

**MUNICIPAL WATER AND WASTEWATER SECTOR IN  
GEORGIA**

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**Status Report**

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**2015**

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## **Table of Content**

Current situation	page 3
Institutional Setting	page 6
Legal framework	page 16
Key findings and conclusions	page 21

## **Abbreviations**

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GWP – Georgian Water and Power

GEL – Georgian Lari

GUWSC – Georgian United Water Supply Company

USAID – US agency for international Development

EIB – European Investment Bank

ADB – Asian Development Bank

A.R. - Autonomous Republic

KfW - Kreditanstalt für Wiederaufbau

MDF – Municipal Development Fund

WED – Water Framework Directive

AA – association Agreement

## 1. Current Situation

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About 95% of the urban and 35% of the rural population is supplied by centralised water service. This indicates high network coverage by international standards. The actual performance of this system is a problem, however. Poor quality of the distribution network results in a water loss rate of 10-51%, and 40% water loss in Tbilisi. All urban households suffer interrupted supply, receiving water much less than 24 hours a day, in some cities as little as 8-10 hours a day. In rural areas the supply system often does not function at all. This affects mainly people living on higher floors of buildings, because of low pressure in the system. The major reason for that is the shortage of electricity supply due to a lack of payment and also physical shortages.

The majority of the connected urban households can have potentially good water quality, as the main source is groundwater. Groundwater sources provide about 90% of the water supply apart from Tbilisi. (In Tbilisi 44% is from surface water). Drinking water quality problems are related to leaking pipes and cross contamination from the sewage system.

The centralised sewage system exists in 37 towns in Georgia. 78% of the population is connected to sewerage, indicating high network penetration by international standards. The systems are, however, in poor condition. Wastewater treatment facilities are serving 33 towns, with the total daily design capacity of 1.42 million m<sup>3</sup>. There are 19 traditional mechanical/biological treatment plants, with a total design capacity of 1.39 million m<sup>3</sup>/day. Four purely mechanical treatment plants with a design capacity of 0.03 million m<sup>3</sup>/day are available.

However, the plants are typically 10-25 years old; some are as yet unfinished, and most are not maintained. None of the existing plants is actually providing biological treatment since the technical facilities are out of order. Power and other resources are also needed. They are not delivered, as they are not paid for. Mechanical treatment is effective to a certain degree only in Tbilisi (GWP's Treatment plant serves Tbilisi, Rustavi and Gardabani), Rustavi, Kutaisi, Tkibuli, Gori and Batumi and its total estimated daily capacity is 0.7 million m<sup>3</sup>.

Starting from 2004 the improvement of water supply was initiated with funding from the state budget and international donors. Extensive reconstruction-rehabilitation works were carried out in Tbilisi in 2005-2007. Most central water supply pipelines have been rehabilitated and all major drinking water quality-monitoring laboratories have been refurbished and equipped with modern computerized systems (ECBSea, 2009).

Currently, Tbilisi is provided with an up-to-date high-quality water supply service ensuring delivery of good quality drinking water without significant interruptions 24 hours a day to 400, 000 customers, of which about 2000 are public and state organizations, about 15,000 - commercial enterprises and the rest are in the residential sector (GEO-Cities 2011).

The development of water and sewerage systems has become an important priority at all levels in the country. Extensive rehabilitation projects are ongoing in several regions in Georgia (Task Force for Regional Development in Georgia, 2009). Development and improvement of municipal infrastructure, including water supply and sanitation systems, is one of the objectives of the State Strategy for Regional Development of Georgia for 2010-2017. Specifically, the Strategy aims at creation of favorable environment for investments in the sector; rehabilitation and construction of water supply/sanitation infrastructure; ensuring access to safe drinking water and sanitation; improving water metering; reducing water loss; improving cost recovery etc. In 2009 about 120 mln USD was allocated for the rehabilitation and development of drinking water systems, and an additional 35 mln USD - for sewerage network.

There has also been increased involvement of donor organizations in supporting rehabilitation of water supply and sewerage sectors in recent years. Among them is the recently completed project of the US Millennium Challenge Corporation, which, through Georgian Municipal Development Fund, supported the USD 57.7 mln regional infrastructure development project for improvement of municipal water and sewerage services in five cities throughout Georgia

*Table 1. Main technical parameters of the municipal water supply systems (the region of Abkhazia is not included).*

<i>Type of Town</i>	<i>N of towns with central water supply systems</i>	<i>Number of water intakes total/surface water</i>	<i>Total designed capacity 1,000 m<sup>3</sup>/year</i>	<i>N of reservoirs</i>	<i>Total volume of reservoirs 1,000 m<sup>3</sup></i>	<i>Total length of collectors and distribution systems Km</i>	<i>Length of systems that need renovation Km</i>
<i>I</i>	6	9/2	1.25	11	4.78	144.0	14.0
<i>II</i>	43	70/10	171.3	112	69.36	1,709.6	293.8
<i>III</i>	12	27/1	219.0	64	52.66	1,588.3	137.1
<i>IV</i>	9	28/1	209.0	40	36.8	1,022.6	131.4
<i>V</i>	3	6/0	144.0	17	21.6	681.2	55.0
<i>VI</i>	4	15/4	2,093.0	110	422.0	4,128.2	1,349.5
<i>Total</i>	77	155/18	2,837.5 5	420	607.2	9,273.9	1,980.8

