POLICY PAPER

THE SERVICE QUALITY IN THE NATURAL GAS SECTOR: EU EXPERIENCE AND IMPLICATIONS FOR GEORGIA

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Acronyms

BCM	- Billion cubic Meters
DSO	- Distribution System Operator
EU	- European Union
GNERC	- Georgian National Energy and Water Supply Regulatory Commission
GT	- Gas Transporter
NRA	- National Regulatory Authority
OFGEM	- The Office of Gas and Electricity Markets
OS	- Overall Standard
UK	- United Kingdom

ABSTRACT

Having reviewed the best European experience in regulating service quality, it is considered that OFGEM, British energy regulator has one of the best well-developed regulatory framework that sets necessary incentives for high standard commercial service quality. This paper reviews the experience of Great Britain in regulation of the service quality in natural gas sector. In line with British experience, Georgian situation in gas sector is analyzed and comparative analysis is conducted. Based on the analyses different policy options are provided.

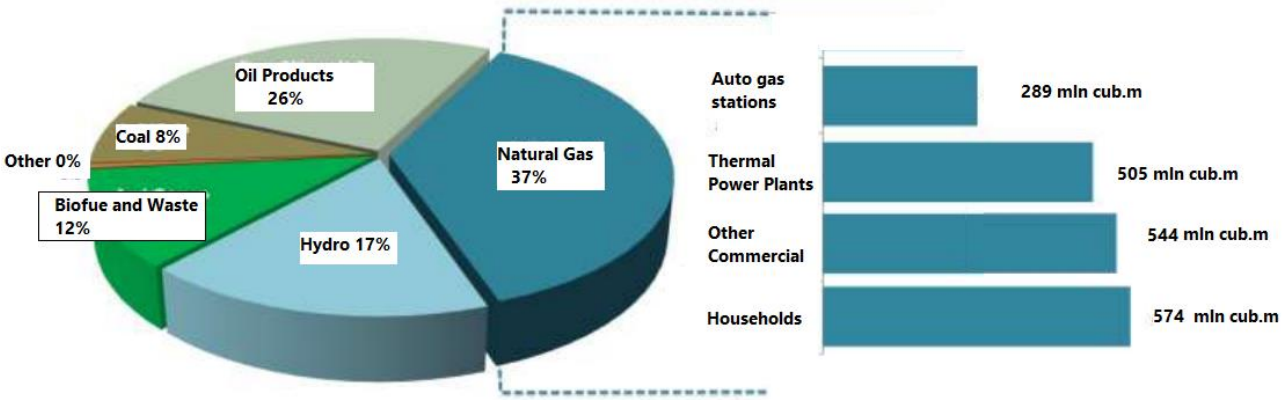
Based on comparison analyses recommendations how to improve service quality in the natural gas distribution business in the country is provided. Furthermore, based on the comparative analysis between service quality regulation in UK and current situation in Georgia, rules to be adopted and practices to be improved are discussed in the present paper.

Taking into account the current status of Georgian natural gas sector, low level of awareness in the society and importance of service quality standards, it is recommended that once the service quality standards are adopted, awareness campaign should be on place. Non-government organizations and international donor institutions can be involved in the process to achieve better result. At the same time GNERC should adopt monitoring mechanism which should be transparent and society should have access to monitoring results. While deciding the size of compensation for violating guaranteed standards and effect of overall standards in distribution tariffs, GNERC should rely on market information and set the quality requirements based on empirical evidence.

INTRODUCTION

Natural gas is the most demanded energy source in Georgia. According to the energy balance of Georgia[1], in 2013 natural gas share in total primary energy supply was 37%, followed by oil products -26% (see figure 1). In Recent years demand of natural gas has been increasing rapidly, in 2014 natural gas demand increased by 14% compared to the previous year. Besides, currently about 74% of households have access to the natural gas in Georgia. The process of gasification is still ongoing and access to the natural gas will be increased accordingly.

Figure 1. *Energy Balance of Georgia (2013)*



Being the most demanded source of energy, its supply to the consumers requires constant monitoring to assure that the product is delivered with adequate quality, which alongside the product (commodity) quality includes the service quality.

The term "gas quality" in a broad view comprises the following topics: security of gas supply, technical quality and safety standards, quality of service (also called commercial quality) and reliability of supply. The study focuses on the

[1] http://geostat.ge/cms/site_images/_files/georgian/Energy/ENERGY%20BALANCE_GEO.pdf

commercial quality, also referred as service quality of natural gas in Georgia; however general review of other three aspects of gas quality measures will be also provided.

In EU Member States there are two main types of requirements for commercial quality standards[2]:

- Guaranteed Standards (GSs) refer to service quality levels which must be met in each individual case applying 100% of the cases (the company's performance towards the customer). They are oriented to meet minimum quality levels such as protection of customers and a system of reimbursement and/or compensation.
- Overall Standards (OSs) are oriented on overall performance of natural gas undertaking rather to a particular customer and for the purpose of this paper is categorized as under following service areas.

Directive 2009/73/EC of the European Parliament states that "quality of service should be a central responsibility of natural gas undertakings". Article 41 of the Directive on, duties and powers of the regulatory authority, states that the regulatory authority should be "monitoring compliance with and reviewing the past performance of network security and reliability rules and setting or approving standards and requirements for quality of service and supply or contributing thereto together with other competent authorities."

