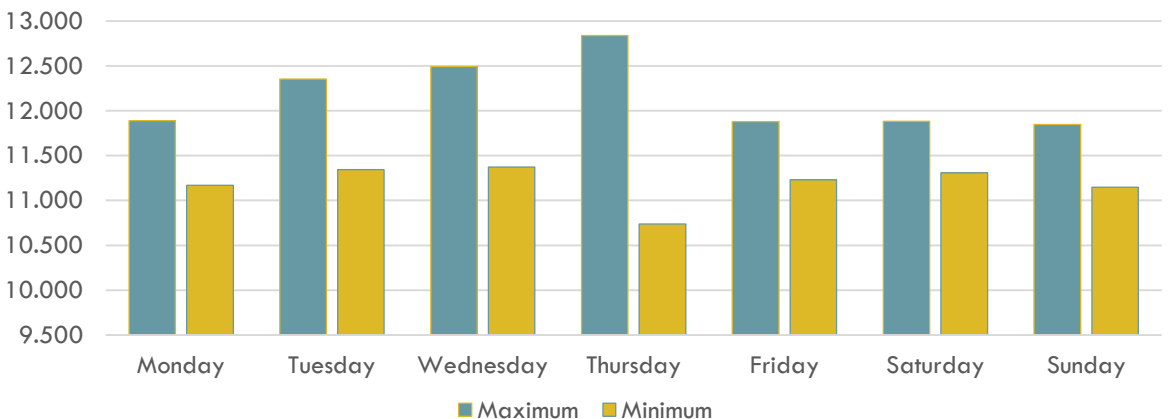
Natural Gas Market DRP (TL/'000 Sm³)



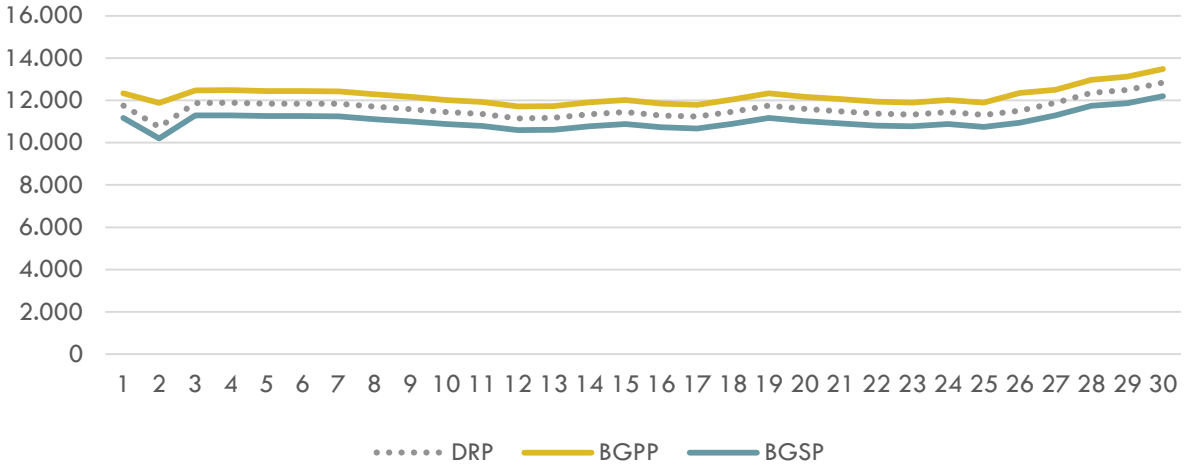
Natural Gas Market By Days DRP (TL/'000 Sm³)



November 2023 Natural Gas Market By Days Max / Min DRP (TL/'000 Sm³)



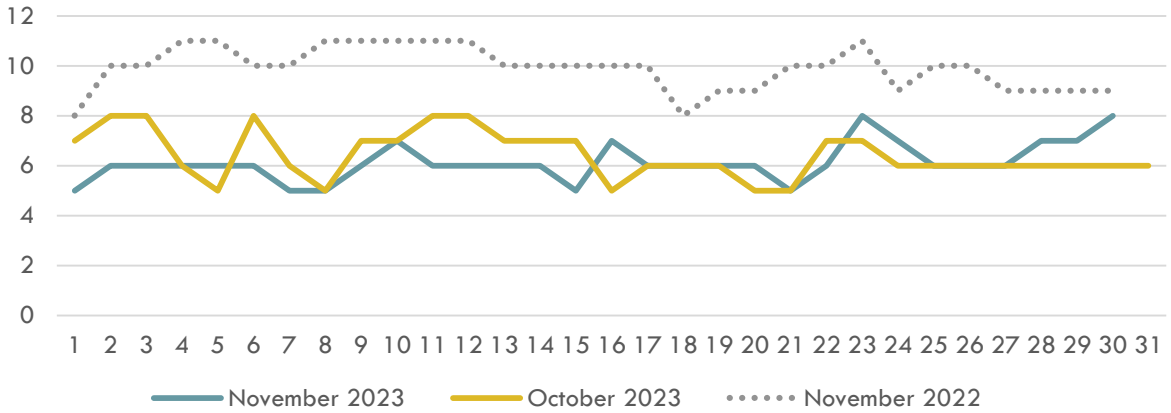
PRICES (2/2)

