



Georgia's Gas Market: Short and Medium Term Challenges

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The new transit agreement with Gazprom-Export revealed the vulnerability of Georgia's gas market in the short and medium term and highlighted the need for reevaluating gas supply security conditions throughout 2018- 2022 -2025 years when step by step all current transit contracts come to an end.

Thus, Georgia shall have to renegotiate and conclude new transit and supply contracts in substitution of those expiring in 2018 (Russian gas transit to Armenia) and 2022-2025 years (optional and supplemental gas with SD and SCP consortiums) in order to insure long term security of gas supply and procure fair and affordable tariffs for its consumers.

Overview

Georgia is located on the south slope of the Caucasus mountains, on the eastern shore of the Black Sea. Due to its location Georgia is rich in hydro resources, while no significant oil or gas reserves have been discovered yet. In these circumstances Georgia heavily depends on imports in terms of natural gas and oil products.

In addition Georgia together with Turkey is a transit country for Azerbaijani oil and gas to western markets through BTC (Baku-Tbilisi Ceihan Oil Pipeline) and SCP (South Caucasus Gas Pipeline) pipelines. Kazakhstan considers South Caucasus energy corridor as a potential transportation route for its oil and Turkmenistan –for its abundant natural gas resources if Trans Caspian gas pipeline built as EU commission envisages. After lifting sanctions on Iran, the route through this country could also be used for delivering Turkmen gas via Southern Gas Corridor to the EU. Thus, Georgia's



geographical location positions the country as an expanding transit corridor for oil, natural gas and electric power that is expected to enhance economic growth and to facilitate potential private investment inflows in the country.

This research paper attempts to analyze the dynamics on Georgia's gas market from the stand point of demand, supply sources and transportation network. For the purpose of this research paper in order to demonstrate the trends on the gas market the period through 2012-2017 years has been chosen.

Structure of Georgia's gas market

Georgia's gas market is organized in two sectors: social gas and commercial gas sectors. The social gas sector on its part is divided in two sub-sectors: power generation and household consumption. According to existing legislation the social sector is regulated while the commercial sector is completely deregulated allowing commercial actors to find, negotiate and purchase gas available in the region on the best possible terms and conditions.

Georgia's gas market is almost entirely privatized, only Georgian Oil and Gas Corporation and Gas Transport Company have been left under public ownership.

Main actors on Georgia's gas market and their scopes of work are as follows:

Public Companies:

- **GOGC:** is a public company in charge of ensuring long term and sustainable development of wholesale natural gas market in order to achieve energy security of Georgia; Administering State share of natural gas and oil obtained under Product Sharing Agreements and managing their preparation, storage, transportation and sale operations; Commissioning, rehabilitating and replacing oil and gas pipelines on the territory of Georgia. Designing and Constructing new pipelines; Building, sustaining and operating necessary infrastructure;



- **Gas Transport Company:** is a public company in charge of transporting gas through the gas network to various consumers and remains entirely separated from GOGC as required under the third energy package.

Commercial operators on Georgia's gas market:

- **SOCAR Energy Georgia and its subsidiary Socar Georgia Gas LTD** - Socar Gas Georgia was set up in 2007 where Socar holds 51% while another 49% belongs to offshore registered companies Intersun Holding FZCO with 24.5%, and Heritage General Trading FZE with another 24.5% of the shares¹. Socar Georgia Gas LTD is the main supplier and the main wholesaler of natural gas on Georgia's gas market and holds 30 distribution networks in the regions of Georgia.
- **Kaztransgaz** is a Kazakh gas company that holds distribution in the capital city of Georgia and purchases gas from Socar Georgia Gas LTD.

Georgia's Energy Balance

Georgia does not possess oil and gas resources and heavily depends on imports. In the selected period Georgia's dependence on imported hydrocarbons has increased to 65% with only 35% domestically produced primary energy in the balance. According to some expert estimates this trend has a tendency to further increase and may reach 70%-80% by 2030².

According to Georgia's Energy Balances developed by GeoStat under the funding and assistance of INOGATE Program³, Georgia's energy mix includes domestically produced hydro (25-30%), biomass⁴, a small share of coal and large part of imported gas and oil products (65%).

¹ www.socar.az

² Ten-Year Development Plan for Georgian Gas Transmission Infrastructure 2017-2026

³ www.geostat.ge

⁴ There are many questions regarding the share of firewood in the mix as no in depth research has been conducted yet



Gas Demand

In 2012-2016 years natural gas has been a rapidly increasing source in Georgia's primary energy mix and Georgia's dependence on imported natural gas grew by 58% in the above period reaching to 45% of total primary supply of the country⁵. In power generation gas has been taking 25-30% while hydro power remains stable largely depending on hydrology of the year.

