ECRB Market Monitoring Report

Gas Wholesale Markets in the Energy Community

December 2024

Contents

INTRODUCTION

1. About ECRB

The Energy Community Regulatory Board (ECRB) operates based on the Energy Community Treaty. As an institution of the Energy Community[1], ECRB advises the Energy Community Ministerial Council and Permanent High Level Group on details of statutory, technical and regulatory rules and makes recommendations in the case of cross-border disputes between regulators. ECRB is the independent regional voice of energy regulators in the Energy Community. ECRB's mission builds on three pillars: providing coordinated regulatory positions to energy policy debates, harmonizing regulatory rules across borders and sharing regulatory knowledge and experience. ERCB also has a number of legal responsibilities such as issuing opinions on draft certification decisions of Contracting Parties' regulatory authorities or monitoring the implementation of Network Code Regulations.[2]

2. Background

Market monitoring is a core element of regulatory responsibilities. Only in-depth knowledge of market performance, stakeholder activities and development trends allow regulators to create an effective market framework that balances the needs of market players and is able to promote competition, customer protection, energy efficiency, investments and security of supply at the same time. The relevance of regulatory market monitoring is not only recognized by the Energy Community *acquis communautaire* ('acquis') but is also since years a central ECRB activity.

3. Scope

The present report covers the Energy Community Contracting Parties ('Contracting Parties') with functioning gas markets: **Georgia, Moldova, North Macedonia, Serbia** and **Ukraine**. The information for **Bosnia and Herzegovina** was **not provided**. It describes the status quo of gas markets on wholesale level with the aim to identify potential barriers and discuss recommendations on potential improvements.

Additionally, two observer countries to the Energy Community, namely **Armenia and Turkey**, are included in the report, where applicable.

Data presented in this report refers to **2023**.

4. Methodology

Data and analysis displayed in this report is based on information provided by the regulatory authorities of the analyzed markets.

[1] www.energy-community.org The Energy Community comprises the EU and Albania, Bosnia and Herzegovina, North Macedonia, Georgia, Kosovo*, Moldova, Montenegro, Serbia and Ukraine. Armenia, Turkey and Norway are Observer Countries. Throughout this document the symbol * refers to the following statement: This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Advisory Opinion on the Kosovo declaration of independence.