Importance of service quality in underlined in the Main Directions of the State Policy in Energy Sector, adopted by Georgian parliament in 2015. According to this document, improvement of service quality and protection of consumers' interest are identified as one of the main priorities of the state policy.

As a rebuttal to the current structure in Georgia, it might be convincingly argued that gas quality standards must be defined at national level. According to the Georgian legislation, the service to the customers is provided by the

[2]KEMA Consulting GmbH; "Study on Regulation of Tariffs and Quality of the Gas Distribution Service in the Energy Community"; (August, 2010) published at https://www.energy-community.org

natural gas distribution licensees and natural gas suppliers. Both of the market participants are required to serve customers and provide reliable supply of natural gas.

Georgian National Energy and Water Supply Regulatory Commission (GNERC) monitors the quality of service provided by the natural gas undertakings[3] but there no standards set. In other words there are service quality provisions and obligations in the current regulatory framework in Georgia but it is not sufficiently detailed and demanding compared to the European countries and in most cases does not imply any standards or compensation mechanism. The only case where the standards and corresponding mechanism is defined is related to new connections. GNERC has recently introduced new rules for connection to the natural gas distribution grid, which sets particular connection fees and timeline for connection of a particular capacity. Violation of the rules will lead to reduced connection fee by 50% for new costumers. Unlike many European countries, nowadays there is no separate document regulating the quality of service in natural gas sector of Georgia. "Rules for Supply and Consumption of Natural Gas" defines responsibilities of the natural gas undertakings and allows GNERC to penalize undertakings due to violation of the rules. However, customers are not expected to get any direct benefit from the penalty. Having such practice, customers are much less motivated to reveal violation and hence the undertakings in the natural gas sector are not taking much attention to the service quality.

Low quality of service can be justified by the complaints against distribution and supply service providers. According to the Georgian National Energy and Water Supply Regulatory Commission report, 551 natural gas complaints, mainly related to the improper or no execution of rules, were reviewed by the commission in 2014. The vast majority of complaints were against the largest

[3] According to the DIRECTIVE 2009/73/EC OF The European Parliament and of the Council, 'natural gas undertaking' means a natural or legal person carrying out at least one of the following functions: production, transmission, distribution, supply, purchase or storage of natural gas, including LNG, which is responsible for the commercial, technical and/or maintenance tasks related to those functions, but shall not include final customers;

distribution system operator in Georgia – LTD Kaztransgaz-Tbilisi – which at the same time provides natural gas supply service for the customers connected to its distribution network. About 60% of the reviewed complaints by the GNERC were fully or partially satisfied. However it is highly possible that the true number of complaints is much higher and is underrepresented in the report, since not each costumer applies by a complaint to GNERC or Energy Ombudsman.

Additionally, based on the current regulation, customers are empowered having a contract with their gas service provider regarding some specifications, for instance services and quality levels, as well as the time for the initial connection and the types of maintenance service offered. According to the 3rd energy Package of EU Directive services of profound quality and explicit customer information are extremely important to get fair prices, the variety of suppliers and the best quality of gas supply. The fact that many customers in Georgia do not have access to neutral, objective information (Information is not spread by mass media, lack of motivation to get to know to their rights) seems to be compelling reason to argue that customers would not take an active role in liberalized gas markets under current circumstances. These results provide evidence regarding the natural gas sector in the country, where the service quality still has not met minimal criteria.

The paper draws on research one of the attractive topics that commercial quality of gas standards must be defined at national level. Along similar lines, it is highly recommended to define the set of service standards in gas sector and also to implement and monitor them based on the best international experience.

The paper provides comprehensive review and detailed case study of the Georgian gas market and devotes specific attention to the natural gas service quality measures and their implementation in Georgia. Implication of service quality regulations to costumers and DSOs is assessed and practical

recommendations for policy makers are developed. The study provides in depth analysis of service quality regulations in EU countries, the challenges Georgian gas market faces and the best possible ways to implement and develop quality standards and regulations.

Comparative analyses and interviews are the main sources of information which create the bases for recommendations for smooth adoption of the European level commercial quality standards in Georgian natural gas sector. In line with individual European country analyses, EU natural gas directives is the main focus of analyses.

We realize, that direct implementation of the measures assuring adequate service quality in the EU might not be implementable in the short run period for Georgia. To assure smooth adoption of the legislative base, which will translate the idea behind it in real improvement of the service quality, possible obstacles will also be analyzed.

The results of the paper are expected to contribute in developing legislative base aiming improving service quality in the Georgian natural gas sector. The paper is divided in five chapters. It introduces problem essence and dimensions, provides comparative analyses of European and Georgian legislations related to the quality of service in natural gas sector, analyzes possible obstacles for adoption of the European practice in Georgian natural gas sector and provides the recommendations to further improve the current conditions and regulations in compliance with the best practices of the EU member states, which will enable decision makers in the Energy sector to consider and implement the quality measures crucial for a secure, efficient, competitive and affordable energy supply.

I. PROBLEM DESCRIPTION

Until recent years, the natural gas sector as electricity sector was perceived as the monopolistic industry where vertically integrated companies were providing all services, starting from natural gas production all the way through to its delivery. After extensive economic analyses, some energy experts developed vision that natural gas industry should be conceived as a mix of monopolistic and competitive activities. Areas where competition could be achieved are non-grid activities such as wholesale and retail supply of the commodity, while physical transportation of natural gas via high and low pressure networks are deemed as a (natural) monopolistic activities.