November 2023 DRP - BGPP - BGSP (TL/'000 Sm³)

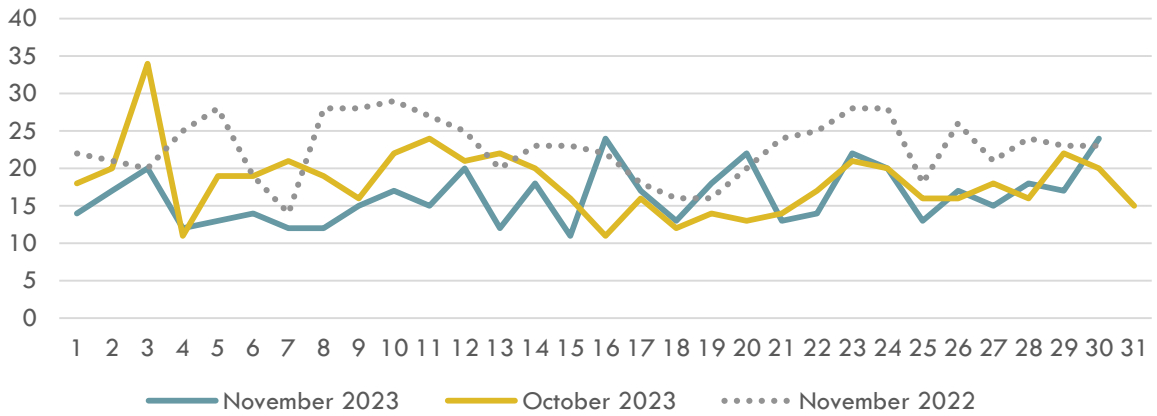
- ✓ The maximum DRP was 12.838 TL on 30 November 2023 Thu; the minimum DRP was realized at the level of 10.738 TL on 02 November 2023 Thu.
- ✓ The Maximum BGPP was 13.480 on 30 November 2023 Thu; the minimum BGPP was realized at the level of 11.705 TL on 12 November 2023 Sun.
- ✓ The maximum BGSP was 12.196 on 30 November 2023 Thu; the minimum BGSP was realized at the level of 10.201 TL on 02 November 2023 Thu.

ORDERS, TRADES, VOLUMES (1/3)

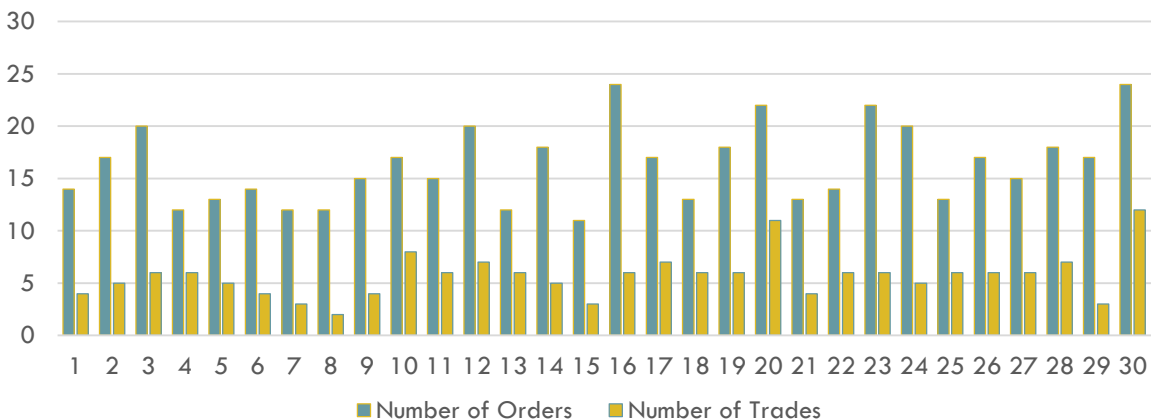
Natural Gas Market Number of Ordered Participants



