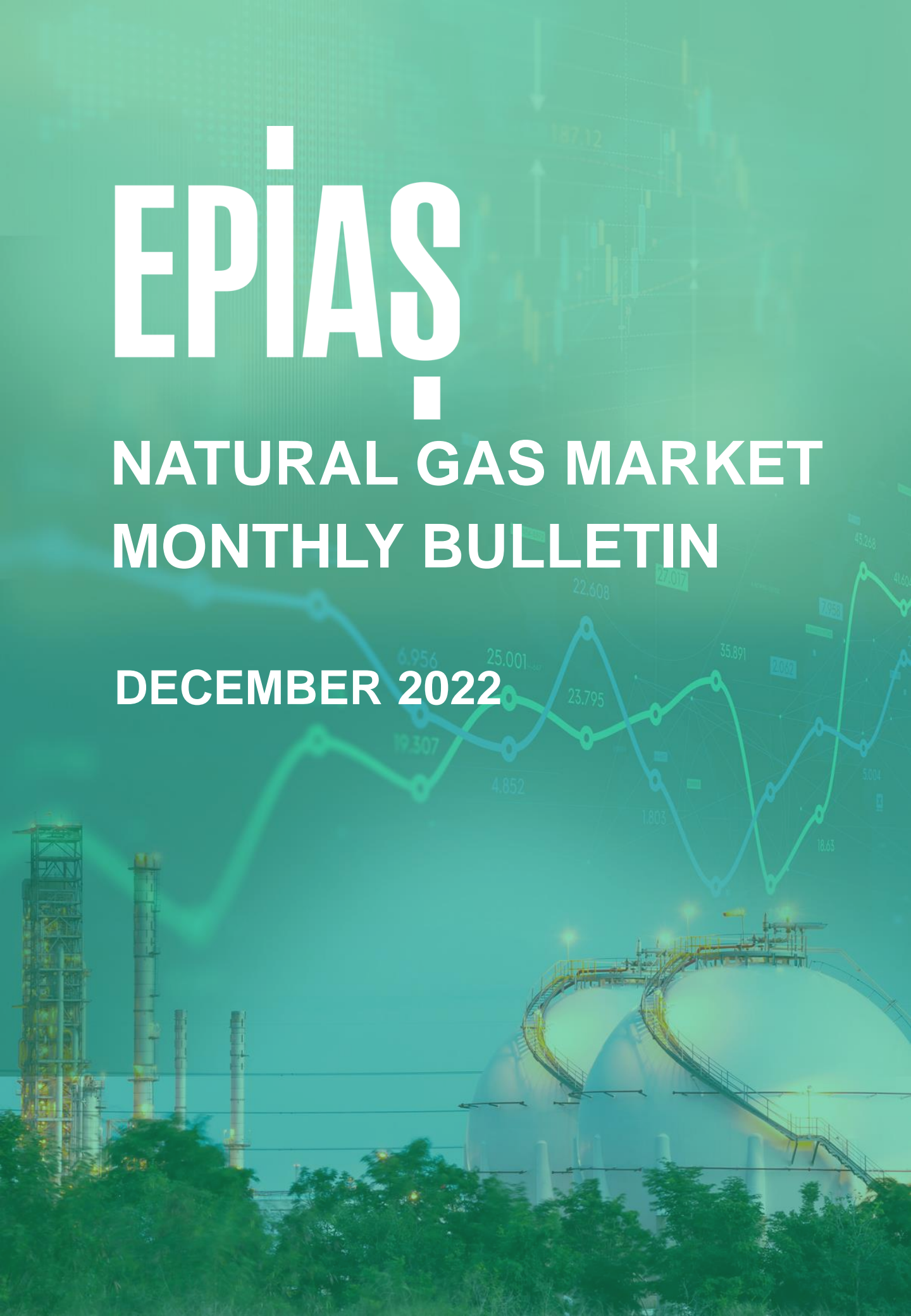


EPIAS

NATURAL GAS MARKET MONTHLY BULLETIN

DECEMBER 2022



SUMMARY DATA (1/2)

Arithmetic Means

	December 2022	November 2022	Monthly Change	December 2021	Annual Change
DRP (TL/'000 Sm ³)	19.345	20.518	-5.7%	6.764	186.0%
WRP (TL/'000 Sm ³)	0	0	-	6.924	-100.0%
BGPP (TL/'000 Sm ³)	19.945	21.319	-6.4%	7.179	177.8%
BGSP (TL/'000 Sm ³)	18.765	19.349	-3.0%	6.555	186.3%
Traded Volume (mio.Sm ³)	0,95	2,69	-64.7%	2,48	-61.7%
Transaction Volume (TL)	18.402.322	54.669.279	-66.3%	17.013.032	8.2%
Gas Entry Volume (mio.Sm ³)	182,89	137,87	32.7%	222,93	-18.0%
Gas Exit Volume (mio.Sm ³)	182,94	137,27	33.3%	222,14	-17.6%
Number of Ordered Participants	10	10	-2.2%	14	-29.6%
Number of Orders	18	23	-21.8%	39	-53.8%
Number of Trades	6	7	-17.9%	17	-66.8%

Maximum / Minimum Levels

	December 2022		November 2022		December 2021	
	Max	Min	Max	Min	Max	Min
DRP (TL/'000 Sm ³)	20.218	19.005	22.732	13.994	6.924	6.328
WRP (TL/'000 Sm ³)	0	0	0	0	6.924	6.924
BGPP (TL/'000 Sm ³)	20.825	19.575	23.414	19.377	10.087	6.530
BGSP (TL/'000 Sm ³)	19.612	18.434	22.050	4.488	6.716	6.138
Traded Volume (mio.Sm ³)	3,68	0,13	10,39	0,23	17,77	0,26
Transaction Volume (TL)	71.627.317	2.494.760	235.337.893	4.709.250	123.040.448	1.814.088
Gas Entry Volume (mio.Sm ³)	231,92	124,33	194,05	94,70	285,24	153,45
Gas Exit Volume (mio.Sm ³)	230,03	124,02	191,41	94,44	279,02	153,65
Number of Ordered Participants	12	7	11	8	17	11
Number of Orders	31	9	29	14	62	19
Number of Trades	13	2	16	3	34	7