Georgia experiences huge winter/summer consumption misbalance making respectively 11-12 mln m³ per day in winter and 3-4 mln m³ per day in summer. In addition, Georgia has no gas storage to mitigate this misbalance. In order to enhance gas supply security and to mitigate the summer winter consumption misbalance GOGC has initiated a gas storage project with working gas of 210-280 mln m³ capacity. The project feasibility has been developed by Geostock Entrepose with the implementation expected to start by 2020. Until the gas storage built the seasonal misbalance is regulated by Socar through its own gas storage facility in Azerbaijan.

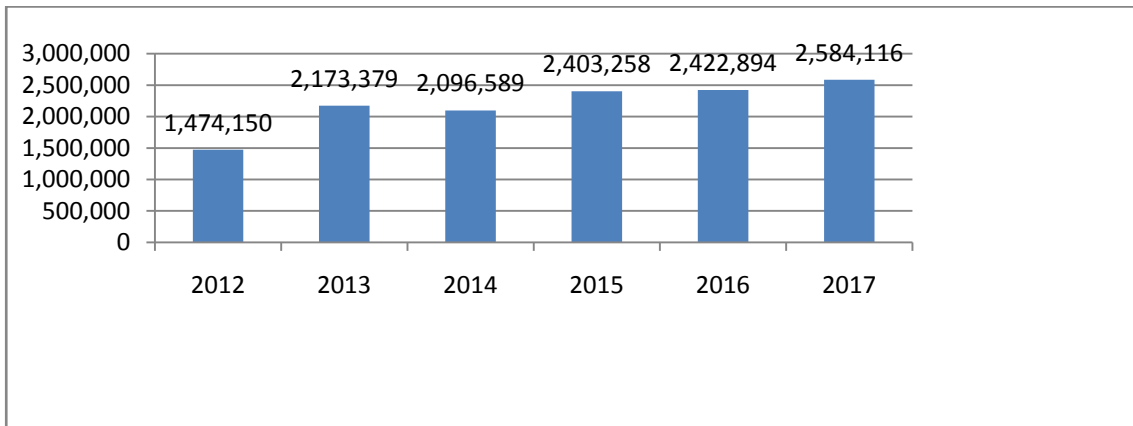
According to some estimates under certain economic growth conditions gas demand in Georgia may reach about average 3, 4 bln m³ by 2030.⁶ In last three years the demand on gas has increased in all sectors of the economy and both, in social and commercial gas segments.

Indeed, if in 2012 gas demand was 1,474,150 thousand m³, in 2016 it reached 2,422,894 thousand m³ and the forecast for 2017 is 2,584,116 thousand m³. The sharpest increase of gas consumption took place from 2012 to 2013 when from 1,474,150 thousand m³ in 2012 it reached 2,173,379.00 thousand in 2013. Since 2013 gas consumption continued growing by 5-7% per annum.

⁵ Ministry of Energy, Energy Department, June 2014.

⁶ Ten-Year Development Plan for Georgian Gas Transmission Infrastructure 2017-2026

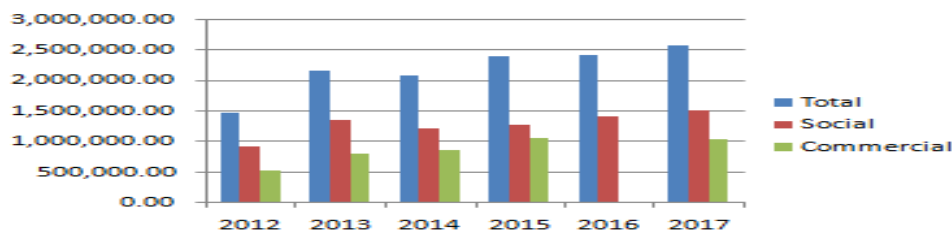
Chart 1: Gas Demand Dynamics in 2012-2017



Source: Ministry of Energy of Georgia Gas Balances

Gas consumption has significantly increased in both social and commercial sectors and reached in social sector: from 936,650 thousand m3 in 2012 to 1,422,452 thousand in 2016, and in commercial sector from 537 mln m3 in 2012 to 982,442 thousand m3 in 2016.