Natural Gas Market Number of Orders

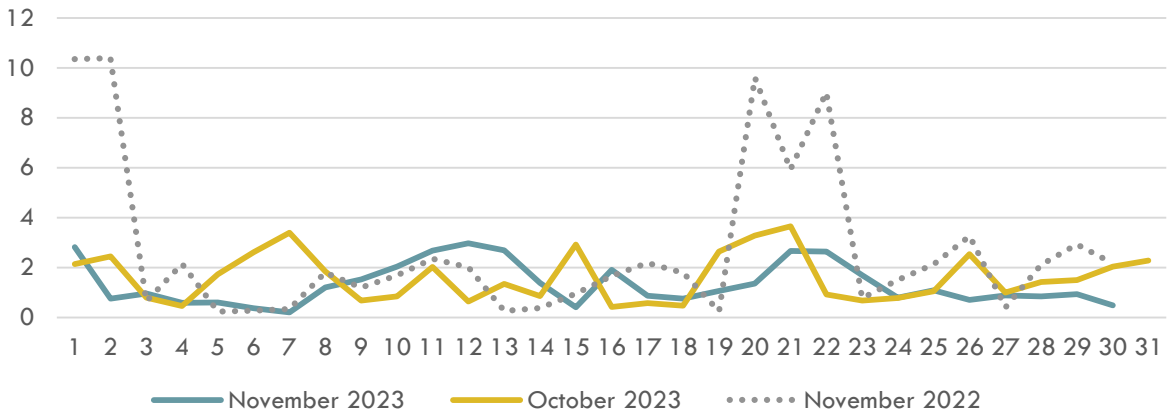


November 2023 Natural Gas Market Number of Orders and Trades

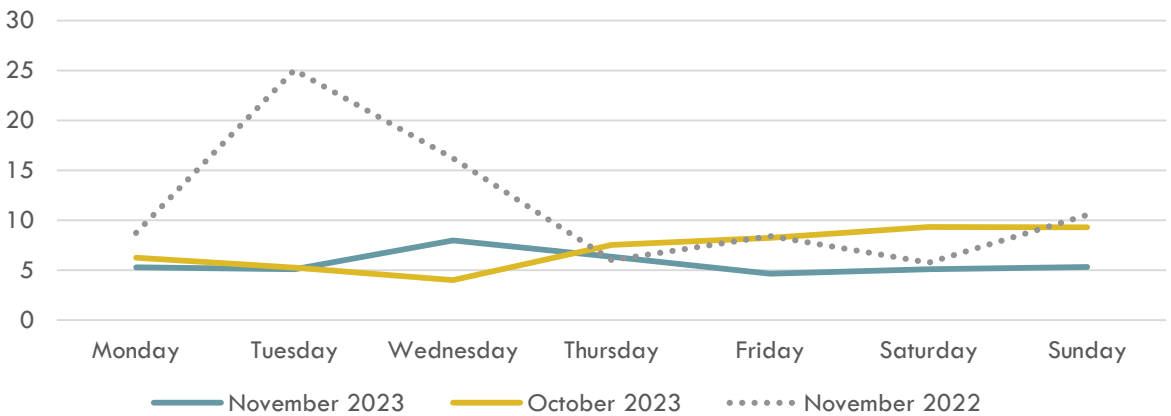


ORDERS, TRADES, VOLUMES (2/3)

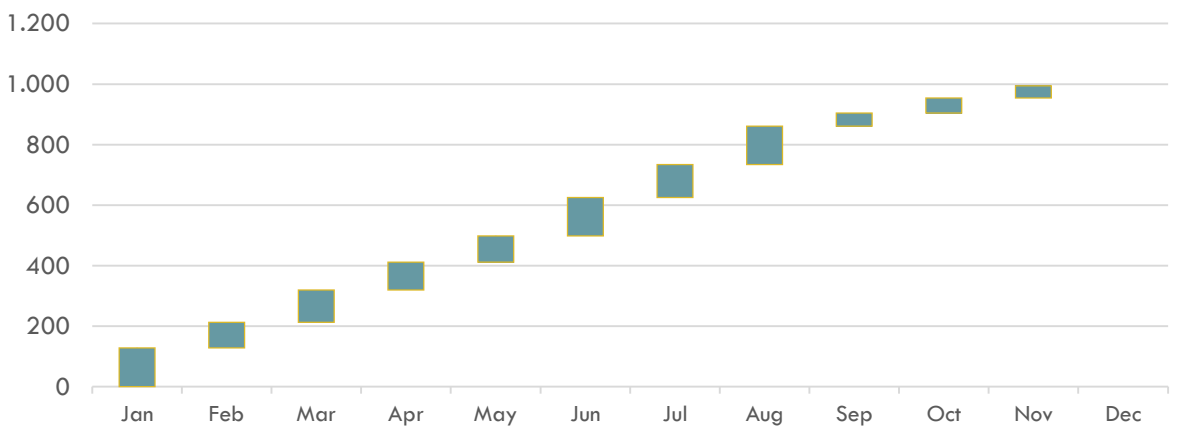
Natural Gas Market Trade Volume (mio.Sm³)



Natural Gas Market By Days Trade Volume (mio.Sm³)

