



Periodic Financing Request Report

Project Number: 43405-028
MFF Number: 0055
October 2016

Georgia: Urban Services Improvement Investment Program - Tranche 6

This document is being disclosed to the public in accordance with ADB's Public Communications Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 21 September 2016)

Currency Unit	–	lari (GEL)
GEL1.00	=	\$0.433839
US\$1.00	=	GEL2.310

ABBREVIATIONS

ADB	–	Asian Development Bank
DBO	–	design–build–operate
EMP	–	environmental management plan
FFA	–	framework financing agreement
GAP	–	gender action plan
GNERC	–	Georgia National Energy and Water Supply Regulatory Commission
IEE	–	initial environmental examination
km	–	kilometer
MFF	–	multitranchise financing facility
MRDI	–	Ministry of Regional Development and Infrastructure
O&M	–	operation and maintenance
PAM	–	project administration manual
Q	–	quarter
SDP	–	sector development plan
STP	–	sewage treatment plant
UWSCG	–	United Water Supply Company of Georgia
WSS	–	water supply and sanitation

NOTES

- (i) The fiscal year (FY) of the Government of Georgia and its agencies ends on 31 December.
- (ii) In this report, “\$” refers to US dollars.

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TRANCHE AT A GLANCE

1. Basic Data		Project Number: 43405-028	
Project Name	Urban Services Improvement Investment Program -Tranche 6	Department /Division	CWRD/CWUW
Country	Georgia	Executing Agency	Ministry of Regional Development and Infrastructure of Georgia
Borrower	Government of Georgia		
2. Sector		ADB Financing (\$ million)	
✓ Water and other urban infrastructure and services	Urban sanitation		44.75
	Urban water supply		54.25
		Total	99.00
3. Strategic Agenda		Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Adaptation (\$ million)	1.48
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	Climate Change impact on the Project	Medium
	Urban environmental improvement		
4. Drivers of Change		Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	Effective gender mainstreaming (EGM)	✓
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas		
5. Poverty and SDG Targeting		Location Impact	
Project directly targets poverty and SDGs	Yes	Urban	High
SDG-targeting (TI-S)	SDG1, SDG6		
6. Risk Categorization: Low			
7. Safeguard Categorization Environment: B Involuntary Resettlement: C Indigenous Peoples: C			
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		99.00	
Sovereign MFF-Tranche (Loan): Ordinary capital resources		99.00	
Cofinancing		0.00	
None		0.00	
Counterpart		18.00	
Government		18.00	
Total		117.00	
9. Effective Development Cooperation			
Use of country procurement systems		No	
Use of country public financial management systems		No	

TRANCHE AT A GLANCE

Date of ADB Receipt of PFR: 1 June 2016

Tranche Number: 6

10. Country Operations Business Plan

CPS

COBP

<http://www.adb.org/documents/georgia-country-partnership-strategy-2014-2018>

<http://www.adb.org/documents/georgia-country-operations-business-plan-2016-2018>

11. Tranche Summary

Project 6 will finance the water supply and sanitation systems in Marneuli, Bolnisi, and Chiatura. The first component includes construction of: (i) water supply and sewerage systems, including a new sewage treatment plant (STP) in Marneuli; (ii) the sewerage system, including a new STP in Bolnisi; and (iii) the water supply system and a new STP in Chiatura. Project 6 will benefit approximately a population of 37,380 in Marneuli, 9,000 in Bolnisi, and 15,400 in Chiatura. The second component includes project implementation support.

Impact: Improved health of residents in the secondary towns of Georgia (program defined).

Outcome: Water supply and sanitation services improved in the secondary towns of Georgia.

Outputs: (i) Water Supply and Sewerage system efficiency improved through rehabilitation and reconstruction, and extended coverage in Marneuli, Bolnisi, and Chiatura, and (ii) Project implementation support and public awareness program effectively implemented, information on hygiene and sanitation disseminated in the same towns.

Implementation Arrangements: Ministry of Regional Development and Infrastructure of Georgia will be the executing agency.

Project Readiness: Detailed design for Marneuli, Bolnisi and Chiatura sub-projects has been prepared as well as the conceptual design of the STPs in the three towns. Initial Environment Examination reports were submitted and disclosed. The climate change impact on the Project is "medium". There is no land acquisition involved in Marneuli, Bolnisi, and Chiatura as all the project facilities will be constructed on land owned by the government. The preparation of the bidding document is ongoing, and the government is intending to issue the invitation for bids for the works in Q3 and Q4 2016.

12. Significant Developments in the MFF and Previous Tranches

Project 1 (\$80 million) aims to improve water supply and sanitation (WSS) services in Anaklia, Kutaisi, Mestia, Poti and Ureki. As of 30 June 2016, cumulative contract award amounted to \$67.22 million (97.02%), and disbursement to \$48.81 million (66.01%). The physical progress of Project 1 is 67% against the elapsed time of 70%, and is rated 'on-track'. The loan closing date has been extended to 30 June 2018.

Project 2 (\$40 million) aims to improve WSS services in Anaklia, Mestia and Ureki. As of 30 June 2016, cumulative contract award amounted to \$31.72 million (92.84%), and disbursement to \$24.71 million (67.54%). The physical progress is 67.82% against the elapsed time of 80%, and the project is rated 'on-track'.

Project 3 (\$98 million), aims to improve WSS services in Ureki and Kutaisi. As of 30 June 2016, cumulative contract award amounted to \$58.77 million (68.92%), and disbursement to \$18.80 million (20.96%). The physical progress of Project 3 is 18% against the elapsed time of 52%, and the project is 'on-track'.

Project 4 (\$108 million) aims to improve WSS services in Zugdidi and Poti. The two civil works contracts have been awarded in Q4-2015 and the construction work for the Zugdidi contract is in progress. Project 4 is rated 'on track' as of 30 June 2016 and physical progress is 4.90% against the elapsed time of 36%, but is potential problem in Q3 2016. As of 30 June 2016, cumulative contract award amounted to \$69.84 million (69.12%), and disbursement to \$9.15 million (8.47%).

Project 5 (\$75 million), made effective on 19 January 2016, aims to improve the water supply and sewerage system in Zugdidi and Mestia. Procurement of Zugdidi works is on-going.

On non-physical components of the investment program, a management consultant has supported UWSCG to establish a more efficient organizational structure. A 3-year business plan, including a tariff road map, has been submitted by UWSCG to ADB in September 2016 which includes actions to improve UWSCG's performance and enhance revenues to ensure an operating ratio of 1 by 2019. FFA undertakings and loan covenants for all previous tranches have been complied with. However, auditors of UWSCG's financial statements for FY2013 and FY2014 flagged issues with asset valuations and inconsistencies in revenue data. ADB support will be provided to address these issues.

13. Milestones

Estimated Approval

30 September 2016

Estimated Completion*

30 September 2019

14. Linked Documents

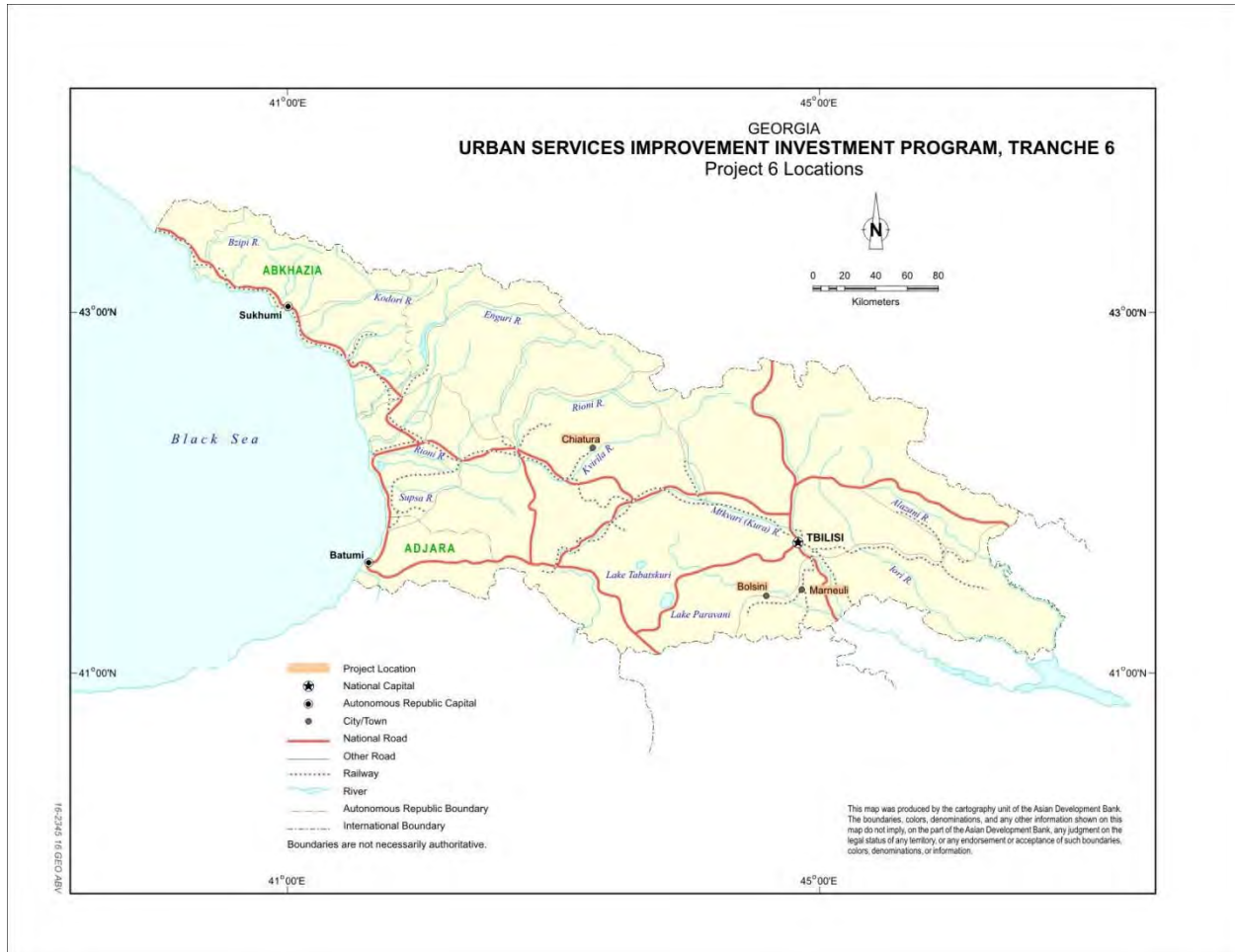
	Required Document	Disclosure Date
(i) Environment	IEE - Initial Environment Examination	
Weblink:	http://www.adb.org/projects/documents/geo-urban-services-improvement-t6-chiatura-ws-aug-2016-iee	06-SEP-2016
	IEE - Initial Environment Examination	
	http://www.adb.org/projects/documents/geo-urban-services-improvement-t6-chiatura-wastewater-aug-2016-iee	06-SEP-2016

TRANCHE AT A GLANCE

	IEE - Initial Environment Examination	
	http://www.adb.org/projects/documents/geo-urban-services-improvement-t6-mameuli-ws-aug-2016-iee	06-SEP-2016
	IEE - Initial Environment Examination	
	http://www.adb.org/projects/documents/geo-urban-services-improvement-t6-mameuli-wastewater-aug-2016-iee	06-SEP-2016
	IEE - Initial Environment Examination	
	http://www.adb.org/projects/documents/geo-urban-services-improvement-t6-bolnisi-wastewater-aug-2016-iee	06-SEP-2016

* For Tranches, this refers to the financial closing date.

URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM, TRANCHE 6 Project 6 Locations



I. BACKGROUND

1. Georgia and the Asian Development Bank (ADB) signed a framework financing agreement (FFA) for the Urban Services Improvement Investment Program on 1 March 2011.¹ On 30 March 2011, ADB's Board of Directors approved the multitranche financing facility (MFF) for an amount not exceeding \$500 million. The investment program's executing agency is the Ministry of Regional Development and Infrastructure (MRDI) and the implementing agency is the United Water Supply Company of Georgia (UWSCG).

2. The MFF closes on 30 September 2019 and it includes six tranches.² The government submitted a periodic financing request for Tranche 6 under the MFF on 1 June 2016. The project under this tranche will improve the water supply and sanitation services in the towns of Marneuli, Bolnisi, and Chiatura.

II. ASSESSMENT OF IMPLEMENTATION

A. Sector Policy, Strategy, and Road Map

3. **Sector Problems and Constraints.** The main sector problems are: (i) inadequate water supply and sanitation services—only 70% of the urban population had piped water supply and only 15% of the urban population was connected to the sewerage system without connection to treatment facilities in 2011; (ii) poor institutional and financial sustainability—the government heavily subsidizes the sector; (iii) poor operation and maintenance (O&M) of existing asset; and (iv) a regulatory framework that lacks clear regulatory function, tariff setting methodology, and environmental regulation.

4. **Sector Strategy and Road Map.** To address problems in the urban water supply and sanitation (WSS) sector, the government developed a sector development plan (SDP) for 2011–2020 and approved it on 31 January 2011. The plan aims to ensure continuous, reliable water supply and sanitation services to all urban residents by 2020.

5. The program's road map and policy framework align with the SDP's approach, and the projects under the investment program were designed to share objectives with the SDP. The SDP's actions, targets, and institutional reform framework³ are described below:

(i) Technical sustainability and environmental protection:

a. The investment plan, 2011–2020, prepared under the SDP, costs an estimated \$1.65 billion. UWSCG is prioritizing new assets for more widespread, reliable service, including investments in water and sewage treatment that will reduce environmental impact and improve water quality. Other development partners⁴ are supporting the SDP investment plan. Project 6 will support improvements to water supply and sanitation

¹ The framework financing agreement (FFA) and corresponding multitranche financing facility (MFF) design and monitoring framework (DMF) were amended on 7 November 2012 to expand coverage to all secondary towns and urban centers in Georgia (approved by the President on 27 August 2012).

² Project 1 (\$80 million) was approved on 12 April 2011, signed on 10 May 2011, and made effective on 15 June 2011. Project 2 (\$40 million) was approved on 23 November 2011, signed on 1 December 2011, and made effective on 19 December 2011. Project 3 (\$98 million) was approved on 5 December 2013, signed on 19 December 2013, and made effective on 17 March 2014. Project 4 (\$108 million) was approved on 11 December 2014, signed on 5 February 2015, and made effective on 30 March 2015. Project 5 (\$75 million) was approved on 29 September 2015, signed on 26 October 2015, and made effective on 19 January 2016.

³ Detailed in the Facility Constituents (available in Schedule 1 of the Framework Financing Agreement).

⁴ European Investment Bank (EIB), European Bank for Reconstruction and Development (EBRD), and World Bank are all supporting the SDP investment plan.

facilities in: (i) Marneuli which is part of the initial group of towns planned for implementation under the investment program; (ii) Bolnisi since it is considered an extension of the Marneuli town due the geographical proximity and to complement on-going infrastructure improvements funded by other development partners; and (iii) Chiatura which has been selected by the government to address the urgent rehabilitation needs of the water supply system and to also complement on-going initiatives funded by other development partners.

b. UWSCG has engaged a water utility operator under a 3-year, performance-based management consultancy contract and a financial expert to improve asset and financial management, O&M, and commercial efficiency of WSS assets. The projects also include design–build–operate (DBO) contracts for sewage treatment plants (STPs). Other actions include: (i) the provision of laboratory equipment; and (ii) training for staff in best O&M practices.

(ii) **Institutional and financial sustainability:**

a. The management consultant has supported UWSCG to establish a more efficient organizational structure. UWSCG submitted a 3-year business plan to ADB in September 2016 which includes actions to improve UWSCG's performance and enhance revenues to ensure an operating ratio⁵ of 1 by 2019. Project 6 will support the implementation of the business plan and the proposed tariff road map. Project 6 will also support improvements to UWSCG's financial management. Engagement of consultants under previous tranches to develop an asset management plan and a process for tracking company assets using geographic information system (GIS) is ongoing. UWSCG has been conducting a public awareness campaign on hygiene and sanitation and has set up a grievance redress mechanism.

(iii) **Enabling legal and regulatory framework:**

a. A consulting firm was recruited on 14 July 2016 to support the Georgia National Energy and Water Supply Regulatory Commission (GNERC) to strengthen its function as a regulator, including financial management regulations, a tariff-setting methodology and framework, and the legislative and regulatory framework for environmental management. Project 6 will support development of a tariff action plan for UWSCG.

B. Assessment of Investment Program Implementation

i. Physical Progress

6. **Project 1** will improve WSS services in Anaklia, Kutaisi, Mestia, Poti, and Ureki.⁶ It is scheduled for completion by 31 December 2017 and the loan closes on 30 June 2018. Construction of a water supply network in Mestia is complete and the network is operating. Water supply system improvements in Anaklia, Kutaisi, and Poti are 94% complete. Construction of a water treatment plant in Mestia and a sewage treatment plant in Anaklia (financed under projects 1 and 2) were 27% complete as of 31 May 2016. A contract for the Ureki WSS system (financed under projects 1, 2, and 3) was awarded in October 2014 and physical works were 26% complete as of 31 May 2016. The works contract for the UWSCG office building was awarded on 1 December 2015 and the construction is in progress. Overall,

⁵ "Operating ratio" refers to the ratio of UWSCG's operating expenses to its operating revenue (excluding capital expenditure, debt service obligations, amortizations, and depreciation).

⁶ Projects were originally scheduled for completion by 31 March 2016. The loan closing date was scheduled for 30 September 2016, but because of delays in the procurement of the UWSCG office building works contract, the loan closing date has been extended to 30 June 2018.

project 1 is 67% physically complete against the current elapsed loan period of 70% as of 31 May 2016. Project 1 is rated *on track*.⁷

7. **Project 2** aims to improve WSS services in Anaklia, Mestia, and Ureki. The project is scheduled for completion by 31 December 2016 and the loan closing date is 30 June 2017. WSS networks have been completed in Anaklia and Mestia. Overall, project 2 was 67% physically complete against the elapsed loan period of 80% as of 31 May 2016. Project 2 is rated *on track*.⁸

8. **Project 3** aims to improve WSS services in Ureki and Kutaisi. The project is scheduled for completion by 31 December 2017 and the loan closes on 30 June 2018. A design–build contract for the STP in Ureki was awarded in April 2015 and overall progress was 25% complete as of 31 May 2016. The construction of water supply system in Kutaisi (Phase II) was awarded in April 2015 and is 15.2% complete. Modern laboratory equipment has been procured and a contract for sewer cleaning equipment is yet to be awarded. Project 3 is 18% physically complete against the elapsed loan period of 52%, and is rated *on track*.⁹

9. **Project 4** aims to improve WSS services in Zugdidi and Poti. It is scheduled for completion by 31 December 2017 and the loan closing date is 30 June 2018. The two civil works contracts—one to build a water supply system in Zugdidi and the other for the Poti sewerage systems—were awarded on 26 October 2015 and 25 December 2015, respectively. Construction on the Zugdidi contract is in progress. The contractor for the Poti system is not adhering to the contract terms and UWSCG has proposed terminating the contract. ADB advised UWSCG to proceed with limited international bidding (LIB) to expedite procurement and get the sub-project back on track. The DBO contract for the STP in Poti will be awarded by Q1 2017. Project 4 was rated *on track*¹⁰ as of 30 June 2016, but is a potential problem in Q3 2016.