2 For more information on ECRB visit https://www.energy-community.org/aboutus/institutions/ECRB.html.

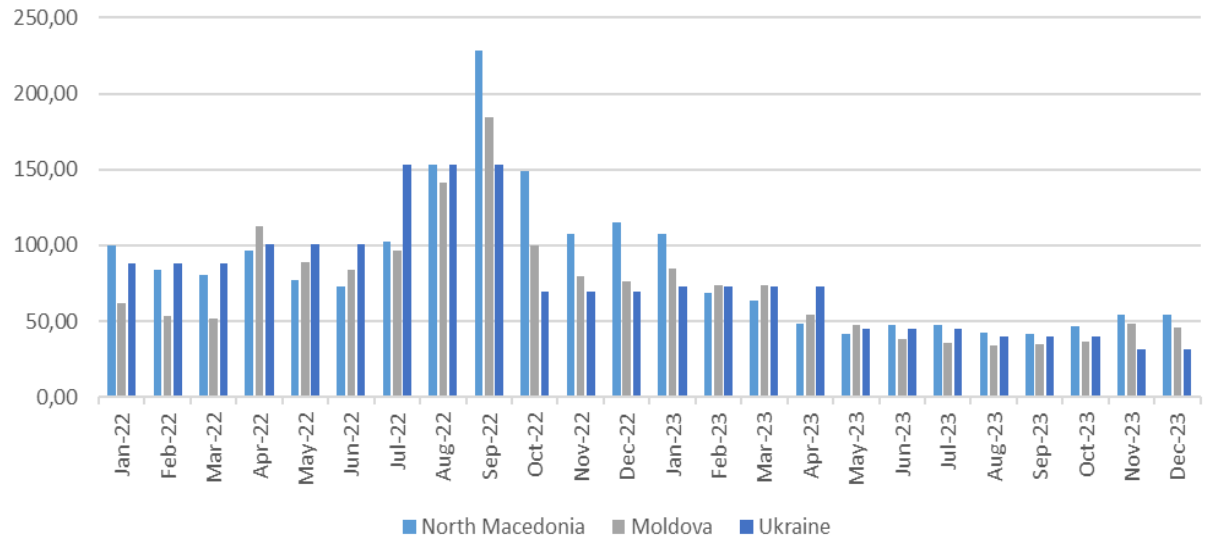
ANALYSIS

1. 2023 wholesale prices trends

1.1 Wholesale prices

After a year of high gas wholesale prices and growing concerns over security of supply, the year 2023 brought price decreases in majority of the Energy Community Contracting Parties. As displayed in Figure 1 below, **weighted average import prices** in three Contracting Parties for which this information was available- North Macedonia, Moldova and Ukraine, continued to decrease after the peak in September 2022 and were more stable in the second half of 2023. North Macedonia had the highest import prices, going beyond the EU average of 41 EUR/MWh in 2023[3]. The highest price in 2023 was recorded in North Macedonia in January, amounting to 107,22 EUR/MWh. The levels of import prices in Georgia and Serbia are predominantly based on long-term contracts and confidential.

Figure 1 Weighted average import price in the Contracting Parties (in EUR/MWh)



[3] https://energy.ec.europa.eu/document/download/d9d5ce40-db48-405c-ad6f-7b4b1687e013_en?filename=New%20Quarterly%20Report%20on%20European%20Gas%20Markets%20Q4%202023.pdf

In Armenia, the weighted average import price from Russia was stable at the level of 14,965 EUR/MWh throughout the 2023. Armenia also imports gas from Iran, via the framework exchange deal gas-electricity, by which for imported 1m^3 of gas, 3 kWh of electricity is returned to Iran.

Table 1, as well as Figures 2 and 3 display the decline in **average yearly gas wholesale sell prices** in Moldova and Ukraine comparing to the rise that occurred in 2022, while in Serbia a rise of 26% was recorded.

Table 1 Average yearly gas wholesale sell prices in the Contracting Parties (EUR/MWh)

	2017	2018	2019	2020	2021	2022	2023
MD	30.09	26.68	23.76	21.91	30.95	84.17	62.86
MK	24.60	27.04	25.36	23.97	NA	118.52	NA
RS	24.51	28.03	28.53	23.97	23.46	29.29	36.97
UA	18.2	20.08	17.70	21.91	26.88	28.24	18.94

Figure 2 Average yearly gas wholesale sell prices in the Contracting Parties (EUR/MWh)

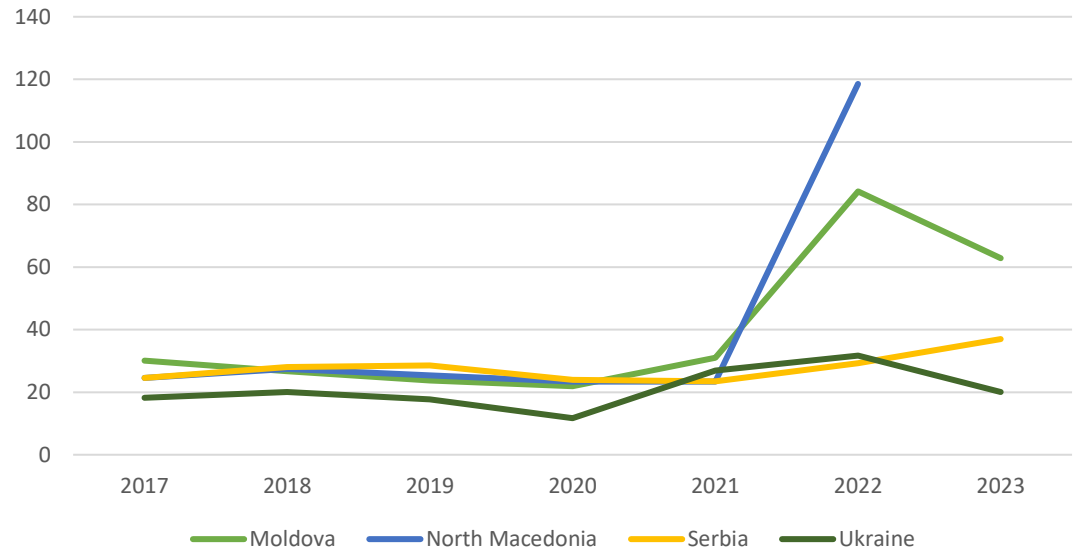
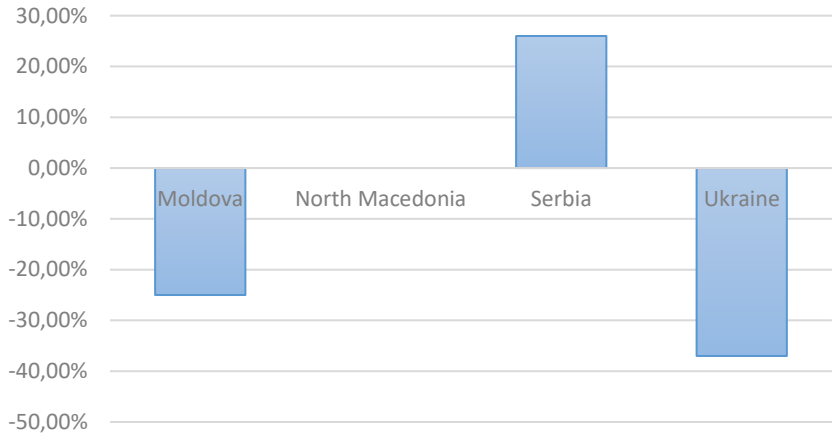