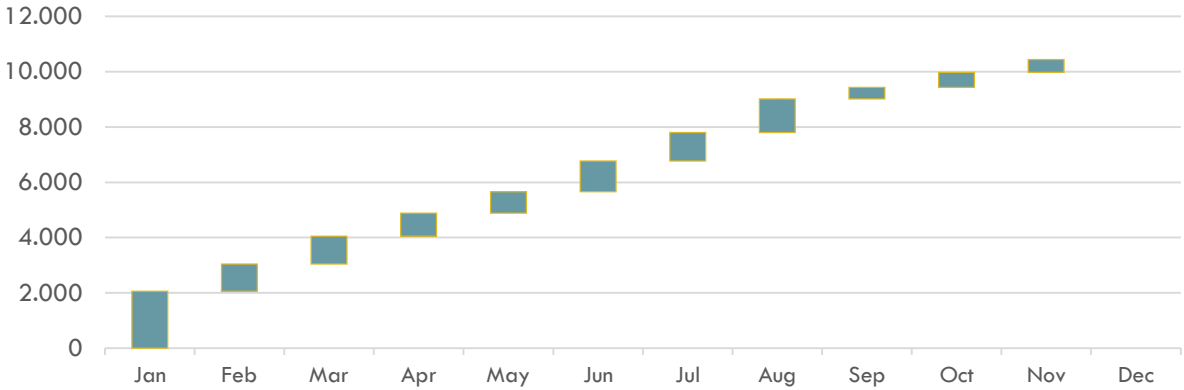


Natural Gas Market Annual Accumulated Trade Volume for 2023 (mio.Sm³)

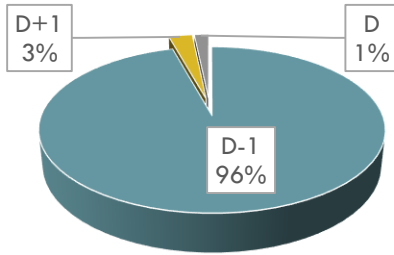


ORDERS, TRADES, VOLUMES (3/3)

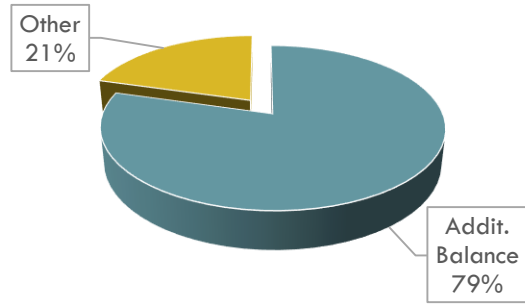
Natural Gas Market Annual Accumulated Transaction Volume for 2023 (Million TL)



Traded Volume of Daily Contracts for November 2023 Period by Sessions



Additional Balancing Traded Volume for November 2023 Period



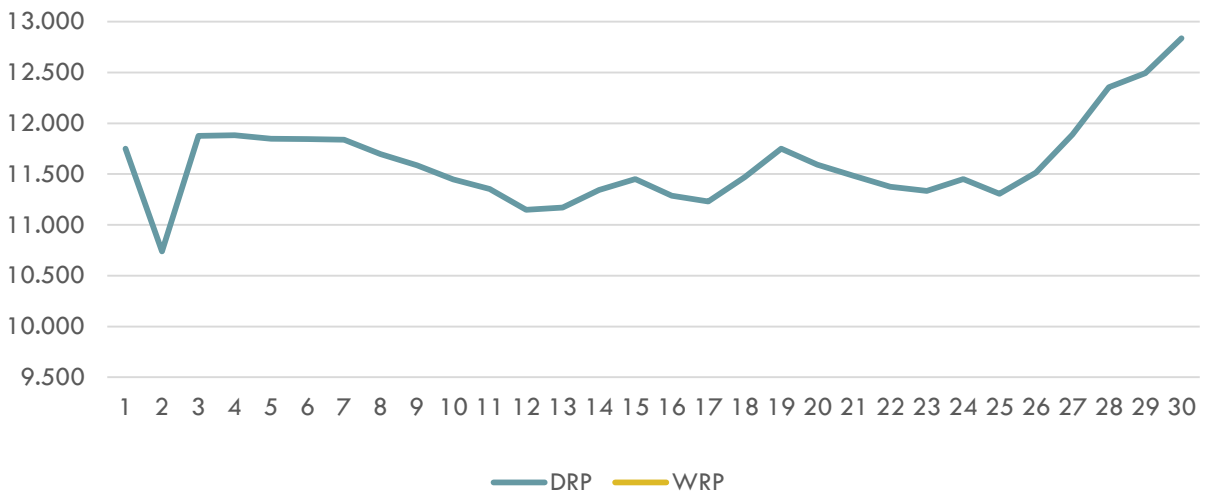
- ✓ The maximum total traded volume was 2.972 sm³ on 12 November 2023 Sun; the minimum total traded volume was realized at the level of 204 sm³ on 07 November 2023 Tue.
- ✓ The maximum total transaction volume was 33.131.046 TL on 12 November 2023 Sun; the minimum total transaction volume was realized at the level of 2.414.991 TL on 07 November 2023 Tue.
- ✓ The maximum d-1 traded volume was 2.857.000 sm³ on 12 November 2023 Sun; the minimum d-1 traded amount was realized at the level of 204.000 sm³ on 07 November 2023 Tue.
- ✓ The maximum d-1 traded volume was 33.029.250 TL on 01 November 2023 Wed; the minimum d-1 traded amount was realized at the level of 2.414.991 TL on 07 November 2023 Tue.
- ✓ The maximum d traded volume was 167.000 sm³ on 26 November 2023 Sun; the minimum d traded amount was realized at the level of 0 sm³ on 01 November 2023 Wed.
- ✓ The maximum d traded volume was 1.929.900 TL on 26 November 2023 Sun; the minimum d traded amount was realized at the level of 0 TL on 01 November 2023 Wed.
- ✓ The maximum d+1 traded volume was 162.000 sm³ on 02 November 2023 Thu; the minimum d+1 traded amount was realized at the level of 0 sm³ on 05 November 2023 Sun.
- ✓ The maximum d+1 traded volume was 1.767.938 TL on 02 November 2023 Thu; the minimum d+1 traded amount was realized at the level of 0 TL on 05 November 2023 Sun.
- ✓ The ratio of sgm compared to total consumption was realized at the level of 0,8% in November 2023.
- ✓ Sgm share in virtual trade was realized at 4,1% in November 2023.