10. **Project 5** aims to improve the sewerage and sanitation system in Zugdidi and Mestia. It is scheduled for completion by 31 December 2018 and the loan closing date is 30 June 2019. The contract for sewerage system works in Zugdidi is expected to be awarded in Q4 2016. The DBO contract for the STPs in Mestia and Zugdidi will be awarded by Q1 2017. Project 5 is rated *on track*.¹¹

ii. Nonphysical Progress

11. **Institutional effectiveness.** UWSCG engaged a management consultant (a joint venture of Sachsen Wasser and AHT Group of Germany) from July 2013 to July 2016. The consultant provided recommendations and prepared several plans to strengthen the company's management and operating efficiency that are being implemented. The program appointed consultants who will develop sector regulatory capacity in July 2016. UWSCG has completed a

⁷ As of 30 June 2016, the contract award and disbursement rates were 100% and 99.2%, respectively, of the projected amounts. Cumulative contract awards totaled \$67.22 million (97%) and disbursement was \$48.81 million (66%).

⁸ As of June 30 2016, the contract award and disbursement rates were 100% and 98%, respectively, of the projections up to Q2 2016. The cumulative contract awards amounted to \$31.72 million (92.84%) and disbursements to \$24.71 million (67.54%).

⁹ As of June 30 2016, the contract award and disbursement rates were 100% and 90.16%, respectively, of the projections up to Q2 2016. The cumulative contract awards amounted to \$58.77 million (68.92%) and disbursements to \$18.80 million (20.96%).

¹⁰ As of June 30 2016, the contract award and disbursement rates were 99.8% and 64.77%, respectively, of the projections up to Q2 2016. The cumulative contract awards amounted to \$69.84 million (69.12%) and disbursements to \$9.15 million (8.47%).

¹¹ As of June 30 2016, the contract awards and disbursement rates were 100% of the projections up to Q2 2016.

geospatial WSS utility management system in six program towns,¹² and an additional 49 towns will be covered under project 3 along with the development of the company asset management plan.

12. **Project implementation support.** Six individual consultants were engaged under Tranche 1 to assist the investment program management office (IPMO).¹³ Two more technical experts to monitor the STPs' implementation are being recruited. All major WSS designs for the investment program towns were completed by December 2014. The construction supervision consultant for projects 1, 2, and 3 was appointed on 29 October 2012. The construction supervision consultant for project 4 was appointed in July 2015, and the construction supervision consultant for project 5 is expected to be engaged by October 2016.

C. Compliance

13. UWSCG has submitted a report on compliance with FFA undertakings and covenants in the loan and project agreements. The government has complied with all project-related FFA undertakings, loan covenants, and project agreements. However, auditors of UWSCG's financial statements for FY2013 and FY2014 flagged issues with asset valuations and inconsistencies in revenue data.¹⁴ The financial statement for FY2015 is still under preparation. The program will provide additional support to UWSCG to prepare financial statements for fiscal years 2011–2016 that align with International Financial Reporting Standards (IFRS). Compliance with FFA undertakings is shown in Supplementary Appendix B.

14. **Safeguards and gender compliance.** All projects are classified category B for environment and category C for indigenous peoples. Projects 1, 2, and 3 are classified category B for involuntary resettlement, while projects 4 and 5 fall under category C for involuntary resettlement. Before contracts were awarded for projects 1, 2 and 3, ADB cleared the land acquisition and resettlement plans and compensated affected households. The few temporary involuntary resettlements in projects 1 and 2 have been addressed. The safeguard specialists appointed under the IPMO in UWSCG and in the construction supervision consultant team, are monitoring implementation of the land acquisition and resettlement plans. Site-specific environmental management plans (EMPs) are included in the civil works contracts. As required under the loan agreement, UWSCG submits periodic environmental monitoring reports that indicate compliance with environmental safeguards. UWSCG's gender specialist monitors the implementation of the gender action plans (GAPs). Projects 1, 2, 3, 4, and 5 are classified as effective gender mainstreaming, and each project has a GAP. Most actions under the GAPs are on track, except for women's involvement in UWSCG management and customer service centers. More details are shown in the project administration manual (PAM).

¹² ADB. 2010. *Technical Assistance to Georgia for Developing a Geospatial Urban Water Supply and Sanitation Utility Management System*. Manila.

¹³ The following individual consultants have been engaged: (i) an environmental specialist; (ii) a procurement specialist; (iii) a social and gender specialist; (iv) two national civil engineers; and (v) a financial specialist.

¹⁴ ADB has received UWSCG's audit for the FY2013 and FY2014 in August 2016 and the unaudited trial balance for the FY2015. The external auditor has provided a disclaimer of opinion for UWSCG's audit of FY2013 and FY2014 citing issues with valuation of assets as well as issues related to other accounting data.

III. PERIODIC FINANCING REQUEST

A. Impact and Outcome

15. The project impact is aligned with the program impact: improved health of residents in the secondary towns of Georgia. Project 6 will contribute to achieving the investment program's outcome through improving water supply and sanitation services in the urban centers of Marneuli, Bolnisi, and Chiatura.

B. Outputs

1. Component 1: Infrastructure Improvement

16. The water supply and sewerage systems, including a new STP of about 22.9 million liters per day (MLD) capacity, will be constructed in Marneuli. Wastewater system efficiency will be improved in Bolnisi through the construction of about 40 km of sewer lines and a new STP of about 2.5 MLD capacity. Chiatura's water supply system will be rehabilitated and expanded and a new STP of about 5 MLD capacity will be built. Project 6 will benefit populations of 37,380 in Marneuli, 9,000 in Bolnisi, and 15,400 in Chiatura.

2. Component 2: Project Implementation Support

17. Project implementation support will include: (i) construction supervision consultancy; (ii) implementation of a public awareness program in Marneuli, Bolnisi, and Chiatura on hygiene and sanitation; and (iii) the establishment of customer care units in service centers in these towns, staffed by at least 30% women, that inform, educate, and communicate members of the public on water, hygiene, and sanitation issues. Project 6 will also support the implementation of UWSCG's business plan and tariff road map to ensure an operating ratio of 1 by 2019.

C. Investment and Financing Plans

18. Project 6 is estimated to cost \$117 million (Table 1).

Table 1: Investment Plan
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Infrastructure improvement	104.43
2. Project implementation support	5.31
Subtotal (A)	109.74
B. Contingencies^c	4.26
C. Financing Charges During Implementation^d	3.00
Total (A+B+C)	117.00

^a Includes taxes and duties of \$16.74 million to be financed from government resources.

^b In mid-2016 prices.

^c Physical contingencies are computed at 2% of the base cost. Additional cost increases shall be borne by the government. Price contingencies computed at 1.5% on foreign exchange costs and 4% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d Includes interest during construction and commitment charges.

Sources: United Water Supply Company of Georgia and Asian Development Bank estimates.

19. The government has requested a loan of \$99 million from ADB's ordinary capital resources to finance the project. The loan will have a 25-year term, including a grace period of 12 years, straight-line repayment method, a commitment charge of 0.15% per year, and other terms and conditions set forth in the draft loan and project agreements. The average loan maturity is 18.75 years and the maturity premium payable to ADB is 0.20% per annum. The interest and other charges during construction, as applicable, will be capitalized in the loan. The government has given ADB (i) the reasons for its decision to borrow under ADB's London interbank offered rate-based lending facility based on these terms and conditions, and (ii) assurance that these choices were made independently of ADB. The government's contribution includes 18% value-added tax on works and consulting contracts, and contingencies of \$1.26 million. The financing plan is in Table 2.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
ADB - Ordinary Capital Resources	99.00	84.62
Government	18.00	15.38
Total	117.00	100.00

Sources: United Water Supply Company of Georgia and Asian Development Bank estimates.

D. Implementation Arrangements

20. The implementation arrangements are summarized in Table 3 and described in detail in the PAM (Appendix 5).

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	October 2016–March 2019		
Estimated completion date	31 March 2019 (loan closing date: 30 September 2019)		
Management			
(i) Executing agency	Ministry of Regional Development and Infrastructure		
(ii) Implementing agency	United Water Supply Company of Georgia		
(iii) Implementation unit	IPMO in United Water Supply Company of Georgia (6 consultants and 12 staff)		
Procurement ¹⁵	ICB	2 civil works contracts and 1 Design-Build-Operate contract	\$104.43 million
Consulting services	QCBS	331 person-months	\$4.72 million
	LCS	12 person-months (intermittent)	\$0.59 million
Retroactive financing and/or advance contracting	Advance contracting for procurement of civil works and consulting services, and retroactive financing (in principle) of expenditure up to 20% of the loan amount incurred before loan effectiveness but not earlier than 12 months before the signing of the loan agreement.		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2015, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, ICB = international competitive bidding, IPMO = investment program management office, LCS = least-cost selection, QCBS = quality- and cost-based selection, STP = sewage treatment plant.

Sources: United Water Supply Company of Georgia and Asian Development Bank estimates.

21. Project 6 will recruit a construction supervision consultant through a firm—using quality- and cost-based selection, with a quality–cost ratio of 90:10—to oversee implementation of works. Advanced actions for the engagement of construction supervision consultant are on-going. An

¹⁵ ADB Procurement Guidelines (2015, as amended from time to time) and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time) will be followed.

audit consultant will be selected using least-cost selection, as the assignment is small, routine, and follows well-established practices and standards.

E. Project Readiness

22. The consultant hired under project 1 carried out the detailed engineering design and prepared the bill of quantities for the Marneuli water supply and sewerage systems, and UWSCG prepared the same for Bolnisi sewerage system. The construction supervision consultant hired under project 1 designed the Chiatura water supply system. The conceptual design of the STPs in Marneuli, Bolnisi, and Chiatura has also been prepared. The government submitted design reports for the subprojects along with the periodic financing request. Initial environmental examination (IEE) reports were disclosed on the ADB website on 30 June 2016. The IEEs included EMPs, which will form part of the bidding documents. No land acquisition is required in Marneuli, Bolnisi, and Chiatura to build the water supply systems, sewerage systems, and STPs, as they are being built on government-owned sites. Bidding documents are being prepared, and all bids will be ready for issue by Q4 2016. The procurement plan is in the PAM.

F. Advance Contracting and Retroactive Financing

23. The government has requested (i) advance contracting for procurement of civil works and consulting services, and (ii) retroactive financing (in principle) of expenditures not exceeding a total of 20% of the loan amount, incurred before loan effectiveness but not earlier than 12 months before the signing of the loan agreement. Approval of advance contracting and retroactive financing does not constitute an ADB commitment to finance any ensuing project.¹⁶

IV. DUE DILIGENCE

A. Technical

24. Detailed surveys and investigations were carried out before the water supply and sanitation systems in Marneuli, Bolnisi, and Chiatura were designed. The locations of the STPs in the three towns were determined based on topography, treated effluent discharge locations, land availability, and environmental and climate change considerations. Peak winds and seismic loads are considered in the STPs' structural designs. Plants will be built to resist extreme climatic conditions.

B. Economic and Financial

25. The economic analysis considered project alternatives, the results of the socioeconomic survey, and available national statistics. The benefits arising from project 6 were evaluated and measured against the without-project scenario. Subprojects in project 6 are economically viable. The economic internal rate of return (EIRR) of the Marneuli subproject is 15.53%, Chiatura's is 27.36%, and Bolnisi's is 16.75%, all exceed the economic opportunity cost of capital of 12%. A financial analysis¹⁷ was undertaken on the subprojects in project 6 and UWSCG. The project needs government subsidies to meet O&M and debt-servicing costs. The financial management

¹⁶ In accordance with the Policy paper on Enhancing Operational Efficiency of the Asian Development Bank (R167-15) which was approved by the Board in December 2015, the advance contracting and retroactive financing would be allowed by default for all financing and TA proposals involving procurement and/or the recruitment of consultants.

¹⁷ The subprojects are financially viable. The financial internal rate of return (FIRR) of the Marneuli subproject is 4.84% which is higher than the weighted average cost of capital (WACC) of 3.21%. Chiatura's FIRR is 6.87% which is higher than the WACC of 1.78%. Bolnisi's FIRR is 7.81% which is higher than the WACC of 2.86%.

assessment¹⁸ shows that the government adequately subsidizes UWSCG to meet these costs and is committed to continuing subsidies in the future. The loan agreement includes a covenant to confirm the advance or surplus payment of subsidies to the company to meet future O&M costs. ADB has also agreed with the government on a tariff implementation road map to move the company toward self-sustainability, with clear timelines for implementation. Under that road map, tariff increases are linked to a minimum operating ratio of 1. Implementation of this tariff road map is also a loan covenant for project 6. These measures will ensure project sustainability. Detailed economic and financial assessments for Marneuli, Bolnisi, and Chiatura are in Appendix 7.

C. Governance

26. Public financial management reform is a government priority, and the Budget Code of 2009 streamlined the budgeting process. The basic data and directions document became legally binding and government agencies have followed it since 2009. However, UWSCG still depends on government subsidies and financial management remains weak.¹⁹ The project's financial management risk is considered high. The program will mitigate risks related to poor asset valuation and financial accounting by providing additional experts to prepare financial statements for fiscal years 2011–2016 in accordance with IFRS. The program also supports UWSCG to develop and implement an asset management plan. Project 6 will support implementation of the proposed business plan to improve the company's performance and enhance revenue.

27. UWSCG has experienced procurement specialists who have demonstrated capacity in advance procurement actions for consulting services, goods, and civil works under projects 1, 2, 3, 4, and 5. UWSCG's staff procurement capacity has significantly improved through on-the-job training under earlier projects.

28. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government, the MRDI, and UWSCG. The specific policy requirements and supplementary measures are described in the PAM.

29. Project 6 intends to maximize transparency by communicating relevant project information to stakeholders by various means. UWSCG will disclose all key project-related information (including the scope, financial expenditure, institutional arrangements, and safeguard reports such as IEEs) and procurement-related information on its website. When new water and sewer connections are provided, or when UWSCG introduces new tariffs and other charges, the project will consult the public and establish communication programs to ensure the effective participation, understanding, and support of stakeholders.

¹⁸ The financial management assessment (2015) is in the PAM.

¹⁹ The auditor has provided a disclaimer opinion for UWSCG's audit for the FY2013 and FY2014 in relation to issues with valuation of assets and inconsistencies found in the revenue accounting data. The preparation of financial statement for FY2015 is still ongoing. However, UWSCG has submitted audited project financial statements regularly for all previous tranches, which were found to be acceptable by ADB.

D. Poverty, Social, and Gender Dimensions

30. Project 6 will improve living conditions and the economic and urban environment of Marneuli, Bolnisi, and Chiatura. It will directly benefit more than 46,000 residents in Marneuli and Bolnisi, and a population of 15,400 in Chiatura. The project will benefit a population of more than 50% females, including the poor (around 30% of the populations in the three towns can be considered poor), and households headed by women. Poverty and social assessments indicate that women strongly support the investment program. Women perceive that it will improve their living environment, create employment, and reduce the incidence of waterborne illnesses.²⁰ Gender features in project 5 (GAP) will continue under project 6 and will include gender-sensitive features through (i) consultation; (ii) sex disaggregation of the customer database; (iii) encouraging female recruitment in customer care units;²¹ and (iv) awareness programs on health, hygiene, and customer rights.

E. Safeguards

31. **Environment.** An environmental assessment and review framework, updated in May 2015, was endorsed and used to prepare the IEEs for Marneuli, Bolnisi, and Chiatura.²² The environmental assessment established that project 6 falls under category B, as the impacts are largely concentrated in the construction phase, and are reversible and short term in nature. Most of the predicted impacts are typical to construction and include dust, noise, vibration, and other disturbance to residents' livelihoods and traffic in Marneuli, Bolnisi, and Chiatura. UWSCG will require contractors to prepare and implement site-specific EMPs, which the construction supervision consultants will endorse and UWSCG approve. Impacts during the operation of the STPs will be managed through DBO contracts to ensure the effluent discharge meets environmental standards. While UWSCG has a safeguards specialist under the IPMO, the institutional capacity of UWSCG and the local service centers in Marneuli, Bolnisi, and Chiatura needs to be strengthened through on-the-job training with the help of a consultant to improve (i) the quality of the environmental safeguard documents, and (ii) monitoring and reporting on implementation of the EMPs.²³ The climate change impact on the project is moderate, as the proposed locations of water supply and treatment systems are exposed to low to medium levels of risk of flooding and precipitation-induced landslide. Climate risk mitigation measures have been considered in the project design, including site selection.

32. **Involuntary resettlement.** On 17 December 2010, the government adopted a land acquisition and resettlement framework as a basis for social safeguards compliance for all projects. Involuntary resettlement due diligence was conducted to determine the impacts, and project 6 is classified under category C. The project facilities are being built on government-owned sites. No people are or have been living or farming informally on these lands, and no outstanding claims exist on them. Any unforeseen temporary or permanent impacts during construction will be addressed under the land acquisition and resettlement framework.

33. **Indigenous peoples.** The investment program area does not include communities that may be defined as indigenous peoples under ADB's Safeguard Policy Statement (2009). Consequently, the indigenous peoples' impact classification for project 6 is C.

²⁰ Updated summary of poverty reduction and social strategy is attached in Appendix 8.

²¹ Customer care units are to be staffed by at least 30% women.

²² The initial environmental examinations (IEEs) were disclosed on the ADB website on 30 June 2016.

²³ An environmental consultant is appointed in the Georgia Resident Mission under TA8663: Sustainable Environmental Management of Projects in Central and West Asia.