*Type of Towns*

*I – Population <1,500*

*II- 1,500 < Population <10 000*

*III - 10,000 < Population <25 000*

*IV – 25 000 < Population <50 000*

*V- 50 000 < Population <100 000 (Zugdidi, Poti, Gori)*

*VI – 100 000 < Population (Tbilisi, Kutaisi, Rustavi, Batumi)*

Source: Ministry of Environment of Georgia/Municipal water and wastewater sector in Georgia. OECD/DANCEE.201

Table 2. Main technical parameters of municipal sewerage systems and wastewater treatment plants (the region of Abkhazia is not included)

Type of Town	Number of Towns with central swage system	Length of collectors and networks (km)	Treatment Plants					
			Number		Designed capacity <sup>1,000</sup> m <sup>2</sup> /day		Actual capacity <sup>1,000</sup> m <sup>2</sup> /day	
			M	MB	M	MB	M	MB
I	1	2.0	0	0	0	0	0	0
II	13	188.6	1	5	5.3	17.3	0	0
III	8	235.8	1	4	2.5	66.1	0	0
IV	8	376.2	1	5	8.2	68.0	16.6	0
V	3	134.6	1	2	23.1	41.3	6.8	0
VI	4	9,941.2	0	3	0	1,195	963.7	0
Total	37	4,878.48	4	19	39.1	1,387.7	717.1	0

*Type of Towns*

*I – Population <1,500*

*II- 1,500 < Population<10 000*

*III - 10,000 < Population<25 000*

*IV – 25 000 < Population<50 000*

*V- 50 000 < Population<100 000 (Zugdidi, Poti, Gori)*

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Source: Ministry of Environment of Georgia/ Municipal water and wastewater sector in Georgia. OECD/DANCEE.201

The total estimated costs of producing one cubic meter of water through basic maintenance and operation of the system (as calculated by the ministry of Environment in the 2014) is equal to 0.27 GEL per m<sup>3</sup> (about 0.14 USD per m<sup>3</sup>).

In the light of international experience, the unit cost figures for water supply seem high relative to the wastewater treatment unit costs. Since the dominant source of water supply is underground water and the wastewater treatment plants are designed for mechanical-biological treatment we would expect treatment unit costs closer to if not higher than the water supply unit costs. The explanation is the severely limited water supply in many towns resulting in very low per capita water consumption in spite of the high loss rate. Meantime, none of the treatment plants operate at their design level.

The tables below show estimations of costs done by the Ministry of Environment of Georgia for the purposes of the National Environmental

Action Plan and it is based on the analyses of statistical data provided by relevant public institutions and GeoStat. However, all figures in the tables 3 and 4 are indicative as Georgian Water and Power Co. and United Water Supply Company does not provide information how cost for cubic meter of water and wastewater is calculated using excuse that these data belong to the commercial information and cannot be publicized.

*Table 3. Total and average unit costs for water supply in the existing system*

	<i>Calculated average unit costs GEL/ m<sup>2</sup></i>	<i>Water production million m<sup>2</sup>/year</i>	<i>Total Annual cost Million GEL</i>
<i>Maintenance</i>	<i>0.15</i>	<i>384</i>	<i>59</i>
<i>Operation</i>	<i>0.12</i>	<i>384</i>	<i>49</i>
<i>Total</i>	<i>0.27</i>	<i>384</i>	<i>108</i>

*Source: Ministry of Environment of Georgia/ Municipal water and wastewater sector in Georgia. OECD/DANCEE.201*

*Table 4. Total and average unit costs for wastewater collection and treatment in existing, actually operated facilities*

	<i>Amounts Million m<sup>2</sup>/year</i>	<i>Calculated unit costs GEL/m<sup>2</sup></i>	<i>Total costs Million GEL/year</i>
<b><u>Collection</u></b>			
Maintenance	335	0.08	26
Operation	335	0.02	7
Sub-total	335	0.10	<b>33</b>
<b><u>Treatment</u></b>			
Maintenance	250	0.07	18
Operation	250	0.02	6
Sub-Total	250	0.09	<b>24</b>
Totals			
<b><u>Maintenance</u></b>			44
Operation			13
Grand Total			<b>57</b>

*Source: Ministry of Environment of Georgia/ Municipal water and wastewater sector in Georgia. OECD/DANCEE.201*

## **2. Institutional Setting**

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Ministry of Environment Protection was reorganized in October 2012 and became the Ministry of Environment and Natural Resources Protection with respective increase of responsibilities, staff and budget.

With this reorganization, all the rights and responsibilities related to natural resources management and protection are now with this Ministry. The Ministry is the key authority at the national level dealing with water management.

The Ministry includes the central office for water resources management – the Water Resources Management Service, which implements governmental policy in the field of water resources management and protection, assesses plans of environmental impact mitigation in EIA reports in the field of water, establishes and adopts Maximum Admissible Discharges, conducts state inventory of water use, etc.

The National Environmental Agency under the Ministry is responsible for water quality and quantity monitoring. It also is in charge of issuing licenses for abstraction of groundwater since October 2013. Presently, water monitoring is undertaken by three laboratories under the Agency: Batumi, Kutaisi and Tbilisi laboratories.

The Department on Environmental Supervision under the Ministry is responsible for state control on implementation of water legislation. The Department has 7 regional services and the Black Sea Convention Inspection, located in Batumi.

Other water-related responsibilities are distributed between different state institutions:

The **Ministry of Labor, Health and Social Affairs of Georgia** are responsible for protection of public health. The Ministry develops environmental quality standards, including those for drinking water, surface waters, groundwater and coastal waters.