Figure 3 Change in average yearly gas wholesale sell prices in the Contracting Parties (year 2022-2023), in %



2. Market and system overview

2.1 Networks and system operators

Ukrainian single transmission system operator operates 33,086 km of network transmission network. The company *Gas Transmission System Operator of Ukraine* ('GTSOU') is a 100% state-owned limited liability company certified as an independent system operator. On distribution level, Ukraine operates 326,231 km of networks[4]. Out of 24 distribution system operators, one is entirely publicly owned, while 12 are of mixed ownership and 11 is privately owned. There are 11 distribution system operators that have less than 100,000 customers and 6 of them are unbundled from the supply activities.

Serbia has three transmission system operators managing 3,131 km of networks, whose total length increased by 592 km since 2020.

Table 2 Transmission system operators in Serbia

	Transportgas Srbija	**Gastrans**	**Yugorosgaz Transport**
Network shares of the TSOs (in %)	83	13	4
Volume shares of the TSOs (in %)	26	73	1
Ownership structure of the TSO(s)	100% public	51% private 49% public	100% private

Only one of the Serbian transmission system operators- *Gastrans*, has been certified so far under the model of an independent transmission system operator. Certification of the other TSO Transportgas Srbija is expected to be finalized by end of 2024.

In the distribution segment, there are 31 distribution system operators in Serbia, with 23,638 km of networks in 2023. Since 2020, 3,756 km of gas distribution pipelines was built. The great majority of distribution companies, 30 out of 31, has less than 100,000 customers. 21 distribution company is publicly owned, while 10 are in private ownership.

The transmission network of **Georgia** is 1,950 km long and is operated by one publicly owned transmission system operator that is still not certified[5]. There are 20 distribution system operators, predominantly privately owned (19 out of 20), with 17 serving fewer than 100,000 customers, and none of them is legally unbundled. Between 2020 and 2023, Georgian gas distribution network increased by 4,853 km, 3,653 km out of that only between 2022 and 2023.

In 2023, **Moldovan** 1,683 km long transmission network was operated by one transmission system operator, in private ownership ('*Vestmoldtransgaz*'). The transmission system operator was certified in 2024. Moldova has 19 privately owned distribution system operators, out of which 15 are legally unbundled.

In **North Macedonia**, 210 km of transmission network is in operation, while the distribution companies operate only 74 km of gas pipelines. The transmission system operator *Nomagas* is certified in 2024. All three distribution system operators are publicly owned and not unbundled, each catering to less than 100,000 customers.

[4] The number does not include the occupied territories of the country.

[5] The plan is however to have it certified as an independent system operator.

In **Armenia**, transmission network (1,678 km) is fully owned by a single privately owned transmission system operator. On the distribution level, the networks are also operated by one distribution system operator in private ownership. The distribution network length in Armenia increased by 1,857 km between 2020 and 2023 to reach currently available 19,414 km of pipelines.

The transmission network of **Türkiye** is 17,988 km long and is operated by a single publicly owned transmission system operator (BOTAS). On the distribution level, there are 72 privately owned distribution system operators in 2023. The distribution network reached 197,890 km as of 2023 and 38 of 72 distribution companies have less than 100,000 customers.