F. Risks and Mitigating Measures

34. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan (Appendix 10). The project's integrated benefits and impacts are expected to outweigh the costs.

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigation Measures
Financial sustainability Current water sector tariffs do not cover O&M, adversely affecting service delivery Given suboptimal regulations, policies, and oversight, UWSCG lacks the capacity necessary to set, manage, and maintain service delivery standards and ensure economic efficiency	Government is providing and committed to provide viability gap funding in its annual budget to ensure that UWSCG achieves an operating ratio of at least 1. Project 6 will support UWSCG to implement a road map for tariff adjustment and other required reforms to meet an operating ratio of 1 by 2019. ADB is supporting a capacity development of GNERC through providing tariff setting methodology and will require GNEWSRC to set tariffs annually based on cost-recovery principles starting 2017. Project 6 will support the implementation of UWSCG's business plan. Additional support to UWSCG will be provided to improve the financial management of the company.

ADB = Asian Development Bank, GNERC = Georgia National Energy and Water Supply Regulatory Commission, O&M = operation and maintenance, UWSCG = United Water Supply Company of Georgia.

G. Risk Categorization

35. Project 6 is a low-risk project as it has the following features: (i) the loan amount does not exceed \$200 million; (ii) ADB has a sound record of previous experience in the sector in Georgia; (iii) the executing agency has reasonable capacity to participate in an externally financed project; and (iv) safeguards categorizations are B or C.

V. ASSURANCES AND CONDITIONS

36. The government and UWSCG have assured ADB that project implementation shall conform to all applicable ADB policies—including those concerning anticorruption, safeguards, gender, procurement, consulting services, and disbursement—as described in detail in the PAM and loan documents.

37. The government and UWSCG have agreed with ADB on certain covenants for the project, which are set forth in the loan agreements and project agreement.

38. No withdrawals will be made under the sixth tranche of the MFF until a subsidiary loan agreement, in form and substance satisfactory to ADB, has been entered into by the government and UWSCG, and is legally binding upon such parties in accordance with its terms.

VI. RECOMMENDATION

39. On the basis of the approval by ADB's Board of Directors for the provision of loans under the MFF in an aggregate principal amount not exceeding \$500,000,000 to Georgia for the Urban Services Improvement Investment Program, it is recommended that the President approve the proposed tranche as described in para.19 and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements for the proposed tranche.

DESIGN AND MONITORING FRAMEWORK
GEO: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM – TRANCHE 6

Impact of the Project is aligned with:

Improved health of residents in the secondary towns of Georgia¹

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome Improved water supply and sanitation services in the secondary towns in Georgia	a. Residents' access to safe water supply increased from 69% in 2015 to 100 % in 2019 in Marneuli and from 89% in 2015 to 100 % in 2019 in Chiatura b. Residents' access to safe sanitation increased from 19% 2015 to 100% in 2019 in Marneuli and from 39% in 2015 to 100% in 2019 in Bolnisi through provision of sewer connections to all existing households, and a sewage treatment plant commissioned in Marneuli, Bolnisi and Chiatura for safe disposal of sewage by 2019 c. A total of 61,780 people will receive safe and improved water and sanitation services of whom 50% are females	a.-b. National statistics on water supply quality and effluent discharge from MEPNR, MA, and UWSCG c. Annual sex disaggregated socioeconomic surveys undertaken as part of the PPMS to determine public satisfaction with the quality of water supply and sanitation	Risk National Government's failure to progressively increase water and wastewater tariffs and to provide viability gap funding on time during project operation .
Outputs 1. Water Supply and Sewerage system efficiency improved through rehabilitation and reconstruction, and extended coverage	1a. About 15.7 km of main transmission line, 179 km of distribution network, 11,800 cum capacity reservoir, 1037 m ³ /h pumping station, 32 m ³ /h booster pumping Station constructed or replaced in Marneuli by 2019 1b. 124 km of sewer line, 9 sewage pumping stations, and a sewage treatment plant of capacity about 22.9 MLD (1 st phase) constructed to treat and safely discharge of sewage in Marneuli by 2019 1c. About 40 km of sewer line and a sewage treatment plant of capacity about 2.5 MLD	1a.-1h. Semi-annual progress reports prepared by UWSCG, PPMS reports prepared by UWSCG, and Project component completion and commissioning certificates provided by investment program construction supervision consultant	

¹ The Impact statement is referenced from the approved MFF facility DMF in March 2011 and subsequent amendment in November 2012.

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	<p>constructed to treat and safely discharge of sewage in Bolnisi by 2019</p> <p>1d. About 56 km of main transmission line and distribution network, headworks, 8,100 cum capacity reservoir, 5 pumping stations with capacity of 374 cum/h constructed or rehabilitated in Chiatura by 2019</p> <p>1e. A sewage treatment plant of capacity about 5 MLD constructed to treat and safely discharge of sewage in Chiatura by 2019</p>		
2. Project implementation support and public awareness program effectively implemented, information on hygiene and sanitation disseminated	<p>2a. Public awareness program to disseminate information on hygiene and sanitation targeting women as household managers rolled out in Marneuli, Bolnisi, and Chiatura with the help of construction supervision consultants and investment program management office by 2019</p> <p>2b. Service center in Marneuli, Bolnisi, and Chiatura having a customer care unit staffed by at least 30% women by 2019 that informs, educates, and communicates on water, hygiene, and sanitation. (Baseline 2015: 77% male; 22% female)</p>	2a.-2b. Semiannual progress reports prepared by UWSCG, PPMS reports prepared by UWSCG, and UWSCG annual work plans	
Key Activities with Milestones: <p>1. Water Supply and Sewerage system efficiency improved through rehabilitation and reconstruction, and extended coverage</p> <p>1.1 Water Supply and Sewerage network constructed in Marneuli (March 2019)</p> <p>1.2 Sewerage System constructed in Bolnisi (March 2019)</p> <p>1.3 Water Supply System constructed in Chiatura (March 2019)</p> <p>1.4 Sewage Treatment Plants constructed in Marneuli, Bolnisi, and Chiatura (March 2019)</p> <p>2. Project implementation support and public awareness program effectively implemented, information on hygiene and sanitation disseminated</p> <p>2.1 Construction supervision consultants engaged (Q1 2017)</p> <p>2.2 Information awareness campaigns on water, hygiene and sanitation practices, consumer rights,</p>			

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
complaint mechanisms in Marneuli, Bolnisi and Chiatura conducted - (31 March 2019) 2.3GAP implemented (31 March 2019)			
Inputs ADB: \$99.00 million from OCR Government: \$18.00 million			
Assumption for Partner Financing The government ensures UWSCG staff efficiently delivers the services ADB = Asian Development Bank, ADF = Asian Development Fund, cum = cubic meter, GAP = gender action plan, km = kilometer, MA = Ministry of Agriculture, MEPNR = Ministry of Environment Protection and Natural Resources, MLD = million liters per day, OCR = ordinary capital resources, PPMS = project performance management system, UWSCG = United Water Supply Company of Georgia LLC. Sources: UWSCG and Asian Development Bank.			

Yong Ye
Director, CWUW

Sean M. O'Sullivan
Director General, CWRD

Negotiated Draft dated 19 September 2016

LOAN NUMBER _____-GEO

LOAN AGREEMENT
(Ordinary Operations)

(Urban Services Improvement Investment Program – Project 6)

between

GEORGIA

and

ASIAN DEVELOPMENT BANK

DATED _____

**LOAN AGREEMENT
(Ordinary Operations)**

LOAN AGREEMENT dated _____ between GEORGIA
("Borrower") and ASIAN DEVELOPMENT BANK ("ADB").

WHEREAS

(A) by a framework financing agreement dated 1 March 2011, as amended, between the Borrower and ADB, ADB has agreed to provide a multitranche financing facility to the Borrower for purposes of financing projects under the Urban Services Improvement Investment Program;

(B) by a periodic financing request dated 1 June 2016, the Borrower has applied to ADB for a loan for the purposes of the Project described in Schedule 1 to this Loan Agreement;

(C) the Project will be carried out by UWSCG as the implementing agency, under the oversight of MRDI as the executing agency, and for this purpose the Borrower will make available to UWSCG the proceeds of the loan provided herein in accordance with the terms and conditions satisfactory to ADB; and

(D) ADB has agreed to make a loan to the Borrower from ADB's ordinary capital resources upon the terms and conditions set forth herein and in the Project Agreement between ADB and UWSCG;

NOW THEREFORE the parties hereto agree as follows:

ARTICLE I

Loan Regulations; Definitions

Section 1.01. All the provisions of the Ordinary Operations Loan Regulations Applicable to LIBOR-Based Loans Made from ADB's Ordinary Capital Resources, dated 1 July 2001 ("Loan Regulations"), are hereby made applicable to this Loan Agreement with the same force and effect as if they were fully set forth herein, subject, however, to the following modifications:

(a) Section 2.01(50) is deleted and the following is substituted therefor:

"Project Agreement" means the Project Agreement between ADB and UWSCG.

(b) The term "Project Executing Agency" appearing in Sections 7.04(b), 9.01(d), 9.01(f), 9.01(k), 10.01(c) and 10.02(c) of the Loan Regulations shall be substituted by the term "UWSCG".

- (c) Section 3.03 is deleted and the following is substituted therefor:

Commitment Charge; Credit; Maturity Premium. (a)

The Borrower shall pay a commitment charge on the unwithdrawn amount of the Loan at the rate and on the terms specified in the Loan Agreement.

(b) ADB shall provide to the Borrower a credit at the rate specified in the Loan Agreement, which credit shall remain fixed for the term of the Loan. ADB shall apply the credit against the interest payable by the Borrower.

(c) The Borrower shall pay a maturity premium at the rate specified in the Loan Agreement, which maturity premium shall remain fixed for the term of the Loan. ADB shall add the maturity premium to the interest payable by the Borrower.

- (d) Section 3.06 is deleted and the following is substituted therefor:

Rebate. (a) Following any announcement by

ADB that the Fixed Spread applicable to new Loans shall be reduced, ADB shall provide a Rebate to any Borrower with an outstanding Loan on which a higher Fixed Spread is applicable. The amount of the Rebate shall be determined by multiplying (i) the difference between the Fixed Spread applicable to the outstanding Loan and the Fixed Spread that will be applied to new Loans (expressed as a percentage per annum), by (ii) the principal amount of the outstanding Loan on which the Borrower shall pay interest for all interest periods commencing on and after the effective date of the lower Fixed Spread that will be applied to new Loans.

(b) Following any announcement by ADB that its Funding Cost Margin calculations with respect to any Loan Currency (or Approved Currency) in any Semester resulted in ADB achieving savings, ADB shall provide a Rebate to the Borrower. The amount of the Rebate shall be determined by multiplying (i) the Funding Cost Margin (expressed as a percentage per annum) by (ii) the principal amount of the Loan on which the Borrower shall pay interest for the Interest Period commencing immediately after the Semester for which the Funding Cost Margin was calculated. ADB shall apply the amount of the Rebate against the interest payable by the Borrower for the Interest Period commencing immediately after the Semester for which the Funding Cost Margin was calculated.

- (e) Section 3.07 is deleted and the following is substituted therefor:

Surcharge. (a) Following any announcement by ADB that the Fixed Spread applicable to new Loans shall be increased, any Borrower with an outstanding Loan on which a lower Fixed Spread is applicable shall pay ADB a Surcharge. The amount of the Surcharge shall be determined by multiplying (i) the difference between the Fixed Spread that will be applied to new Loans and the Fixed Spread applicable to the outstanding Loan (expressed as a percentage per annum), by (ii) the principal amount of the outstanding Loan on which the Borrower shall pay interest for all interest periods commencing on and after the effective date of the higher Fixed Spread that will be applied to new Loans.

(b) Following any announcement by ADB that its Funding Cost Margin calculations with respect to any Loan Currency (or Approved Currency) in any Semester resulted in ADB incurring additional costs, the Borrower shall pay ADB a Surcharge. The amount of the Surcharge shall be determined by multiplying (i) the Funding Cost Margin (expressed as a percentage per annum) by (ii) the principal amount of the Loan on which the Borrower shall pay interest for the Interest Period commencing immediately after the Semester for which the Funding Cost Margin was calculated. ADB shall add the amount of the Surcharge to the interest payable by the Borrower for the Interest Period commencing immediately after the Semester for which the Funding Cost Margin was calculated.

Section 1.02. Wherever used in this Loan Agreement, the several terms defined in the Loan Regulations have the respective meanings therein set forth unless modified herein or the context otherwise requires. Additional terms used in this Loan Agreement have the following meanings:

(a) “Consulting Guidelines” means the Guidelines on the Use of Consultants by Asian Development Bank and its Borrowers (2013, as amended from time to time);

(b) “Consulting Services” means the services to be financed out of the proceeds of the Loan as described in subparagraph 2(d) of Schedule 1 to this Loan Agreement;

(c) “EARF” means the Environmental Assessment and Review Framework for the Investment Program, including any update thereto, and agreed between the Borrower and ADB and incorporated by reference in the FFA;

(d) “EMP” means each Environmental Management Plan for the Project, including any update thereto, incorporated in an IEE;

(e) “Environmental Safeguards” means the principles and requirements set forth in Chapter V, Appendix 1, and Appendix 4 (as applicable) of the SPS;

(f) “Facility” means the multitranche financing facility provided by ADB to the Borrower for purposes of financing projects under the Investment Program;

(g) “FFA” means the multitranche financing facility provided by ADB to the Borrower for purposes of financing projects under the Investment Program;

(h) “FY” means the fiscal year of UWSCG;

(i) “GAP” means the Gender Action Plan for the Project, including any update thereto;

(j) “GNEWSRC” means the Georgia National Energy and Water Supply Regulatory Commission of the Borrower or any successor thereto;

(k) “IEE” means each Initial Environmental Examination for the Project, including any update thereto, prepared and submitted by the Borrower pursuant to the requirements set forth in the EARF and cleared by ADB;

(l) “Investment Program” means the Urban Services Improvement Investment Program;

(m) “Loan Disbursement Handbook” means ADB’s Loan Disbursement Handbook (2015, as amended from time to time);

(n) “MRDI” means the Ministry of Regional Development and Infrastructure of the Borrower;

(o) “PAM” means the project administration manual for the Project dated 19 September 2016 and agreed between the Borrower and ADB, as updated from time to time in accordance with the respective administrative procedures of the Borrower and ADB;

(p) “PFR” means the periodic financing request submitted or to be submitted by the Borrower, for the purposes of each loan under the Facility, and, for the purpose of this Loan Agreement means the periodic financing request dated 1 June 2016;

(q) “Procurement Guidelines” means ADB’s Procurement Guidelines (2015, as amended from time to time);

(r) “Procurement Plan” means the procurement plan for the Project dated 19 September 2016 and agreed between the Borrower and ADB, as updated from time to time in accordance with the Procurement Guidelines, the Consulting Guidelines, and other arrangements agreed with ADB;

(s) “Project Executing Agency” for the purposes of, and within the meaning of, the Loan Regulations means MRDI or any successor thereto acceptable to ADB, which is responsible for carrying out the Project;

(t) “Safeguards Monitoring Report” means each report prepared and submitted by the Borrower to ADB that describes progress with implementation of, and compliance with, the EMP, including any corrective and preventative actions;

(u) “SPS” means ADB’s Safeguard Policy Statement (2009);

(v) “Subsidiary Loan Agreement” means the agreement among the Borrower (represented by its Ministry of Finance), MRDI and UWSCG referred to in Section 3.01(a) of this Loan Agreement;

(w) “UWSCG” means the United Water Supply Company of Georgia Limited Liability Company established under the laws and regulations of the Borrower with its current registered address at 76b, Vazha Pshavela Ave., Tbilisi 0186, Georgia, or any successor thereto acceptable to ADB;

(x) “Works” means construction or civil works to be financed out of the proceeds of the Loan, including services such as drilling or mapping, and project related services that are provided as part of a single responsibility or turnkey contract, but excluding Consulting Services; and

(y) “WSS” means water supply and sanitation.

ARTICLE II

The Loan

Section 2.01. (a) ADB agrees to lend to the Borrower from ADB’s ordinary capital resources an amount of ninety-nine million Dollars (\$99,000,000), as such amount may be converted from time to time through a Currency Conversion in accordance with the provisions of Section 2.06 of this Loan Agreement.

(b) The Loan has a principal repayment period of 13 years, and a grace period as defined in subsection (c) hereinafter.

(c) The term “grace period” as used in subsection (b) hereinabove means the period prior to the first Principal Payment Date in accordance with the amortization schedule set forth in Schedule 2 to this Loan Agreement.

Section 2.02. The Borrower shall pay to ADB interest on the principal amount of the Loan withdrawn and outstanding from time to time at a rate for each Interest Period equal to the sum of:

(a) LIBOR;

(b) 0.60% as provided by Section 3.02 of the Loan Regulations less a credit of 0.10% as provided by Section 3.03 of the Loan Regulations; and

(c) a maturity premium of 0.20% as provided by Section 3.03 of the Loan Regulations.

Section 2.03. The Borrower shall pay a commitment charge of 0.15% per annum. Such charge shall accrue on the full amount of the Loan (less amounts withdrawn from time to time), commencing 60 days after the date of this Loan Agreement.

Section 2.04. Interest and other charges on the Loan shall be payable semiannually on 1 April and 1 October in each year.

Section 2.05. The Borrower shall repay the principal amount of the Loan withdrawn from the Loan Account in accordance with the provisions of Schedule 2 to this Loan Agreement.

Section 2.06. (a) The Borrower may at any time request any of the following Conversions of the terms of the Loan in order to facilitate prudent debt management:

- (i) a change of the Loan Currency of all or any portion of the principal amount of the Loan, whether withdrawn and outstanding or unwithdrawn, to an Approved Currency;
- (ii) a change of the interest rate basis applicable to all or any portion of the principal amount of the Loan withdrawn and outstanding from a Floating Rate to a Fixed Rate, or vice versa; and
- (iii) the setting of limits on the Floating Rate applicable to all or any portion of the principal amount of the Loan withdrawn and outstanding by the establishment of an Interest Rate Cap or Interest Rate Collar on said Floating Rate.

(b) Any conversion requested pursuant to subsection (a) hereinabove that is accepted by ADB shall be considered a "Conversion", as defined in Section 2.01(6) of the Loan Regulations, and shall be effected in accordance with the provisions of Article V of the Loan Regulations and the Conversion Guidelines.

