



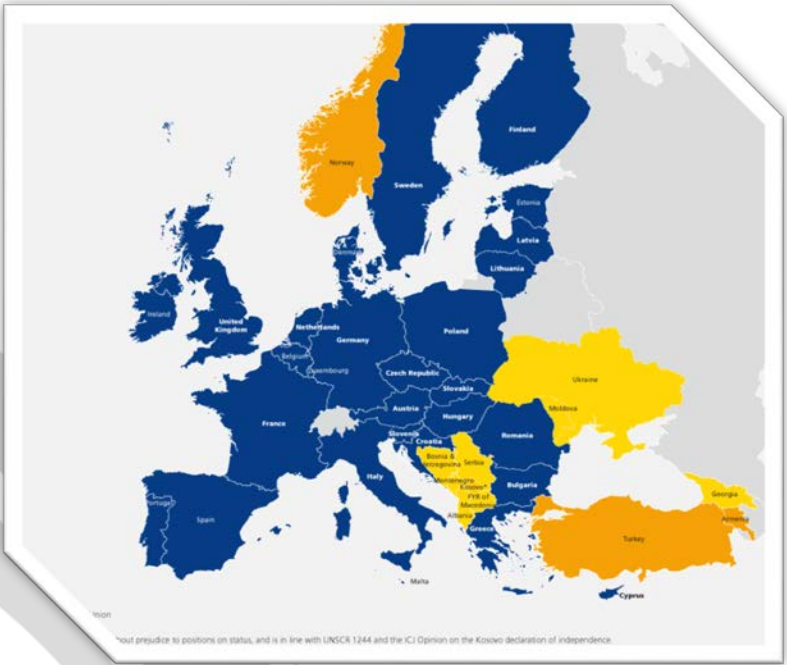
When Balance is Achieved

# **CASE STUDY: GEORGIA'S GROWING GAS MARKET**

## **INVESTMENTS IN STORAGE/TRANSMISSION**

Ljubljana, 2018

# Georgia's Accession to EnC



Accession to EnC

In 2017, Georgia became a full-fledged member of EnC

Implementation by 2021

Gas *acquis*



Exemptions under Accession Protocol

- SCP and NSGP are subject to exemption from implementation of Directive 2009/73/EC and Regulation 715/2009
- Further exemptions apply to agreements between Georgia and Azerbaijan

# Characteristics of Gas Market in Georgia

- Isolated from other gas markets across EnC
- 94% of gas supplied from Azerbaijan, based on long-term contracts
- Highly concentrated, with subsidiaries of SOCAR dominating both retail and wholesale markets
- All customers are eligible
- GNERC sets ceiling prices for household customers, whereas prices for non-household customers are not regulated

Natural Gas Supply		Volume (mcm)	Share in total volume (%)
Azerbaijan		1 199,75	51.2%
SCP	Option+Supplemental	821,08	35.1%
	Import	179,96	7.7%
Russia		134.59	5.7%
Domestic Supply		7.82	0.3%
Total		2 343.20	100%

# Main Challenges faced by Georgian Gas Sector

- High dependency on a single supplier, raising concerns for energy security
- Well-defined seasonal consumption pattern, with a consumption peak in winter and limited consumption in summer
- Need for modern transport infrastructure with increased capacities