2.2 Gas demand and imports

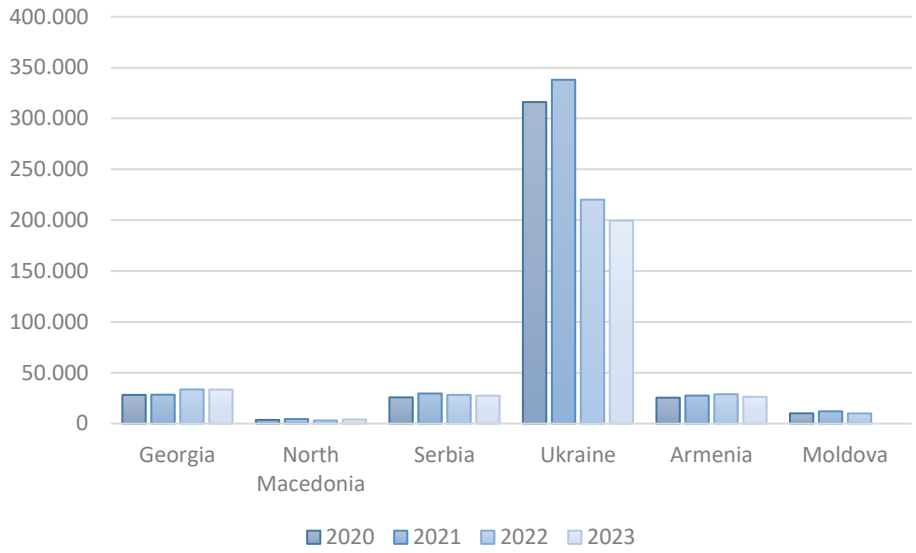
Gas demand in the Contracting Parties and Armenia, expressed as **Gross Inland Consumption**[6], generally shows a downward trend in 2023, with figures decreasing in all included countries except North Macedonia (+29.7% in a year). As displayed in Table 3 and Figure 4, a reduction around 9% occurred in Armenia and Ukraine, while in Georgia gas demand stayed at almost the same level as in previous year. A small percentage of decrease also occurred in Serbia- 2.7%.

Table 3 Gross Inland Consumption in the Contracting Parties and Observers (GWh)

	2020	2021	2022	2023	Δ 2022-2023
Georgia	28,173	28,383	33,553	33,435	-0.4%
North Macedonia	3,566	4,493	3,011	3,906	29.7%
Moldova	10,053	12,016	9,983	9,252	-7.32 %
Serbia	25,748	29,576	28,203	27,437	-2.7%
Ukraine	316,105	338,035	220,164	199,504	-9.4%
Armenia	25,440	27,508	28,860	28,034	-2.9%
Türkiye	513,556	636,595	566,053	534,243	-5.62%

[6] Gross Inland Consumption = Production + Imports - Exports + Storage variations.
Storage variation reflect the difference between opening stock level at the first day of the year and closing stock level at the last day of the year of stocks held on national territory. Indigenous Production reflects all dry marketable production within national boundaries, including offshore production. Production is measured after purification and extraction of NGLs and sulphur. The measurement excludes extraction losses and quantities reinjected, vented or flared. Production includes own consumption of a producer.

Figure 4 Gross Inland Consumption 2021-2023 (GWh)



Among the Contracting Parties, Moldova and North Macedonia rely entirely on **imports** to meet their natural gas demand[7]. Also Georgia is highly import dependant, with 99.5% of gas consumption being imported, with the majority (81%) coming from Azerbaijan, followed by 19% from Russia. Transited volumes were 25,715 GWh in the previous year. In Serbia, 92.6% of gas consumption was imported, with domestic production contributing to 7.4% of demand, a slight decrease from 10.6% in 2020, and almost the same percentage as in 2022. Serbia's annual pipeline import quantity was 29,638 GWh, 95% of which from IP Zaječar (BG-RS), and the remainder from the IP Horgoš (HU-RS). During 2023, Serbia transited 63,782 GWh of gas. Ukraine stands apart from other Contracting Parties, relying predominantly on domestic production, whose share in total demand increased significantly from 66.3% in 2020 to 97% in 2023. Pipeline import quantity decreased by 21,23% to 12,769 GWh comparing to 2022, and transit quantities dropped by 22% to 176,799 GWh compared to 2022's 226,314GWh.

In Armenia, 100% of gas demand was covered by imports, of which 86.4% from Russia and 13.6% from Iran.

The increasing demand for natural gas in Turkey and the inadequacy of domestic production to meet this demand necessitated the import of natural gas in 2023. 1,57% of Turkey's total natural gas supply was met by natural gas produced in Turkey, while the remaining 98,43% was met by imports from abroad from various sources by companies holding import licenses.

2.3 Physical flows and transmission capacity bookings

Table 4 below outlines the **physical flows** of natural gas at interconnection points (IPs) in 2023 for which the regulatory authorities provided the information. For Ukraine the transparency platform of the GTSOU provides information on flows and capacity bookings per IP and year (https://tsoua.com/en/transparency/test-transparency-platform).

[7] Bosnia and Herzegovina is also 100% import dependent, however this report does not include data on this Contracting Party.