SUMMARY DATA (2/2)

Totals

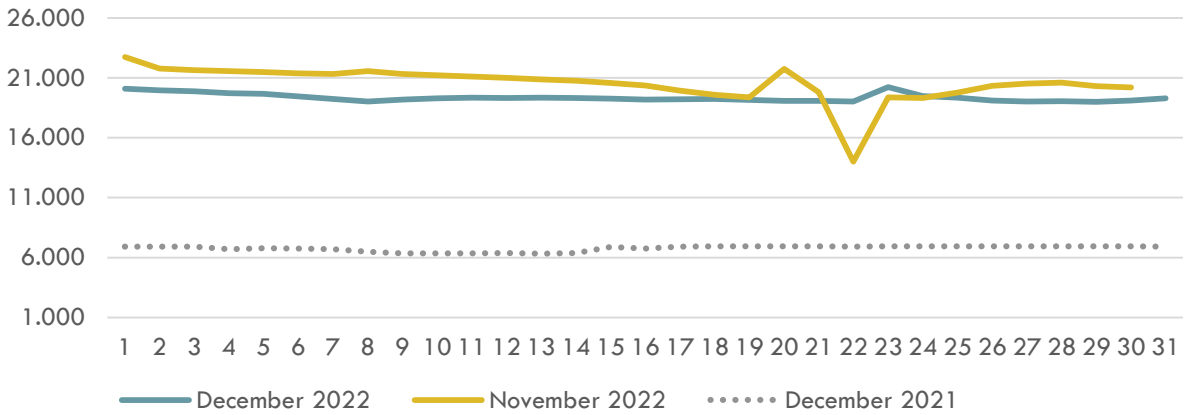
	December 2022	November 2022	Monthly Change	December 2021	Annual Change
Traded Volume (mio.Sm ³)	29,45	80,68	-63.5%	76,85	-61.7%
Transaction Volume (TL)	570.471.982	1.640.078.378	-65.2%	527.403.990	8.2%
Gas Entry Volume (mio.Sm ³)	5.669,65	4.136,18	37.1%	6.910,81	-18.0%
Gas Exit Volume (mio.Sm ³)	5.671,13	4.118,03	37.7%	6.886,45	-17.6%
Number of Orders	553	684	-19.2%	1.196	-53.8%
Number of Trades	174	205	-15.1%	517	-66.3%
Total Production of Natural Gas Based Power Plants (MWh)	5.988.283	4.213.462	42.1%	8.280.103	-27.7%
Total Electricity Generation (MWh)	24.367.605	22.513.081	8.2%	26.689.133	-8.7%
Ratio of Natural Gas Based Generation to Total Electricity Generation (%)	25	19	31.3%	31	-20.8%

Brent Oil and TTF Prices

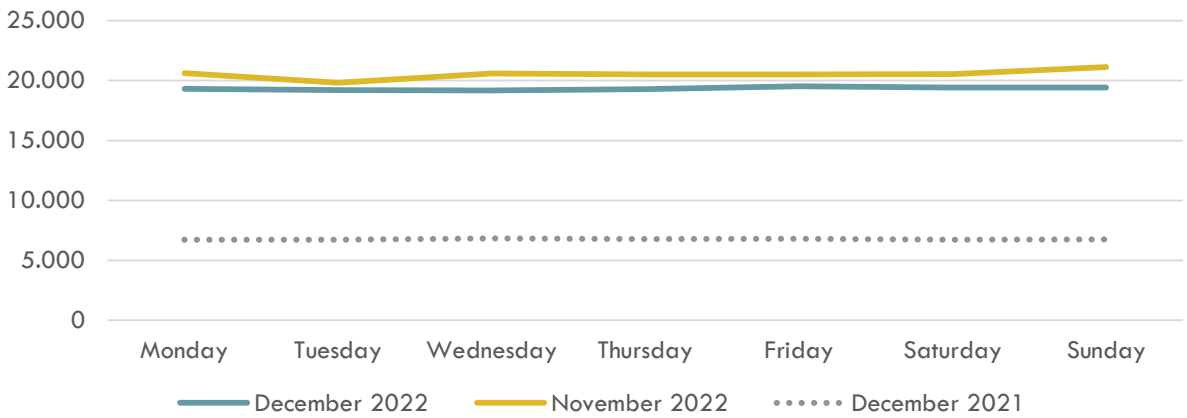
	December 2022	November 2022	Monthly Change	December 2021	Annual Change
Brent Oil(\$/bl)	81,34	90,85	-10,47%	74,80	8,74%
TTF (€/MWh)	112,73	93,27	20,87%	112,75	-0,02%

PRICES (1/2)

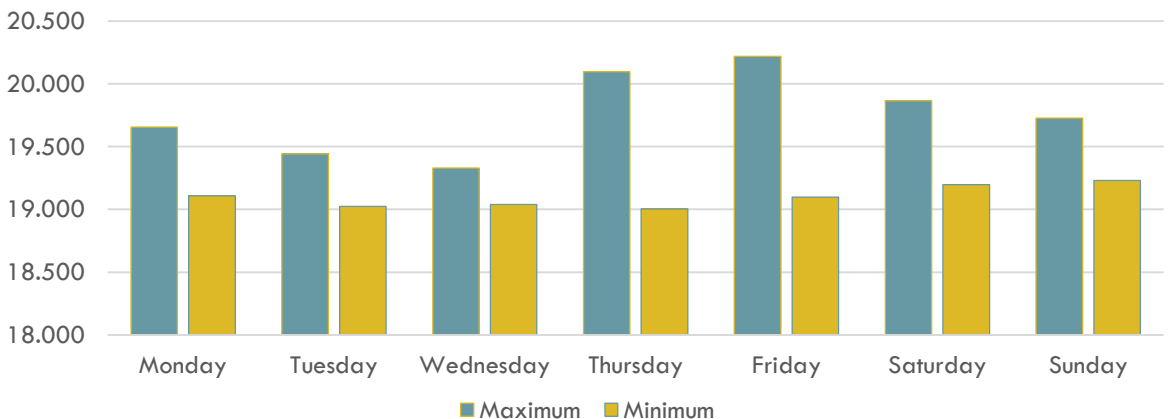
Natural Gas Market DRP (TL/'000 Sm³)



