



When Balance is Achieved



# Quantification of Methane Emissions (Planned and Unplanned Interruption)

## Roundtable Discussion input by GEORGIA

GEORGIAN NATIONAL ENERGY AND WATER SUPPLY  
REGULATORY COMMISSION (GNERC)



**ERRA Gaseous Fuels Markets and Economic Regulation Committee (GF COM) Meeting**

October 28-29, 2024 | 3<sup>rd</sup> Meeting | Physical in Tirana, Albania

# Natural Gas System



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## Overall Information about Natural Gas System

Natural Gas System Length		
	Length of Network (km)	TOTAL
Transportation System	1950	38,313
Distribution System	36,363	

Yearly consumption		
	2023 Consumption	TOTAL
Household	1,341 million m3	2 966 million m3
Non-household	1,625 million m3	

Distribution Network			
CONSTRUCTION YEAR	AGE	LENGTH	UTILIZATION RATE
<1980	<44	2,670	100%
1980-2000	44-24	2,528	100%
2000-2010	24-14	3,229	100%
2010-2020	4-14	21,948	100%
>2020	>4	5,989	100%

Transportation Network			
CONSTRUCTION YEAR	AGE	LENGTH	UTILIZATION RATE
1980	44	1566.838	100%
1990	34	412.552	100%

# Natural Gas System



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## *Future Trends*

### INVESTMENTS

**IN 2023, THE COMMISSION AGREED ON THE FIVE-YEAR DEVELOPMENT PLANS OF THE DISTRIBUTION NETWORK THE TOTAL VALUE OF NETWORK INVESTMENTS PLANNED FOR 2024-2028 AMOUNTED TO 267 MLN GEL.**

The investment plans include rehabilitation works for the existing network and the construction of new gas pipelines for the purpose of network expansion.

A five-year investment plan is approved annually. At this stage, we discuss the investment projects for 2025-2029.

### GASIFICATION

**GOVERNMENT DECREE N2120 DATED OCTOBER 29, 2020 ON THE IMPLEMENTATION OF MEASURES IN SUPPORT OF NATURAL GAS SUPPLY TO THE POPULATION OF GEORGIA IN 2022-2024.**

The goal of the Georgian government is to gasify all populated areas.

250 villages

A three-year plan has now been approved, under which the "Georgian Gas Transportation Company" is to implement project and construction works for the gasification of natural gas supply to 39,698 subscribers in 244 populated areas across the country from 2022 to 2024. The total cost of this initiative amounts to 135,272,350 GEL.

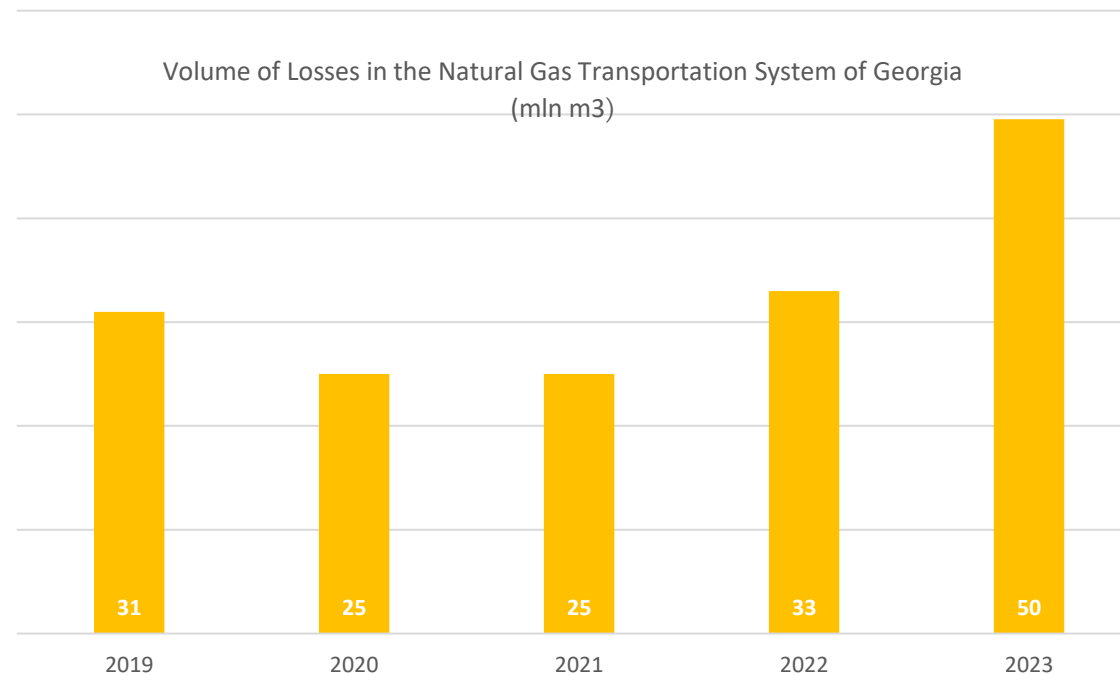
Upon completion of this plan, a new plan will be developed.