Table 4 Physical flows of gas in 2023 (in GWh)

Contracting Party	IP	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Georgia	Azerbaijan	3,204	2,906	2,713	1,801	738	454	705	1,150	1,286	2,162	2,093	3,062
	South-Caucasus Pipeline	708	522	7	83	677	609	355	182	274	284	682	113
	Russia	5,638	5,322	2,548	1,785	1,566	1,854	2,030	1,641	1,129	1,642	2,636	4,416
Moldova	Alexeevca - entry	0	0	0	0	0	0	0	0	51	213	466	468
	Grebeniki - entry	0	0	0	0	0	0	0	0	53	786	2,430	3,143
	Limanscoe (TO 3)- entry	0	0	0	0	0	0	0	0	0	0	0	0
	Ungheni-entry	52	317	124	14	46	41	521	353	144	381	26	0
	Ananiev (ACB)- entry	0	0	0	0	0	0	0	0	0	0	0	0
	Căuşeni - entry	0	0	0	0	0	0	0	0	706	814	5	0
	Căuşeni - exit	0	0	0	0	0	0	0	0	0	0	156	305
Norh Macedonia	Zidlovo- entry	362	409	374	379	45	270	332	351	317	367	366	336
Serbia	Horgoš- entry	301	372	48	138	0	0	0	0	0	51	418	255
	Zvornik- exit	334	312	260	217	114	91	91	84	89	135	259	327
	Zaječar-entry	6,988	6,518	6,514	6,407	5,326	4,876	7,827	9,018	8,761	8,769	9,130	9,390
	Kiskundorozma-exit	3,258	3,020	3,245	3,970	3,342	3,698	6,369	7,602	7,302	7,166	6,192	6,302
Armenia	Armenia-Georgia entry	3,466	3,192	2,121	1,398	1,420	1,709	1,612	1,512	1,038	1,503	2,184	3,078
	Armenia-Iran entry	3,794	3,488	2,476	1,715	1,869	1,887	1,933	1,834	1,351	1,826	2,497	3,365

In the Contracting Parties, capacity allocation was performed based on Regulation (EU) 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) 984/2013 (hereafter 'CAM NC') in Ukraine, Moldova and Serbia. However it has to be noted that, in Ukraine, the allocated capacity is not bundled at IPs, as required by Article 19 of CAM NC. The Ukrainian transmission network code stipulates rules for bundling of capacity at these points, according to which bundling is subject to agreement of neighbouring transmission system operators. Such agreements were not in place in 2023. In Moldova, unbundled capacities were allocated on the Hungarian booking platform, while Serbian transmission system operator *Gastrans* used the same platform for allocation of non-exempted short-term capacity.

At all Serbian IPs, all capacities were booked as firm capacity. At IP Horgoš, capacities were mainly booked as daily products, except for January and February 2023, when also monthly products were booked. On IPs Zvornik yearly products were booked, while on IP Zaječar and IP Kiskundorozma firm yearly, quarterly, monthly, daily and within daily products were booked. More details may be found in Annex I of this report. At the entry points in Turkey, yearly, quarterly, monthly products are offered.

Ukraine is the only Contracting Party that reported the existence of two Virtual Interconnection Points (VIPs): VIP-Bereg (HU-UA) and GCP GAS SYSTEM/UA TSO (PL-UA).

2.3 Shippers

The number of **shippers** active at IPs varies substantially among the Contracting Parties. Table 5 gives a detailed overview of their presence and distribution. The number of shippers at IPs increased in Moldova, Serbia and Ukraine from 2022 to 2023. In Moldova, the main route of gas supply changed in 2023, so most of shippers used Ungheni IPs.

Table 5 Shippers at IPs of the Contracting Parties

Contracting Party	Shippers per IP 2022	Shippers per IP 2023
Georgia	Azerbaijan-SCP: 1	Azerbaijan-SCP: 1
	Azerbaijan: 1	Azerbaijan: 2
	Russia: 1	Russia: 1
Moldova	Alexeevca (ACB): 4	Alexeevca (ACB): 7
	Grebeniki (ATI, RI, SDKRI): 5	Grebeniki (ATI, RI, SDKRI): 5
	Căuşeni (ATI, RI, SDKRI): 5	Căuşeni (ATI, RI, SDKRI): 6
	Limanscoe (TO 3): 1	Ungheni: 10
North Macedonia	n.a.	4
Serbia	Horgoš: 1	Horgoš: 1
	Zvornik: 2	Zvornik: 2
	Zaječar: 6	Zaječar: 10
	Kiskundorozma 2: 6	Kiskundorozma 2: 10
Ukraine	All IPs: 52[8]	All IPs: 64
Turkey	All IPs: 15	All IPs: 14