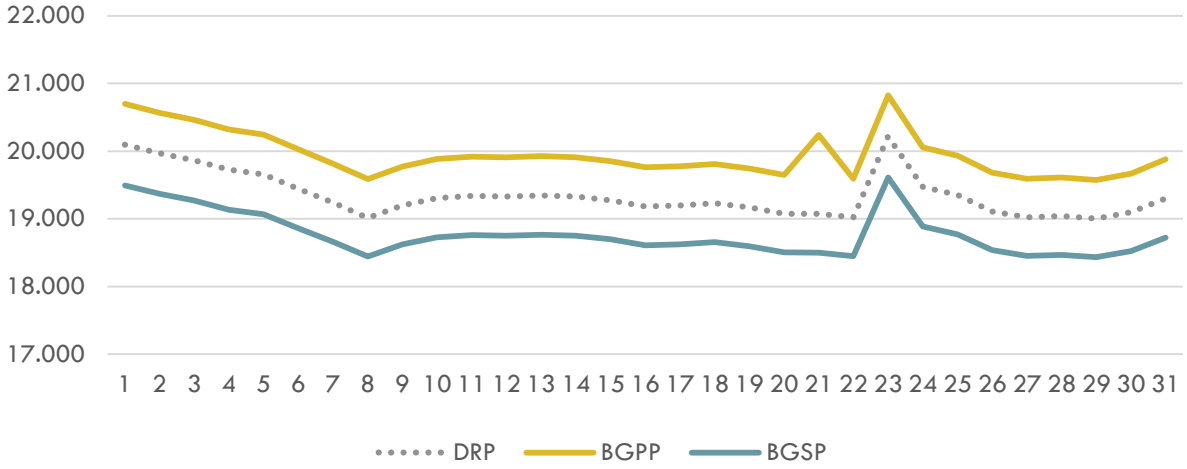
Natural Gas Market By Days DRP (TL/'000 Sm³)



December 2022 Natural Gas Market By Days Max / Min DRP (TL/'000 Sm³)



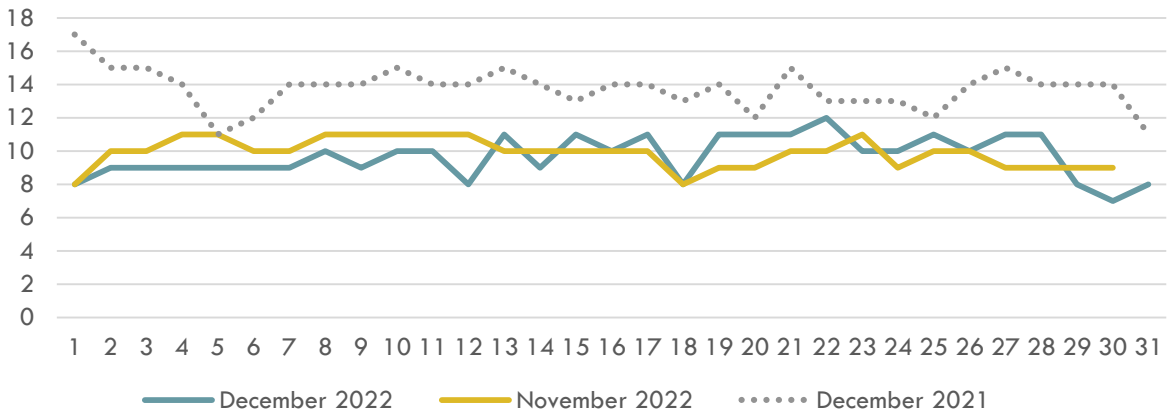
PRICES (2/2)

December 2022 DRP - BGPP - BGSP (TL/'000 Sm³)

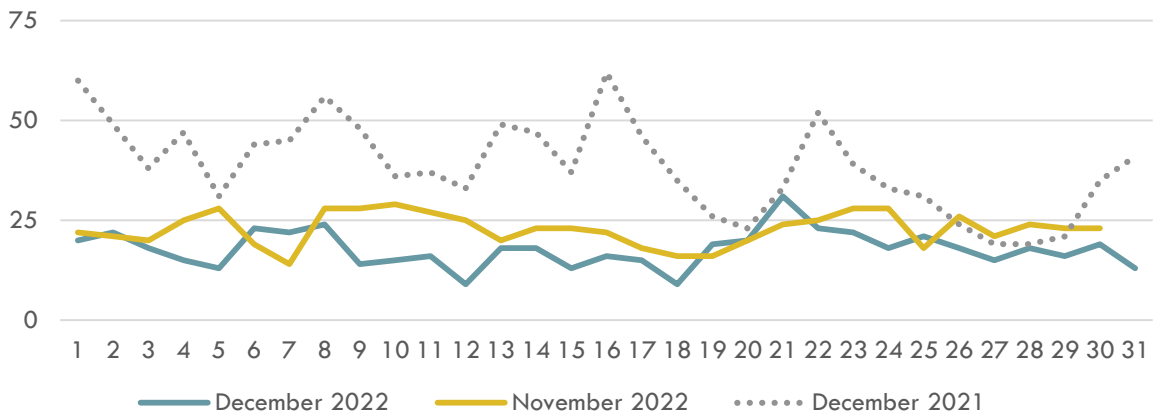
- ✓ The maximum DRP was 20.218 TL on 23 December 2022 Fri; the minimum DRP was realized at the level of 19.005 TL on 29 December 2022 Thu.
- ✓ The Maximum BGPP was 20.825 on 23 December 2022 Fri; the minimum BGPP was realized at the level of 19.575 TL on 29 December 2022 Thu.
- ✓ The maximum BGSP was 19.612 on 23 December 2022 Fri; the minimum BGSP was realized at the level of 18.434 TL on 29 December 2022 Thu.