The **Ministry of Regional Development and Infrastructure of Georgia** is responsible for implementing regional development policy including coordination and support of the development of water supply and sanitation systems. This ministry coordinates activities of the United Water Company that is the biggest operator on the Regions of Georgia. This ministry also supervises the Municipal Development Fund that provides investment for construction and rehabilitation of physical infrastructure of water and wastewater in Municipalities of Georgia.

The **Ministry of Agriculture of Georgia** is responsible for carrying out drinking water quality monitoring (when and where waterholes are used), supervision and state control over irrigation systems.

**Local Self-Governance Institutions** are responsible for the management of water resources of local importance but they generally have very limited competences; water management is highly centralized especially water and wastewater management system. The organic law of Georgia on “LG Code” identifies municipal water and wastewater management as sole responsibility of municipalities and assigns municipalities function to invest, regulate and manage this system, However regulatory function in this sector is implemented by the National Water Regulation board, Investment function is carried out by the ministry of regional development and infrastructure via Municipal Development fund instrument. Only function that remains in the hands of municipalities is to provide subsidies from municipal budgets to cover negative balance between actual cost and fees collected from households.

The water supply and wastewater treatment service is provided by two monopolists: The Georgian Water And Power JSC. that is established by direct foreign investment and serves cities of Tbilisi, Mtskheta, Rustavi and Municipality of Gardabani only. Remaining territory of Georgia is covered by the United Water Company, that is a commercial (for profit) enterprise under the ownership of the central government of Georgia.

Exceptions from this scheme are 6 municipalities in the Autonomous republic of Adjara and the municipality of Sachkhere in the region of Imerety where water and wastewater are managed by enterprises that belong to municipalities. Official explanation for specificity of these 7 units is that Adjara has autonomous status hence municipalities from Adjara have not been assigned to the United Water company. As to Sachkhere municipality, bilinear Ivanishvili (whose is native of Sachkhere) subsidizes local water company and the most probably he is willing to finance this particular case and not the entire system of municipal water and wastewater of Georgia.

**State owned company “Georgian United Water Supply Company” (GUWSC).**

GUWSC was founded in January 2010 by the decree of the Government of Georgia. The company provided water and wastewater services throughout whole Georgia for urban settlements excluding Tbilisi, Mtskheta, Rustavi and Autonomous Republic of Adjara. The Structure of company consist of head office located in Tbilisi, 6 regional branches and 50 service-centers across Georgia. GUWSC has around 2,700 employees, 60% of employees are engaged in maintenance and operation work, 24% in financial departmental and 16% of personal is an administrative staff. The state owns 100% of shared of the company. Company serves 303,788 households and 15 400 enterprises (legal entities).

The main activity of the company includes: a) water abstraction, treatment and supply; design of water and sewer networks; b) Construction, installation, maintenance and operation of water and wastewater infrastructure and c) Production and rehabilitation of constituent elements of water and sewer systems. Declared mission of the company is to provide 24-hours supply of drinking water to the customers and guarantee efficient operation of water and derange systems in all regional urban centers and towns across Georgia, to achieve approximation of service to the world standards.

The company has strategy that envisages achievement of following target for 2020:

- Water and swage infrastructure rehabilitation and construction in all urban settlements
- Control and improvement of water quality
- Modernization of a base for truck fleet and special machinery



- Optimization of billing and service fee collection process
- Improve metering and elimination of water losses
- Achieving economic and technical feasibility
- Elaboration of efficient policy for HR management
- Achieve full compliance with the environmental protection standards
- Guarantee energy efficiency reduce share of electricity in operation
- Achieve financial viability of the company via modernization of financial management system

GUWSC is headed by Director General and 4 deputy directors who coordinate various sectors of operations (administrative issues, Technical Issues, International cooperation, finance issues). Director general and Deputy directors are appointed by the Agency for management of state enterprises under the ministry of Economy and sustainable development. Despite the fact that directors and its deputies are appointed by the agency of state enterprises GUWSC operates under the mandate of the Ministry of regional development and infrastructure of Georgia, it synchronizes its activities with the policy of this ministry and reports in implemented activities. The central office of GUWSC is divided 12 departments:

- 1) Administrative department
- 2) Department for project management and international relations
- 3) Department for commercial safety and monitoring
- 4) Economy Department
- 5) Department for procurement and logistics, including:
  - Procurement division
  - Logistic division
- 6) Accounting and book keeping
- 7) Billing department
- 8) Legal Department
- 9) Department for water supply and construction, including:
  - Division for management water supply systems and operation
  - Division of construction and technical service

## 10) Public Relations

GUWSC uses two types of service fees: a) per cubic meters in the area where meters are installed and b) per member of household in areas where meters are not available. Service fee consists of two components a) water and b) water waste. Tariff for cubic meter in vast majority urban settlements for households is unified and consists 0,499 GEL while for commercial enterprises tariff is as high as 4.307 GEL. In the areas where meters are not available (only households as commercial entities are obliged to install meters) tariff per person varies city by city (see annex 1). It must be mentioned that tariff does not include investment segment and investment are made by international donors or/and central government of Georgia.



*Map 1 - GUWSC service area*

GUWSC uses drinking water standard set up in the ordinance #349/N by the minister of health and labor dated by 17.12.2007. The company also pays huge attention to the compliance with environmental standards, the company has special framework for environmental impact assessment that is used for investment projects finance by international donors and the government of Georgia

GUWSC works with many international donors among them are: The European Bank for Reconstruction and Development, the European Investment Bank, Asian Development Bank, The European Union. GUWSC provides guidance and partnership with the Water Supply Company of the Municipality of Shachkhere (that belongs to the municipality), de jure this company is not part of GUWSC however fictionally it is attached to the latest. All capital investment project in this municipality is implemented by the GUWSC and good example of such affiliation is that GUWSC implemented 413 182 GEL worth capital investment project funded by the EU in the municipality of Sachkhere to improve capacity of drinking water reservoirs, hence “Sachkhere water supply company” can be recognized as de facto affiliated company to the GUWSC.