2.4 Wholesale market dominance

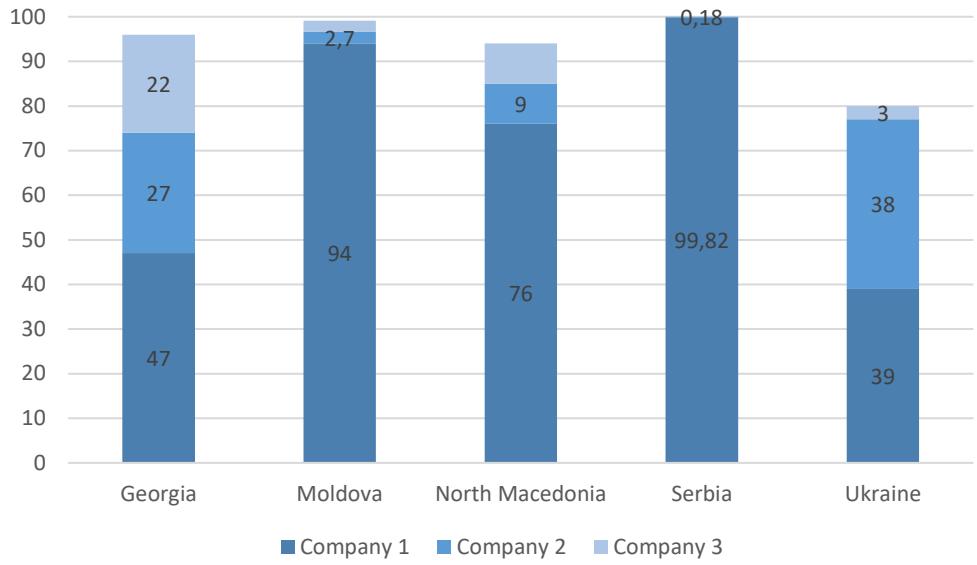
Gas markets in the Contracted Parties are highly concentrated. Georgia and North Macedonia have the highest number of companies selling at least 5% of available gas, namely three (in Georgia 47%, 27%, 22% in North Macedonia 76%, 9%, 9%). In Ukraine, two companies sell more than 5% of available gas. In Ukraine, the major company manages almost 39% of the sales of available gas, with the other company having the market share of 38%. In Moldova, a single company controls 94% while in Serbia a single company controls over 99% of market share.

In Türkiye, the sales shares of three biggest companies selling the most natural gas is 78,66%, 4,56% and 3,67% respectively. Namely only one company sells more than 5% of available gas.

Figure 6 below, representing the share of three biggest companies by available gas, gives an overview of market concentration in the Contracting Parties.

[8] Drop of 36 shippers in comparison to 2021.

Table 6 Share of three biggest companies by available gas (in %)



2.5 Balancing Network Code implementation

The Regulation (EU) 312/2014 establishing a network code on gas balancing of transmission networks ('BAL NC')[9] is not fully implemented in any of the Contracting Parties.

In Georgia the level of implementation is the lowest.

Serbia informs network users about imbalances and operates with a daily cash out regime. However, it has yet to establish a trading platform for the procurement of short-term standardized products. Notably, Serbia employs three distinct tolerance levels for managing imbalances.

In North Macedonia, system users are informed about their imbalances. Daily cash out regime is in place and the TSO is using foreign platform for procurement of short-term standardized products. Neutrality tariff is in place to provide for TSOs neutrality. Interim measures are not applied.

In Moldova system users are informed about their imbalances. Balancing services as an interim measure are applied since the NRA published a motivated decision on implementation of interim measures (Art.46 of BAL NC), based on an annual report on interim measures prepared by the transmission system operator.

Ukraine emerges as the Contracting Party demonstrating the highest level of implementation of the BAL NC, although full compliance is yet to be achieved. Noteworthy features include comprehensive information dissemination to network users about their imbalances, the existence of a trading platform for the procurement of short-term standardized products, and involvement of the transmission system operator in procuring such products on the trading platform. While a daily cash out regime is not in place, Ukraine employs a daily balancing regime, culminating in the aggregation of positive and negative imbalances at the end of each month, with corresponding invoicing for daily imbalances. Monthly neutrality charge has been published on the transmission system operator's website since March 2020, however it is still not applied in practice. Interim measures, specifically tolerance, are in use. Tolerance levels underwent a revision from November 2021, when they have been set to 10%. Notably, there is no interim imbalance charge. However, as of the reporting period, Ukraine has not

[9] https://www.energy-community.org/dam/jcr:0c739eda-a10f-4e0e-bfb6-aa2c0ba7a0b2/Regulation_312_2014_NC_B.pdf

prepared the annual report on interim measures, and neither the regulatory authority has published a motivated decision on the implementation of interim measures nor allowed the use of transitional measures in line with Article 52 of the BAL NC.