Chart 2: Gas Demand Dynamics in Social and Commercial Sectors



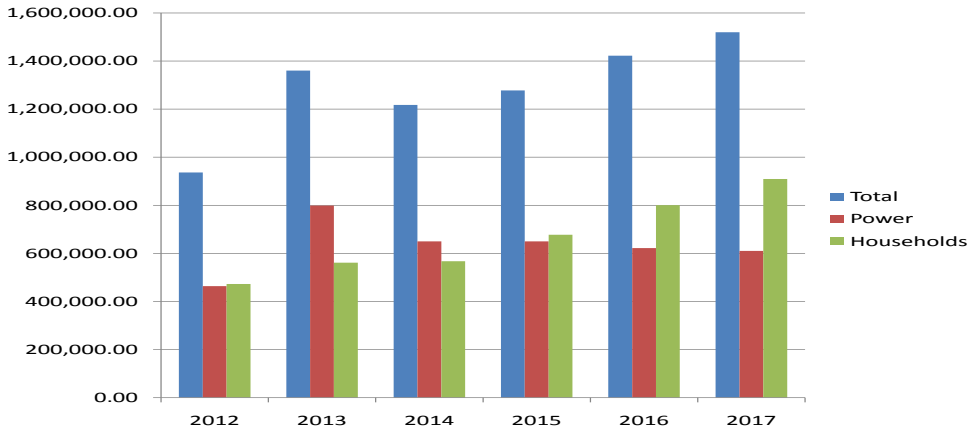
Source: Source: Ministry of Energy of Georgia Gas Balances

In 2012-2017 years gas consumption has significantly increased in both power and household sectors: in power sector from 463,750 thousand m3 in 2012 to 621,960 thousand m3 in 2016, and for household sector the increase was even more significant from 472,900 thousand m3 in 2012 to



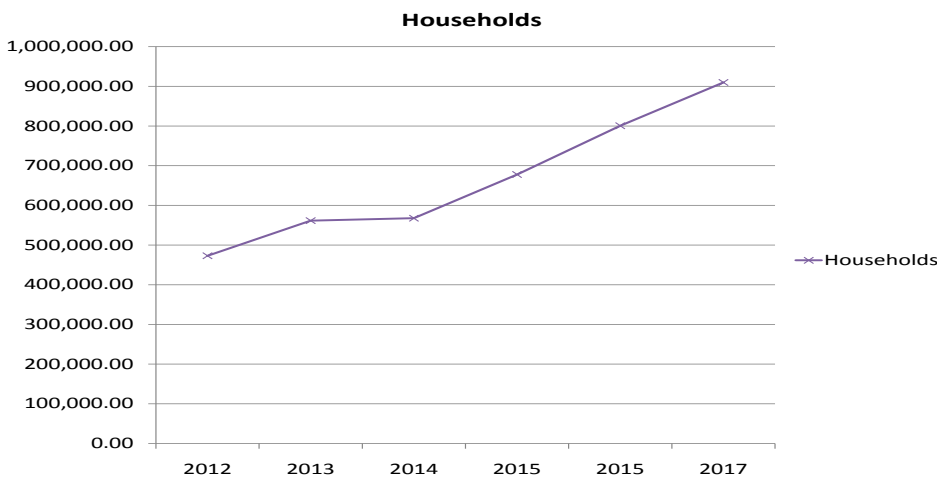
800,960 thousand m3 in 2016. According to the Ministry of Energy forecast the gas consumption by households is expected to reach 909,651 thousand m3 in 2017.

Chart 3: Gas Consumption Dynamics in Power and Household Sector



Source: Ministry of Energy of Georgia, Gas Balances

Chart 4: Gas Consumption Dynamics in Household Sector



Source: Source: Ministry of Energy of Georgia Gas Balances

Gas Supply Sources

In 2016 Georgia consumed 2,422,894 thousand m3 of gas out of which 88% or 2,172,401 thousand m3 came from Azerbaijan with remaining 12% or 250,493 million m3 from Russia for gas transit to Armenia.



Until recently Georgia used to have three supply sources, two of them came from Azerbaijan and the third one from Russia, in the form of in-kind gas off-takes for Russian gas transit to Armenia. However, according to the contracts signed between Georgian Gas Transport Company and Gasprom-Export in January 2017, starting from 2017 gas transit to Armenia is partially monetized and will be fully monetized in 2018. This new development will be analyzed further in details.

In the meantime, Azerbaijan is the main supplier of gas and Socar is the main player on Georgia's gas market through its subsidiary Socar Gas Georgia⁷ which on its part is a subsidiary of Socar Energy Georgia.