Currently GUWSC implements following projects using investments from following donors:

Asian Development bank – Instalment 2 pump stations and rehabilitation of two reservoirs in the city of Kutaisi; construction of new water treatment facility and new system for water supply in Nabada urban district of the city of Poti; Construction of water supply and swage system in the settlement of Anaklia of Zugdidi Municipality and Water Supply and swage system development in the Municipality of Mestia.

European Investment Bank – provides funding for construction and

rehabilitation of potable water distribution systems in following municipalities Lanchkuti, Tsalengikha, Zestaphoni, Tkibuli, Tskaltubo, Kaspi and settlement Ureki (Ozurgeti), Under this investment project 130 km of distribution network will be rehabilitated, 8000 m<sup>2</sup> will be added to existing reservoirs, 2 000 meters will be installed in households.

USAID also provides funding for construction of water treatment facility in the Municipality of Oni.

In future GUWSC plans to implement following projects:

- Asian development Bank – Second face of water system rehabilitation project will be implemented in Anakla (Zugdidi and Mestia)
- European Investment Bank – Rehabilitation of water distribution systems and reservoirs will be done in 27 cities and municipalities of Georgia. Recently parameters of new investment package are under the negotiation.

International investment projects are prepared and managed by the department for project management and international relations, procurement of goods and services under specific projects are done by the department for procurement and logistics. GUWSC uses flexible procedures for procurement and depends on requirements from the donor. If procurement is made using Georgian public money than law of Georgia on procurement is used and procurement criteria is set up at the lowest price offered. For Asian Development Bank, EBRD and EIB united water company uses procedures that are provided by those institutions. Procedures and nomenclature to be used for specific investment project are given in the general conditions of the investment agreement between GUWSC and the donor.

### **Georgian Water and Power JSC**

“Georgian Water and Power” (GWP) is a leading company on the water supply market in Georgia and South Caucasus. The company provides service to the population of Tbilisi, Mtskheta, Rustavi and Gardabani population and commercial enterprises. GWP serves up to 460 000 customers including 441 000 households and 19 000 enterprises. IN fact GWP is a consortia that includes GWP itself, LTD “Rustavi water” and LTD “Mtskheta Water”. GWP group recently employs 2 300 persons in Tbilisi, Rustavi and Mtskheta. GWP is an entity of commercial law and its status is Joint Stock Company owned by Georgian and foreign invertors.

Company is managed by the board of directors nominated by shareholders, there are t departments in the central office in Tbilisi and 5 structural departments in Rustavi and Mtskheta water companies. At the central office specific department for development and strategy deals with investment projects and development policies.

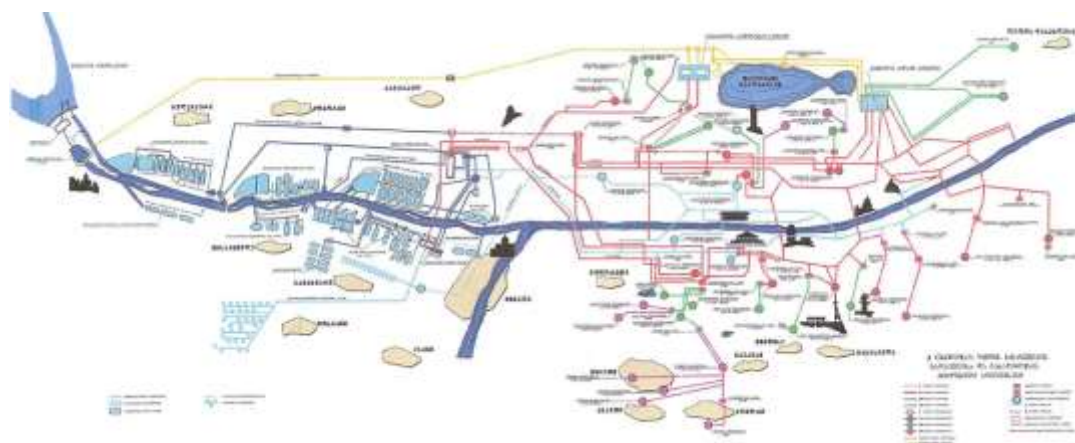
Main area of activity for GWP is supply of clean/safe and stabile water as well as wastewater management and derange in Tbilisi, Rustavi and

Mtskheta. In addition GWP owned and operates two hydropower plants. GWP gets water from 3 reservoirs and 6 water conduits. GWP operates two water treatment plants: Sanzona plant with capacity 5 liter per second and Grmagele plant with capacity of 5 liter per second.

Water sources	
<b>Reservoirs</b>	<b>Capacity</b>
Bodoma	1.0 million m <sup>3</sup>
Zhinvali	500 million m <sup>3</sup>
Tbilisi (sea) reservoir	308 million m <sup>3</sup>
<b>Water Conduits</b>	<b>Capacity</b>
Bulachauri	3, 000 liter /sec
Choporti	1,300 liter /sec
Nataktari	1,300 liter /sec
Natakhtari II	900 liter /sec
Saguramo	3,000 liter /sec
Mukhrani Artesian	1,225 liter /sec

GWP uses pipes from 13mm to 1,400 mm for distribution of water to customers, total length of pipe system is 3, 600 km. out of which 35% are crude iron pipes and 65% still pipes. Due to mountainous landscape of Tbilisi water distribution system has 5 vertical levels. System also includes 84 service reservoirs with total capacity of 300 000 m<sup>3</sup> and 141 pressure pump station out of which 65 pump stations are fully rehabilitated.