For Türkiye, the gas exchange lets the TSO supply balancing gas from the Continuous Trade Platform as a residual balancer, which results in market-based pricing of the balancing gas, reducing the asymmetry between electricity and natural gas markets and aiding the prevention of behaviours that would damage the market structure and the security of supply. This platform also provides traders with the opportunity to eliminate their imbalances. Using this platform, gas traders have the opportunity to obtain the natural gas they need according to the direction of their imbalances, under market conditions, in a transparent and objective manner.

2.6 Storages

Ukraine is equipped with a significant gas storage capacity and a number of storage users, with the only other Contracting Party having one storage facility being Serbia. Third party access is regulated in Ukraine and negotiated in Serbia. Table 4 summarizes information on storages, including the type of ownership, capacities and working volumes.

Table 7 Storages in the Contracting Parties

	Serbia	Ukraine
Number of storages	1	12
Ownership	Mixed, public-private	State ownership
TPA	Negotiated	Regulated
Storage working gas volume (GWh)	4,618	326,832
Max. withdrawal capacity (MWh/hour)	2,138	114,444
Max. injection capacity (MWh/hour)	1,154	111,038
Number of storage users	2	474

Armenia has one storage owned by the transmission system operator, with a single storage user. The information on storage capacity is not available.

Turkey has two underground storage facilities, which are in the state ownership and regulated TPA is applied. The total capacity of these two storages is 61,71 GWh and five different companies are using these storages. There are also two LNG storage and three FSRUs in operation in Turkey.

3. Transmission tariffs

3.1 Tariff Network Code implementation

In 2023, the Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas (‘TAR NC’) was still not implemented by majority of the Contracting Parties. The exceptions are Ukraine and Moldova. Ukraine applied most of the Tariff Network Code provisions before the expiry of implementation deadlines, establishing transmission tariffs for the regulatory period 2020-2024, however the cost allocation assessment envisaged by Article 5 and the consultation requirements of Chapter VII were not performed. Moldova implemented the Tariff Network Code in 2023 and the ECRB conducted an analysis of the tariff consultation document submitted by the National Regulatory Authority for Energy (ANRE) of Moldova. Another process of tariff revision was

initiated in 2024 but the TAR NC process was postponed. Serbia also conducted consultation process in line with NC TAR in 2024 and tariff methodology is in its final stage of adoption.

Ukraine utilizes a capacity-weighted distance as its reference price methodology, with varying multipliers for different booking periods. For IPs, the multiplier applied ranged from 1.45 for day-ahead bookings to 1.2 for monthly capacity bookings and 1.1 for quarterly bookings. In the case of domestic points, specific multipliers were implemented from March 2020 onward for day-ahead (1.1 conditional units), monthly (1.04 conditional units), and quarterly (1.02 conditional units) capacity bookings. Additionally, discounted coefficients were applied to short-haul tariffs in Ukraine for conditional product bookings linked with storage use.

North Macedonia and Georgia still employ a post stamp methodology.

The levels of transmission tariffs applied in the Contracting Parties in 2023 are presented in the table below.

Table 7 - Gas transmission charges at cross- border IPs in 2023 (in EUR per MWh)

Contracting Party	IP name	Border/direction	Flow direction	EUR/MWh/h/year
Moldova	Ungheni	Group of entry points (Vestmoldtransgaz)	Entry	9,323.4
		Group of exit points to other TSO's networks and neightbordering (Vestmoldtransgaz)	Exit	9,944.6
		Group of exit points to DSO's networks (Vestmoldtransgaz)	Exit	8,901.3
Serbia		Hungary-Serbia	Entry	113,53 EUR/MWh/day
		Serbia-Bosnia and Herzegovina	Exit	246,24 EUR/MWh/day + 0,43 EUR/MWh
Ukraine	Virtual or physical IPs with Poland (Hermanowice, Drozdovychi, Ustylug)	PL-UA	Entry	3,307
		UA-PL	Exit	6,717
	Virtual or physical IPs with Slovakia (Budince, Uzhgorod – Velke Kapusany)	SK-UA	Entry	3,307
		UA-SK	Exit	7,193
	Virtual or physical IPs with Hungary (Beregdarots, Beregove)	HU-UA	Entry	3,307
		UA-HU	Exit	6,873
	Ananyiv	UA-MD	Exit	6,071
	Grebeniki	UA-MD	Exit	6,071
	Kaushany	UA-MD	Exit	840
	Limanskoe	UA-MD	Exit	6,071
		MD-UA	Entry	3,307
	Oleksiivka	UA-MD	Exit	7,215
	Oleksiivka	MD-UA	Entry	3,307
	Virtual point with Moldova	UA-MD	Exit	416
	Isaccea/Orlovka	UA-RO	Exit	840
	Isaccea/Orlovka	RO-UA	Entry	3,307
	Sokhranovka	RU-UA	Entry	11,896
	Tekove/Mediesu Aurit	RO-UA	Entry	3,307
		UA-RO	Exit	6,524
Turkey	All entry points		Entry	0,012 EUR/MWh/day