Natural gas market models differ across the world, however successful markets feature deregulated wholesale and retail supplies accompanied with clear and transparent third party access rules to the transmission and distribution pipelines. In the competitive market framework natural gas transmission and distribution companies are acknowledged as natural monopolies, regulated by NRAs (National Regulatory Authorities). Additional important pillar of the competitive market architecture is unbundled supply and network activities. So, in this context the broad term of "service quality" contains two main aspects – technical service quality that should be assured by network companies (respective Transmission System Operators (TSOs) and DSOs) and commercial service quality respectively by suppliers.

In the world of the competitive natural gas markets, minimum standards for commercial service quality are defined by NRAs, while suppliers additional to the price competition, compete for better and innovative services. Hence, competitive market structure that proves its efficient functionality guarantees high commercial service quality. On the other hand, competitive natural gas markets ensure financial stability of network companies, regulated tariffs set by NRAs guarantees payback the relevant network investments. Allowable costs

defined by NRA are fundamentally linked to the technical service quality. In other words, each NRA has to choose the golden mean between high technical quality standards and the level of network tariffs. Ceteris Paribus, higher quality standards requires higher investments and correspondingly higher network tariffs.

The natural gas service quality regulation in Georgia lacks well developed regulatory framework. However root causes of it is rather complicated and complex. Current status is outcome of the various interrelated and independent factors; in the present research the following were identified as the challenges to achieve better natural gas service quality:

- The Soviet "Heritage": The main natural gas network systems in Georgia were constructed during Soviet times, including necessary facilities. Abundance of natural gas in the Soviet area and almost no attitudes towards energy efficiency transformed to the under pricing of the resource. Low price of the product due to the Russian rich gas fields boosted usage of natural gas. Before destroying Soviet Union Georgia was consuming 6 bcm natural gas annually, that is three times higher to the current consumption level (consumption of natural gas in 2014 comprised 2.17 bcm). After gaining independence, Georgian gas industry was suffering massive losses due to interrupted gas supplies from Russia and reduced economic activities. The natural gas was not anymore cheap resource supplied from the "brother" nation, rather it was used as a political leverage. In parallel to those activities the natural gas has been treated as a product that "has to be cheap" in Georgia, resulted constant under pricing of the commodity. Even in 2012, after 21 years of independence, the main promise of the wining party in Georgian elections was to reduce natural gas tariffs by 50%, seeding wrong

expectations to the household customers. The research[4]on former Soviet Countries' energy sectors has observed under pricing of energy services; and in that context Georgia is not an exception. In the described environment where the main goal is lower gas prices there is little attention on service quality – as keeping the tariff low is the main order from population and political parties. To summarize, natural gas infrastructure, which is "Soviet Heritage", is accompanied with misleading customers "has to be cheap" perception.

- Customer Awareness: The major objective that has to be achieved in the sector is to increase transparency on natural gas pricing and correspondingly to raise awareness of the population about natural gas tariff structures. The important step forward would be estimation of Willingness to Pay (WTP) of customers for improved service quality. In this regard surveys on WTP have to be conducted. It will also address to fill the gap in the adequate research in this area.
- Market Design: The current Georgian natural gas market design can be understood as partially competitive; hence it contains aspects that in principle support enhancing competition. Natural gas supply is deregulated (except major part of the residential sector) and legislation admits it as a separate activity from transmission and distribution. However the main leverage that is not utilized under current regulatory framework is not having unbundling requirements for the \grid and non-grid (supply) activities. Without proper unbundling non-discriminatory third party access is challenged, creating barriers for competition among suppliers. The latter phenomenon is key for achieving higher commercial service quality standards through competition.
- Financial viability of the DSOs: According to the GNERC's annual report 2014, there are 34 DSOs serving over 800,000 customers

[4] Energy sector Quasi –Fiscal Activities in the Countries of the Former Soviet Union, Martin Petri, Gunther Taube and AlehTsyvinski, March 2002.

across the country. The biggest distribution company is Ltd Kaztransgaz-Tbilisi that serves the most area of Tbilisi, the capital of Georgia. The share of Ltd Kaztransgaz-Tbilisi in total distributed gas is 53% and at the same time the company is under rehabilitation process from the bankruptcy. The root cause of the companies lost revenues was low collection rates and also above mentioned negative costumer attitudes (higher level of theft, in the beginning of the operation company had collection rates of 30 %) had its contribution. It should be mentioned that financial conditions of the company is negatively associated with the service quality. Another important regulatory issue with DSOs, is that customers across the countries have to receive the same service, however small DSOs due to lack of capacity are experiencing low level of customer service.

These are the key factors identified as the main challenges to implement proper regulations that would increase service quality standards in the natural gas sector in Georgia. The suggested recommendations to address above mentioned challenges are provided in the next chapters.

II. COMPARING EUROPEAN AND GEORGIAN PRACTICES

This section reviews Georgian and European practices dealing with the quality service. Guaranteed standards consists of indicators setting service levels for all companies or there could different levels defined for different gas DSOs. In case the guaranteed standard is violated, gas DSO is responsible for paying compensation to the customer affected, subject to predefined exemptions. While gas DSO is obliged to make payment to the customer affected by violation of guaranteed standard, no such direct mechanism is adopted in regard to overall standards. Overall standards define a minimum level of the service quality, with possible differences for different gas DSOs, which should be guaranteed for the vast majority of the consumers served by a DSO. Unlike guaranteed standards, it is more common to define different quality standards for various DSOs, providing services to mountain regions. Because this type of DSOs provide natural gas for small number of consumers or have different characteristics making them different from a typical DSO.