GWP also operates drainage and swage system of Tbilisi and Rustavi. The derange system was first built in Tbilisi in 1835. It has channels from 150 to 1,200 mm mainly built with brick, arch, concrete, reinforced concrete, ceramic, cast iron, asbestos and polyethylene. The derange system is self-flowing using 7 aqueducts to the river Mrkvari, total length of drainage system is 1,600 km out of which 1,000 km is street drainage and 600 km is interquartile.



*Map 2 - Water and wastewater system of Tbilisi*

Length of main trunk sewer is 72 km, the waste water run through the sewer to the Gardabani treatment plant that has 42 separation chamber for mechanical treatment, total capacity of this plant is 1 million m<sup>3</sup> a day.

GWP issues a bond on the capital market; nominal value of the bond is 1,000 GEL with 14% of interest (coupon) per annum including applicable taxes. Interest is paid semi-annually, minimum allowable purchase is 10 bonds with value of 10,000 GEL. The placement agent of GWP bonds is JSC “Galt and Taggart”, it is possible to sell bonds on secondary markets through brokerage company, and bonds will be admitted on Georgian stock exchange.

The water tariff in Tbilisi, Rustavi, Gardabani and Mtskheta is set by the national regulatory agency, for households the tariff is a) for households without meters GEL 3,14706 per person per month out of which GEL 2.5429 is for distribution of water and GEL 0.60416 for waste water. b) For households with meters GEL 0.2655 per m<sup>3</sup> out of which GEL 0.21476 is for distribution of water and GEL 0.05075 for wastewater management and treatment. For enterprises installation of meters is obligatory and tariff is set up at GEL 4.4 per m<sup>3</sup> out of which GEL 3.55534 is cost of distribution of water and GEL 0.84488 for wastewater removal and treatment. GWP also gets subsidies from the municipality of Tbilisi for maintenance and rehabilitation of drainage systems. GWP is financial viable company it had charter capital GEL 208,469,000 in 2014 with net profit 24,577,000. In 2014 GWP received 25 million GEL from households and GEL 12.5 million from enterprises for distribution of water and wastewater removal.

GWP and its doter companies are one of the biggest consumers on Georgian service and construction market. GWP as a commercial entity uses own procedures of investment project development and procurement of goods and serviced from domestic and international markets. These procedures are mainly based of the EC e-procurement book and FIDIC methodology. Tenders are announced on website of GWP as well as in National and International (depends on good and services) media.

GWP does not that intensive practice of getting funds from EBRD, ADB and

**GEORGIAN WATER AND POWER LLC**  
**Statement of Profit or Loss and Comprehensive Income**  
*(Amounts expressed in thousands of Georgian Lari)*

	Note	2014	2013
<b>Revenue</b>	18	101,968	99,230
Other income	19	5,595	5,029
Provision of trade receivables	11	(1,127)	(1,517)
Salaries and benefits	20	(23,395)	(20,711)
Depreciation and amortisation	8,9	(16,998)	(17,567)
Electricity and transmission costs		(8,673)	(8,829)
Raw materials, fuel and other consumables		(5,036)	(4,740)
General and administrative expenses	21	(2,594)	(2,179)
Infrastructure assets maintenance expenditure		(3,523)	(2,329)
Disposal of construction in progress items	8	-	(2,043)
Other operating expenses	22	(14,535)	(11,425)
<b>Operating profit</b>		<b>31,682</b>	<b>32,919</b>
Finance income	23	667	950
Finance costs	24	(5,836)	(2,105)
<b>Profit before income tax</b>		<b>26,513</b>	<b>31,764</b>
Income tax expense	25	(5,509)	(7,191)
<b>Profit for the year</b>		<b>21,004</b>	<b>24,573</b>
<b>Other comprehensive income for the year</b>		<b>-</b>	<b>-</b>
<b>Total comprehensive income for the year</b>		<b>21,004</b>	<b>24,573</b>

have not got any big projects financed from multilayer donor agencies, in General GWP has business approach and they see water and waste water sector as a business and profit opportunity rather than social infrastructure that can be based operated under the public sector and serve social interests rather than interest of profit maximization, It shall be also mentioned that unlike in many other cities of Georgia, relatively well developed local economy and high wages of population in the capital city supports definitely supports this approach of GWP.

**Water and wastewater management system in Adjara A.R.**

The system for water and wastewater management in Adjara A.R, is recognized as decentralized taking into account the fact that here water companies de'jure belong to municipalities, however if we look deeply into current situation this perception may become an illusion. In 2010 whet Georgian United Water Supply Company was established Adjara had privilege to work with KfW which provided massive load to government of Georgia for rehabilitation water and swage system of Batumi, the capital city of Adjara. KfW strongly opposed inclusion of Adjara in the mandate of GUWSG and requested from Government of Georgia maintain status quo in

the municipalities of Adjara, as a result there are 7 water companies in the Adjara A.R. These are:

- 1) Batumi Water company
- 2) Kobuleti city water company
- 3) Kobuleti rural water company
- 4) Khelvachauri water and swage company
- 5) Keda water and swage company
- 6) Sheakhevi water and swage company
- 7) Khulo water and swage company

In fact only Batumi and Kobuliti water companies are functional only in other cases these companies are providing only minimum services for example Khulo water and swage company provided water supply only local hospital and administrative building of the municipality.