Thus, Georgia has been supplied by two Azerbaijani sources: Shakh Deniz international consortium and Socar. With Shakh Deniz international consortium Georgia has two contracts for:

- Optional gas which Georgia is eligible to receive as a transit country for SD gas delivery to Turkey and onward to the EU. According to the contract with the international consortium Georgia is flexible either to off-take 5% of gas transported through South Caucasus Pipeline to Turkey for transit service rendered, or to collect the transit fee in currency according to existing international standards. Georgia having no hydrocarbon resources prefers in kind off take of gas which is limited in volumes and entirely depends on how much Azerbaijani gas Turkey purchases with a maximum of 6,6 bln m³ pa provided by the contract. In addition, Turkey's contract for purchase of SD-1 gas is coming to end in 2022 and production on this phase is expected to start declining after 2022. So far gas from this source is available for Georgia until 2022 with no clarity about contract and volumes afterwards yet.⁸
- Supplemental gas- Georgia has a contract with SD consortium for purchasing maximum 500 mln m³ pa of gas under special terms – \$55 per 1000 m³ with annual escalation of \$1, 5. This part of the contract also expires in 2025.

⁷www.socarenergy.ge

⁸Azerbaijan and Turkey have been negotiating on SD 1 with no publicly known results yet.

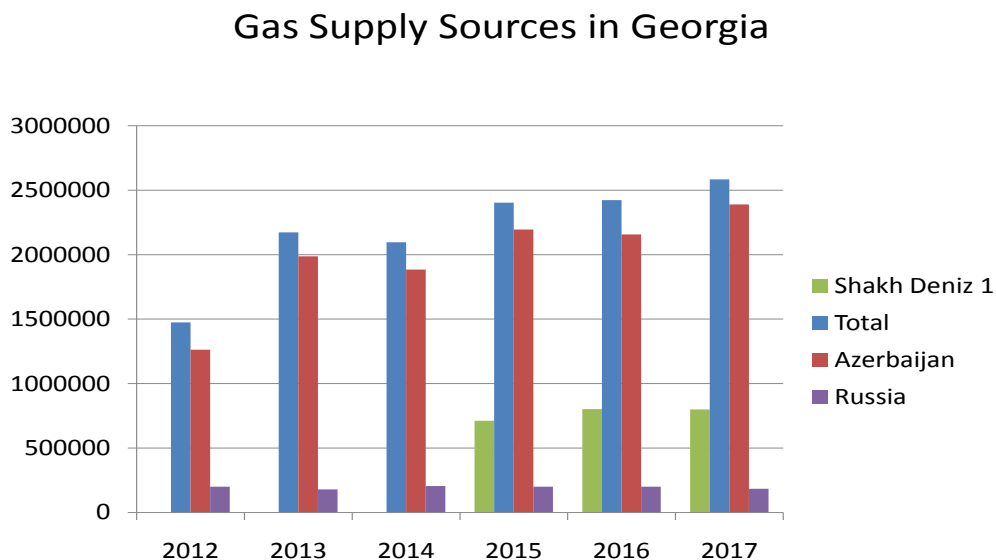
Gas Supply Contract with Socar

In 2009 Georgia has signed a long term gas supply agreement with Socar going up to 2030. Under this agreement Socar commits to cover the entire gas demand of Georgia apart from that met by contracts with SD consortium.

Russian Gas Transit to Armenia- Transit contract with Gasprom-Export

Gasprom Export has been using Georgia’s gas transportation network for supplying Russian gas to Armenia for many years. The parties-Georgia’s Gas Transport Company and Gasprom Export used to renew transit terms and volumes on annual basis. Until recently this contract allowed Georgia to collect 10% of Russian gas transiting to Armenia, the volumes of which entirely depends on the demand on Russian gas in Armenia.

Chart 5: Gas Supply Sources of Georgia



Source: Ministry of Energy of Georgia, Gas Balances



In 2016 Georgia signed a new agreement with Socar on Supplying additional 500 mln m³ of gas pa at a reduced price.