Service quality regulation for countries joined the EU in the last decade, isn't as much developed as for other old EU members. Service quality regulation is new also for Georgia. Service quality regulation and corresponding quality standards in electricity sector of Georgia was adopted in 2012 (See the box below), while not guaranteed or overall standards are defined in the Georgian natural gas sector. While some of the service quality indicators are defined in Georgia like in UK and other European countries, in almost all cases no standards are defined for those indicators and hence no compensation for the failure to meet them is considered. The only case, when gas DSO is responsible to pay for the customer for violation of the standard, is related to the connection of the new customer to the distribution network. "The rules for Natural gas Supply and

Consumption, adopted by the Georgian regulator in 2009, sets the following requirements for the DSOs:

- **Connection of a new customer to distribution network** – Compensation payable to the consumers due to failure to connect to the distribution network was defined by GNERC in October 31, 2014[5]. According to the current rules, in case DSO fails to finalize the connection and starts natural gas supply, it is obliged to halve the connection fee.
- **Increase natural gas consumption capacity** – In case consumers are willing to increase their capacity of consumption by adding new natural gas appliances, or replacing existing ones with more powerful appliances, or by any other reason, they are obliged to notify the DSO beforehand. The Rules for Natural Gas Supply and Consumption sets specific periods for making all necessary changes for consumers, to get requested capacity. In case the deadlines are missed by the DSO, predefined cost of the service will be cut by 50%. The changes allowing consumers to request for compensation was made by the normative act, adopted by GNERC on October 31, 2014.
- **Planned energy interruptions**–Consumers should be informed about planned natural gas interruption at least 10 days before the event takes place but the duration of interruption isn't mandatory to announce. While distribution system licensees are not obliged to pay any compensation to consumers for violating this rule, they are not allowed to interrupt natural gas supply if no announcement is made. According to current legislation, GNERC is allowed to fine DSO for not warning consumers about planned interruption but the penalty will be directed to the state budget not to the consumers which actually were harmed.
- **Preparing technical condition** – Starting from November 2014 DSOs are obliged to provide connection services to any new customer that

[5] Corresponding change was made by the normative act adopted by GNERC on October 31, 2014.

wants to connect to the low pressure natural gas grid, in case the connecting property is located in gasified settlements list (determined by GNERC) and within 300 meter radius from the distribution network. DSOs are not responsible for finalizing any other connection in the period and for the payment defined by the GNERC. In these cases DSO is obliged to provide technical condition for the consumers willing to connect to the grid within 10 days after getting request. Additionally, DSO is obliged to install meter and make physical connection with the rules defined by the GNERC. In case of violation of connection and meter installing deadlines, DSO is responsible to cut predefined service cost by 50%.

- **Disconnection due to non-payment** – After passing the deadline for payment, DSO should warn consumers 5 days before disconnection. No compensation will be provided in case of violation. There is no timeframe set for restoring domestic customers' supplies, after service is cut due to non-payment.
- **Disconnection due to other reasons –** If during one month consumer will not provide DSOs access to the metering point twice, DSO is allowed to stop natural gas supply but after giving warning 3 days before supply cut.
- **Registering as subscriber** – To start receiving natural gas, consumers should ask DSO for registration as a subscriber. DSO is obliged to provide requested service within 5 working days after providing comprehensive application by the consumer. No compensation for the applicant is set in case of violation of deadlines. Suppliers are not allowed to change the prices without prior notification.
- **Incorrect meter reading** – Incase consumer has doubt that meter reading was incorrect, he/she may request to check the reading. DSO and corresponding supplier are obliged to double check the meter within 5 working days, after getting notification from the consumer.

- **Starting distribution service** – DSO is obliged to start distribution service within 10 days, after consumer signs the contract with the supplier.
- **Responding complaints** and letters– Georgian DSOs are obliged to receive any letter, register them and provide the registration number to the applicant. DSOs are obliged to respond to the application within two weeks after getting the announcement. Again, no target of standard is set for this indicator.
- **Signing contract of natural gas supply** – Suppliers are obliged to sign natural gas supply agreement within 5 working days after getting request from the consumer, or make reasonable refusal for gas supply.
- **Changing contracted natural gas price** – In Georgia natural gas supply for commercial and for part of the household consumers[6] is deregulated. However, suppliers, which often happen to be gas DSOs, are obliged to warn consumers before changing the contractual price. The period for notification is 1 month for commercial consumers and 2 months for residential ones.
- **Responsibilities and compensation defined by Contracts** – Consumer and gas undertaking are allowed to agree on contract with the sets of rules, not covered by the Rules of Natural Gas Supply and Consumption. The contract may define the amount of compensation for the violation of the contract conditions. In this case the GNERC is not entitled to respond to the violations defined in the contract and consumer or natural gas undertaking should request fulfillment of contract conditions in court.

While there are no service quality standards defined, there are some regulations concerning the issue usually covered by service quality standards.

[6] For household connected to the natural as distribution grid after September 2007, according to the ordinance by the Minister of Energy of Georgia.

REGULATING THE SERVICE QUALITY IN THE ELECTRICITY SECTOR

Georgia has no experience in regulating the service quality in the natural gas sector, but the same is not true for the electricity sector. Power consumers are qualified to request compensation in case the DSO fails to meet specific requirements. Table 1 provides the list of the service quality indicators and corresponding compensation rates.