# Functions of GOGC and GGTC

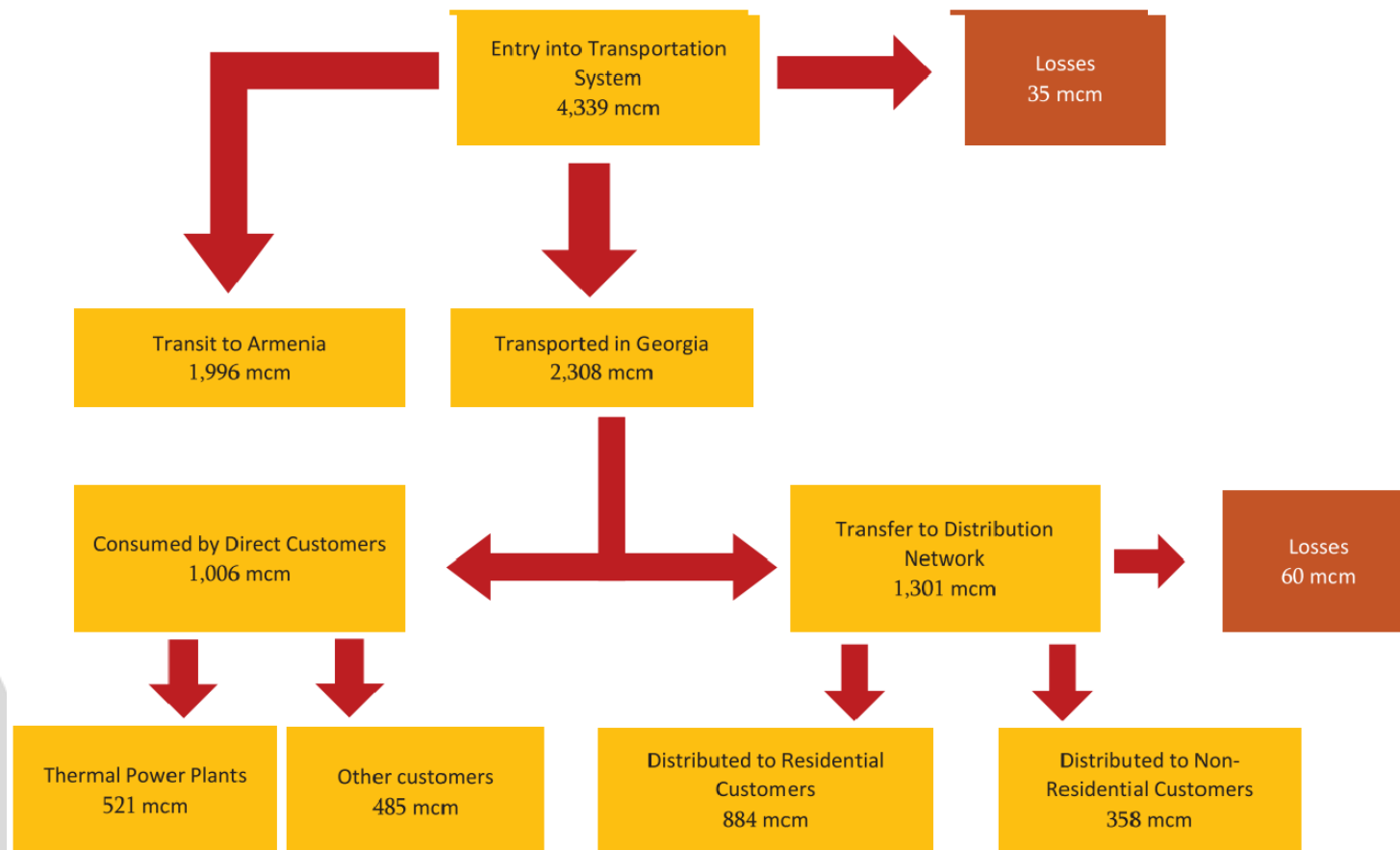
## GOGC

- Owner of gas transportation infrastructure and is responsible for capital expenditures
- Designated buyer of gas from SCP pipelines received from transit pipelines, acting as a wholesaler
- Facilitates new transit projects
- Prepares TYNDP on a voluntary basis
- 100% of GOGC shares are owned by a state-owned company, JSC Partnership Fund

## GGTC

- GGTC is the only transportation Licensee in Georgia
- Leases infrastructure from GOGC
- Responsible for operation and maintenance of high pressure gas pipelines with total length of almost 2000 km
- 100% of shares owned directly by the state