Gas Delivery Routes

Georgia has three gas supply sources delivered through three gas pipelines out of which, two have contractual and load limitations:

- **South Caucasus Pipeline** supplying 3-4 mln m³ per day in winter. The contract provides for winter/summer delivery 40%/60% on “take or lose” term, with no gas collection flexibility; According to long term contracts with Shakh Deniz and SCP Consortiums Georgia receives optional (about 300 mln m³, dependent on gas volumes transported by SCP) and supplemental gas (maximum 500 mln m³ pa under special terms) which make maximum about 800 million m³ per annum; contractual limitations with Shakh Deniz and SCP consortiums don't allow Georgia to receive more gas through this network from this source ; in addition contracts expire after 2022-2025.
- **Azerbaijan/Georgia gas pipeline:** Kazakh gas pipeline – an old Soviet gas pipeline connecting Azerbaijan and Georgia with maximum load capacity of 6,6 mln m³ per day; gas is supplied by Socar through its subsidiary Socar Gas Georgia, total volumes reaching to 1, 589 bln m³ per annum; load limitation on Kazakh pipeline prevents Socar to supply needed volumes of gas in winter months when consumption reaches peak level in Georgia;
- **North/south gas pipeline, Russian gas transit to Armenia;** actual load capacity 6 bln m³ pa, has no load or supply limitations; this pipeline is used for Russian gas supply to Armenia; Georgia used to charge 10% in kind gas for Russian gas transit to Armenia which made 200 mln m³ per annum and added up to social gas package of the gas balance; in winter months when there is a deficit in power, this gas has been supplied to thermal power stations at a rate of 2,5 mln m³ per day;

Hence, due to contractual limitations on South Caucasus Pipeline and capacity limitations on Kazakh gas pipeline (old Soviet Azerbaijan/Georgia gas pipeline) Georgia had been using the above



10% of gas collected for Russian gas transit to Armenia or about 200 mln pa for balancing winter peak demand. So far for years this 200 mln m³ of Russian gas had been an integral and important part of social gas package.

In 2016 Georgia has signed a new agreement with Socar on supplying additional 500 mln m³ of gas pa at a reduced price, however there is question whether Socar will be able to supply the above volumes unless Kazakh pipeline is upgraded or Socar is allowed to use SCP capacity. Gas storage would be a good solution to Kakhaz pipeline congestion in winter, but it is expected to be fully operational sometime after 2020.

New Development - Monetization of Russian Gas Transit to Armenia

Georgia has been a transit country for Russian gas supplied to Armenia for tens of years. Gas transit had been carried out according to short term transit contracts, which the parties used to discuss, revise, agree upon and sign on an annual basis. The contracts did not include “use or pay” either “take or pay” provisions.

Since 2007 Gasprom Export had been insisting on monetization of Russian gas transit to Armenia. Gasprom - Export justified this push for monetization by the need of bringing gas transit service through Georgia in compliance with international standards and the best practice (in the west). However, due to above reasons Georgia had been interested in maintaining existing for years transit terms. The parties continued difficult negotiations throughout 2013-2015. The annual contract on Russian gas transit to Armenia had expired in the end of December 2015, and there was no new contract signed as of December 7, 2016. In the meantime Georgia continued collecting in kind gas from the north/south gas pipeline (which is being used for Russian gas transit to Armenia) to cover peak winter demand in the absence of transit contract which could be interpreted by Gasprom - Export as unsanctioned collection and subject to litigation.

There was an urgent need to conclude a new transit contract with Gasprom – Export. Theoretically, Georgia would be able to maintain current terms of Russian gas transit to Armenia only in bilateral format, through negotiations and concessions. A concession on the part of Georgia would mean the



opening of gas market for Gasprom – Export that was politically unacceptable and commercially questionable. Otherwise Georgia did have no leverage on Gasprom-Export. Finally, in January 2017 the parties reached a two year agreement on step by step monetization scheme whereby in 2017 gas transit service will be partially and in 2018 totally monetized in compliance with international standards.

What does the Agreement on monetization Russian gas transit agreement is about?

The new Agreement on Russian gas transit to Armenia is concluded between Gasprom Export and Georgian Gas Transport Company. The agreement is signed for two years and provides for step by step monetization of Russian gas transit service across Georgia. According to the Ministry of Energy of Georgia the first year of the contract (2017) Georgia will receive 10% of Russian gas transported to Armenia in kind for the first 1 bln m³ (out of about 2 bln m³ of Russian gas supplied to Armenia per annum). The transportation service of another 1 bln m³ of Russian gas will be covered by Gasprom Export in currency according to existing standards. Starting from 2018, the second year of the contract, the gas transport service will entirely be subject to monetization according to existing standards.

Georgia's north/south gas pipeline which has been used for Russian gas supply to Armenia is 221 km. Through monetization scheme Georgia will not be able to buy as much gas as it used to receive under former contract which provided for 10% off takes of transited gas as a fee for transportation service rendered (that made about 200 mln m³ per annum). Thus, Georgia shall have to buy additional volumes of gas under commercial terms to balance the demand on its social gas market that will make it increasingly difficult to maintain existing tariffs for household consumers and power generation.