The municipality nominates management of these water and swage companies and structure of these companies is the same as structure of GUWSC, they gave deputy directors and structural departments. The municipality decides water supply tariff but they use the same methodology used by GUWSC and GWP, beside tariffs these companies getting massive subsidies from the municipal budget. The biggest water company is the LTD “Batumi water” that is established by the Batumi municipality and belongs to the city of Batumi.

The Batumi water employs 437 persons out of which 236 are full time employs and others short term contractors. Total budget of the Batumi water equals 10 million of GEL and revenues from tariff is only 700 thousand GEL remaining part comes from the city municipality and the government of Adjara A.R. The tariff for household is the same as any city of west Georgia (for example Poti) 0.55 GEL for m<sup>3</sup> and GEL 1,85 per person if there are no meters, Tariff for enterprises is the same as everywhere in Georgia – GEL 4.4 per m<sup>3</sup>.

Batumi water is the champion in technical wastage, according to statistics published by the Batumi water company it collects 30-40 million m<sup>3</sup> of water from reservoirs and distributes to customers only 3-4 millions m<sup>3</sup> hence technical wastage is nearly 90%. This water company also has massive uncollected bill from its customers, state audit company calculated ongoing debt as 18 million Georgian Lari. Batumi municipality gets massive support from KfW for rehabilitation municipal water and waste water system, up to 120 million EUR was spent for rehabilitation work during 2006-2014. In addition 20 million EUR was provided by the European Union. However system is far from efficiency, the water company can guarantee supply only for 12 store buildings, its building has more than 12 store than owner should build service reservoir and use pump to guarantee supply of water to high stores, this is the case with all high store hotels in Batumi.

The state audit service also pointed out problem of high administrative cost, in 2013 salaries composed 43% of entire operational budget of the company, in 2014 this figure increased up to 45%. Procurement procedure are also problematic, being established by municipalities all water companies in Adjara must to follow the Georgian legislation on procurement using the lowest price offered, The audit report also highlights fact that in many cases contracts were awarded those who have been only participants to tenders. Number of tenders with single participants reduced in 2014 but even today it stay high compering with GUWSC or GWP.

The government of Georgia tried to centralized water management system in Adjara and amalgamate these 7 companies with the GUWSC, event Prime minister of Georgia issues of decree on incorporation of above listed companies under the umbrella of GUWSG in May 2014 but this idea was strongly opposed by KfW and Georgian government had to give up this idea. On its behalf KfW tried to started processes from bellow and facilitate consolidation of these 7 municipal companies into one large inter-municipal entity but with no success. Thus, today status quo is maintained nevertheless government of Georgia managed to implement functional centralization of water companies in Adjara. Despite the fact that these companies and their property belong to municipalities functionally these companies are under the Ministry of regional development and infrastructure of Georgia, they consult their activity plans with this ministry, they get capital investments form the ministry and even KfW speaks priory with the ministry about its loan package with the ministry on regional development and infrastructure of and ministry of finance rather than with municipalities. To cut in short de jure water and waste water management in Adjara A.R is decentralized but de facto it is as centralized as in other regions of Georgia. This centralization has its objective and subjective factors, subjective factor is that central government is unwilling to give more power and competence to municipalities in this sector, officials at central level believe that they can do job better, they know better how to speak with donors and investors and they know better what is needed at local level. The Objective factor is that these small municipal companies lack necessary knowledge and expertise to manage water and waste water system effectively and efficiently. In case of Batumi water we observe increase of administrative costs instead of increase quality and accessibility of services provided. This factor of non adequacy of local officials to manage municipal services shall be seen as basic constrain not only for decentralization of water management but for entire process of devolution state power at locals in Georgia.

### 3. Legal Framework.

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There are more than 15 major laws in Georgia that significantly influence the management of water resources and the associated environmental concerns. However, mainly, water resources management system in Georgia is currently regulated by the Water Law of 1997.

The Law mainly provides for protection and use of surface waters and practically leaves out legal regulation of groundwater as well as coastal



waters.

The main legislative change was brought to Georgia's environmental law with the 2004 Tax Code of Georgia and 2005 Law on Licenses and Permits. According to the Tax Code, all taxes for environmental pollution (including for water pollution) were abolished. The Law on Licenses and Permits further radically reduced the number of activities, classified as environmentally sensitive and requiring management and supervision. The initial draft of the law included permitting system for surface water abstraction and discharges but later it was removed.

These are the examples of why the Water Law of 1997 fails to provide good basis for regulation of management of water resources. In addition, current water-related legislation practically does not provide for comprehensive and clear regulation of such important and diverse issues as water resources management; pollution prevention tools; ownership, the rights of ownership and use of water bodies; water cadaster; integration of water protection requirements and restrictions in regard to land use and spatial development; jurisdiction of regional and local self-governing bodies over water resources, etc.