WEEKLY PRODUCTS (1/2)

November 2023 WRP - WD - WE - WW (TL/'000 Sm³)

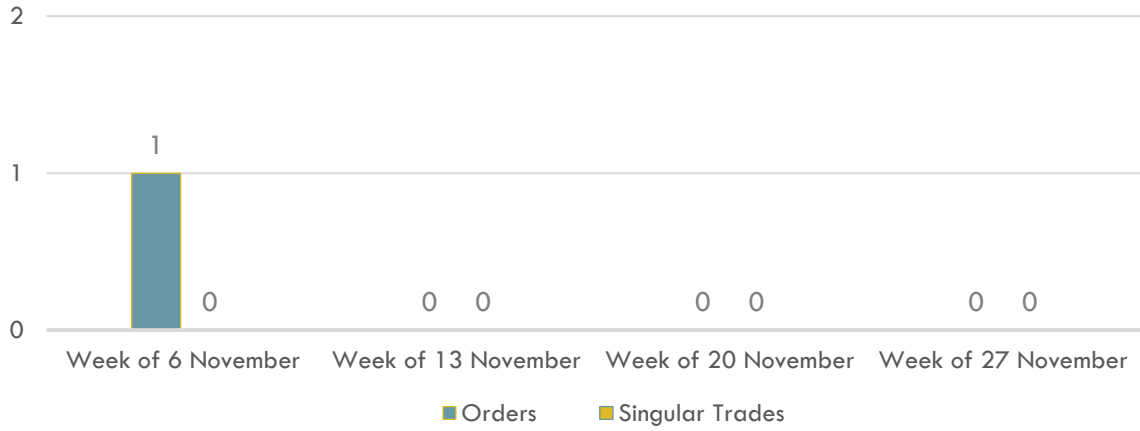


November 2023 DRP - WRP (TL/'000 Sm³)

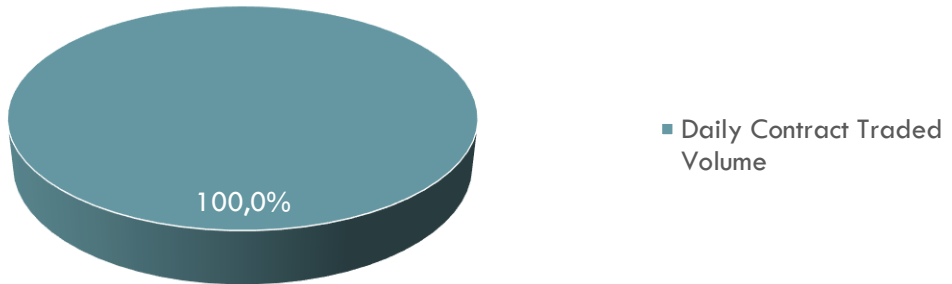


WEEKLY PRODUCTS (2/2)

November 2023 Weekly Products Number of Orders and Trades



November 2023 Traded Volume Distribution by Contract Type



SGM

Last 1 Year Trades

Period	Traded Volume (mio.Sm ³)	Traded Amount (TL)
Nov 2022	80,68	840.078.378
Dec 2022	29,45	570.471.982
Jan 2023	128,85	1.259.193.549
Feb 2023	83,64	976.852.724
Mar 2023	107,25	1.007.828.484
Apr 2023	92,20	837.217.599
May 2023	86,47	781.158.942
Jun 2023	126,96	1.107.152.226
Jul 2023	108,57	1.026.101.711
Aug 2023	127,13	1.223.183.039
Sep 2023	43,00	417.667.547
Oct 2023	49,92	546.804.880
Nov 2023	39,81	458.161.852