Table 1

OVERALL STANDARDS			
	Service	Quality standard	
1	Notification about planned power interruption time and duration	No more than 5 but no less than 2 days before interruption	100% of consumers should be informed about interruption
2	Reactivation of power supply after unplanned interruption	After no more than 6 hours. If there is a need for more time, DSO should inform GNERC about it	80% of consumers should have the service reactivated after the interruption
3	Answering call in call center	Incoming calls should be answered within 30 seconds	80% of the calls should be answered in time
GUARANTEED STANDARDS			
	Service	Quality Standard	Compensation
1	Reactivation of energy supply after disconnection due to	8 hours after justifying the payment of promise of payment	20-50 GEL for each day delayed (compensation

	non-payment		depends on type of consumer and voltage)
2	Answering application of consumers	No more than 10 days	30 GEL for each day delayed
3	Checking power quality and appliance in case of the request	Check and written answer should be provided within 10 days	10-40 GEL for each day delayed (compensation depends on type of consumer and voltage)
4	Registration and power supply	Within five days after getting request	Household consumers - 20 GEL for each day delayed, Non-household consumers - 40 GEL for each day delayed
5	New connection to the power grid	Period for connection is defined by GNERC for different categories	50% of connection fee

The regulatory authorities of different EU member states provide the list of quality standards and corresponding measures in case of violations of rules. Standards include both, guaranteed and overall standards. Additionally, for each standard specific, applicable exemptions have to be determined. The level of compensation payable to customers by DSO should be also determined in

case of failure. The table 1 provides the list of indicators, monitored by the energy regulators in some EU countries.

III. Comparing OFGEM's and Georgian practices

Gas transporters are required to restore supply for domestic customers, within 24 hours following unplanned interruptions. Compensation in case of failure is set to be £30 for each day. However, there are exemptions of this standard in case when more than 50,000 customers get interrupted service, or the failure was caused by severe weather conditions, or by a consumer.

Guaranteed standards adopted by OFGEM, UK energy regulatory authority, are listed in the tables below.

Table 2. *Guaranteed standards in Georgia and UK*

	UK		Georgia[7]	
	Standard exists	Standard	Regulation exists	Days
Restoring supply for domestic customers after an unplanned interruption	•	24 hours	-	-
Reinstatement of customers' premises	•	10 working days	-	-
Provision of alternative heating and	•	4 hours	-	-

[7] As mentioned, there are no standards resulting in compensation due to violation, is defined but only existing indicators included in the legislation are marked.

cooking facilities to priority domestic customers[8]				
Provision of standard connection quotations	•	6 working days	-	-
Provision of nonstandard connection quotations[9]	•	11 working days for ≤ 275 kWh per hour, ---------- 21 working days for ≤ 275 kWh per hour,	-	-
Accuracy of quotations	•	-	-	-
Response to land enquiries	•	5 working days	-	-
Offering a date for commencement and substantial completion of connection	•	within 20 working days	-	-

[8] Only for some part of consumers, mostly vulnerable ones.

[9] Different standards are adopted for provision of nonstandard connection quotations, for consumers with ≤ 275 kWh per hour consumption and >275 kWh per hour consumption. Level of compensation is doubled for consumers with >275 kWh per hour consumption.

work[10]				
Completion of the work on the agreed date	•	-	-	-
Notifying customers and making payments owed under the standards	•	within 20 working days	-	-

In UK overall standards of performance are determined separately for each gas transporter (conceptually it is the same as gas DSO). European practice is described in the table below.

Table 3. *Overall standards in Georgia and UK*

	UK		Georgia	
	Standard exists	Percent to be covered	Regulation exists	Percent to be covered
Telephone calls[11]	•	90%	•	-
Notification of planned supply interruptions	•	95%	•	-
Informing customers of	•	97%	•	-

[10]Different standards are adopted for offering a date for commencement and substantial completion of connection workfor consumers with ≤ 275 kWh per hour consumption and >275 kWh per hour consumption. Level of compensation is doubled for consumers with >275 kWh per hour consumption.

[11] Answering call in certain time

when they are due to be reconnected				
Response to complaints	●	90%	●[12]	-
Gas emergencies	●	97%	-	-

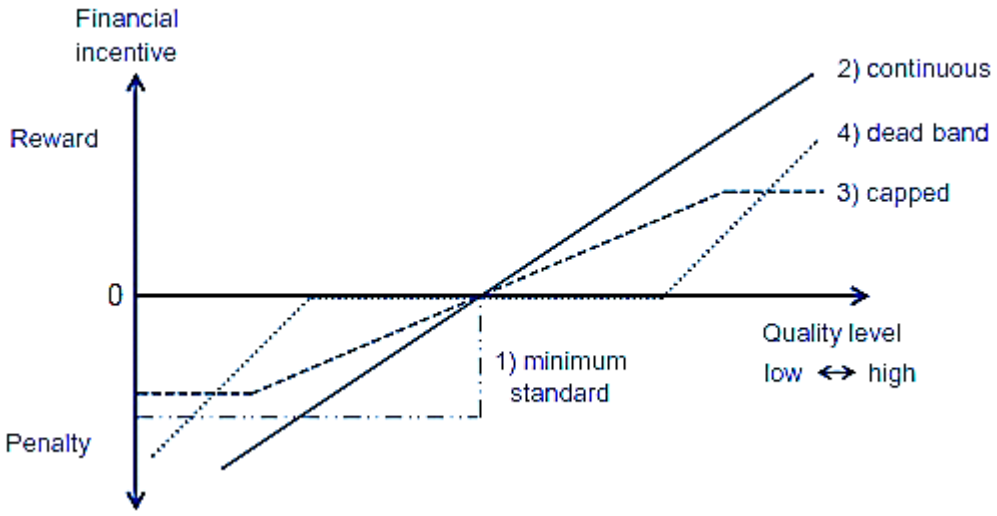
While violation of the overall standards does not imply direct compensation to the consumers, it affects natural gas consumers indirectly. Reaching the targets defined by the overall standards, affects the natural gas distribution tariffs. In the presence of the incentive regulation, reaching target is mandatory and in case the standard is violated, DSO is subject to penalty, which translates in lower distribution tariff. On the other hand, if DSO fulfills the obligations and achieves better levels than defined by the overall standards, it is often rewarded by setting the distribution tariff higher than for those, just being on the margin of the target.