Overall, Georgia's water-related legislation is inconsistent, contradictory and fragmented throughout the wide range of legal acts, of which the most important ones are listed below:

- Law of Georgia "On Environmental Protection" (1996) ⇒ provides for establishment of environmental quality (including water quality) norms (standards);
- Law of Georgia "On Mineral Deposits" (1996) ⇒ considers groundwater as part of mineral deposits and regulates all aspects of groundwater use and to certain extent - groundwater protection as well;
- Law of Georgia "On Land Melioration" (1997) ⇒ regulates waters and water bodies used for melioration (agricultural) purposes;
- Law of Georgia "On System of Protected Areas" (1996) ⇒ provides legal ground for establishment of protected area categories (including marine protected areas and water bodies within terrestrial protected areas);
- Laws of Georgia "On Health Protection" (1997) and "On Public Health" (2007) ⇒ provide for establishment of sanitary-hygienic requirements, norms and rules with regard to waters and water quality;
- Law of Georgia "On Regulation and Engineering Protection of the Seashores, Reservoirs and River Banks" (2000) ⇒ regulates engineering protection for seashores and river/reservoir banks against abrasion, floods etc.;

- Law of Georgia “On Recognition of Ownership Rights on Land Plots Being under the Usage of Natural Persons and Legal Entities of Private Law” (2007) ⇒ regulates legalization of ownership rights on land plots (including water bodies/water lands) which are being used by natural and legal persons in unlawful way;
- Laws of Georgia ““On State Control for Environment Protection (State *Environmental Control*)” (2005) and “On Ecological Expertise” (2007) ⇒ provide for legal streamlining in a number of water-related important aspects, such as usage of water resources for power plants, protection of rivers and water reservoirs from industrial waste, protection of environment and soil from wastewater infiltration;
- • Organic Law of Georgia “On Self-governance” (2006) ⇒ defines municipal water and wastewater management and regulation as exclusive (own) power of local authorities

Alongside of the primary legislation there is supportive legislation that regulates various aspects of municipal water and wastewater management. These legal acts are following:

- Law of Georgia on environment impact assessment permits (2008) ⇒ Sets up regulations and procedures for assessment of impact that might be impose to nature and landscape by human activities. This law also regulates what are criteria for awarding contracts to an entity for implementation of environment of impact assessment activities.
- Ordinance of Government of Georgia in technical nomenclature for potable water (2014) ⇒ this ordinance defines technical and chemical characteristics of the potable water used in the centralized water supply systems. This ordinance is obligatory for all private and public entities that supply potable water to Georgian settlements.

No other legal act requested by Slovak experts has an impact on municipal water and wastewater management system as these laws regulate different state of affairs than municipal water specifically: The law of Georgia on intellectual property regulates right of ownership of intellectual property and its neighboring rights based on creativity and imagination; The law of Georgia on public procurement regulates procedures of purchasing goods and services by public institutions but it applies neither GWP nor GUWSC as those are commercial entities and not public authorities. The law on procurements is not used by the MDF as this institution operates with funds received from international finance institutions and statute of MDF stipulates that procedures of funding agencies have supremacy over the Georgian legislation in MDF. The law of Georgia on Land Registration regulates registration of urban and agricultural land in Georgia and it has nothing to do with municipal water and wastewater management system. The law of Georgia on code of spatial and urban planning defines general framework for land use planning and architectural deign of settlements in Georgia. It does not define any specific regime for municipal water

management or regulation of wastewater treatment. Only provision in this law is that wastewater treatment facilities cannot be placed in the inner territories of settlements, in natural reserves and national parks. In General, Georgian legislation is quite blank on wastewater, in the decree of government says that Georgia can use European and foreign standards for wastewater management if they provide better conditions than Georgian regulatory acts. As there are no Georgian regulations in this field all Georgian entities (such as GWP, GUWSC, MDF as well as water company of municipalities from Adjara A.R) use regulation of those international institutions that provide funding for the rehabilitation of wastewater management system.

Therefore, the current water resources management lacks consistency, efficiency and integrity with other sectors and therefore needs overall reorganization both with regard to institutional and regulatory aspects. There is a strong need for reform of the current water legislation and the current system of water resources management. The first step in direction of harmonization of regulatory base in this field is elaboration of draft law “on water resources management” that must replace acting law on water adopted in 1997.

The draft Law will consist of four main sections – general, principal, transitional and final sections with approximately 40 sub-sections (chapters) covering the water-related subjects consistently and integrally.

The Draft Law will seek to cover a broad range of topics related to management, use and protection of water resources. So, it will become important to ensure coverage of enough details in the content to enable the Government and regulating authorities to implement the law correctly. It should be clear to the practitioner – particularly one who represents interested agencies (in particular the Ministry of Environment and Natural Resources Protection) and/or natural or legal bodies – if the law establishes any norms or creates any binding obligations on various governmental agencies to enact specific and enforceable regulations. Indication should be given on how the Government has to implement and enforce the Law. The Draft Law should define clear distribution of responsibilities. For the Law to work, it needs to clearly define what will be required, what role the public, industry and government agencies will play in the regulation process, and what will happen in the case of non-compliance.

The substantial principles should be outlined in the Law itself. The responsible governmental agency should be specified in the Draft Law and obliged to develop regulations based on those principles. The Draft Law will consist of four main sections – general, principal, transitional and final sections with approximately 40 sub-sections (chapters) covering the water-related subjects consistently and integrally. In terms of convergence with the EU water legislation, the Law is supposed to cover the legal requirements under the following directives:

- The Water Framework Directive (WFD)
- The Bathing Water Directive

- The Urban Waste Water Treatment Directive
- Floods Directive
- The Nitrates Directive
- The Groundwater Directives
- Drinking Water Directive    The Dangerous Substances Directive
- The Freshwater Fish Directive
- Environmental Quality Standards Directive
- Integrated Pollution Prevention and Control (IPPC) Directive
- The Dangerous Substance Discharges Directive
- Biocides Directive
- Marketing and Use of Dangerous Substances Directive
- Plant Protection Products Directive

The scope of the Draft Law, in line with the WFD, shall cover surface waters, transitional waters, coastal waters, groundwater and the related protected areas, as well as water infrastructural facilities (all water services which provide, for households, public institutions or any economic activity: abstraction, impoundment, storage, treatment and distribution of surface water or groundwater; waste-water collection and treatment facilities which subsequently discharge into surface water etc.).