ORDERS, TRADES, VOLUMES (1/3)

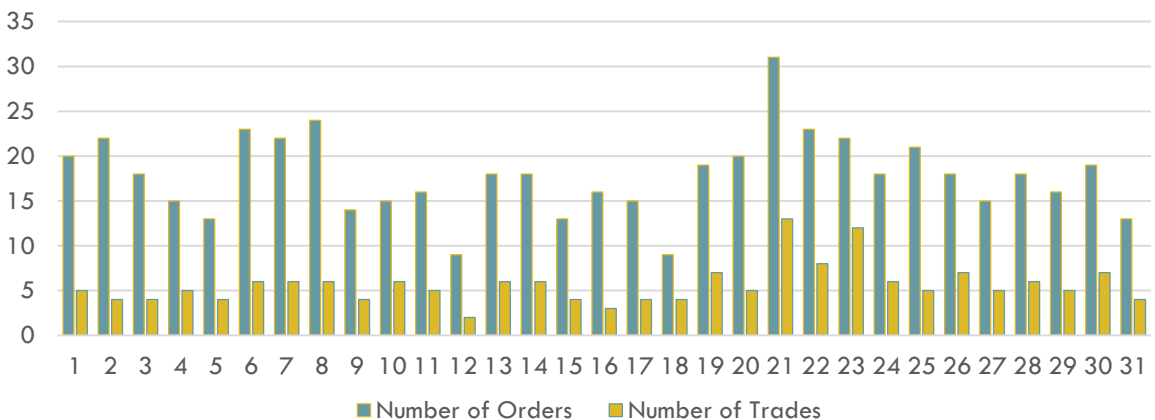
Natural Gas Market Number of Ordered Participants



Natural Gas Market Number of Orders

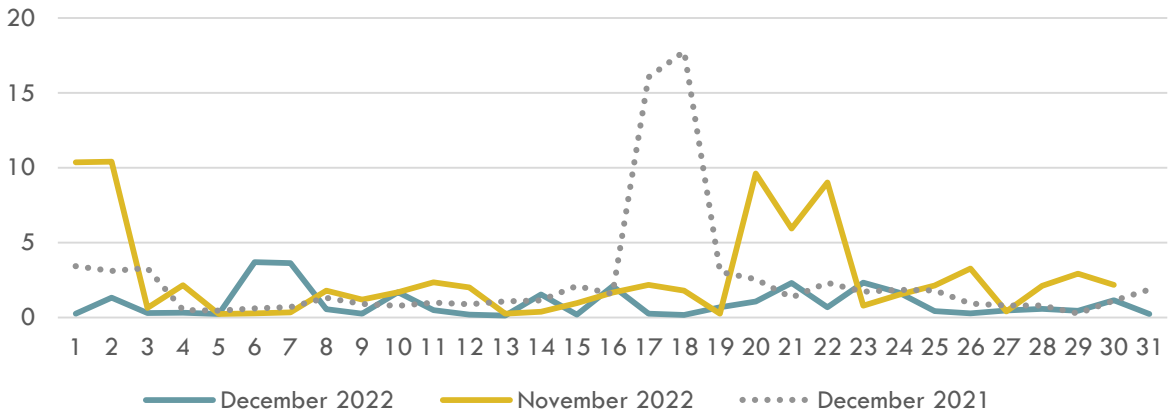


December 2022 Natural Gas Market Number of Orders and Trades

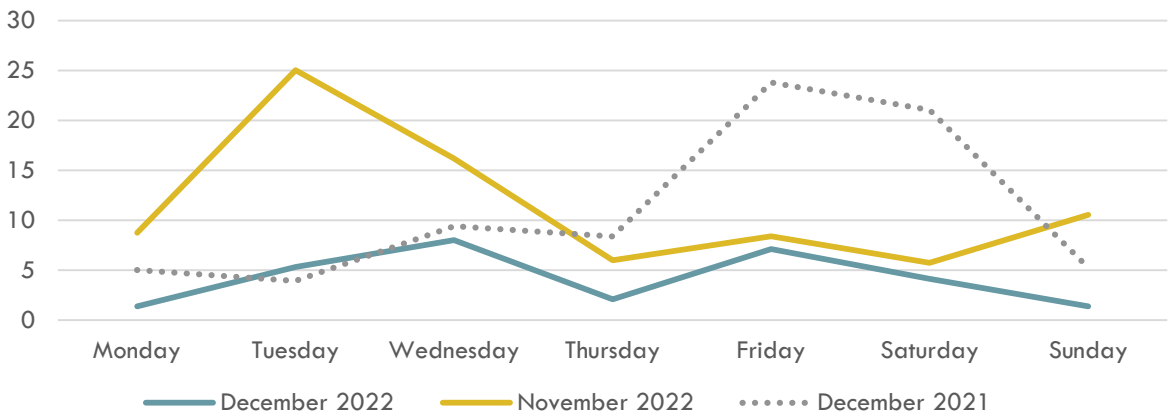


ORDERS, TRADES, VOLUMES (2/3)

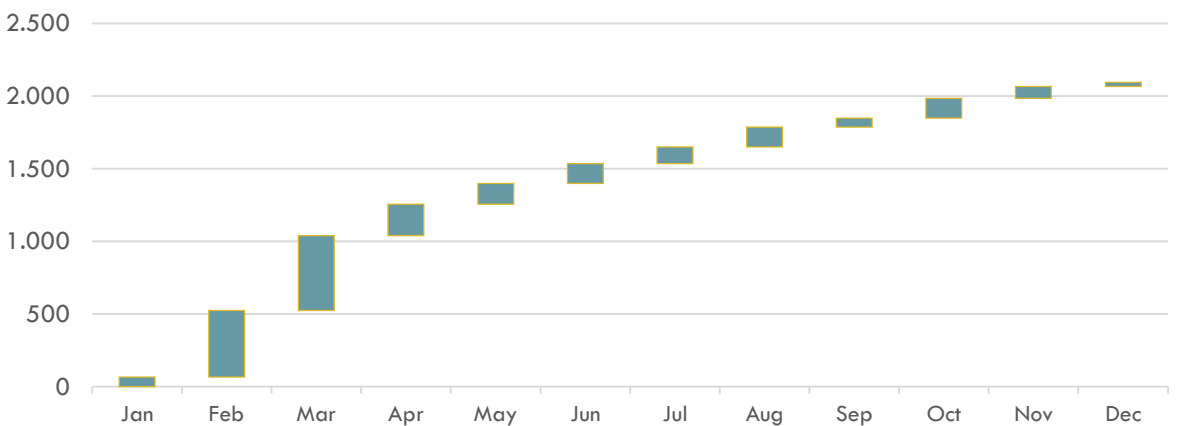
Natural Gas Market Trade Volume (mio.Sm³)