SGM's share in Total Cons. and Virtual Trade

Period	Total Consumption (%)	Virtual Trade (%)
Nov 2022	1,9%	20,9%
Dec 2022	0,5%	5,1%
Jan 2023	2,0%	16,8%
Feb 2023	1,3%	11,3%
Mar 2023	2,0%	30,3%
Apr 2023	2,2%	27,1%
May 2023	2,3%	27,4%
Jun 2023	4,7%	48,3%
Jul 2023	3,5%	33,4%
Aug 2023	2,8%	13,2%
Sep 2023	1,2%	3,7%
Oct 2023	1,4%	4,6%
Nov 2023	0,8%	4,1%

GAS FUTURES MARKET (1/1)

Daily Indicator Price For Contracts (TL)

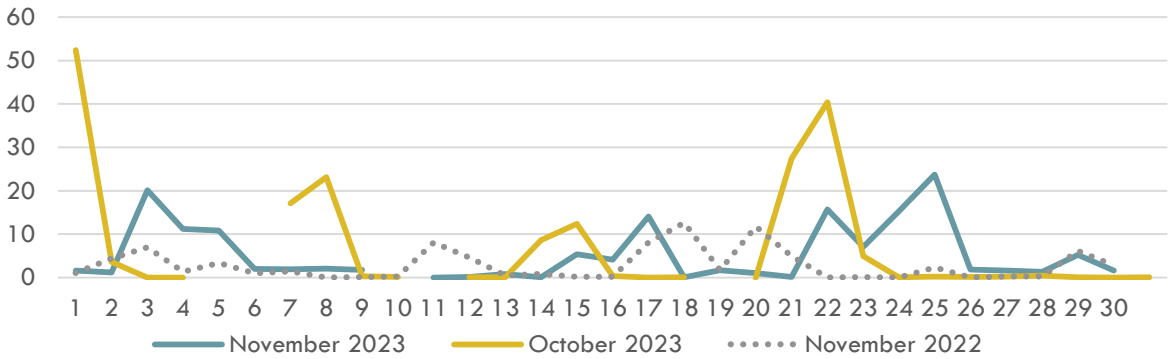
Contract Name	Average Daily Indicator Price (TL)	Minimum Daily Indicator Price (TL)	Maximum Daily Indicator Price (TL)
GM2312	15.500	15.500	15.500
GM2401	21.094	21.094	21.094
GM2402	19.244	19.244	19.244
GM2403	23.432	23.432	23.432
GM2404	13.823	13.823	13.823
GM2405	12.804	12.804	12.804
GM2406	15.829	15.829	15.829
GM2407	14.022	14.022	14.022
GM2408	14.478	14.478	14.478
GM2409	14.592	14.592	14.592
GM2410	16.322	16.322	16.322
GM2411	17.173	17.173	17.173
GM2412	87.127	87.127	87.127
GQ2401	21.301	21.301	21.301
GQ2402	14.137	14.137	14.137
GQ2403	14.362	14.362	14.362
GQ2404	40.458	40.458	40.458
GY24	22.591	22.591	22.591

Traded Volumes (mio.Sm3) and Traded Amounts (TL) For Contracts

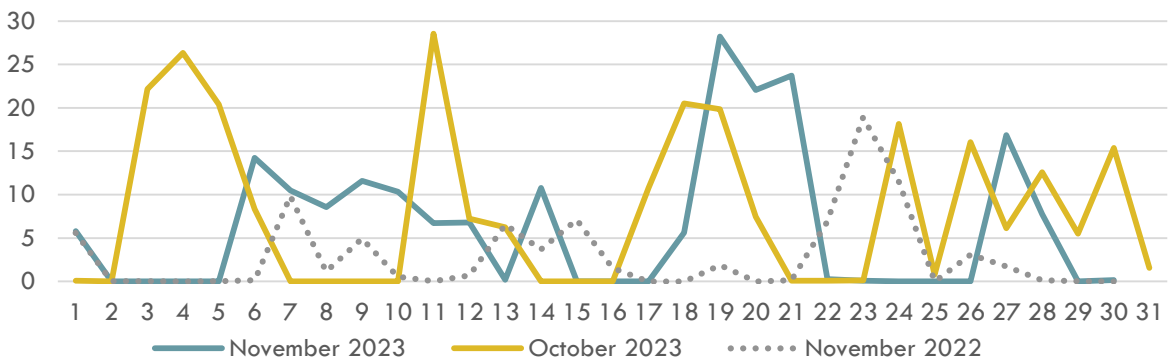
Contract Name	Traded Volume (mio.Sm3)	Traded Amount (TL)	Average Price (TL)
-	-	-	-