ARTICLE III

Use of Proceeds of the Loan

Section 3.01. (a) The Borrower shall relend the proceeds of the Loan to UWSCG under a Subsidiary Loan Agreement upon terms and conditions satisfactory to ADB. Except as ADB may otherwise agree, the terms for relending the proceeds of the Loan shall include interest at the same per annum rate as is payable by the Borrower to ADB under this Loan Agreement (inclusive of foreign exchange risk) and a repayment period of 25 years including a grace period of 12 years.

(b) The Borrower shall cause the proceeds of the Loan to be applied to the financing of expenditures on the Project in accordance with the provisions of this Loan Agreement and the Project Agreement.

Section 3.02. The proceeds of the Loan shall be allocated and withdrawn in accordance with the provisions of Schedule 3 to this Loan Agreement, as such Schedule may be amended from time to time by agreement between the Borrower and ADB.

Section 3.03. Except as ADB may otherwise agree, the Borrower shall procure, or cause to be procured, the items of expenditure to be financed out of the proceeds of the Loan in accordance with the provisions of Schedule 4 to this Loan Agreement. ADB may refuse to finance a contract where any such item has not been procured under procedures substantially in accordance with those agreed between the Borrower and ADB or where the terms and conditions of the contract are not satisfactory to ADB.

Section 3.04. Except as ADB may otherwise agree, the Borrower shall cause all items of expenditure financed out of the proceeds of the Loan to be used exclusively in the carrying out of the Project.

Section 3.05. The Loan Closing Date for the purposes of Section 9.02 of the Loan Regulations shall be 30 September 2019 or such other date as may from time to time be agreed between the Borrower and ADB.

ARTICLE IV

Particular Covenants

Section 4.01. (a) The Borrower shall cause the Project to be carried out with due diligence and efficiency and in conformity with sound applicable technical, financial, business, and development practices.

(b) In the carrying out of the Project and operation of the Project facilities, the Borrower shall perform, or cause to be performed, all obligations set forth in Schedule 5 to this Loan Agreement.

Section 4.02. The Borrower shall make available, or cause to be made available, promptly as needed, and on terms and conditions acceptable to ADB, the funds, facilities, services, land and other resources, as required, in addition to the proceeds of the Loan, for the carrying out of the Project.

Section 4.03. The Borrower shall enable ADB's representatives to inspect the Project and Works, and any relevant records and documents.

Section 4.04. ADB shall disclose the annual audited financial statements for the Project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting them on ADB's website.

Section 4.05. The Borrower shall take all actions which shall be necessary on its part to enable UWSCG to perform its obligations under the Project

Agreement, and shall not take or permit any action which would interfere with the performance of such obligations.

Section 4.06. (a) The Borrower shall exercise its rights under the Subsidiary Loan Agreement in such a manner as to protect the interests of the Borrower and ADB and to accomplish the purposes of the Loan.

(b) No rights or obligations under the Subsidiary Loan Agreement shall be assigned, amended, abrogated or waived without the prior concurrence of ADB.

ARTICLE V

Effectiveness

Section 5.01. A date 60 days after the date of this Loan Agreement is specified for the effectiveness of this Loan Agreement for the purposes of Section 10.04 of the Loan Regulations.

ARTICLE VI

Miscellaneous

Section 6.01. The Minister of Finance of the Borrower is designated as representative of the Borrower for the purposes of Section 12.02 of the Loan Regulations.

Section 6.02. The following addresses are specified for the purposes of Section 12.01 of the Loan Regulations:

For the Borrower

Ministry of Finance
16 Gorgasali Street, 0114
Tbilisi, Georgia

Facsimile Number:

(99532) 2262 423.

For ADB

Asian Development Bank
6 ADB Avenue
Mandaluyong City
1550 Metro Manila
Philippines

Facsimile Numbers:

(632) 636-2444
(632) 636-2301.

IN WITNESS WHEREOF the parties hereto, acting through their representatives thereunto duly authorized, have caused this Loan Agreement to be signed in their respective names as of the day and year first above written and to be delivered at the principal office of ADB.

GEORGIA

By _____
[Name and designation]

ASIAN DEVELOPMENT BANK

By _____
[Name and designation]

SCHEDULE 1

Description of the Project

1. The objective of the Investment Program and the Project is to improve water supply and sanitation services in secondary towns of Georgia.

2. The Project shall comprise:

Component 1 – Infrastructure Improvement

- (a) construction of water and sewerage systems, including sewage treatment plant, in Marneuli;
- (b) construction of sewerage system, including sewage treatment plant, in Bolnisi;
- (c) rehabilitation and expansion of water supply system, and construction of a new sewage treatment plant, in Chiatura; and

Component 2 – Project Implementation Support

- (d) provision of support to UWSCG for (i) project implementation and management, (ii) roll out of a public awareness program on water, hygiene and sanitation in Marneuli, Bolnisi and Chiatura, and (iii) establishment of customer care units in WSS services in Marneuli, Bolnisi and Chiatura, which are staffed by at least 30% women, that inform, educate and communicate on water, hygiene, and sanitation.

3. The Project is described more fully in the PFR.

4. The Project is expected to be completed by 31 March 2019.

SCHEDULE 2**Amortization Schedule****(Urban Services Improvement Investment Program – Project 6)**

1. The following table sets forth the Principal Payment Dates of the Loan and the percentage of the total principal amount of the Loan payable on each Principal Payment Date (Installment Share). If the proceeds of the Loan shall have been fully withdrawn as of the first Principal Payment Date, the principal amount of the Loan repayable by the Borrower on each Principal Payment Date shall be determined by ADB by multiplying: (a) the total principal amount of the Loan withdrawn and outstanding as of the first Principal Payment Date; by (b) the Installment Share for each Principal Payment Date, such repayment amount to be adjusted, as necessary, to deduct any amounts referred to in paragraph 4 of this Schedule, to which a Currency Conversion applies.

Sequence	Date Payment Due	Installment Share (Expressed as a %)
1	1 April 2029	3.846154
2	1 October 2029	3.846154
3	1 April 2030	3.846154
4	1 October 2030	3.846154
5	1 April 2031	3.846154
6	1 October 2031	3.846154
7	1 April 2032	3.846154
8	1 October 2032	3.846154
9	1 April 2033	3.846154
10	1 October 2033	3.846154
11	1 April 2034	3.846154
12	1 October 2034	3.846154
13	1 April 2035	3.846154
14	1 October 2035	3.846154
15	1 April 2036	3.846154
16	1 October 2036	3.846154
17	1 April 2037	3.846154
18	1 October 2037	3.846154
19	1 April 2038	3.846154
20	1 October 2038	3.846154
21	1 April 2039	3.846154
22	1 October 2039	3.846154
23	1 April 2040	3.846154
24	1 October 2040	3.846154
25	1 April 2041	3.846154
26	1 October 2041	3.846150

	Total	100.000000
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2. If the proceeds of the Loan shall not have been fully withdrawn as of the first Principal Payment Date, the principal amount of the Loan repayable by the Borrower on each Principal Payment Date shall be determined as follows:

(a) To the extent that any proceeds of the Loan shall have been withdrawn as of the first Principal Payment Date, the Borrower shall repay the amount withdrawn and outstanding as of such date in accordance with paragraph 1 of this Schedule.

(b) Any withdrawal made after the first Principal Payment Date shall be repaid on each Principal Payment Date falling after the date of such withdrawal in amounts determined by ADB by multiplying the amount of each such withdrawal by a fraction, the numerator of which shall be the original Installment Share specified in the table in paragraph 1 of this Schedule for said Principal Payment Date (the Original Installment Share) and the denominator of which shall be the sum of all remaining Original Installment Shares for Principal Payment Dates falling on or after such date, such repayment amounts to be adjusted, as necessary, to deduct any amounts referred to in paragraph 4 of this Schedule, to which a Currency Conversion applies.

3. Withdrawals made within two calendar months prior to any Principal Payment Date shall, for the purposes solely of calculating the principal amounts payable on any Principal Payment Date, be treated as withdrawn and outstanding on the second Principal Payment Date following the date of withdrawal and shall be repayable on each Principal Payment Date commencing with the second Principal Payment Date following the date of withdrawal.

4. Notwithstanding the provisions of paragraphs 1 and 2 of this Schedule, upon a Currency Conversion of all or any portion of the withdrawn principal amount of the Loan to an Approved Currency, the amount so converted in said Approved Currency that shall be repayable on any Principal Payment Date occurring during the Conversion Period, shall be determined by ADB by multiplying such amount in its currency of denomination immediately prior to said Conversion by either: (i) the exchange rate that reflects the amounts of principal in said Approved Currency payable by ADB under the Currency Hedge Transaction relating to said Conversion; or (ii) if ADB so determines in accordance with the Conversion Guidelines, the exchange rate component of the Screen Rate.

5. If the principal amount of the Loan withdrawn and outstanding from time to time shall be denominated in more than one Loan Currency, the provisions of this Schedule shall apply separately to the amount denominated in each Loan Currency, so as to produce a separate amortization schedule for each such amount.

SCHEDULE 3

Allocation and Withdrawal of Loan Proceeds

General

1. The table attached to this Schedule sets forth the Categories of items of expenditure to be financed out of the proceeds of the Loan and the allocation of the Loan proceeds to each such Category ("Table"). (Reference to "Category" in this Schedule is to a Category of the Table).

Basis for Withdrawal from the Loan Account

2. Except as ADB may otherwise agree, the proceeds of the Loan shall be disbursed on the basis of the withdrawal percentage for each item of expenditure set forth in the Table.

Interest and Commitment Charges

3. The amount allocated to Category 2 is for financing interest and commitment charges on the Loan during the implementation period of the Project. ADB shall be entitled to withdraw from the Loan Account and pay to itself, on behalf of the Borrower, the amounts required to meet payments, when due, of such interest and commitment charges.

Reallocation

4. Notwithstanding the allocation of Loan proceeds and the withdrawal percentages set forth in the Table,

(a) if the amount of the Loan allocated to any Category appears to be insufficient to finance all agreed expenditures in that Category, ADB may, by notice to the Borrower, (i) reallocate to such Category, to the extent required to meet the estimated shortfall, amounts of the Loan which have been allocated to another Category but, in the opinion of ADB, are not needed to meet other expenditures, and (ii) if such reallocation cannot fully meet the estimated shortfall, reduce the withdrawal percentage applicable to such expenditures in order that further withdrawals under such Category may continue until all expenditures thereunder shall have been made; and

(b) if the amount of the Loan allocated to any Category appears to exceed all agreed expenditures in that Category, ADB may, by notice to the Borrower, reallocate such excess amount to any other Category.

Disbursement Procedures

5. Except as ADB may otherwise agree, the Loan proceeds shall be disbursed in accordance with the Loan Disbursement Handbook.

Retroactive Financing

6. Withdrawals from the Loan Account may be made to finance eligible expenditures incurred under the Project before the Effective Date, but not earlier than 12

months before the date of this Loan Agreement in connection with Works and Consulting Services, subject to a maximum amount equivalent to 20% of the Loan amount.

Condition for Withdrawals from Loan Account

7. Notwithstanding any other provision of this Loan Agreement, no withdrawals shall be made from the Loan Account until the Subsidiary Loan Agreement, in form and substance satisfactory to ADB, has been duly authorized and executed and delivered on behalf of the Borrower (represented by its Ministry of Finance), MRDI and UWSCG, and is legally binding upon such parties in accordance with its terms.

TABLE

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS (Urban Services Improvement Investment Program – Project 6)			
Number	Item	Total Amount Allocated for ADB Financing (\$) Category	Basis for Withdrawal from the Loan Account
1	Works and Consulting Services	96,000,000	84.75% of total expenditure claimed
2	Interest and Commitment Charges	3,000,000	100% of amounts due
	Total	99,000,000	

SCHEDULE 4

Procurement Works and Consulting Services

General

1. The procurement of Works and Consulting Services shall be subject to and governed by the Procurement Guidelines, and the Consulting Guidelines, respectively.
2. All terms used in this Schedule and not otherwise defined in this Loan Agreement have the meanings provided in the Procurement Guidelines and/or the Consulting Guidelines, as applicable.

Works

3. Except as ADB may otherwise agree, Works shall only be procured on the basis of International Competitive Bidding.
4. The methods of procurement are subject to, among other things, the detailed arrangements and threshold values set forth in the Procurement Plan. The Borrower may only modify the method of procurement or threshold values with the prior agreement of ADB, and modifications must be set out in updates to the Procurement Plan.

Conditions for Award of Contract

5. The Borrower shall cause UWSCG not to award any Works contract for the Project which involves environmental impacts until UWSCG has:
 - (a) obtained the final approval of the applicable IEE from the appropriate authority of the Borrower; and
 - (b) incorporated the relevant provisions from the applicable EMP into the Works contract.

Consulting Services

6. Except as ADB may otherwise agree, and except as set forth in the paragraph below, the Borrower shall cause UWSCG to apply Quality- and Cost-Based Selection for selecting and engaging Consulting Services.
7. The Borrower shall cause UWSCG to apply the following methods for selecting and engaging the specified Consulting Services, in accordance with, among other things, the procedures set forth in the Procurement Plan: Least-Cost Selection for auditing of financial statements for projects under the Investment Program.

Industrial or Intellectual Property Rights

8. (a) The Borrower shall cause UWSCG to ensure that all Works procured (including without limitation all computer hardware, software and systems, whether separately procured or incorporated within other goods and services procured) do not violate or infringe any industrial property or intellectual property right or claim of any third party.

(b) The Borrower shall cause to UWSCG to ensure that all contracts for the procurement of Works contain appropriate representations, warranties and, if appropriate, indemnities from the contractor or supplier with respect to the matters referred to in subparagraph (a) of this paragraph.

9. The Borrower shall cause UWSCG to ensure that all ADB-financed contracts with consultants contain appropriate representations, warranties and, if appropriate, indemnities from the consultants to ensure that the Consulting Services provided do not violate or infringe any industrial property or intellectual property right or claim of any third party.

ADB's Review of Procurement Decisions

10. Contracts procured under international competitive bidding procedures and contracts for Consulting Services shall be subject to prior review by ADB, unless otherwise agreed between the Borrower and ADB and set forth in the Procurement Plan.

11. In the case of a contract for Works, which is subject to ADB's prior review, the Borrower shall cause UWSCG to seek ADB's prior approval of any modification or waiver of the terms and conditions of the contract, including:

- (a) granting an extension of the stipulated time for completion of a contract for a period of 1 month or more, or which is likely to require an extension of the Loan Closing Date; and
- (b) increases in aggregate of the original price by more than 5% (for the avoidance of doubt, such increase shall take into account any previous change under such contract).

12. In the case of a contract for Works, which is subject to ADB's post review, ADB shall review the required contract modification or waiver and respond to the Borrower as soon as practicable, but not later than 1 month after the receipt of the required document.

13. The Borrower shall cause UWSCG to provide to ADB copies of all time extensions, modifications or waivers to the contracts (including change orders) within 1 month following amendment of the contract.

SCHEDULE 5

Execution of Project; Financial Matters

Implementation Arrangements

1. The Borrower and UWSCG shall ensure that the Project is implemented in accordance with the detailed arrangements set forth in the PAM. Any subsequent change to the PAM shall become effective only after approval of such change by the Borrower and ADB. In the event of any discrepancy between the PAM, on one hand, and this Loan Agreement and/or the Project Agreement, on the other, the provisions of this Loan Agreement and/or the Project Agreement shall prevail.

Counterpart Funding and Resources

2. The Borrower shall ensure that: (a) the financial, technical and human resources which are necessary for the implementation of the Project are provided on a timely basis throughout the implementation of the Project; and (b) adequate funds are allocated for the maintenance of the infrastructure that is built, and the items that are procured, under the Project. Without limiting the generality of the foregoing, if the Project experiences cost overruns in excess of the proceeds of the Loan, the Borrower shall provide financial support to UWSCG towards any reasonable cost overruns in order to achieve the objective of the Project, unless otherwise agreed by the parties.

Construction Quality

3. The Borrower shall ensure that the Project is carried out in accordance with applicable standards and international best practice for design, technical specifications, construction supervision, quality control and project management.

Sector Development

4. The Borrower shall ensure that: (a) ADB is kept informed of the Borrower's policies and programs for the WSS sector that will materially affect the economic viability of the Project; and (b) best efforts are used to sustain and strengthen the WSS sector.

5. The Borrower shall take steps to strengthen GNEWSRC's regulatory function, including tariff setting and the regulation of service standards of service providers. The Borrower shall ensure that, in 2017, GNEWSRC will take the initial steps towards setting tariffs annually based on cost recovery principles, in particular to assure full recovery of operation and maintenance costs, taxes, depreciation of assets, and a return on capital based on socially equitable principles that ensure consumers will not pay for inefficient services.

6. Without limiting the Borrower's obligations under paragraph 5 above and paragraph 10 below, the Borrower shall provide to ADB (a) by 30 September 2017 a tariff adjustment plan; and (b) by 30 December of each of 2017, 2018, and 2019, the implementation report of the road map, and any ensuing variance from the targeted operating ratio of 1, per the operating ratio definition in paragraph 9 below.

7. The Borrower shall ensure that ADB's consent is obtained at least 3 months prior to the implementation of any of the following: (a) any change in the ownership or control of UWSCG or any asset, facility or structure rehabilitated, procured or constructed under the Project; or (b) any change to UWSCG's authority or functions, that may affect the implementation of the Project. The Borrower shall ensure that any such change is carried out in accordance with all applicable laws and regulations of the Borrower.

Financial Covenants

8. (a) By no later than 31 December 2016, the Borrower shall cause UWSCG to engage management and accounting professionals to assist UWSCG with (i) implementation of the financial-accounting operating procedures developed by the management consultant under Project 1 of the Investment Program and (ii) preparing its revised annual financial statements for each fiscal year from 2011 to 2015 in accordance with International Financial Reporting Standards. The foregoing revised unaudited annual financial statements shall be submitted to ADB by no later than 30 November 2017. The Borrower shall cause UWSCG to undertake a "special audit", from either existing or separately engaged auditors (acceptable to ADB) on the above revised annual financial statements for fiscal years 2011 to 2015, with respective audit opinions and management letters (setting out any deficiencies in internal control and financial management systems identified in the course of the audit, if any), to be submitted to ADB no later than 30 April 2018. Promptly after submission of the foregoing special audit opinions to ADB, the Borrower shall cause the convening of a meeting, which shall include representatives of ADB and UWSCG, to deliberate the findings of the special audit, and any implications and required follow-on actions.