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

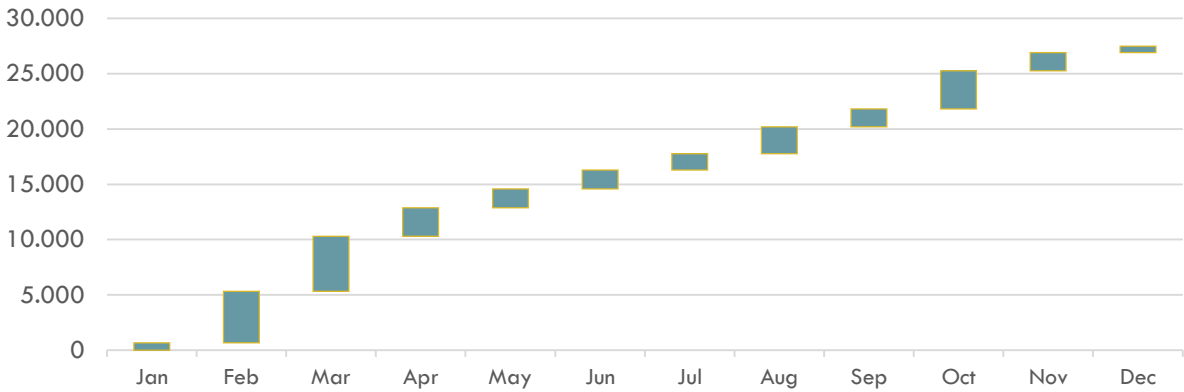


Natural Gas Market Annual Accumulated Trade Volume for 2022 (mio.Sm³)

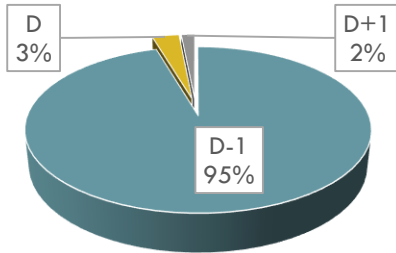


ORDERS, TRADES, VOLUMES (3/3)

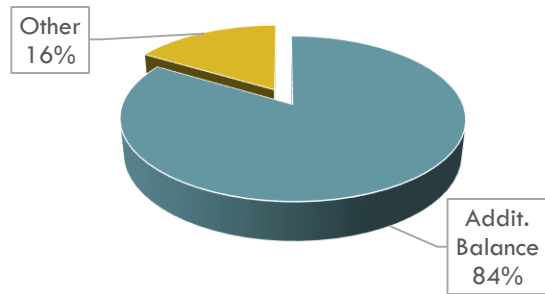
Natural Gas Market Annual Accumulated Transaction Volume for 2022 (Million TL)



Traded Volume of Daily Contracts for December 2022 Period by Sessions



Additional Balancing Traded Volume for December 2022 Period



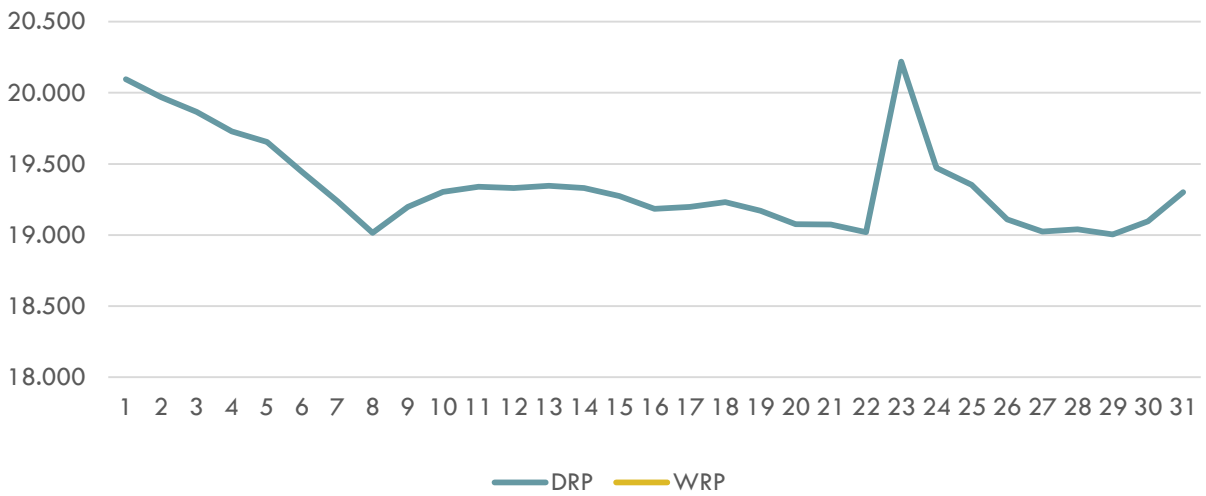
- ✓ The maximum total traded volume was 3.684 sm³ on 06 December 2022 Tue; the minimum total traded volume was realized at the level of 129 sm³ on 13 December 2022 Tue.
- ✓ The maximum total transaction volume was 71.627.317 TL on 06 December 2022 Tue; the minimum total transaction volume was realized at the level of 2.494.760 TL on 13 December 2022 Tue.
- ✓ The maximum d-1 traded volume was 3.659.000 sm³ on 06 December 2022 Tue; the minimum d-1 traded amount was realized at the level of 103.000 sm³ on 13 December 2022 Tue.
- ✓ The maximum d-1 traded volume was 71.144.817 TL on 06 December 2022 Tue; the minimum d-1 traded amount was realized at the level of 1.996.450 TL on 13 December 2022 Tue.
- ✓ The maximum d traded volume was 325.000 sm³ on 21 December 2022 Wed; the minimum d traded amount was realized at the level of 0 sm³ on 01 December 2022 Thu.
- ✓ The maximum d traded volume was 6.179.300 TL on 21 December 2022 Wed; the minimum d traded amount was realized at the level of 0 TL on 01 December 2022 Thu.
- ✓ The maximum d+1 traded volume was 73.000 sm³ on 11 December 2022 Sun; the minimum d+1 traded amount was realized at the level of 0 sm³ on 12 December 2022 Mon.
- ✓ The maximum d+1 traded volume was 1.403.010 TL on 11 December 2022 Sun; the minimum d+1 traded amount was realized at the level of 0 TL on 12 December 2022 Mon.
- ✓ The ratio of sgm compared to total consumption was realized at the level of 0,5% in December 2022.
- ✓ Sgm share in virtual trade was realized at 5,1% in December 2022.