# Gas Transportation System



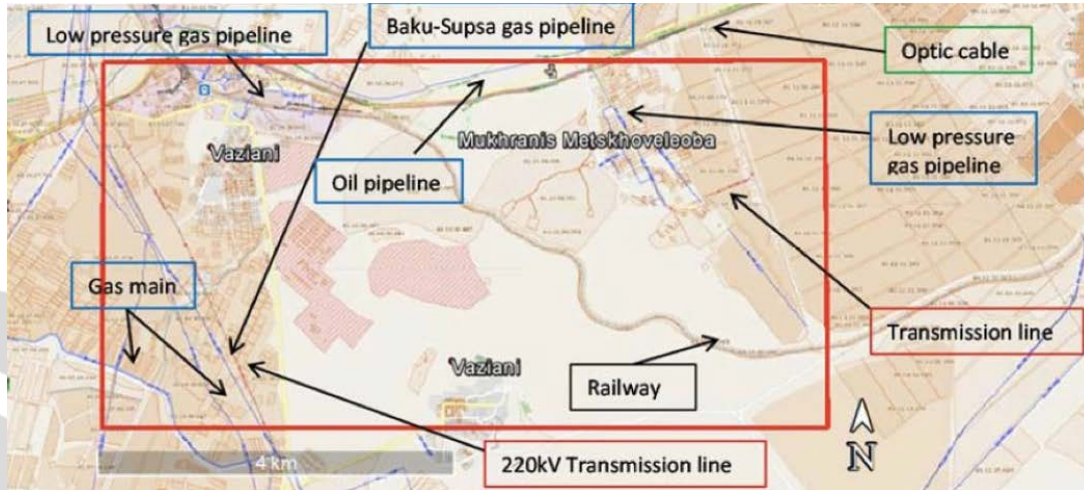
# Underground Gas Storage

## ➤ Capacity of UGS:

- 190 mcm - cushion gas volume
- 210 mcm - working gas capacity

## ➤ UGS has several purposes:

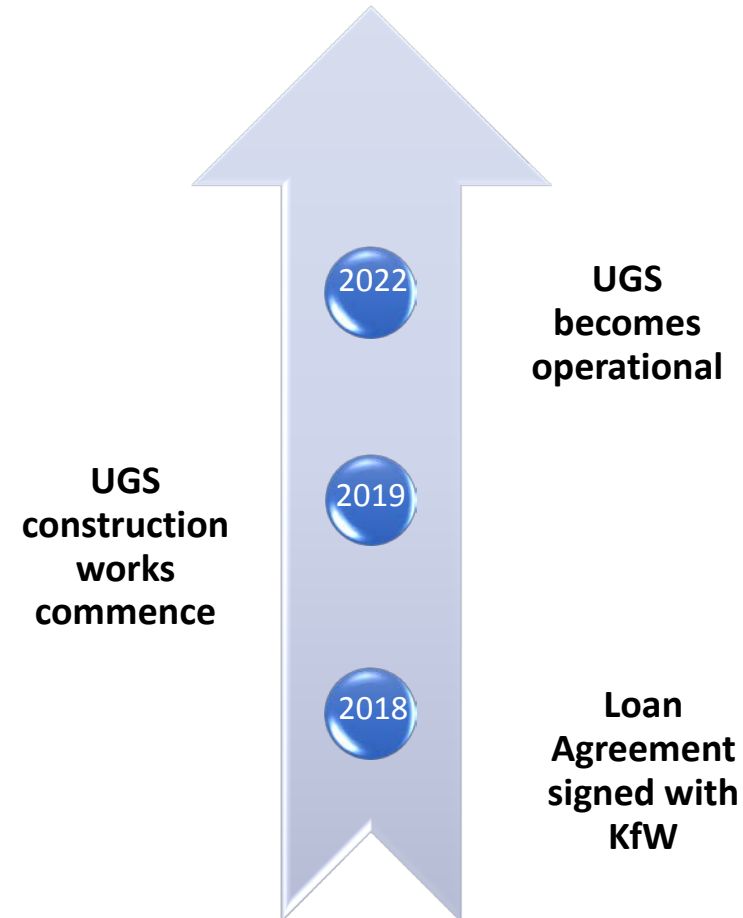
- guarantee security of supply, particularly for households and TPPs
- Serve as a tool to deal with seasonal demand
- Serve as a balancing tool for TSO
- Facilitate market development