The figure 1 below illustrates the different mechanisms to create incentive for service quality regulation. Scheme 1 is the simplest way of regulating overall quality of service. In this case, certain minimal quality level is defined and its violation leads to a fixed amount of penalty for a DSO. This scheme does not imply any reward for the DSO in case better performance that stated by the standard. On contrary, scheme 2 incorporates reward for DSO for over performance. In this case, a certain standards are defined and if DSO achieves it, no penalty of rewards is given. Deviation from this point implies either reward, for over performing the standard, of penalty in case the standards are not achieved. So, there is continuous relationship between reward/penalty and quality. As there is no upper and bottom bound of compensation defined, the main shortcoming of this scheme is that it might lead to two extreme cases – very high distribution tariff or bankruptcy of the distribution system operator.

[12]Rules sets that any letter/complaint should be answered within 2 weeks but there is no standards assess licensees' behavior

Schemes 3 is a variation of the scheme 2 deals with the shortcoming mention in case scheme 2 - Scheme 3 sets cap for penalty and reward. A bit different approach is used in case scheme 4 – instead of defining a concrete level of standard, a range of it is set. In this case, there is no upper and bottom bound of compensation.

Figure 2. *Mechanisms to create incentive for service quality regulation*



While we are discussing about the service quality and compensations due to their violation, we should mention conditions which are not accounted as service quality violation. Usually such cases mostly include force majeure events (severe weather conditions, disasters, etc)and cases where consumers cause interruptions in service provision.

IV. POLICY OPTIONS FOR GEORGIA

Having regard to the current regulatory framework in Georgia on natural gas service quality and the best practice from UK described above, policy options for Georgia has been analyzed.

Below are described policy options for Georgia:

1. **Keep Status quo.**

   This option seems one of the worst ones. In case no quality regulation is adopted, GNERC should take more effort for monitoring behavior of distribution licensees. As mentioned, Georgian legislation in some cases sets particular period for taking action by the licensees. While consumers will not get compensated, GNERC should identify expiration of a term and use penalties to punish licensees. Under current legislative framework penalties to DSOs contribute to the state budget rather than compensates individual customer whose rights were violated. As we know, nothing is free. The same is true for quality improvement. In case not standards are adopted, the burden to natural gas tariffs will not increase. However, the size of this burden is not evaluated but expected to be minimal.

2. **Adopt regulation for service quality**

   The new regulation will be guarantee of better quality of service and consumer satisfaction. Like in European member states, consumers of natural gas, and persons willing to connect to the natural gas system, will have a guarantee that in case of violation of their rights, there are defensive mechanisms for them. On the other hand, natural gas distribution licensees will have more incentive to follow rule not to be penalized. However, this to happen consumers should have information

about their rights. Hence, increasing customer's awareness on their rights is the key mechanism for efficient functioning of the rules.

3. Adopt regulation for service quality and implements supplementary measures

This policy option provides rather practical approach that incorporates not only developing, implementing and monitoring service quality regulations, but also increasing awareness of the customers and their active involvement in enhancing rule of law. Spreading information about consumer rights is one of the most important issue for securing consumers' satisfaction. Like in most developing countries, awareness about consumer rights in Georgia is at a very low level. So, once the rules are adopted there should be awareness campaign on place.

V. RECOMMENDATIONS

Based on the best practices, analyzing policy options for Georgia and taking into account current situation in Georgian natural gas sector, GNERC should adopt the rules for regulating service quality in natural gas sector, which should be guarantee for better quality service in the sector. While GNERC will be responsible for adopting rules for regulating commercial quality, role of non-government sector, government and consumers themselves in achieving better commercial quality in the sector is crucial. Increase awareness is more important for controlling guaranteed standards. In case of overall standards the regulator should take responsibility for monitoring distribution licensees and consumers have less important role.

As mentioned, the fact that the regulation is on place will not be guarantee, that all customers will have opportunity to get the desirable quality as it is expected. Having active customers who defend their rights is the crucial element of successful implementation of service quality regulations. Consumers should be the first to react on violations of guaranteed standards by distribution system operators. Distribution licensees/gas suppliers should have obligation to contribute to increase awareness in the society. One of the examples of distribution licenses contributions cold be spreading information with natural gas monthly bill. The content of should be provided or agreed with the national regulator.