(b) In addition, the Borrower shall cause UWSCG to provide to ADB, by no later than 30 November 2016, interim financial statements, including any explanatory notes, of UWSCG as of and for the 6 months ended 30 June 2016 which shall show the position of the accumulated government subsidies received, utilized, prepaid, and recorded to date.

9. The Borrower shall cause UWSCG to attain an operating ratio of 1 by the end of 2019, and shall continue to maintain it less than 1 thereafter, and in accordance with the provisions of the FFA. The Borrower shall cause UWSCG to decrease UWSCG's operating ratio by 5% every year beginning 2015 in order to achieve an operating ratio of 1 by 2019 as set forth in the foregoing sentence. For the purposes of this paragraph 9, "operating ratio" shall mean the ratio of UWSCG's operating expenses over its operating revenue, with "operating expenses" meaning all expenses of UWSCG on operation and maintenance including staff salaries, cost of energy, chemicals and consumables, routine maintenance, spare parts, consumables, etc. but excluding capital expenditure, debt service obligations, amortizations and depreciation. "Operating revenue" means the revenue collected by UWSCG from the sale of water and other revenues excluding grants from the government.

10. Until such time as tariff increases or other sources of income make it possible for UWSCG to meet the operating ratio targets defined in paragraph 9 above from its own sources, the Borrower shall provide the funds necessary to meet the operating ratio of 1. In addition, the Borrower shall also ensure provision of adequate funds to UWSCG to enable UWSCG to meet all its debt obligations in any given period. Both operating ratio and debt

service coverage ratio levels for any given fiscal year shall be included as part of the audited entity financial statements of UWSCG submitted annually to ADB.

11. The Borrower shall cause UWSCG to improve its service delivery, and revenue collection from all domestic consumers and non-domestic consumers through continued attainment of minimum 90% revenue collection rate per annum from the FY 2015, and of an aggregate 95% by the end of FY 2019.

Environment

12. The Borrower shall ensure, and shall cause UWSCG to ensure, that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health, and safety; (b) the Environmental Safeguards; (c) the EARF; and (d) all measures and requirements set forth in the IEEs and EMPs, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.

Land Acquisition and Involuntary Resettlement

13. The Borrower shall ensure, and shall cause UWSCG to ensure, that the Project does not have any involuntary resettlement impacts within the meaning of the SPS. In the event that the Project does have any such impact, the Borrower shall, and shall cause UWSCG to, take all steps required to ensure that the Project complies with the applicable laws and regulations of the Borrower relating to involuntary resettlement and the SPS. For the avoidance of doubt, any land made available by the Borrower, or caused to be made available by the Borrower, in accordance with Section 4.02 of this Loan Agreement shall be subject to the provisions of this paragraph 13.

Indigenous Peoples

14. The Borrower shall ensure, and shall cause UWSCG to ensure, that the Project does not have any indigenous peoples impacts within the meaning of the SPS. In the event that the Project does have any such impact, the Borrower shall, and shall cause UWSCG to, take all steps required to ensure that the Project complies with the applicable laws and regulations of the Borrower relating to indigenous peoples and the SPS.

Human and Financial Resources to Implement Safeguards Requirements

15. The Borrower shall, and shall cause UWSCG to, make available necessary budgetary and human resources to fully implement the EMPs.

Safeguards – Related Provisions in Bidding Documents and Works Contracts

16. The Borrower shall ensure, and cause UWSCG to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to:

- (a) comply with the measures and requirements relevant to the contractor set forth in the applicable IEE and EMP, and any corrective or preventative actions set out in a Safeguards Monitoring Report;

- (b) make available a budget for all such environmental and social measures;
- (c) provide UWSCG with a written notice of any unanticipated environmental risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the applicable IEE or EMP;
- (d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and
- (e) fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.

Safeguards Monitoring and Reporting

17. The Borrower shall, and shall cause UWSCG to, do the following:
- (a) submit semiannual Safeguards Monitoring Reports to ADB within 1 month of the end of each half of the calendar year and disclose relevant information from such reports to affected people promptly upon submission;
 - (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the applicable IEE or EMP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and
 - (c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP promptly after becoming aware of the breach.

Prohibited List of Investments

18. The Borrower shall ensure, and shall cause UWSCG to ensure, that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.

Labor Standards and Health

19. The Borrower shall ensure, and shall cause UWSCG to ensure, that the core labor standards and the Borrower's applicable laws and regulations are complied with during Project implementation. The Borrower shall include, and shall cause UWSCG to include, specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things, (a) comply with the Borrower's

applicable labor law and regulations and incorporate applicable workplace occupational safety norms; (b) do not use child labor; (c) do not discriminate workers in respect of employment and occupation; (d) do not use forced labor; (e) allow freedom of association and effectively recognize the right to collective bargaining; and (f) disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors engaged under the Project and to members of the local communities surrounding the Project area, particularly women.

20. The Borrower shall, through MRDI, strictly monitor compliance with the requirements set forth in paragraph 19 above and provide ADB with regular reports.

Gender and Development

21. The Borrower shall ensure, and shall cause UWSCG to ensure, that: (a) the GAP is fully implemented and monitored in a timely manner in accordance with its terms, the related regulations of the Borrower, and ADB's Policy on Gender and Development (1998) and adequate resources are allocated for this purpose; (b) bidding documents include provisions as specified in the GAP, including equal pay to men and women for the same type of work and enabling working conditions for female workers; (c) progress in achieving the GAP targets are reflected in the Project progress reports and Project completion report; (d) targets under the GAP are achieved, including, but not limited to, (i) the training and involvement of local women non-governmental organizations and female community leaders in the distribution of information, education and communication material on water, hygiene and sanitation practices, customer rights and complaint mechanisms; (ii) at least 50% of the targeted women are reached by the public awareness program for water, hygiene and sanitation practices, customer rights and complaint mechanisms; (iii) at least 15% of the new positions created through the Project are set aside for women; and (iv) at least 30% of the staff at the customer care unit in the service center established by UWSCG are women.

Governance and Anticorruption

22. The Borrower and UWSCG shall (a) comply with ADB's Anticorruption Policy (1998, as amended to date) and acknowledge that ADB reserves the right to investigate directly, or through its agents, any alleged corrupt, fraudulent, collusive or coercive practice relating to the Project; and (b) cooperate with any such investigation and extend all necessary assistance for satisfactory completion of such investigation.

23. The Borrower and UWSCG shall ensure that the anticorruption provisions acceptable to ADB are included in all bidding documents and contracts, including provisions specifying the right of ADB to audit and examine the records and accounts of the executing and implementing agencies and all contractors, suppliers, consultants and other service providers as they relate to the Project.

24. The Borrower shall cause UWSCG to disclose on its website information on (a) bidding procedures, bidders and contract awards; (b) the use of funds disbursed under the Project; (c) the physical progress of the Project; and (d) safeguard matters, including any environmental and/or social safeguard plans required to be prepared for the Project.

Negotiated Draft dated 19 September 2016

LOAN NUMBER ____-GEO

PROJECT AGREEMENT

(Urban Services Improvement Investment Program – Project 6)

between

ASIAN DEVELOPMENT BANK

and

UNITED WATER SUPPLY COMPANY OF GEORGIA LIMITED LIABILITY COMPANY

DATED _____

PROJECT AGREEMENT

PROJECT AGREEMENT dated _____ between ASIAN DEVELOPMENT BANK (“ADB”) and UNITED WATER SUPPLY COMPANY OF GEORGIA LIMITED LIABILITY COMPANY (“UWSCG”).

WHEREAS

(A) by a Loan Agreement between Georgia (“Borrower”) and ADB, ADB has agreed to make to the Borrower a loan of ninety-nine million Dollars (\$99,000,000) on the terms and conditions set forth in the Loan Agreement, but only on the condition that the proceeds of the Loan be made available to UWSCG and that UWSCG agrees to undertake certain obligations towards ADB as set forth in this Project Agreement; and

(B) UWSCG, in consideration of ADB entering into the Loan Agreement with the Borrower, has agreed to undertake the obligations set forth herein;

NOW THEREFORE the parties agree as follows:

ARTICLE I

Definitions

Section 1.01. Wherever used in this Project Agreement, unless the context otherwise requires, the several terms defined in the Loan Agreement and in the Loan Regulations (as so defined) have the respective meanings therein set forth.

ARTICLE II

Particular Covenants

Section 2.01. (a) UWSCG shall carry out the Project with due diligence and efficiency, and in conformity with sound administrative, financial, engineering, environmental, social and public utility practices.

(b) In the carrying out of the Project and operation of the Project facilities, UWSCG shall perform all obligations set forth in the Loan Agreement to the extent that they are applicable to UWSCG.

Section 2.02. UWSCG shall make available, promptly as needed, and on terms and conditions acceptable to ADB, the funds, facilities, services, equipment, land and other resources as required, in addition to the proceeds of the Loan, for the carrying out of the Project. For the avoidance of doubt, any land made available by UWSCG in

accordance with the foregoing sentence shall be subject to the provisions of paragraph 13 of Schedule 5 to the Loan Agreement.

Section 2.03. (a) In the carrying out of the Project, UWSCG shall employ competent and qualified consultants and contractors, acceptable to ADB, to an extent and upon terms and conditions satisfactory to ADB.

(b) Except as ADB may otherwise agree, UWSCG shall procure all items of expenditures to be financed out of the proceeds of the Loan in accordance with the provisions of Schedule 4 to the Loan Agreement. ADB may refuse to finance a contract where any such item has not been procured under procedures substantially in accordance with those agreed between the Borrower and ADB or where the terms and conditions of the contract are not satisfactory to ADB.

Section 2.04. UWSCG shall carry out the Project in accordance with plans, design standards, specifications, work schedules and construction methods acceptable to ADB. UWSCG shall furnish, or cause to be furnished, to ADB, promptly after their preparation, such plans, design standards, specifications and work schedules, and any material modifications subsequently made therein, in such detail as ADB shall reasonably request.

Section 2.05. UWSCG shall take out and maintain with responsible insurers, or make other arrangements satisfactory to ADB for, insurance of the Project facilities to such extent and against such risks and in such amounts as shall be consistent with sound practice.

Section 2.06. UWSCG shall maintain, or cause to be maintained, records and accounts adequate to identify the items of expenditure financed out of the proceeds of the Loan, to disclose the use thereof in the Project, to record the progress of the Project (including the cost thereof) and to reflect, in accordance with consistently maintained sound accounting principles, its operations and financial condition.

Section 2.07. (a) ADB and UWSCG shall cooperate fully to ensure that the purposes of the Loan will be accomplished.

(b) UWSCG shall promptly inform ADB of any condition which interferes with, or threatens to interfere with, the progress of the Project, the performance of its obligations under this Project Agreement or the Subsidiary Loan Agreement, or the accomplishment of the purposes of the Loan.

(c) ADB and UWSCG shall from time to time, at the request of either party, exchange views through their representatives with regard to any matters relating to the Project, UWSCG and the Loan.

Section 2.08. (a) UWSCG shall furnish to ADB all such reports and information as ADB shall reasonably request concerning (i) the Loan and the expenditure of the proceeds thereof; (ii) the items of expenditure financed out of such proceeds; (iii) the Project; (iv) the administration, operations and financial condition of UWSCG; and (v) any other matters relating to the purposes of the Loan.

(b) Without limiting the generality of the foregoing, UWSCG shall furnish to ADB semiannual reports on the execution of the Project and on the operation and management of the Project facilities. Such reports shall be submitted in such form and in such detail and within such a period as ADB shall reasonably request, and shall indicate, among other things, progress made and problems encountered during the period under review, steps taken or proposed to be taken to remedy these problems, and proposed program of activities and expected progress during the following period.

(c) Promptly after physical completion of the Project, but in any event not later than 3 months thereafter or such later date as ADB may agree for this purpose, UWSCG shall prepare and furnish to ADB a report, in such form and in such detail as ADB shall reasonably request, on the execution and initial operation of the Project, including its cost, the performance by UWSCG of its obligations under this Project Agreement and the accomplishment of the purposes of the Loan.

Section 2.09. (a) UWSCG shall (i) maintain separate accounts and records for the Project; (ii) prepare annual financial statements for the Project in accordance with accounting principles acceptable to ADB; (iii) have such financial statements for the Project audited annually by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB, in accordance with International Standards on Auditing or the national equivalent acceptable to ADB; (iv) as part of each such audit, have the auditors prepare a report (which includes the auditors' opinion on the financial statements, use of the Loan proceeds and compliance with the financial covenants of the Loan Agreement) and a management letter (which sets out the deficiencies in the internal control of the Project that were identified in the course of the audit, if any); and (v) furnish to ADB, no later than 6 months after the close of the fiscal year to which they relate, copies of such audited financial statements, audit report and management letter, all in the English language, and such other information concerning these documents and the audit thereof as ADB shall from time to time reasonably request.

(b) ADB shall disclose the annual audited financial statements for the Project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting them on ADB's website.

(c) In addition to annual audited financial statements referred to in subsection (a) hereinabove, UWSCG shall (i) provide its annual financial statements prepared in accordance with financial reporting standards acceptable to ADB; (ii) have its financial statements audited annually by independent auditors whose qualification, experience and terms of reference are acceptable to ADB, in accordance with international standards for auditing or the national equivalent acceptable to ADB; and (iii) furnish to ADB, no later than 1 month after approval by the relevant authority, copies of such audited financial statements in the English language and such other information concerning these documents and the audit thereof as ADB shall from time to time reasonably request.

(d) UWSCG shall enable ADB, upon ADB's request, to discuss the financial statements for the Project and UWSCG and its financial affairs where they relate to the Project with the auditors appointed by UWSCG pursuant to subsections (a)(iii) and (c) hereinabove, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB. This is provided that such discussions shall be conducted only in the presence of an authorized officer of UWSCG, unless UWSCG shall otherwise agree.

Section 2.10. UWSCG shall enable ADB's representatives to inspect the Project and Works and any relevant records and documents.

Section 2.11. (a) UWSCG shall, promptly as required, take all action within its powers to maintain its corporate existence, to carry on its operations, and to acquire, maintain and renew all rights, properties, powers, privileges and franchises which are necessary in the carrying out of the Project or in the conduct of its operations.

(b) UWSCG shall at all times conduct its operations in accordance with sound applicable administrative, financial, environmental, social and public utility practices, and under the supervision of competent and experienced management and personnel.

(c) UWSCG shall at all times operate and maintain its plants, equipment and other property, and from time to time, promptly as needed, make all necessary repairs and renewals thereof, all in accordance with sound administrative, financial, engineering, environmental, social and public utility, and maintenance and operational practices.

Section 2.12. Except as ADB may otherwise agree, UWSCG shall not sell, lease or otherwise dispose of any of its assets which shall be required for the efficient carrying on of its operations or the disposal of which may prejudice its ability to perform satisfactorily any of its obligations under this Project Agreement.

Section 2.13. Except as ADB may otherwise agree, UWSCG shall apply the proceeds of the Loan to the financing of expenditures on the Project in accordance with the provisions of the Loan Agreement and this Project Agreement, and shall ensure that all items of expenditures financed out of such proceeds are used exclusively in the carrying out of the Project.

Section 2.14. Except as ADB may otherwise agree, UWSCG shall duly perform all its obligations under the Subsidiary Loan Agreement, and shall not take, or concur in, any action which would have the effect of assigning, amending, abrogating or waiving any rights or obligations of the parties under the Subsidiary Loan Agreement.

Section 2.15. UWSCG shall promptly notify ADB of any proposal to amend, suspend or repeal any provision of its Charter, which, if implemented, could adversely affect the carrying out of the Project or the operation of the Project facilities. UWSCG shall afford ADB an adequate opportunity to comment on such proposal prior to taking any action thereon.

ARTICLE III

Effective Date; Termination

Section 3.01. This Project Agreement shall come into force and effect on the date on which the Loan Agreement shall come into force and effect. ADB shall promptly notify UWSCG of such date.

Section 3.02. This Project Agreement and all obligations of the parties hereunder shall terminate on the date on which the Loan Agreement shall terminate in accordance with its terms.

Section 3.03. All the provisions of this Project Agreement shall continue in full force and effect notwithstanding any cancellation or suspension under the Loan Agreement.

ARTICLE IV

Miscellaneous

Section 4.01. Any notice or request required or permitted to be given or made under this Project Agreement and any agreement between the parties contemplated by this Project Agreement shall be in writing. Such notice or request shall be deemed to have been duly given or made when it shall be delivered by hand, mail or facsimile to the party to which it is required or permitted to be given or made at its address hereinafter specified, or at such other address as such party shall have designated by notice to the party giving such notice or making such request. The addresses so specified are:

For ADB

Asian Development Bank
6 ADB Avenue
Mandaluyong City
1550 Metro Manila
Philippines

Facsimile Numbers:

+63 (2) 636-2444
+63 (2) 636-2301.

For UWSCG

United Water Supply Company of Georgia Limited Liability Company
#76b, Vazha Pshavela Ave.
Tbilisi, 0186, Georgia

Section 4.02. (a) Any action required or permitted to be taken, and any documents required or permitted to be executed, under this Project Agreement by or on behalf of UWSCG may be taken or executed by its Director or by such other person or persons as he or she shall so designate in writing notified to ADB.

(b) UWSCG shall furnish to ADB sufficient evidence of the authority of each person who will act under paragraph (a) of this Section, together with the authenticated specimen signature of each such person.

Section 4.03. No delay in exercising, or omission to exercise, any right, power or remedy accruing to either party under this Project Agreement upon any default shall impair any such right, power or remedy or be construed to be a waiver thereof or an acquiescence in such default; nor shall the action of such party in respect of any default, or any acquiescence in any default, affect or impair any right, power or remedy of such party in respect of any other or subsequent default.

IN WITNESS WHEREOF the parties hereto, acting through their representatives thereunto duly authorized, have caused this Project Agreement to be signed in their respective names as of the day and year first above written, and to be delivered at the principal office of ADB.

ASIAN DEVELOPMENT BANK

By _____
[Name and Designation]

UNITED WATER SUPPLY COMPANY
OF GEORGIA LIMITED LIABILITY
COMPANY

By _____
[Name and Designation]

საქართველოს ფინანსთა
მინისტრი



MINISTER OF FINANCE
OF GEORGIA

№ 07-02/47189

01 06 2016

Asian Development Bank
6 ADB Avenue
Mandaluyong City, Metro Manila

ATTENTION: Mr. Sean O'Sullivan
Director General of Asian Development Bank
Central and West Asia Department

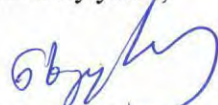
Subject: Urban Services Improvement Investment Program – Periodic Financing Request (PFR) #6

Dear Mr. O'Sullivan,

Please refer to the Framework Financing Agreement (FFA) for the Georgia Urban Services Improvement Investment Program dated 1 March 2011 between Asian Development Bank (ADB) and Georgia. Expressions defined in the FFA shall have the same meanings herein.