# System Loss



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From 2019 to 2022, natural gas losses in Georgia's transportation system averaged around 25-30 mln m<sup>3</sup> annually. However, this trend shifted in 2023, with a notable increase in the absolute value of losses. The volume of losses in the natural gas transportation system in 2023 was about 50 mln m<sup>3</sup>



The reasons for this increase have not been studied at this stage by GNERC. Information and justifications will be presented in the TSO commission for the next tariff year.

# System Loss



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## GNERC sets a target for the level of natural gas losses

**Establishment of Normative Losses:** The commission sets the normative amount of natural gas losses in the transportation network, Based on the actual data from the past 5 years, his amount is accounted for in the tariff.

**Unchanged During Tariff Period:** The normative loss amount set for the TSO remains unchanged throughout the tariff period, Exceptions apply only in cases specified by legislation or situations caused by factors beyond the control of the (TSO). The commission agrees to and approves the mentioned changes.

### Handling Excess Losses:

**Actual Losses Exceeding Normative Losses** - If actual losses exceed the normative amount, the value of the excess losses will not be considered in tariff calculations.

**Profit from Reduced Losses** - actual losses in network are less than the established normative losses, the resulting profit from the difference remains with the TSO.

For TSO GNERC set the normative loss targets (trend)/normative percent indicator for 5-year period.

The last normative value of natural gas loss approved by the Commission for 2023-2027 and it is

**29.254 mln m<sup>3</sup>** annually.

# System Loss



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## What methods TSO use to reduce losses?

TSO implements several key strategies to reduce gas losses

**Infrastructure Modernization** -Upgrading pipelines and replacing outdated infrastructure with modern materials to enhance efficiency.

**Monitoring and Control** - Implementing continuous monitoring systems for early detection of leaks and maintenance issues.

**Technological Innovations** - Utilizing advanced technologies to optimize gas transportation and minimize losses.

**The costs associated with the mentioned activities are factored into the transportation tariff, which is approved by GNERC.**

The TSO submits a tariff application to the commission with supporting documents. The commission reviews the TSO's actual investments and audited operational expenses from the past five years. Based on this analysis, they approve the natural gas transportation tariff.

**GNERC established the latest natural gas transportation tariff for the TSO in 2022, For 2023-2027**

# Indicators



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## *SAIDI and SAIFI indicators (past five years)?*

GNERC measures the SAIDI and SAIFI indicators only for the distribution network.

Year	SAIDI		SAIFI	
	Planned outages	Outages due to external reasons	Planned outages	Outages due to external reason
2023	12:23:53	18:42:22	1.02	0.66
2022	8:09:19	8:29:57	0.65	0.48
2021	6:53:08	9:12:09	0.59	0.51
2020	7:08:00	6:14:09	0.46	0.27

SAIDI and SAIFI values nearly doubled compared to previous years, Various reasons contributed to the increase of indicators

# Indicators



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## Reasons.

**Stricter Requirements from the Commission:** The commission actively monitors outage reports and companies are now recording 100% of outages in the commission's electronic journal compared to previous years.

As well as through the \*303# system, customers can also report interruptions

Long-duration outages.

**Duration of Outages and Number of Disconnected Subscribers:** Throughout the year, there were several significant outages

### Planned outages

Internal Causes

Planned rehabilitation works on a citywide scale (large-diameter pipelines affecting many subscribers)

### Unplanned outage

external outage

Damage to natural gas pipelines caused by climate conditions (flooding, landslides). The complexity of restoring the damaged network (large diameters, many subscribers).



# Emissions

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In Georgia, no specific methodologies have been established for regulating methane emissions, and regarding current plans, the commission is not an executive body in this direction



**THANK YOU  
FOR YOUR ATTENTION!**

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