	Kipi	TR-GR	Exit	0,848 EUR/MWh/day

Conclusions

The gas wholesale markets of the Energy Community Contracting Parties, except for Ukraine, stabilized to a certain extent in 2023 compared to 2022. The full-scale war invasion of Ukraine still causes a lot of damage to energy infrastructure and market development in the country.

Weighted average import prices gradually decreased from higher prices in January to lower prices in the summer months of 2023, with the highest price being recorded in North Macedonia in January, amounting to 107, 22 EUR/MWh. Weighted average wholesale sell prices showed decline in Ukraine and Moldova and increase in Serbia.

Although import prices declined, gas **demand** in the Contracting Parties also displayed a downward trend in 2023 as in the previous year, with figures decreasing significantly in all of them except North Macedonia, that registered increase of +29,7%. The reduction of 2,86% occurred in Armenia and 9,4% in Ukraine, while Moldova registered a year-to-year decrease of 7.32% compared to the previous year. A less radical decrease occurred in Serbia- 2.7% while in Georgia demand stayed almost at the same level as in 2022.

Gas markets in the Contracted Parties are still **highly concentrated**. In Moldova, the biggest company manages 94% while in Serbia this percent goes up to 99%. In North Macedonia the largest wholesale market share is 76%, while in Georgia it is 47% and in Ukraine 39%.

Allocation of transmission capacity was performed based on **CAM NC** in Ukraine, Moldova and Serbia. However, it has to be noted that, in Ukraine, the allocated capacity is not bundled at IPs. The Ukrainian transmission network code stipulates rules for bundling of capacity at these points, according to which bundling is subject to agreement of neighbouring transmission system operators. Such agreements were still not in place in 2023. In Moldova, allocation of unbundled capacity on the Hungarian booking platform started in November 2022, while Serbian transmission system operator *Gastrans* used the same platform for allocation of non-exempted short-term capacity. Ukraine is the only Contracting Party that reported the existence of two Virtual Interconnection Points (VIPs), being those on the borders with Hungary and Poland.

The network code on gas **balancing** of transmission networks is not fully implemented in any of the Contracting Parties, although progress is noticed comparing to previous years. In Georgia the level of implementation is the lowest. Ukraine and North Macedonia are Contracting Parties in which the transmission system operator in procuring short-term standardized products on trading platform, although full compliance is yet to be achieved. In Serbia and North Macedonia system users are informed about their imbalances and daily cash out regime is in place, while In Moldova system users are also informed about imbalances but daily cash out regime is not in place. Moldovan NRA issued a Decision on implementation of interim measures according to NC BAL.

In 2023, **TAR NC** was still not implemented in majority of the Contracting Parties. The exceptions are Ukraine and Moldova. Ukraine applied most of the Tariff Network Code provisions before the expiry of implementation deadlines, establishing transmission tariffs for the regulatory period 2020-2024. Moldova implemented the Tariff Network Code in June 2023 and the ECRB conducted an analysis of the tariff consultation document submitted by the National Regulatory Authority for Energy (ANRE) of Moldova. In Serbia, the methodology for transmission tariffs in line with NC TAR is in its final stage of adoption- ECRB has issued a positive opinion about compliance with NC TAR. North Macedonia and Georgia still employ a post stamp methodology.

Taking into account the gas market developments of 2023, the expiry of gas transit flows through Ukraine in the end of 2024, but also the overall commitment of the Energy Community to decarbonize its economies, the **ECRB recommends that efforts are increased towards demand reduction and more efficiency. In parallel, further diversification of supply sources and better market**

integration, achieved through full implementation of gas network codes, with notable progress in application of NC BAL and NC TAR, would reduce the risks of gas supply disruptions and extreme price increases. A special attention should be given to the expected rise in gas transmission costs due to the reduction of volumes and change of routes. The regulators are invited to design tariffs so not to jeopardize the functioning of the gas transmission systems, but also to allow gas supplies to enter the markets at reasonable prices. The regional cooperation here is of utmost importance.