TRANSMISSION SYSTEM DATA (1/2)

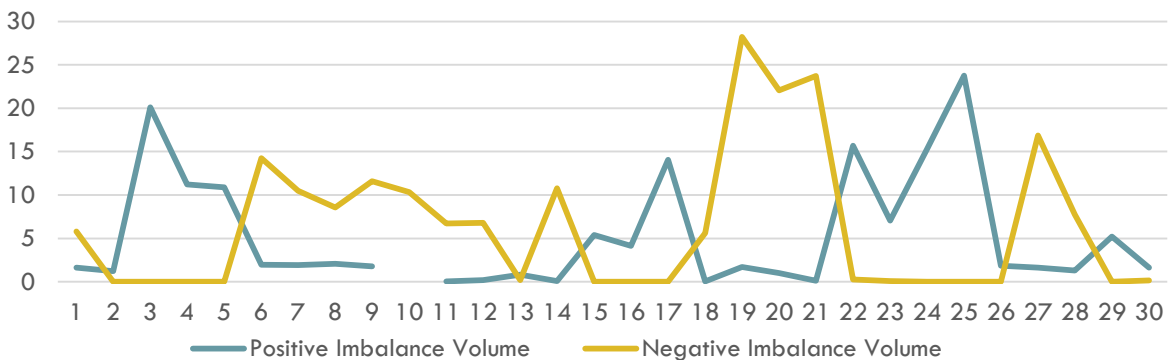
Natural Gas Market Positive Imbalance Volume (mio.Sm³)



Natural Gas Market Negative Imbalance Volume (mio.Sm³)



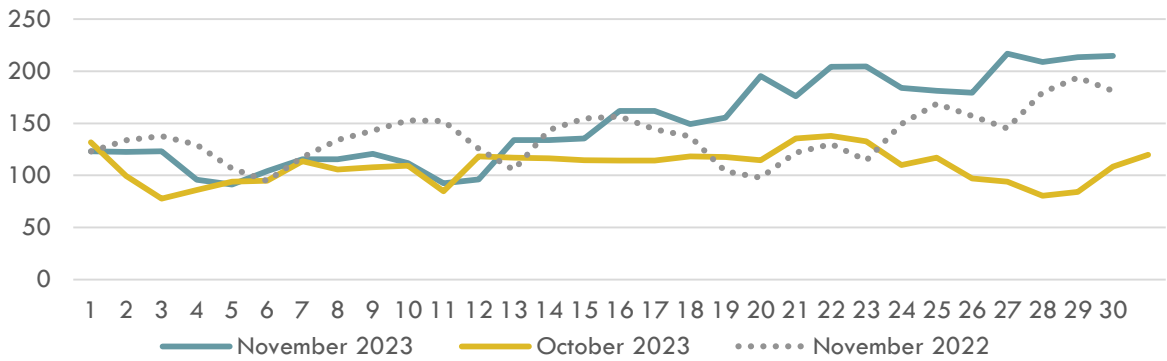
November 2023 Period Negative and Positive Imbalance Volume (mio.Sm³)



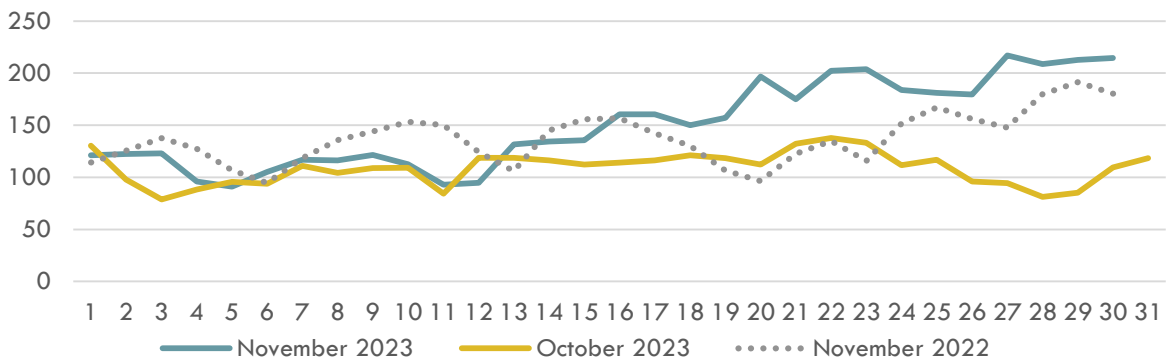
- ✓ The maximum positive imbalance volume was 23.756.239 sm³ on 25 November 2023 Sat; the minimum positive imbalance volume was realized at the level of 0 sm³ on 10 November 2023 Fri.
- ✓ The maximum negative imbalance volume was 28.233.798 sm³ on 19 November 2023 Sun; the minimum negative imbalance volume was realized at the level of 204 sm³ on 04 November 2023 Sat.