Pursuant to the provisions of the FFA, Georgia requests ADB to process this Periodic Financing Request (PFR) for a tranche, in the form of a loan from its Ordinary Capital Resources. The proposed financing amounts, terms, conditions, and financing plan are specified in Attachment A hereto. Descriptions of the components for which financing is hereby requested are set out in Annexes 1–7 of the Attachment A hereto.

Sincerely yours,


Nodar Khaduri

Attachment A

Project Description The components proposed for financing under the requested PFR are:

Component 1: Infrastructure Improvement

- 1.1 Construction of Water and Sewerage systems in Marneuli including sewerage treatment plant (STP) and construction of Sewerage systems in Bolnisi;
- 1.2 Construction of Water supply system in Chiatura;
- 1.3 Design-Build-Operate STP in Chiatura

Component 3: Project Implementation Support

- 3.1. Consultants for Auditing of Annual Project Financial Statements (APFS);
- 3.2. Consultants for Construction Supervision.

The Design and Monitoring Framework for this tranche is in Annex 1.

Cost Estimates and Financing Plan The total cost of the components is estimated at \$117.00 million, inclusive of taxes, duties, and interest and other charges on the loan during construction. The detailed cost estimates and financing plan are in Annex 2.

(\$ million)

Tab.1 The cost estimates and financing plan

Project	ADB	Georgia	Total
Component 1: Infrastructure Improvement	88.5	15.93	104.43
Component 2: Institutional Effectiveness	0	0	0
Component 3: Project Implementation Support	4.5	0.81	5.31
Base Cost	93	16.74	109.74
Financing Charges	3	0	3
Unallocated	3	1.26	4.26
Total	99	18	117

Loan Amount and Terms

This sixth tranche of the MFF is proposed as a loan of \$99 million from the ADB's Ordinary Capital Resources (OCR) to help finance the Project. The loan will have a 25 year term, including a grace period of 12 years, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR) - based lending facility, a commitment charge of 0,15% per year, and such other terms and conditions set forth in the draft loan and project agreements.

Period of Loan

The components are expected to be completed by 31 March 2019. No disbursements from the loan account will be requested or made later than 30 September 2019.

Advance Contracting

Advance contracting is requested for procurement of civil works and recruitment of consulting services.

Retroactive Financing	Retroactive financing is requested for civil works and consulting services, not exceeding the amount of 20% of the loan amount, incurred before loan effectiveness, but not earlier than 12 months before the signing of the loan agreement.
Implementation Arrangements	The Executing Agency is the Ministry of Regional Development and Infrastructure (MRDI) with overall responsibility for the Investment Program. The Implementing Agency is United Water Supply Company of Georgia LLC (UWSCG), which is same as for Tranches 1 to 5. Implementation arrangements are detailed in the Facility Administration Manual.
Procurement and Consulting Services	The procurement plan is attached as Annex 3 .
Confirmation of Continuing Validity of and Adherence to Provisions of FFA, Previous Agreements, and the Design and Monitoring Framework	<p>Georgia confirms that the understandings set out in the FFA and provisions of previous loan agreements have been adhered, and remain true to date.</p> <p>The Tranche 6 has been prepared in close consultation with the stakeholders and meets the selection criteria set out in Schedule 4 of the FFA. All project components were prepared in compliance with laws and regulations of Georgia for technical viability, and environmental and social safeguards and ADB Safeguard Policy Statement (2009).</p>

Readiness of the
Project for Imple-
mentation

The feasibility study and detailed engineering design for water supply and sewerage systems in Marneuli including cost estimates and bills of quantities have been prepared by the Consultant hired under Tranche 1. Design for Bolnisi Sewerage system has been prepared.

For Chiatura, detailed design is under preparation by the Consultant hired under Tranche 1. Besides, short feasibility study has been prepared by the same Consultant under the project financed by European Union.

The summaries of feasibility study, engineering design, economical and financial assessments are attached as **Annex 4**.

Safeguards

Safeguard documents required for the Tranche 6 have been prepared in accordance with ADB's Safeguard Policy Statement (2009) and are attached as **Annex 5 and Annex 6**.

Gender

The Gender Action Plan is in **Annex 7**.

Project Administration Manual

Project Number: 43405-028

Loan Number: xxxx

September 2016

Georgia: Urban Services Improvement Investment
Program – Tranche 6

Abbreviations

ADB	=	Asian Development Bank
EMP	=	environmental management plan
FMA	=	financial management assessment
GAP	=	gender action plan
GNERC	=	Georgia National Energy and Water Supply Regulatory Commission
IA	=	implementation agency
ICB	=	international competitive bidding
IEC	=	information, education and communication
IEE	=	initial environmental examination
IFRS	=	International Financial Reporting Standards
IPMO	=	investment program management office
MRDI	=	Ministry of Regional Development and Infrastructure
MOF	=	Ministry of Finance
NGOs	=	nongovernment organizations
SDP	=	sector development plan
SC	=	Steering Committee
STP	=	sewage treatment plant
UWSCG	=	United Water Supply Company of Georgia
WSS	=	water supply and sanitation

WEIGHTS AND MEASURES

km	–	kilometer
lpcd	–	liters per capita per day
MLD	–	million liters per day
cum	–	cubic meters

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Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ministry of Regional Development and Infrastructure (MRDI) and the United Water Supply Company of Georgia are wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with Government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by the Ministry of Regional Development and Infrastructure (MRDI) and the United Water Supply Company of Georgia of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan negotiations, the borrower and ADB shall agree to the PAM and ensure consistency with the loan agreement. Such agreement shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan agreement, the provisions of the loan agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in the PAM.

I. PROJECT DESCRIPTION

1. Improved urban water supply and sanitation service is a key priority of the Government of Georgia, as it is essential to improving the quality of life, attracting investment, and raising productivity and competitiveness. Recognizing the need to overcome current problems and constraints, the government's urban water supply and sanitation (WSS) sector development plan (SDP) for 2011–2020, approved on 31 January 2011, aims to ensure continuous and reliable water supply and safe sanitation services to all urban residents by 2020. The SDP's policy and institutional reform framework has a strong focus on technical sustainability of WSS services, environmental and natural resource protection, public-private partnerships, tariff rationalization, prudent financial management, and improved sector regulation through an enabling legislative and regulatory frameworks for WSS services.

2. The SDP, which sets forth the road map and policy framework for the WSS sector, fits with ADB's approach to the WSS sector development in Georgia. A framework financing agreement for the multitranche financing facility (the Facility) MFF 0055: Georgia for the Urban Services Improvement Investment Program (the Investment Program) was signed between the Georgia and the Asian Development Bank (ADB) on 1 March 2011. Subsequently, on 30 March 2011, ADB's Board of Directors approved the Facility for financing the Investment Program in an amount of \$500 million. The Investment Program's executing agency is the Ministry of Regional Development and Infrastructure (MRDI), and implementing agency (IA) is the United Water Supply Company of Georgia (UWSCG).

3. Project 6 is designed in line with the policy and development objectives of the Investment Program and that of Projects 1, 2, 3, 4, and 5 comprising of technical sustainability, environmental protection, and institutional and financial sustainability. Project 6 will improve the water supply and sanitation systems in Marneuli, Bolnisi, and Chiatura towns, which are covered under the Investment Program.¹

A. Impact and Outcome

4. The Project impact is aligned with the Program impact: improved health of residents in the secondary towns of Georgia. Project 6 will contribute to achieving the investment program's outcome through improving water supply and sanitation services in the urban centers of Marneuli, Bolnisi, and Chiatura.

B. Outputs

5. Project 6 includes the following outputs: (i) infrastructure improvement through construction and expansion of water supply and sewerage systems, including construction of sewage treatment plants (STPs), in Marneuli, Bolnisi, and Chiatura; and (ii) project implementation support through appointment of construction supervision consultants, and continued implementation of public awareness program from Project 5, including dissemination of information on hygiene and sanitation through service center.

¹ ADB approved the proposal for inclusion of additional secondary towns in the Investment Program and the DMF's outcome of the Investment Program was revised accordingly through a minor change in MFF approved by the President on 27 August 2012. Consequently, the FFA was amended on 7 November 2012 to reflect (i) the inclusion of the town of Ureki in the Investment Program and (ii) the expansion of the coverage to all secondary towns and urban centers in Georgia along with few other minor modifications. Bolnisi and Chiatura are additional cities that have been proposed by the government, with letter dated 18 May 2016, for inclusion in the Investment Program.

1. Component 1: Infrastructure Improvement

6. The infrastructure improvement component will include: (i) the construction of water supply and sewerage systems, including a new STP (of about 22.9 MLD up to 2024 and 29.664 MLD up to 2044), in Marneuli; the new systems will include about 15.7 km of main transmission line, 179 km of distribution network, 124 km of sewer line, 2 pumping stations, and 9 sewage pumping stations; (ii) the improvement of the sewerage and sanitation system in Bolnisi town through the construction of about 40 km of sewer lines and a new STP of about 2.5 MLD; and (iii) the rehabilitation and expansion of the water supply system in Chiatura along with the construction of a new STP of about 5 MLD; the new water supply system in Chiatura will include headworks, 56 km of transmission and distribution lines, and 8,100 cum capacity reservoirs. The STPs will be bid out in a single package through a design-build-operate international competitive bidding process.

2. Component 2: Project Implementation Support

7. The second component will include: (i) construction supervision consultancy; (ii) roll out of a public awareness program in Marneuli, Bolnisi, and Chiatura with the help of construction supervision consultants; and (iii) establishment of customer care units in the service centers, which are staffed by at least 30% women that inform, educate, and communicate on water, hygiene, and sanitation.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Indicative Activities	2016						Who is responsible
	July	Aug	Sept	Oct	Nov	Dec	
Advance contracting actions							UWSCG/ADB
Retroactive financing actions							UWSCG/MOF
ADB Management approval							ADB
Tranche 6 loan signing							MOF and ADB
Government legal opinion provided							Ministry of Justice
Government budget inclusion							MRDI
Tranche 6 loan effectiveness							MOF

ADB = Asian Development Bank, MOF = Ministry of Finance, MRDI = Ministry of Regional Development and Infrastructure, UWSCG = United Water Supply Company of Georgia.

B. Overall Project Implementation Plan

	Activities	2016				2017				2018				2019			
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
A. DMF																	
Output 1	Infrastructure Development																
1.1	Water supply and Sewerage systems in Marneuli constructed and commissioned including sewerage system constructed in Bolnisi																
1.2	Water Supply System in Chiatura constructed and commissioned																
1.3	STPs in Marneuli, Bolnisi, and Chiatura Constructed and commissioned																
Output 2	Project Implementation Support																
2.1	Engagement of Construction Supervision Consultants																
2.2	Sex disaggregated consumer database and marketing																
2.3	Education, Information dissemination and communication																
B. Management Activities																	
1.0	Construction of water and sewerage systems in Marneuli and sewerage system in Bolnisi																
i.	Designing and preparation of bidding documents																
ii.	Procurement of civil works																
2.0	Rehabilitation and construction of water supply in Chiatura																
i.	Designing and preparation of bidding documents																
ii.	Procurement of civil works																
3.0	Construction of STPs in marneuli, Bolnisi, and Chiatura																
i.	Prelim design and Stage 1 Design-Build-Operate tender																
ii.	Stage 2 Bidding and Selection of contractor																
4.0	Construction supervision and oversight																
5.0	Implementation of Environmental Management Plan																
6.0	Annuual and Mid-term Reviews																
7.0	Project Completion Report																

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations – Roles and Responsibilities

Project Implementation Organizations	Management Roles and Responsibilities
Executing agency (Ministry of Regional Development and Infrastructure)	<ul style="list-style-type: none"> ➤ responsible for Investment Program oversight and administration ➤ hold monthly meetings with UWSCG to review progress ➤ submit progress reports to the SC for decision making ➤ ensure compliance with Investment Program covenants ➤ convene regular meetings in consultation with the SC Chairperson and UWSCG
Implementing agency (UWSCG)	<ul style="list-style-type: none"> ➤ prepare the periodic financing request ➤ oversee Investment Program implementation and management ➤ oversee Investment Program accounting and auditing ➤ submit Investment Program documents, including audit reports, to ADB on time ➤ manage all consultants ➤ coordinate with all line ministries to ensure smooth and efficient implementation ➤ secure technical and environmental approvals for all civil works prior to bidding ➤ implement the environmental management plan for each subproject ➤ ensure compliance with Investment Program covenants ➤ comply with social safeguards requirement detailed in the PAM ➤ comply with Gender Action Plan ➤ invite bids, evaluate and prepare bid evaluation reports for ADB's approval ➤ award contracts ➤ prepare quarterly progress reports ➤ Preparation, approval and submission of withdrawal applications
ADB	<ul style="list-style-type: none"> ➤ Ensure technical and financial support and oversight according to the framework financing, loan and project agreements

B. Key Persons Involved in Implementation

Executing Agency

Ministry of Regional Development
and Infrastructure

Officer's Name: Ilia Darchiashvili
Position: First Deputy Minister
Telephone: + 995 32 2510 720
Email address: i.darchiashvili@mrdi.gov.ge
Office Address: 12 Al Kazbegi Avenue, Tbilisi, Georgia

Implementing Agency

United Water Supply Company of
Georgia

Officer's Name: Giorgi Koberidze
Position: Director
Telephone: + 995 32 2919 060
Email address: g.koberidze@water.gov.ge
Office Address: 76b, Vajha Pshavela Avenue, 0186, Tbilisi
Georgia

Officer's Name: Tinatin Lebanidze
Position: Head of the Strategic Planning and Donors
Relations Department
Telephone: + 995 32 2919 060
Email address: t.lebanidze@water.gov.ge

Asian Development Bank

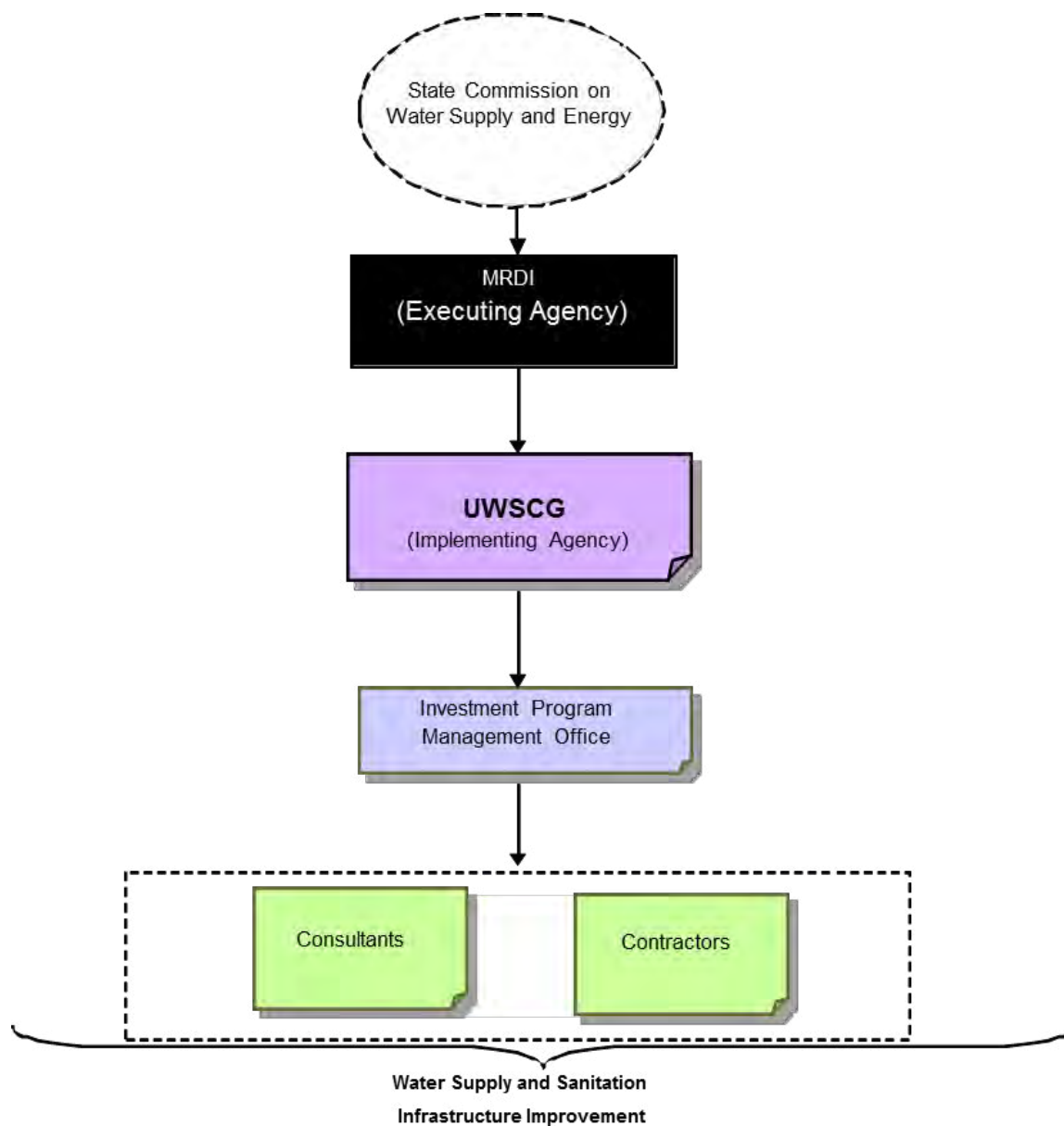
Urban Development and Water
Division

Staff Name: Yong Ye
Position: Director
Telephone: +63-2-632 6346
Email address: yyong@adb.org

Mission Leader

Staff Name: Massimo Petrone
Position: Senior Urban Development Specialist
Telephone: +63-2-632 5054
Email address: mpetrone@adb.org

C. Project Organization Structure



MRDI = Ministry of Regional Development and Infrastructure, UWSCG = United Water Supply Company of Georgia.