WEEKLY PRODUCTS (1/2)

December 2022 WRP - WD - WE - WW (TL/'000 Sm³)

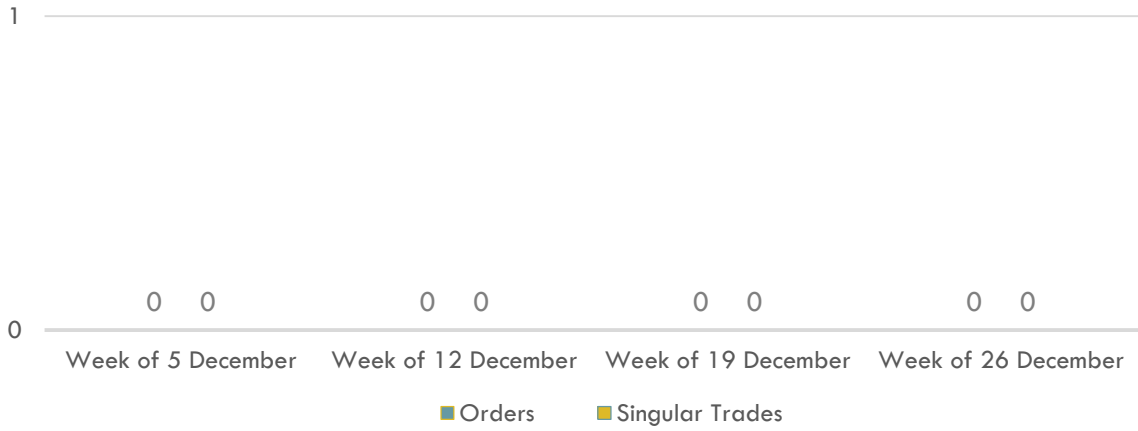


December 2022 DRP - WRP (TL/'000 Sm³)

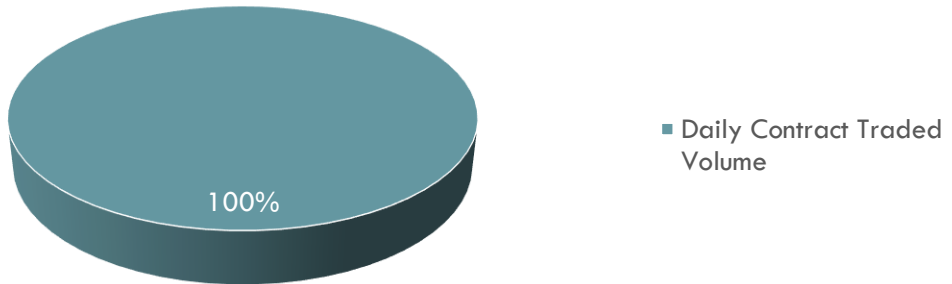


WEEKLY PRODUCTS (2/2)

December 2022 Weekly Products Number of Orders and Trades



December 2022 Traded Volume Distribution by Contract Type



SGM

Last 1 Year Trades

Period	Traded Volume (mio.Sm ³)	Traded Amount (TL)
Dec 2021	76,85	327.403.990
Jan 2022	66,36	559.271.803
Feb 2022	458,09	1.044.258.193
Mar 2022	515,31	1.692.333.624
Apr 2022	216,42	1.565.597.680
May 2022	144,42	1.116.289.688
Jun 2022	136,23	1.412.791.812
Jul 2022	114,06	1.161.807.407
Aug 2022	137,21	1.642.536.310
Sep 2022	61,47	812.459.966
Oct 2022	136,33	1.370.215.904
Nov 2022	80,68	840.078.378
Dec 2022	29,45	570.471.982

SGM's share in Total Cons. and Virtual Trade

Period	Total Consumption (%)	Virtual Trade (%)
Dec 2021	1,1%	8,4%
Jan 2022	0,9%	7,2%
Feb 2022	7,2%	31,9%
Mar 2022	7,3%	38,6%
Apr 2022	5,1%	40,5%
May 2022	3,9%	29,9%
Jun 2022	3,7%	28,2%
Jul 2022	3,4%	22,0%
Aug 2022	3,4%	29,6%
Sep 2022	1,9%	19,7%
Oct 2022	4,2%	27,9%
Nov 2022	1,9%	20,9%
Dec 2022	0,5%	5,1%

GAS FUTURES MARKET (1/1)

Daily Indicator Price For Contracts (TL)