Furthermore, GNERC should engage non-governmental sector, donors, and state agencies in spreading information about the rights for consumers guaranteed by the commercial service quality regulations. Strategies and mechanisms to increase awareness in Georgian natural gas consumers should be adopted and implemented in coordination of the organizations having experience in working consumers, protecting their rights. Additionally, GNERC should make its licensees to participate in disseminating the information. In

scope of the policy change, it is desirable to conduct consumer satisfaction surveys. While distribution licensees have direct contact with consumers it is optimal if they will conduct such type of surveys. Number of countries in EU requires consumer satisfaction surveys to be conducted by gas distribution licensees. Corresponding changes should be made in rules regulating relationship between consumers and distribution licensees.

To increase distribution licensees' motivation, GNERC might consider create a monthly ranking of the licensees based on the monitoring results. This can be further incorporated on benchmarking different DSOs and introducing incentive based tariffs.

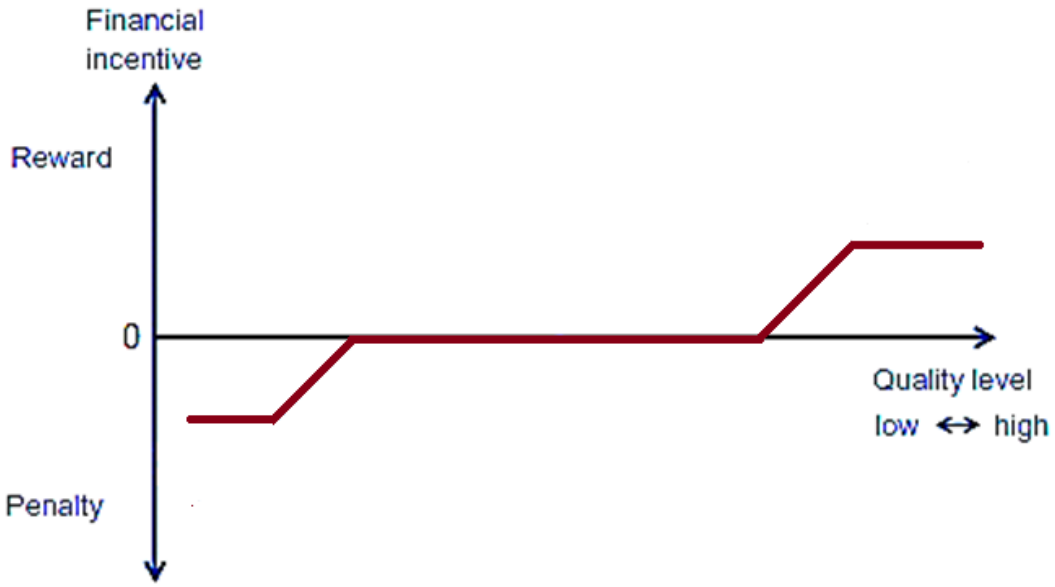
Mechanism of standard monitoring should be adopted and the process of monitoring and its results should be transparent. Each standard should be monitored by GNERC on monthly bases and take action in case there is instant drop in service quality. While consumers have higher role in guaranteed standards' monitoring, the role of GNERC is more important in monitoring overall standards, as it will affect the distribution tariffs.

Another important decision to be made is how overall standards will affect distribution tariffs, if it affects. Decision should be made based on the existing situation in Georgian natural gas sector and corresponding changes, if any, should be made in tariff calculation methodology. Taking into account huge difference among gas distribution licensees in Georgia in terms of their access to financial and human resources, managerial acumen, standards should be set for each licensee individually but it should be stated that after a few years the standards should be the same for every licensee, across Georgia. In other words benchmarking approach should be implemented for the distribution licensees.

As it was shown on Figure 1 different options can be chosen for incorporating overall standards in the tariff set by the regulator. Having in mind the specifies of Georgian gas market, schemes 2 and 4 (See figure 1) are not desirable as

they can lead either to bankruptcy or will lead to high tariffs, depending of financial resources of the distribution licensee. While scheme 3 restricts upper and low level of financial gain or lose and provides incentive for licensees to over perform, such scheme might not be desirable due to different starting point for different distribution licensees. Following scheme 1 and setting the minimal standard will not provide incentive for licensees to over perform standards but will guarantee that those minimal standards will be achieved and consumers will not pay extra money for over performing the standards. For Georgian case, we recommend to use combination of schemes 3 and 4 (see figure 2). This will restrict shortcoming of those schemes and finally we will get the most conventional for Georgian reality.

Figure 3. *Recommended mechanisms to create incentive for service quality regulation*



Standards in natural gas sector should be consistent with those existing in power sector. Additionally, specifications of the natural gas sector should be take into account while deciding what need to be included in service quality standards. The rates of compensation should be also the same. And finally, recommendations about the standards to be adopted:

Guaranteed standards:

- Reactivation of energy supply after disconnection due to non-payment
- Answering application of consumers
- Checking gas quality and appliance in case of the request
- Registration and gas supply
- New connection to the gas grid
- Reinstatement of customers' premises
- Provision of connection quotations
- Completion of the work on the agreed date
- Notifying customers and making payments owed under the standards

Overall Standards:

- Notification about planned gas interruption time and duration
- Reactivation of gas supply after unplanned interruption
- Answering call in call center
- Informing customers of when they are due to be reconnected
- Response to complaints

REFERENCES

1. OFGEM, Guidance for reporting on Standards of Performance and Standard Special License Condition D10 For Gas Distribution Network Operators and Independent Gas Transporters