IV. COSTS AND FINANCING

8. Project 6 is estimated to cost \$117 million. The government has requested a loan of \$99 million from ADB's Ordinary Capital Resources to help finance the project. The loan will have a 25-year term, including a grace period of 12 years, and following the straight-line repayment option. Based on this, the average loan maturity is 18.75 years and the maturity premium payable to ADB is 0.20% per annum. ADB will finance part of the cost of all the civil works and consultancy costs. The government will finance part of the cost of all the civil works and consultancy costs. The government will finance the cost of land acquisition and resettlement costs, if any, and taxes and duties, whereas ADB will finance the interest during implementation period of the Project.

**Table 1: Investment Plan
(\$ million)**

Item	Amount ^a
A. Base Cost^b	
1. Infrastructure improvement	104.43
2. Project implementation support	5.31
Subtotal (A)	109.74
B. Contingencies^c	4.26
C. Financing Charges During Implementation^d	3.00
Total (A+B+C)	117.00

^a Includes taxes and duties of \$16.74 million and contingencies of \$1.26 million to be financed from government resources.

^b In mid-2016 prices.

^c Physical contingencies are computed at 2% of the base cost. Additional cost increases shall be financed from other sources. Price contingencies computed at 1.5% on foreign exchange costs and 4% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d Includes interest during construction and commitment charges.

Sources: United Water Supply Company of Georgia and Asian Development Bank estimates.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
ADB - Ordinary Capital Resources	99.00	84.62
Government	18.00	15.38
Total	117.00	100.00

A. Cost Estimates Preparation and Revisions

9. Cost estimates have been prepared for the water supply and sewerage system in Marneuli town by the detailed engineering design consultant hired under project 1. Cost estimates for the Bolnisi sewerage system have been prepared by the IA, UWSCG. Cost estimates for the Chiatura water supply system and STP have been prepared by the construction supervision consultant hired under project 1. The conceptual design of the STPs, including cost estimates, in Marneuli, Bolnisi, and Chiatura has been prepared by UWSCG. The cost estimates shall be further revised during the implementation by the investment program management office (IPMO) with the support of design consultants.

B. Key Assumptions

10. The following key assumptions underpin the cost estimates and financing plan:
- (i) Exchange rate: GEL2.31 = \$1.00 (as of 21 September 2016)
 - (ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

Table 3: Escalation Rates for Price Contingency Calculation (in %)

Item	2016	2017	2018	Average
Domestic rate of price inflation	5%	4%	3%	4%
Foreign rate of price inflation	1.6%	1.4%	1.5%	1.5%

Source: Asian Development Bank estimates.

- (iii) In-kind contributions cannot be easily measured and have not been quantified

C. Detailed Cost Estimates by Expenditure Category^a (\$ million)

Item	Foreign Exchange	Local Currency	Total Cost	% of Base Cost
A. Investment Costs				
1. Civil Works	88.50	15.93	104.43	95.16
2. Consultants				
a. Project Management and Audit	4.50	0.81	5.31	4.84
Subtotal (A)	93.00	16.74	109.74	100.00
Total Base Cost	93.00	16.74	109.74	100.00
B. Contingencies				
1. Physical	1.56	0.59	2.15	
2. Price	1.44	0.67	2.11	
Subtotal (B)	3.00	1.26	4.26	
C. Financing Charges During Implementation				
1. Interest During Construction	2.50	0.00	2.50	
2. Commitment Charges	0.50	-	0.50	
Subtotal (C)	3.00	0.00	3.00	
Total Project Cost (A+B+C)	99.00	18.00	117.00	

a Preparation notes:

1. Includes taxes and duties of \$16.74 million and contingencies of \$1.26 million to be financed from government resources.
2. STPs are bid out on Design-build-operate contract framework. The operation and maintenance cost for STPs is not included under Civil Works item and will be financed entirely by the UWSCG.
3. Environment and Social Mitigation costs including the costs associated with implementing relevant safeguards, gender and social dimension action plans are included in the cost of the civil works.

Sources: United Water Supply Company of Georgia and Asian Development Bank estimates.

D. Allocation of Withdrawal of Tranche 6 Loan Proceeds (OCR)

Number	Category	Total Amount Allocated for ADB financing-OCR (\$)	ADB Financing Percentage and Basis for Withdrawal from the Loan Account
1	Works and Consulting Services	96,000,000	84.75%
2	Interest & Commitment Charges	3,000,000	100.00%
Total		99,000,000	

Note: No withdrawal will be made under the sixth tranche of the MFF until a subsidiary loan agreement, in form and substance satisfactory to ADB, has been entered into by the government and UWSCG, and is legally binding upon such parties in accordance with its terms.

Sources: United Water Supply Company of Georgia and Asian Development Bank estimates.

E. Detailed Cost Estimates by Financier^a

(\$ million)						
Item	ADB		Government		Total Cost	
	Amount	% of Cost Category	Amount	% of Cost Category		
A. Investment Costs						
1. Civil Works	88.50	84.75	15.93	15.25	104.43	
2. Consultants						
a. Project Management & Project Auditors	4.50	84.75	0.81	15.25	5.31	
Subtotal (A)	93.00	84.75	16.74	15.25	109.74	
Total Base Cost	93.00	84.75	16.74	15.25	109.74	
B. Contingencies	3.00	70.42	1.26	29.58	4.26	
C. Financing Charges During Implementation	3.00	100.00	0.00	0.00	3.00	
Total Project Cost (A+B+C)	99.00	84.62	18.00	15.38	117.00	
% of Total Project Cost	84.62%		15.38%		100.00%	

a Preparation notes:

1. Includes taxes and duties of \$16.74 million and contingencies of \$1.26 million to be financed from government resources.
2. STPs are bid out on design-build-operate contract framework. The operation and maintenance cost for STPs is not included under civil works item and will be financed entirely by the UWSCG.
3. Environment and Social Mitigation costs including the costs associated with implementing relevant safeguards, gender and social dimension action plans are included in the cost of the civil works.

Sources: United Water Supply Company of Georgia and Asian Development Bank estimates.

F. Detailed Cost Estimates by Outputs/Components^a

(\$ million)						
Item	Total Cost	Water		Sewerage		
		Amount	% of Cost Category	Amount	% of Cost Category	
A. Investment Costs^b						
1. Civil Works	88.50	41.40	89.40	47.10	89.39	
2. Consultants						
a. Project management & Project Auditors	4.50	2.11	4.55	2.39	4.55	
Subtotal (A)	93.00	43.51	93.94	49.49	93.94	
Total Base Cost	93.00	43.51	93.94	49.49	93.94	
B. Contingencies						
1. Physical ^c	1.56	0.7	1.6	0.83	1.58	
2. Price ^d	1.44	0.67	1.5	0.77	1.45	
Subtotal (B)	3.00	1.40	3.03	1.60	3.03	
C. Financing Charges During Implementation^e						
1. Interest During Construction	2.50	1.17	2.53	1.33	2.53	
2. Commitment Charges	0.50	0.23	0.51	0.27	0.51	
Subtotal (C)	3.00	1.40	3.03	1.60	3.03	
Total Project Cost (A+B+C)	99.00	46.31	100.00	52.69	100.00	

a Preparation Notes:

1. Includes taxes and duties of \$16.74 million and contingencies of \$1.26 million to be financed from government resources.
2. STPs are bid out on design-build-operate contract framework. The operation and maintenance cost for STPs is not included under civil works item and will be financed entirely by the UWSCG.
3. Environment and Social Mitigation costs including the costs associated with implementing relevant safeguards, gender and social dimension action plans are included in the cost of the civil works.

b In mid-2016 prices.

c Computed at 3% of base cost.

d Price contingencies computed at 0.7% on foreign exchange costs and 1.55% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

e Includes interest and commitment charges on OCR loans. Interest during construction has been computed at 2% per annum.

Sources: United Water Supply Company of Georgia and Asian Development Bank estimates.

G. Detailed Cost Estimates by Year^a

(\$ million)						
	Item	Total Cost	Year 1	Year 2	Year 3	Year 4
A.	Investment Costs					
	1. Civil Works	88.50	6.80	18.65	22.77	40.29
	2. Consultants					
	a. Project Management & Project Auditors	4.50	0.40	0.90	1.75	1.45
	Subtotal (A)	93.00	7.20	19.55	24.52	41.74
B.	Recurrent Costs					
	1. IPMO consultants salaries	-	-	-	-	-
	2. System Operation and Maintenance	-	-	-	-	-
	Subtotal (B)	0.00	0.00	0.00	0.00	0.00
	Total Base Cost	93.00	7.20	19.55	24.52	41.74
C.	Contingencies	3.00	0.00	0.00	0.00	3.00
D.	Financing Charges During Implementation	3.00	0.22	0.59	0.74	1.46
	Total Project Cost (A+B+C+D)	99.00	7.42	20.13	25.26	46.20
	% of Total Project Cost	100.00%	7.49%	20.33%	25.51%	46.66%

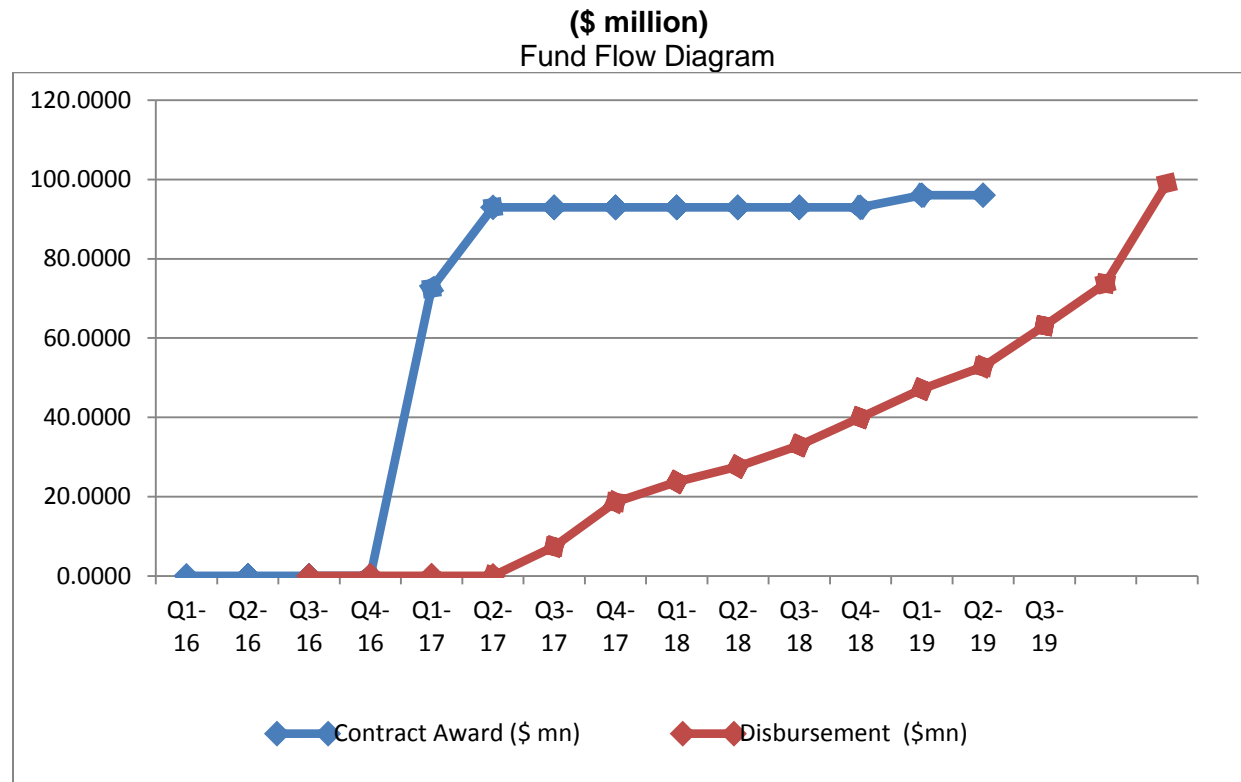
a Preparation Notes:

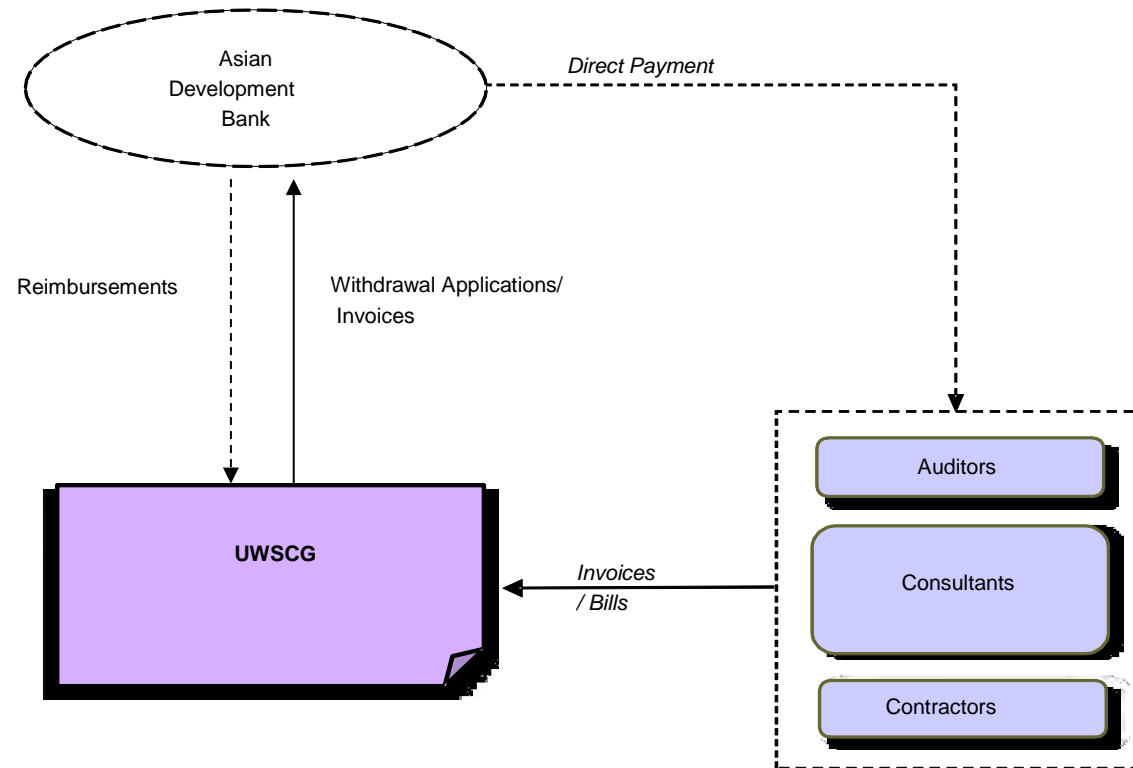
1. Includes taxes and duties of \$16.74 million and contingencies of \$1.26 million to be financed from government resources.
2. STPs are bid out on design-build-operate contract framework. The operation and maintenance cost for STPs is not included under civil works item and will be financed entirely by the UWSCG.
3. Environment and Social Mitigation includes all costs associated with implementing relevant safeguards, gender and social dimension action plans.

Sources: United Water Supply Company of Georgia and Asian Development Bank estimates.

H. Contract and Disbursement S-curve

Year	Contract Award (in \$ million)					Disbursement (in \$ million)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	72.50	20.50	0.00	0.00	93.00	7.416	11.2167	5.0367	3.878	27.5474
2018	0.00	0.00	0.00	0.00	0.00	5.361	7.0349	7.1894	5.6702	25.2556
2019	3.00	0.00	0.00	0.00	3.00	10.31	10.6193	25.2674	0.00	46.1970
	Total Contract Awards				96.00	Total Disbursement				99.00





Component 1 = Infrastructure Improvement, Component 2 = Project Implementation Support, UWSCG = United Water Supply Company of Georgia.

V. FINANCIAL MANAGEMENT

11. Financial Management Assessment (FMA) was undertaken at the IA level for the UWSCG to determine the capacity of the IA in managing its financial resources effectively and efficiently. Such a capacity is critical to the success of the Investment Program. The assessment determines the adequacy of systems and controls including accounting and financial reporting, auditing, internal control, funds disbursement and flows, information systems, and personnel complement, among others. The findings were updated and incorporated by obtaining detailed information on financial operations at agency and project levels from the project accountant/financial consultant at investment program management office and auditors for ongoing ADB loan projects. The extended FMA is presented in Annexure 3.

A. Financial Management Assessment

12. The FMA indicated that UWSCG has gained sufficient experience with international lending institutions, and the existing financial management capabilities and performances of accounting division may be considered acceptable in relation to the projects related accounting and auditing requirements and arrangements which are acceptable to ADB. However, additional support through the Program is needed to prepare sound and reliable company's financial statements, financial monitoring reports, and asset management reports. In this regard, the external auditor engaged in 2014 had provided a disclaimer of opinion for UWSCG's audit of FY2013 citing issues with valuation of assets as well as issues related to the non-accounting of some assets taken over by UWSCG in earlier years, as the reasons. UWSCG decided to carry out a re-audit of the FY2013 along with the audit of the financial statement for the FY2014 which have been submitted to ADB.² The preparation of the financial statement for the FY2015 is ongoing. The new auditor has confirmed the result of the previous audit and provided a disclaimer opinion in relation to issues with valuation of assets and inconsistencies found in the revenue accounting figures. This indicates weak accounting and control over fixed assets and clearly stresses the need of a proper accounting management and asset management. In particular, because of the unclear operation of transferring the water and sanitation related assets from the central government to UWSCG, it is not yet possible to finalize the asset valuation and, therefore, the corresponding value has not been recorded in the financial books. A renowned water utility operator engaged through a 3-year performance-based management consultancy contract has been supporting UWSCG to achieve improvements in asset and financial management and support to UWSCG under project 3 is provided to build its asset data base on GIS platform, which will facilitate identification and will make condition assessment and valuation exercise simpler. However, further support is needed to establish and implement a clear asset management plan and address the accounting-related issues. In this regard, the government agreed to engage experts to assist UWSCG on the implementation of the operational and financial-accounting operating procedures developed by the management consultant and prepare the financial statement from FY2011 to FY2016 in accordance with International Financial Reporting Standards to enable UWSCG's independent auditors to provide audit opinions on such annual financial statements. The annual financial statements will have to be submitted to ADB by no later than 31 November 2017 and the audit opinions by no later than 30 April 2018.