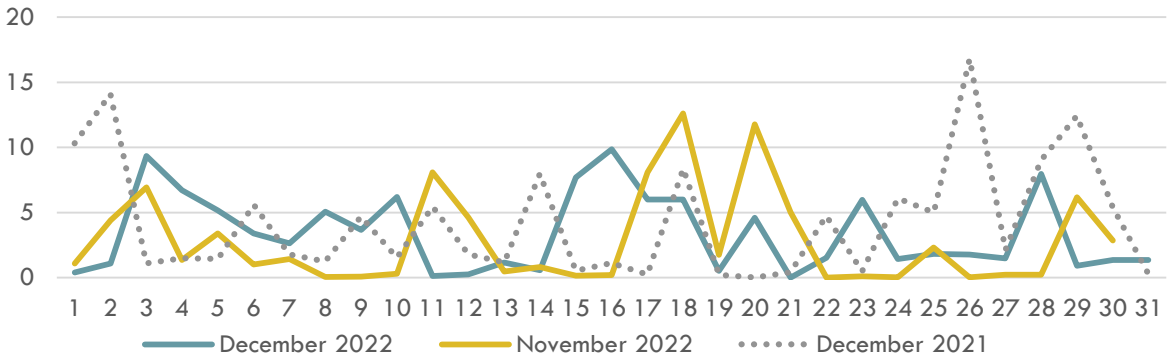
Contract Name	Average Daily Indicator Price (TL)	Minimum Daily Indicator Price (TL)	Maximum Daily Indicator Price (TL)
GM2301	21.487	21.264	22.381
GM2302	23.236	22.819	23.328
GM2303	23.824	23.397	23.918
GM2304	21.138	21.131	21.174
GM2305	21.696	21.688	21.732
GM2306	22.274	22.266	22.312
GM2307	21.608	21.600	21.644
GM2308	21.883	21.875	21.920
GM2309	22.984	22.975	23.022
GM2310	23.080	23.071	23.119
GM2311	29.535	29.524	29.585
GM2312	18.613	18.606	18.645
GM2401	22.167	22.167	22.167
GQ2301	22.830	22.820	22.867
GQ2302	21.703	21.695	21.739
GQ2303	22.149	22.141	22.187
GQ2304	23.680	23.671	23.720
GQ2401	22.385	22.385	22.385
GY23	22.593	22.583	22.629
GY24	23.779	23.779	23.779

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

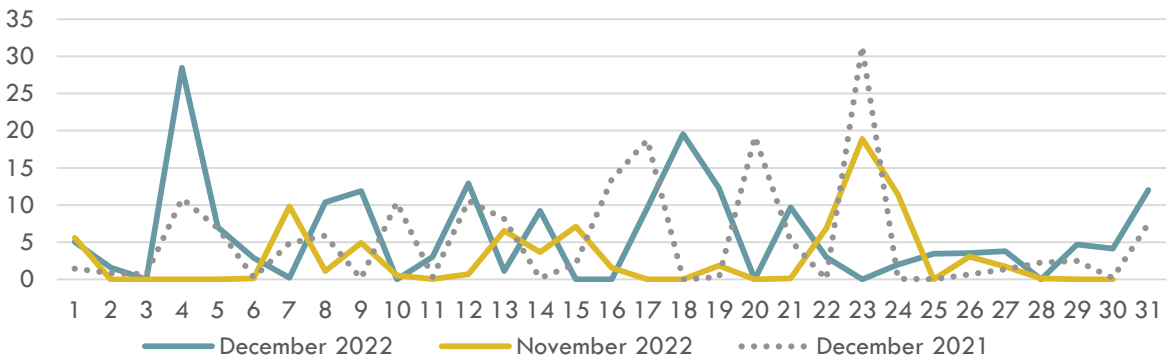
Contract Name	Traded Volume (mio.Sm3)	Traded Amount (TL)	Average Price (TL)
-	-	-	-

TRANSMISSION SYSTEM DATA (1/2)

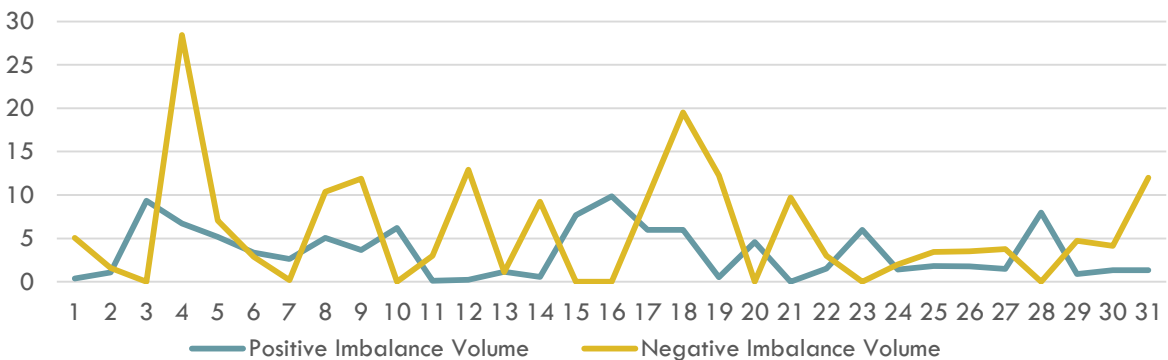
Natural Gas Market Positive Imbalance Volume (mio.Sm³)



Natural Gas Market Negative Imbalance Volume (mio.Sm³)



December 2022 Period Negative and Positive Imbalance Volume (mio.Sm³)

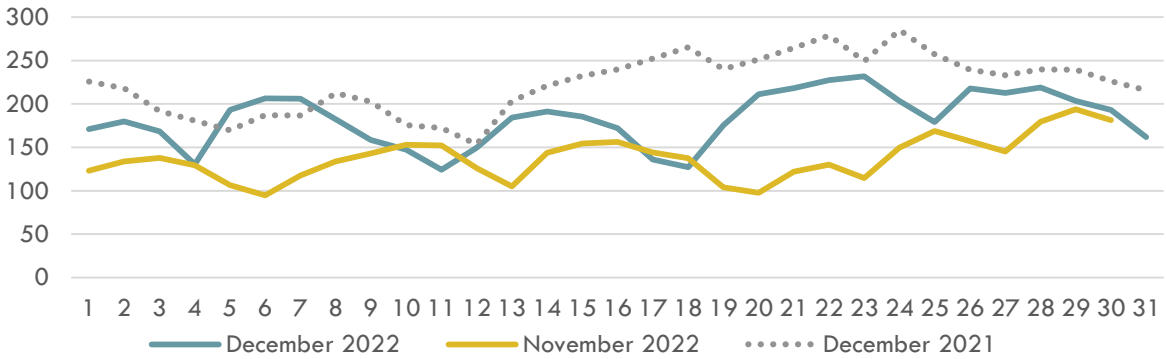


✓ The maximum positive imbalance volume was 9.865.307 sm³ on 16 December 2022 Fri; the minimum positive imbalance volume was realized at the level of 10.129 sm³ on 21 December 2022 Wed.