*Location of Samgori South Dome  
Source: Geostock Entrepouse*

# Financing the UGS Project

- UGS is planned to be operated seasonally with:
  - A gas injection period of 4 months
    - average injection rate: 1.75 mcm/d; maximum injection capacity: 2.5 mcm/d
  - A gas withdrawal period of 3.5 months
    - average withdrawal rate: 2 mcm/d; maximum withdrawal capacity: 5 mcm/d, up to 6 mcm/d during 1 day
- The total investment required for implementation of the project is around EUR 220-250 million
- The project will be financed by KfW, European Investment Bank and the GOGC





# Access Regime

- The UGS is envisaged to be subject to regulated access
- Suppliers might be obliged to store sufficient gas to serve the “social” segment of customers and benefit from priority access to the UGS
- The remaining capacity may be auctioned
- In case of regulated access, the cost of storage will be reflected in end-user tariffs and price caps, as an additional component

# South Caucasus Pipeline Expansion

- 691 km-long SCP pipeline transports gas from the Shah Deniz gas field in Azerbaijan to Turkey
- As a result of Shah Deniz Stage 2 development and completion of SCPX project, gas volumes exported through SCP will triple and reach up to 20 bcm/year by 2022
- Within the scope of SCPX, two new compressor stations (122 MW capacity in total) and a parallel pipeline (63.8 km) will be constructed in Georgia



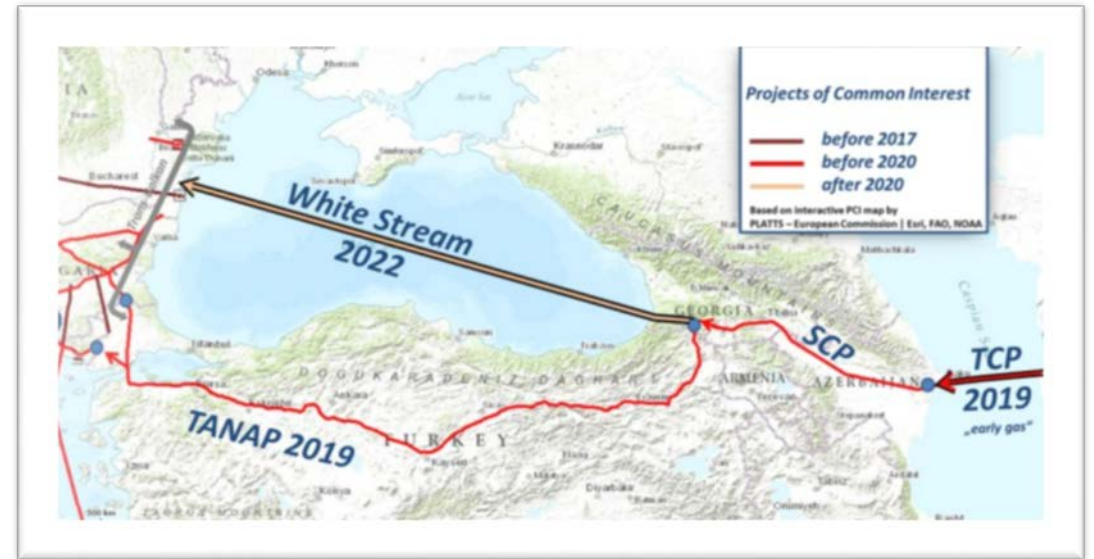
# AGRI LNG Project



- AGRI projects foresees a new route for delivering gas from Azerbaijan to Europe
- Within the scope of the project, an LNG terminal at Georgian Black Sea coast (Poti) will be commissioned and 2, 5 or 8 bcm liquefied gas annually will be transported to Romania (Constanta) by tankers
- A feasibility study has been conducted to find the commercial feasibility of the project and the technical feasibility after the Shah-Deniz Stage 2 development (2022-2025)
- Implementation of the project would require rehabilitation of the existing infrastructure or construction of a new pipeline in Georgia
- Project cost is estimated between €1.2 - 4.5 billion
- Challenges to implementation of the project include non-existence of a guaranteed source of gas supply, difficulties in the process of attracting investments and increased competition in the LNG sector