The Law also will provide for all other aspects of integrated water resources management including water classification system, water quality objectives and standards, water use, water resources planning, pollution prevention, combined approach, economic tools, public participation, monitoring and enforcement, flood risk management, etc.

As convergence with different EU Directives is envisaged, the Law will legally link the different processes, since institutional and administrative requirements are similar for different directives.

Currently the draft law is under the process of consideration at different levels, which includes, amongst others, its review by general public. The public hearings of the draft Law took place in November and December 2014 with participation of the representatives of the different Ministries, NGO, private sector and other stakeholders. The draft Law was submitted for the consideration by cabinet of ministers in November and it will be sent to parliament in spring 2016.

The EU-Georgian Association agreement (chapter 3) also stipulates obligations of Georgia to ensure adequacy of Georgian regulatory base for water and wastewater management to the directives of the European Commission. The implementation period of these commitments is up to 20 years after the ratification of the AA by the all parties. That means Georgia should start active work for harmonization of its legislation on water resource management with the EU legislation and therefore adoption of new law of Georgia on water resource management will be an important step in this direction.

#### 4. Key finding and Conclusions.

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Georgia uses three models of water and wastewater management, the capital city of Tbilisi, Rustavi and Mtskheta municipalities are served by commercial entity which is joint venture. Vast majority of territory of Georgia is served by centralized water supply company which belongs to the central government of Georgia and there are municipalities in Adjara A,R (plus tow more) where water and wastewater system is managed by municipalities. Each of above listed models has its positive and negative aspects.

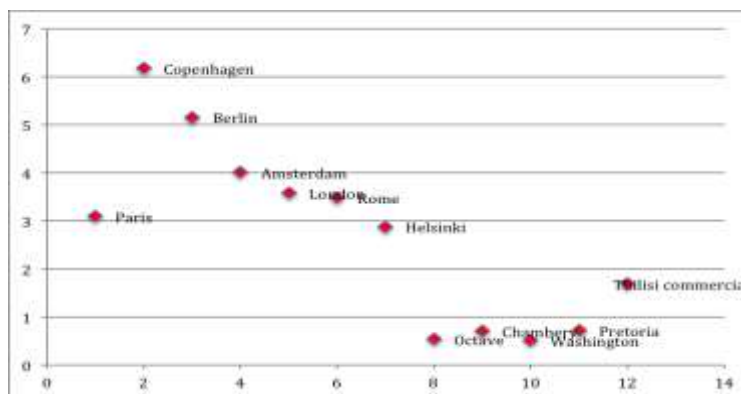
Positive aspect of GWP is that company is financially viable and Tbilisi has most efficient water supply system in Georgia, however municipality of Tbilisi have very limited role in regulation of water supply sector, service tariffs are decided by the National regulatory board, Tbilisi and Rustavi providing subsidies to the GWP and do not have any profit from the corporate income GWP gains in these municipalities.

Centralized approach used by the GUWSC gives possibility to the central government easily attract funding from donors, staff of GUWSC are highly qualified in project management and procurement procedures, however centralized approach does not support realization of interest of local communities and as a result GUWSC takes care of water supply system in urban areas and rural settlement are excluded from benefits of safe and sustainable water supply.

Neither model that is used in Adjara A,R, proves its efficiency, municipalities have direct ownership over the water supply and wastewater management companies, local elected bodies decide rate of service fees and internal structure of organizations, however these municipal companies have huge debts, collection rate of service fee are extremely low, administrative costs high and operational losses huge in these companies. Staff of these municipal companies lack adequate skills and knowledge and they are unable independently dial with international investment institutions. Therefore central government has incentive to include these companies in the GUWSC and complete process of centralization of water and wastewater sector of municipal economy providing argument that such consolidation allows government to keep water tariff relatively low in Georgia.

Issue of tariffs is another dilemma for Georgian water and wastewater sector of municipal economy. Tariff for household on cubic meter of water is low in Georgia compared with European countries but it is so because of underestimation of wastewater cost (0.08 GEL for m<sup>3</sup>). But this is not a stabile solution the EU –Georgia association agreement stipulates specific requirements for wastewater treatment and management that will definitely require elevation of share of wastewater in the tariff of water, thus tariff on water for households in Georgia will definitely go up in the nearest future reaching those for enterprises and centralization of the system may become not solution to the problem but part of the problem itself.

It is widely known in economics that centralization has its limit of economic efficiency and as a rule very big entities need more overhead costs, on the other hand centralized service providers are not flexible enough to accommodate local



*Chart 1 -Water tariff in big cities EUR/cubic m.*

interests and create sense of ownership among the local society. As a result, such big centralized organizations having problem of collection service fees, they are economically exclusive and politically fragile institutions.

The best solution for Georgia is to involve municipalities in management of local water and wastewater and decentralize United Water Supply Company by giving more control to local governments over local branches of GUWSC, however we should remember that only decentralization does not guarantee efficiency. Example of Adjara A.R shows that municipal staff needs adequate knowledge and experience, as well as municipal water companies need well organized procedures and internal structure to provide adequate service to local customers. So it is critically important to build such administrative and human capacities in Georgian municipalities beforehand and then start process of decentralization water and wastewater management system as opposite processes may cause collapse of one of the key municipal services in Georgia.