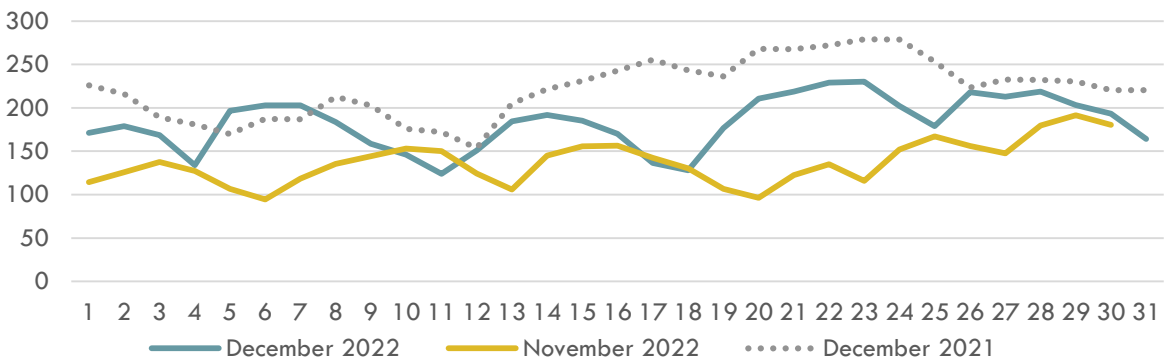
✓ The maximum negative imbalance volume was 28.424.680 sm³ on 04 December 2022 Sun; the minimum negative imbalance volume was realized at the level of 468 sm³ on 03 December 2022 Sat.

TRANSMISSION SYSTEM DATA (2/2)

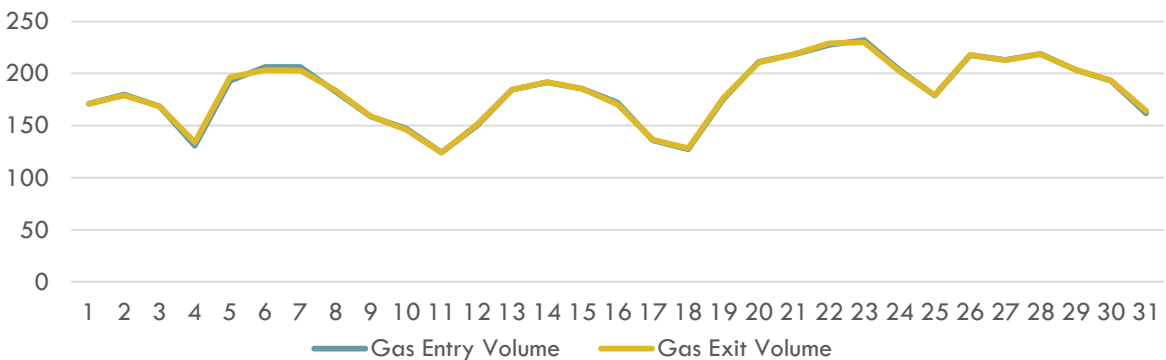
Natural Gas Market Gas Entry Volume (mio.Sm³)



Natural Gas Market Gas Exit Volume (mio.Sm³)



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



- ✓ Maximum gas entry volume realized on 23 December 2022 Fri was 231.918.404 sm³; minimum gas entry volume on 11 December 2022 Sun was 124.326.809 sm³ levels.
- ✓ Maximum gas exit volume realized on 23 December 2022 Fri was 230.033.778 sm³; minimum gas exit volume 11 December 2022 Sun was 124.020.345 sm³ levels.
- ✓ Maximum gas volume in stocks realized on 29 December 2022 Thu was 409.743.542 sm³; minimum stok gas volume 05 December 2022 Mon was 402.960.459 sm³ levels.

ADDITIONAL BALANCING TRANSACTIONS

Transactions with 1 Code

Contract Day	Transaction Volume ('000 Sm ³)	WAP (TL/'000 Sm ³)	Direction
01.12.2022	119	20.097	Purchase
02.12.2022	1.191	19.975	Purchase
03.12.2022	174	19.900	Purchase
04.12.2022	207	19.747	Purchase
05.12.2022	108	19.680	Purchase
06.12.2022	3.559	19.445	Purchase
07.12.2022	3.481	19.240	Purchase
08.12.2022	318	19.120	Purchase
09.12.2022	122	19.350	Purchase
10.12.2022	1.568	19.312	Purchase
11.12.2022	410	19.339	Purchase
12.12.2022	158	19.360	Purchase
13.12.2022	103	19.383	Purchase
14.12.2022	1.510	19.333	Purchase
15.12.2022	152	19.295	Purchase
16.12.2022	2.056	19.188	Purchase
17.12.2022	218	19.240	Purchase
18.12.2022	121	19.246	Purchase
19.12.2022	608	19.189	Purchase
20.12.2022	966	19.088	Purchase
21.12.2022	1.908	19.087	Purchase
22.12.2022	206	19.000	Purchase
23.12.2022	2.167	20.241	Purchase
24.12.2022	1.506	19.500	Purchase
25.12.2022	282	19.400	Purchase
26.12.2022	125	19.200	Purchase
27.12.2022	310	19.099	Purchase
28.12.2022	416	19.049	Purchase
29.12.2022	279	19.025	Purchase
30.12.2022	104	19.125	Purchase
31.12.2022	152	19.350	Purchase

Transactions with 2 Code

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

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 3.559.000 sm³ on 06 December 2022 Tue; additional balancing transactions with a minimum code of 1 were realized at the level of 103.000 sm³ on 13 December 2022 Tue.
- ✓ In December, no additional balancing transaction code of 2 was realized.
- ✓ In December, no additional balancing transaction code of 3 was realized.
- ✓ In December, no additional balancing transaction code of 4 was realized.