# White Stream

- An alternative project to AGRI, envisaging delivery of Caspian gas from Turkmenistan to Romania via Georgia by 1,100 km offshore gas pipeline
- The first phase of the project will allow transportation of 8 bcm/y gas, with opportunities to increase the capacity to 16 bcm/y in the second phase and 32 bcm/y in the third phase
- The project is dependent on development of Trans-Caspian Pipeline
- In 2017 GOGC purchased 10% of shares of White Stream and W-Stream Caspian Pipeline
- ENTSOG recently included the TCP and the White Stream projects in Annex A of the TYNDP 2018, which is the first step for gaining the status PCI



# Compressor Station at the Georgian-Azerbaijani Border (1/2)

- Most of commercial gas from Azerbaijan is imported through Kazakh-Saguramo gas pipeline
- Due to insufficient pressure (22-24 bar) at the Georgia-Azerbaijan border, the maximum load capacity is not enough (6.6 mcm/day) to meet the peak demand in Georgia during winter
- The problem is exacerbated in light of the 2016 deal between GoG and SOCAR on supply of additional 500 mcm gas, requiring pressure up to 37,1 Bar



# Compressor Station at the Georgian-Azerbaijani Border (2/2)

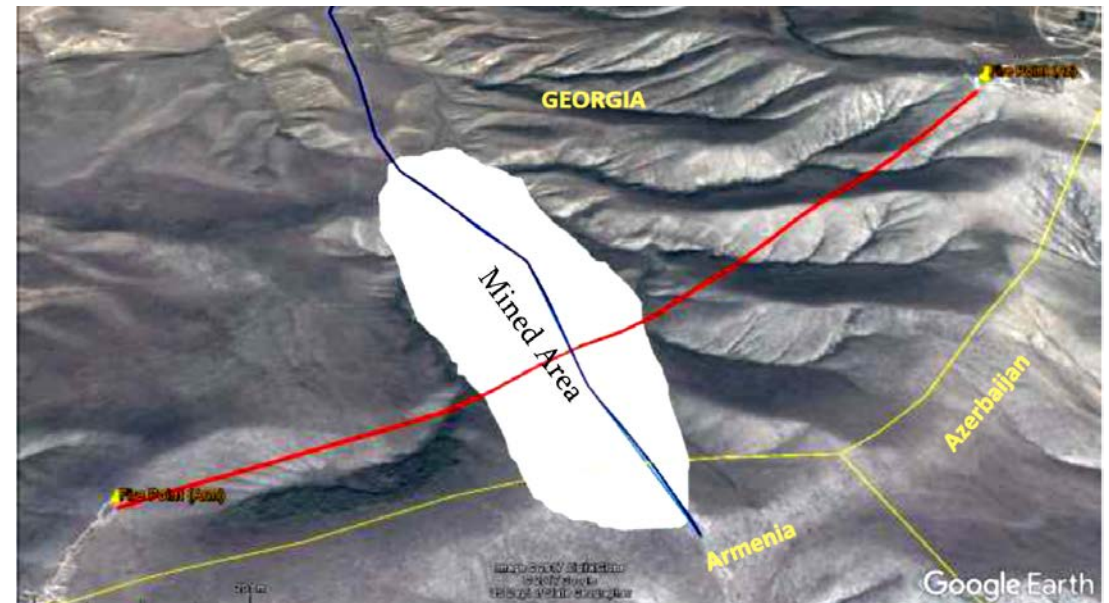


- Possible solutions:

- ✓ Restoration of Kazakhi compressor station and increasing gas pressure to 30 bar
- ✓ Arrangement of a compressor station nearby the border to increase the pressure to 29,2 or 37.1 bar
- ✓ Complete rehabilitation of 800/700 mm Karadaghi-Tbilisi section to ensure proper functioning of newly commissioned 700 mm pipeline

# Georgia-Armenia Interconnector

- The part of interconnector located nearby Georgia-Azerbaijan, Georgia-Armenia and Armenia-Azerbaijan borders and transiting Russian gas to Armenia, was mined at the early stage of Nagorno-Karabakh conflict
- As a result, pipeline maintenance work are rendered impossible and to address the issue, replacement of the 5.1 km segment of the interconnector is required





When Balance is Achieved

THANK YOU

**Salome Janelidze**  
[s.janelidze@gnerc.org](mailto:s.janelidze@gnerc.org)

Ljubljana, 2018