2. GNERC, Decree №6 of July 5, 2012 on Rules on Commercial quality for Electricity Distribution Licenses.

3. KEMA Consulting GmbH, Study on Regulation of Tariffs and Quality of the Gas Distribution Service in the Energy Community, 2010

4. Energy Agency of the Republic of Slovenia, Report on the Energy Sector, 2013

5. E-Control, Energie-Control Austria Executive Board Ordinance on Standards for System Operators Relating to the Safety, Reliability and Quality of Services Rendered to System Users (Ordinance on Gas System Service Quality)

6. Firmus Energy, Guaranteed Standards of Service Gas Distribution - Notice of Rights, April 2014

7. REF-E, MErcados, Indra, Study on tariff design for distribution systems (prepared for DIRECTORATE-GENERAL FOR ENERGY DIRECTORATE B – Internal Energy Market), 2015

APPENDIX

Guaranteed standards in UK

1	Restoring domestic customers' supplies after an unplanned interruption	restore domestic customers' supplies within 24 hours following unplanned interruptions	£30, Cap per customer of £1,000
2	Reinstatement of customers' premises	On completion of GT initiated work to re-lay service pipes on a customer's premises, the premises will be reinstated within 10 working days	£50 (domestic) £100 (non-domestic)
3	Provision of alternative heating and cooking facilities to priority domestic customers	If a priority customer's gas supply is discontinued because of a planned interruption the GT shall provide alternative heating and cooking facilities within 4 hours. This is true on for small range of consumers, including elderly people.	£24
4	Provision of standard connection quotations	GTs shall provide a standard quotation for providing a new or altering an existing connection up to and including 275 kWh per hour within 6 working days.	£10 Cap per customer is the lesser of £250 or the quotation

5	Provision of nonstandard connection quotations ≤ 275 kWh per hour	GTs shall provide a non-standard quotation for providing a new or altering an existing connection up to and including 275 kWh per hour within 11 working days	sum
6	Provision of nonstandard connection quotations >275 kWh per hour	GTs shall provide a non-standard quotation for providing a new or altering an existing connection greater than 275 kWh per hour within 21 working days.	£20 Cap per customer is the lesser of £500 or the quotation sum
7	Accuracy of quotations	Where a customer challenges a quotation under the GT's published accuracy scheme and the quotation is found to be inaccurate the GT shall refund any overcharge that has been made.	
8	Response to land enquiries	A GT shall respond to a land enquiry in respect of a new connection or alteration of an existing connection within 5 working days.	£40 Cap per customer is £250 for a new connection or altering an existing connection up to 275 kWh per hour and £500 for >

			275 kWh per hour
9	Offering a date for commencement and substantial completion of connection work (≤ 275 kWh per hour) (Regulation 10(3)(e)(i))	Where a customer has accepted a quotation, the GT shall offer a date for commencement of the work and substantial completion within 20 working days	£20 Cap per customer is the lesser of £250 or the contract sum
10	Offering a date for commencement and substantial completion of connection work (> 275 kWh per hour)	Where a customer has accepted a quotation, the GT shall offer a date for commencement of the work and substantial completion within 20 working days	£40 Cap per customer is the lesser of £500 or the contract sum
11	Completion of the work on the agreed date	Where a GT fails to substantially complete a connection on the date agreed with the customer, a payment will be made in respect of the initial failure and each additional day during which	£20 - £150, max cap at £9000

		the failure continues.	
12	Notifying customers and making payments owed under the standards	GTs shall write to the relevant customer (or shipper) and make payment within 20 working days	£20

Source: OFGEM

Overall standards in UK

1	Telephone calls	Calls to the dedicated enquiry line and meter point reference number helpline (during the hours in which they operate) will be answered within 30 seconds.	90%
2	Notification of planned supply interruptions	For planned maintenance or replacement work, which involves interruption of the gas supply, the GT will provide written notification of the need for the interruption at least 5 working days before the expected interruption. The notice need not specify the date and time of the interruption. Its purpose is that it informs customers that an interruption may be required as a result of planned activities.	95%
3	Informing customers of when they are due to be reconnected	For unplanned supply interruptions or gas emergencies which are expected to last over 24 hours the GT or its contractor shall: (a) Where up to 250 customers are affected, notify individual customers that they have been interrupted and the expected programme for reconnection (including the expected date of reconnection) within 12 hours of the GT having knowledge of the interruption; (b) Where 250 or more customers are affected, provide public announcements (for example, using local public address broadcasts and local radio) throughout the area affected describing the expected programme for reconnection (including the	97%

		expected date of reconnection) within 12 hours of the GT having knowledge of the interruption; and (c) Provide a progress report and revised information on the expected date of reconnection after each succeeding period of 24 hours from the original announcement or notification.	
4	Response to complaints	(a) GTs shall issue a written or verbal response to a written complaint within 5 working days of receipt of the complaint (where this is not a substantive response it will indicate when a substantive response may be expected); and (b) Where the initial response to a written or oral complaint is not a substantive reply the substantive response shall be provided within 10 days of receipt of the complaint (other than in exceptional circumstances)	90%
5	Gas emergencies	Where a report of a gas escape or other gas emergency, including a significant spillage of carbon monoxide or other hazardous situations relating to a company's DN is received on the emergency telephone service operated by Transco plc or by other means, it will attend as quickly as possible within the following timescales: (a) All uncontrolled gas escapes or uncontrolled gas emergencies within 1 hour of the call being received; and (b) All controlled gas escapes or other controlled	97%

	gas emergencies within 2 hours of the call being received.