What is good in this agreement is that it doesn't contain "take-or-pay" and "use-or-pay" terms that are usually incorporated in contracts with Gasprom. Georgia has the right to buy gas from Gasprom Export when needed, in volumes needed at \$185 per thousand m³, if and when Socar fails to meet



winter peak demand. So far Gasprom doesn't get access to Georgia's downstream and retail market and Socar remains the main supplier of gas within its production and supply capacity.

Energy security risks for Georgia under the new transit terms for Russian gas supply to Armenia increase short and medium term:

- Georgia shall have to buy 200 mln m³ of gas from Gasporom under commercial terms rather than collecting in kind gas for transit services rendered as provided by previous contract if and when Socar fails to supply needed volumes to cover winter peak demand in Georgia.⁹ There is high probability that Socar may face not only load limitation on the Kazakh pipeline but also supply capacity limitations¹⁰ due to large industrial development underway in Azerbaijan.
- In this case there is a high risk that social package (power generation and household) gas would need further and larger subsidies otherwise the increase of tariffs for vulnerable consumers would become inevitable.

The Social Gas Package: The social gas package means the gas consumed by households and power generation. The social gas package includes all in kind gas collected for transit service rendered and gas under special terms which Georgia is eligible to receive as a transit country. The social gas package is made of:

- 10% of Russian gas transit to Armenia used to make maximum 200 mln m³ pa.
- 5% of optional gas Georgia is eligible to receive for SD 1 gas shipped to Turkey according to the contract signed with SCP consortium which depends on volumes of SD1 gas purchased by Turkey. It makes maximum 300 mln m³ pa.
- Maximum 500 mln m³ of SD 1 gas under special terms at initial \$55 per 1000 m³ with annual escalation 1,5% starting from 2008.

The social package gas is volume based and makes from 900 mln to 1bln m³ pa, while gas consumption by social groups - power generation and households already reached 1,422,452

⁹ Weather conditions and winter peak demand coincide in Azerbaijan and Georgia

¹⁰ Azerbaijan has been developing big industrial projects including methanol and chemicals plants that will use more gas, they are expected to be brought on stream at full capacity by the end 2017



thousand m3 in 2016 and according to the ministry of energy forecast it may grow to 1,589,516 thousand in 2017. For years since 2012 the social gas allowed maintaining fair and affordable price on gas for thermal power generation and household consumption in Georgia. Starting from 2018 Georgia shall have to buy 200 mln m3 of gas under commercial terms or even more if annual growth of consumption by social groups is maintained as projected by 5-7%pa or grows even further.

Proceeding from the above as a result new gas transit agreement with Gasprom- Export:

- It is expected that in the medium and long term the share of Russian gas in the balance will not increase, if Socar manages to supply needed volumes especially for meeting winter peaks. In addition, there are expectations that Georgia will be able to receive more gas from Shakh Deniz 2 (scheduled for 2019), from Absheron field coming on stream in 2022 as well as Turkmen or/and Iranian gas shipped through Southern Gas Corridor to EU;
- Although the terms of the new transit agreement are financially less profitable for Georgia, they are in compliance with international standards. Furthermore, the new transit agreement endangers neither strategic partnership with Azerbaijan and Socar, nor the development of Southern Gas Corridor;

However there are some gas supply security challenges that Georgia has to address and solve in the coming years. As it was already outlined Georgia's gas supply contract with SD consortium on supplemental gas is coming to end by 2025 and while optional, volume based gas contract (5% of transported gas under contract with SCP) for SD phase 1 gas transit to Turkey is expiring by 2022. In addition SD phase 1 is expected to start declining after 2022. Both contracts and the contract with Gasprom –Export for Russian gas transit to Armenia made the social gas package that allowed for maintaining relatively low tariffs for household consumption and power generation.

In light of the above Georgia shall have to renegotiate and conclude new transit and supply contracts in substitution of those expiring in 2018 (Russian gas transit to Armenia) and 2022-2025



years (optional and supplemental gas with SD and SCP consortiums) in order to insure long term security of gas supply and procure fair and affordable tariffs for its consumers.

The new transit agreement with Gazprom-Export revealed the vulnerability of Georgia's gas market in the short and medium term and highlighted the need for reevaluating gas supply security conditions throughout 2018- 2022 -2025 years when step by step all current transit contracts come to an end.

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