TRANSMISSION SYSTEM DATA (2/2)

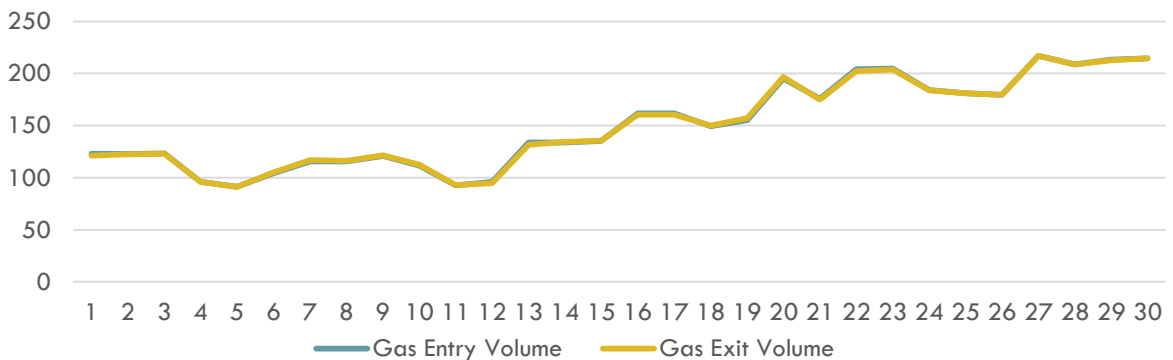
Natural Gas Market Gas Entry Volume (mio.Sm³)



Natural Gas Market Gas Exit Volume (mio.Sm³)



February 2021 Gas Entry and Exit Volume (mio.Sm³)



- ✓ Maximum gas entry volume realized on 27 November 2023 Mon was 216.975.288 sm³; minimum gas entry volume on 05 November 2023 Sun was 91.255.929 sm³ levels.
- ✓ Maximum gas exit volume realized on 27 November 2023 Mon was 217.118.394 sm³; minimum gas exit volume 05 November 2023 Sun was 91.117.951 sm³ levels.
- ✓ Maximum gas volume in stocks realized on 30 November 2023 Thu was 419.736.741 sm³; minimum stok gas volume 11 November 2023 Sat was 414.817.135 sm³ levels.

ADDITIONAL BALANCING TRANSACTIONS

Transactions with 1 Code

Contract Day	Transaction Volume ('000 Sm ³)	WAP (TL/'000 Sm ³)	Direction
01.11.2023	2.709	11.750	Purchase
02.11.2023	491	10.738	Purchase
03.11.2023	632	11.898	Purchase
04.11.2023	214	11.880	Purchase
05.11.2023	240	11.853	Purchase
06.11.2023	179	11.846	Purchase
07.11.2023	102	11.838	Purchase
08.11.2023	1.101	11.698	Purchase
09.11.2023	1.404	11.586	Purchase
10.11.2023	1.619	11.443	Purchase
11.11.2023	2.255	11.354	Purchase
12.11.2023	2.545	11.140	Purchase
13.11.2023	2.638	11.169	Purchase
14.11.2023	1.202	11.340	Purchase
15.11.2023	302	11.450	Purchase
16.11.2023	1.701	11.284	Purchase
17.11.2023	501	11.226	Purchase
18.11.2023	327	11.470	Purchase
19.11.2023	591	11.750	Purchase
20.11.2023	1.096	11.592	Purchase
21.11.2023	2.375	11.481	Purchase
22.11.2023	2.498	11.371	Purchase
23.11.2023	1.467	11.333	Purchase
24.11.2023	421	11.450	Purchase
25.11.2023	642	11.284	Purchase
26.11.2023	305	11.500	Purchase
27.11.2023	637	11.890	Purchase
28.11.2023	430	12.348	Purchase
29.11.2023	780	12.494	Purchase
30.11.2023	215	12.820	Purchase

Transactions with 2 Code

Contract Day	Transaction Volume ('000 Sm ³)	WAP (TL/'000 Sm ³)	Direction
-	-	-	Purchase

Transactions with 3 Code

Contract Day	Transaction Volume ('000 Sm ³)	WAP (TL/'000 Sm ³)	Direction
-	-	-	-

Transactions with 4 Code

Contract Day	Transaction Volume ('000 Sm ³)	WAP (TL/'000 Sm ³)	Direction
-	-	-	-

- ✓ Additional balancing transactions with a maximum code of 1 were 2.709.000 sm³ on 01 November 2023 Wed; additional balancing transactions with a minimum code of 1 were realized at the level of 102.000 sm³ on 07 November 2023 Tue.
- ✓ In November, no additional balancing transaction code of 2 was realized.
- ✓ In November, no additional balancing transaction code of 3 was realized.
- ✓ In November, no additional balancing transaction code of 4 was realized.