² ADB has received the audit for the FY2013 and FY2014 in August 2016 and the unaudited trial balance for the FY2015. The audited financial statement for the FY2014 has been delayed because UWSCG has requested an independent auditor to re-audit the FY2013 and FY2014 after undertaking governance-related actions against an employee in the accounting unit, removed by the company in 2014 and because of the issues related to the asset management.

13. **Financial Performance.** The Government of Georgia has established the UWSCG in January 2010 as part of a Water Sector Reform Process in order to better address the needs for development of water supply and sanitation systems in the regions of the country. The Georgia National Energy and Water Supply Regulatory Commission (GNERC) is the regulatory body that has enacted the methodology for establishing tariffs on water supply which is based on the principle of full recovery of costs spent for supply of drinking water and wastewater discharge and its treatment. However, the UWSCG has not followed the indications of the regulatory body and has approved and adopted the same tariffs set in precedence by the municipalities. The last tariff revision application was undertaken in 2011 and approved by the regulator in October 2011. In particular, the previous combined (water and wastewater) metered tariff was GEL 0.27/cum and it was increased to GEL 0.49/cum for domestic customers. The tariff for non-domestic customers was not changed, but it is almost 10 times the one applied to domestic customers. The overall collection efficiency is relatively high (95%),³ which is an indication of customers' willingness to pay. However, the tariffs set by UWSCG are not enough to act as a full cost recovery tariff and government subsidies are required to meet the operational expenses as shown in the Table 1.

Table 1: Historical audited/Unaudited performance of UWSCG
(\$ million)

		FY2010	FY2011	FY2012	FY2013	FY2014*	FY2015*	FY2016*
		Audited	Audited	Audited	Audited	Unaudited	Projected	Projected
A	Operating Revenues Sales (billed water and wastewater)	18.33	26.84	27.17	34.68	35.04	32.69	34.43
B	Subsidy utilized	5.37	3.34	3.57	1.24	8.41	10.07	8.83
C	Subsidy % of Revenue	23%	11%	12%	3%	19%	24%	20%
D	Operational Expenses (without depreciation and amortization)	23.70	30.18	30.74	35.92	43.45	42.76	43.26
F	Operating Ratio (no Subsidy) - (D/A)	1.29	1.12	1.13	1.04	1.24	1.31	1.26
G	Operating Ratio (With Subsidy) (D/(A+B))	1	1	1	1	1	1	1
	Total Subsidy provided by Gov.	16.05	10.44	14.00	17.50	3.00	9.00	14.00
	Net Subsidy(without debt repayment)	15.41	10.44	14.00	17.06	1.14	4.14	8.29
	Pool of subsidies	10.04	17.15	27.58	43.40	36.13	30.20	29.66

*based on unaudited financial statements

Source: United Water Supply Company of Georgia.

14. The analysis of the historical financial performance of UWSCG shows that UWSCG is dependent on the government subsidies to meet its operating costs. The government has supported UWSCG with adequate grants to maintain the operating ratio⁴ less than 1 over time.

³ Tariff collection efficiency has improved: 86% (2010), 94% (2012), and 96% (2013 and 2014).

⁴ Operating ratio is the ratio of UWSCG's operating expenses over its operating revenue, with "operating expenses" meaning all expenses of UWSCG on operation and maintenance including staff salaries, cost of energy, chemicals and consumables, routine maintenance, spare parts, consumables, etc. but excluding capital expenditure and debt service obligations. The "operating revenue" means the revenue collected by UWSCG from the sale of water and other revenues excluding grants from the government.

As of 2015, the company had a surplus subsidies of GEL30.20 million accumulated from previous years and is projected to have a surplus subsidies of GEL29.66 million in 2016. The considerable surplus of subsidy accumulated from previous years indicates that the operating ratio of 1 will be also met in the future. UWSCG's unaudited financial statements for 2014 and the projection for FY2015 indicate that the company operational expenses increased although the turnover had remained substantially constant. This is mainly due to a considerable increase of expenses in salaries related to a corresponding increase in the number of employees. However, actions and plans to rationalize the H&R company's structure and to reduce the related expenses have been initiated in 2015 and will be further implemented in the coming years.

15. **Mitigation measures and ongoing reforms.** In order to ensure the operational sustainability of the water company, the respective loan agreements for the previous projects provided for covenants for Borrower to: (i) take steps to strengthen regulatory function, including tariff setting for the cost recovery; (ii) cause UWSCG to achieve financial stability through attainment of an operating ratio (i.e. ratio of expenditure over revenue) of 1 by the end of 2019; and (iii) until such time as tariff increases for UWSCG to meet the operating ratio, provide funds to UWSCG necessary to meet the viability gap. Accordingly, UWSCG has been advised to submit regularly its financials to the regulatory authority and seek revision in tariffs to reduce its dependence on government subsidies.

16. In this regard, the water company has submitted a tariff adjustment roadmap in September 2016, included in the 3-years business plan from 2017 to 2019, to attain the operating ratio of 1 by 2019. Further, the recruitment of consultants to strengthen the regulatory function, including financial management regulations and tariff setting, has been finalized on 14 July 2016.⁵ The company has also recently initiated a close consultation with the GNERC for the tariff reforms and a joint working group has been established for this purpose. ADB will monitor, through a loan covenant, the implementation of the tariff adjustment roadmap proposed in the business plan and will require the government to take adequate steps to ensure that, in 2017, GNEWSRC will take initial steps to set tariffs annually based on cost recovery principles, in particular to assure full recovery of operation and maintenance costs, taxes, depreciation of assets, and a return on capital based on socially equitable principles that ensure consumers will not pay for inefficient services.

17. In order to improve UWSCG's operation and management, a 3-year management consultancy contract was envisaged under the Investment Program and a renowned water utility operator (Sachsen Wasser GmbH) was engaged from June 2013 to July 2016. Because of the delay in the recruitment, original target of preparation of business plan by 2013 was not met by UWSCG, and the same was extended to end of 2014.⁶ However, the business plan has been submitted only in September 2016 after several steps taken and described below for its preparation.

18. The management consultant has submitted several management plans, reports, and recommendations which UWSCG has started implementing since FY2015 to strengthen its

⁵ The objective of the consultancy assignment is to assist the government in capacity development of the GNEWRC by providing tariff setting methodology and relevant training for its staff. The assignment will include developing the necessary rules and standards for regulating water utilities, and starting performance monitoring of major water utilities including UWSCG.

⁶ This was effected in Schedule 5 of the Loan Agreement between the Borrower and ADB dated 5 February 2015 for project 4, which deemed a modification of the requirement set forth in (a) paragraph 6 (i) of Schedule 6 of the FFA and (b) subparagraph 6(a) of Schedule 5 to the Loan Agreement between the Borrower and ADB dated 10 May 2011 for project 1.

management and operating efficiency by streamlining and improving the service delivery. In particular, the following plans are being implemented: (i) the standard operation procedures to improve the operational effectiveness of the company in the areas of operation and maintenance (O&M), water loss reduction, asset management, commercial operations; financial management, IT infrastructure, HR&D, energy efficiency, and key performance indicators and benchmarking; (ii) the Key Performance Indicators (KPIs) database which has been devised to allow local service centers to put information on KPIs, which are updated on a regular basis, and used for internal analyses and management; (iii) the Annual Operation Plan (AOP) used as a planning tool for UWSCG to ensure the achievement of long- and mid-term strategic goals and objectives; (iv) the human resources and organization development plan to rationalize the structure from the H&R point of view (the administration costs in 2016 were reduced by GEL195,000); and (v) the non-revenue Water reduction plan based on which the UWSCG has started awareness campaign in service centers and is implementing a full metering program to drastically reduce the non-metered consumption aside from the customer identification.

19. UWSCG prepared the water company business plan which was submitted in December 2014. However, the document was not in acceptable format, and UWSCG agreed to hire an international financial management expert to prepare a financial analysis model which takes into consideration past financial performance of the company from FY2010 onward until FY2014, and projects the long-term financials (until FY2025). The financial data showed, under appropriate assumptions, how the operating ratio (defined as the ratio of operating expenditures, excluding depreciation, to operating income, excluding subsidies), would be brought down to 1 by FY2019.

20. The financial model, developed by the financial expert, shows, through a sensitivity analysis, the impact on the operational grant (subsidy) due to: (i) changes in tariff and O&M costs; (ii) changes in demand growth and O&M costs; and (iii) changes in tariff and its starting date of implementation (all other variables remain the same as current situation). In particular, in the first scenario, the subsidy can be reduced by 92% only if the tariffs are increased to 35%-40% over 5 years⁷ and O&M costs reduced by 20%. In the second scenario (no tariff adjustment), the subsidy can be reduced by 80% only if demand for water grows up to 25% over 5 years and O&M costs reduced by 20%. In the third scenario, if tariffs are increased by 25% for domestic and 30% for non-domestic over 5 years and change is proposed starting FY2016, the operation support (subsidy) can be reduced by 92%.

21. Based on the information and plans described above, UWSCG has submitted a 3-year Business Plan in September 2016 which includes: (i) performance improvement programs and O&M plans measured through KPIs and benchmarking; (ii) analysis of water demand and nonrevenue water reduction programs; (iii) revenue enhancement through the adoption of a tariff adjustment roadmap; and (iv) rationalization of the company human resources structure along with cost optimization programs to achieve financial stability by attaining an operating ratio of 1 by the end of 2019, as required by the loan agreement.

22. In conclusion, the FMA indicates that UWSCG is currently financially dependent of government subsidy since: (i) tariff reforms have not yet been implemented, though the government has recently shown a firm commitment to implement a tariff adjustment roadmap for

⁷ Tariff escalation has been considered from 01 January 2017 with increase of 15% and 20% over the tariff charged in previous financial year on domestic and non-domestic (including special customers), respectively. The second change with percentage escalation has been considered from January 01, 2019 and thereafter the change has been considered at 10% every alternate year for all categories of customers.

the next 3 years and subsidies have been regularly provided; (ii) operational cost were not fully under control while operational revenues are relative constant, though several actions have been recently taken to reduce the operational cost; and (iii) the financial accounting management is weak. All these aspects endanger considerably the project sustainability if they are not properly addressed. Therefore, the project's financial management risk is considered high. However, efforts to mitigate this risk are already underway, as mentioned above, provided through the support of management consultants working with UWSCG to improve management information systems, revenue enhancement measures, and accounting and auditing systems. Other proposed actions are: (i) provision of further support to UWSCG to improve the financial management system through the engagement of experts to assist UWSCG prepare the financial statements for the past years and implement the asset management plan; (ii) assurance from the government to make subsidy payments to the company to meet the O&M costs; a covenant has been included in the loan agreement to confirm the advance or surplus payment of subsidies to the company to meet future O&M costs; (iii) approval by the government of a tariff implementation road map aimed at moving the company to self-sustainability, with clear timelines for implementation and where tariff increases are linked to a minimum operating ratio of 1; the implementation of this tariff road map has also been included as a loan covenant for the project. These measures will ensure project sustainability.

23. **Accounting.** UWSCG project units are adequately staffed with efficient and experienced personnel. Project staff is trained in procedural requirements of the ADB and the national accounting standards. The financial management systems at UWSCG applied in the agency's project operations are found to provide a reasonable and sufficient basis for determining the state of finances at agency and project levels. All the projects are subject to external audit annually by private audit group and the opinions are being reviewed and analyzed by CWOD-Financial Management Specialist and corrective actions, if any are proposed to UWSCG. The financial audit reports for the previous projects indicate that the funds flows from ongoing projects and local sources are satisfactory and there are no significant qualifications in the auditor's reports. The funds flow procedures are established for each project to facilitate monitoring and control. Projects do not experience delays in release of local counterpart funds and financial performance monitoring systems ensures efficient execution of projects.

24. UWSCG is experienced in ADB funding arrangements, as well as those in other international lending agencies. UWSCG coordinates with Ministry of Finance (MOF) and designated banks for all local and foreign project transactions. UWSCG has procedures to follow the Georgian National Accounting Standard. Manual on systems and procedures to effect policies is available to accounting and finance staff, which satisfies Ministry of Finance requirements. Guideline manuals are updated as new accounting policies are formulated at national level. Local/in-house policies, all within purview of national accounting law, are formulated and locally approved.

25. UWSCG uses the ORIS accounting software for internal and project operations. UWSCG is now testing a new software, FMG Soft, which allows the department of procurement, accounting, transportation and logistics to work in one system. Linking those systems in one network will sophisticate working efficiency and maximize information exchange between central and project units, which in its case will decrease delays in reporting. Software allows tracking of the each contract individually, which helps the tracking and monitoring the progress of projects.

26. Utilities are not required to have internal audit functions by GNERC. The management consultant is working with UWSCG to improve internal controls including financial management, accounts, revenue and expenditure management. Accordingly, UWSCG has been able to

discover certain instances of unauthorized transactions (not related to ADB or international lending projects), for which UWSCG initiated immediate actions. Stricter internal controls are being put in place. UWSCG are audited annually by an external auditor and are provided with unqualified opinions.

27. UWSCG comply with reporting needs of MOF and other agencies as well as ADB project periodic reporting. The monitoring and reporting has been improved further as the construction supervision consultants and management contractors are assisting UWSCG in reporting and monitoring activities.

B. Disbursement

28. The loan proceeds for financing goods, works, and consulting services shall be disbursed in accordance with ADB's Loan Disbursement Handbook (2015, as amended from time to time),⁸ and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available at http://wpqr4.adb.org/disbursement_elearning. Project staff is encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

29. Before the submission of the first withdrawal application, MOF should submit to ADB sufficient evidence of the authority of the two persons who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is set in accordance with the Loan Disbursement Handbook. Individual payments below this amount should be paid by the EA and subsequently claimed to ADB through reimbursement, unless otherwise accepted by ADB. Withdrawal applications and other loan disbursement information are available at ADB Controller's Department's website, <http://lfis.adb.org>.

C. Accounting

30. UWSCG will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project. UWSCG will prepare consolidated project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.

⁸ Available at: <http://www.adb.org/documents/loan-disbursement-handbook>

D. Auditing and Public Disclosure

31. UWSCG will cause the detailed consolidated project financial statements to be audited in accordance with International Standards on Auditing and with the government's audit regulations, by an independent auditor acceptable to ADB. The audited project financial statements will be submitted in the English language to ADB within 6 months of the end of the fiscal year by UWSCG.

32. UWSCG will also cause the entity-level financial statements to be audited in accordance with international standards for auditing or national equivalent acceptable to ADB, and with the government's audit regulations, by an independent auditor acceptable to ADB. The audited entity-level financial statements, together with the auditors' report and management letter, will be submitted in the English language to ADB within one month after their approval by the competent authority.

33. The annual audit report for the project accounts will include an audit management letter and audit opinions which cover: (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; (ii) whether loan and grant proceeds were used only for the purposes of the project or not; (iii) the level of compliance for each financial covenant contained in the legal agreements for the project; and (iv) the use of the statement of expenditure procedure certifying to the eligibility of those expenditures claimed under statement of expenditure procedures in accordance with ADB's Loan Disbursement Handbook and the project documents.

34. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

35. The government and UWSCG have been made aware of ADB's approach and procedure for satisfactory and acceptable quality of the audited project financial statements.⁹ ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

36. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011).¹⁰

⁹ ADB's approach and procedure on delayed submission of audited project financial statements:

- When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (i) the audit documents are overdue; and (ii) if they are not received within the next six months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- When audited project financial statements have not been received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (i) inform the executing agency of ADB's actions; and (ii) advise that the loan may be suspended if the audit documents are not received within the next 6 months.
- When audited project financial statements have not been received within 12 months after the due date, ADB may suspend the loan.

¹⁰ Available from <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting them on ADB's website. The audit management letter will not be disclosed.

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

37. All advance contracting and retroactive financing will be undertaken in conformity with ADB's Procurement Guidelines (2015, as amended from time to time)¹¹ and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).¹² The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. The borrower, executing and implementing agencies have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the Investment Program.

38. **Advance contracting.** The government has requested ADB's approval of advance contracting for: (i) civil works for construction of water supply and sewerage systems in Marneuli and construction of sewerage system in Bolnisi; (ii) civil works for construction of water supply system in Chiatura; (iii) construction of STPs in Marneuli, Bolnisi, and Chiatura using the DBO contract; and (iv) recruitment of consultants.

39. **Retroactive financing.** For project 6, ADB will finance a maximum amount of eligible expenditures up to the equivalent of 20% of the loan for project 6 (approximately \$20 million) incurred before project 6 loan effectiveness but not earlier than 12 months before the signing of the Loan Agreement for project 6. Retroactive financing shall apply to civil works and consulting services under project 6 loan.

B. Procurement of Goods, Works and Consulting Services

40. The UWSCG has been implementing 5 tranches of the program since 2011. As part of the program implementation, the UWSCG has undertaken procurement of goods and works and also recruited consulting firms and individual consultants. One full time procurement staff in the IPMO and one UWSCG staff report to the IPMO coordinator and to the Bid Evaluation Committee. The procurement team has also acquired experience in advance procurement actions. All international competitive bidding (ICB) procurement are undertaken following ADB's Procurement Guidelines, whereas no national competitive bidding procurement are undertaken for the program. The performance of the procurement team is considered satisfactory in relation to the timely approvals, drafting of bidding documents, and quality of bid evaluation. The resources and office equipment to manage procurement activities is considered sufficient. Engagement of consultants is also responsibility of the IPMO under the supervision of the Project Coordinator. Most of the recruitment planned under the program has been already completed in the previous tranches; only construction supervision consultant and auditors are foreseen in project 6. The IPMO staff has an experienced procurement specialists supported by the procurement specialist of the company to recruit consultants.

41. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines (2015, as amended from time to time).

¹¹ Available at: <http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf>

¹² Available at: <http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf>

42. Project 6 loan includes: (i) two ICB for procurement of civil works for water supply and sewerage system in Marneuli and sewerage system in Bolnisi, and water supply system in Chiatura respectively; and (ii) one ICB using a DBO contract for the STPs in Marneuli, Bolnisi, and Chiatura. Master bidding documents have been prepared by an international specialist hired under project. However, the bidding documents and the procurement procedure will have to be approved by ADB.

43. Bidders eligibility will be determined in accordance with ADB's Procurement Guidelines. Accordingly, no bidder or potential bidder shall be declared ineligible for ADB financed contracts for any reason other than those set out in ADB's Procurement Guidelines. For goods or services funded by loans from ADB's Special Fund resources, payments are limited to goods produced in, and services supplied by, developed member countries that have contributed to such resources and all developing member countries.

44. Before the start of any procurement ADB and the government will review the public procurement laws of the government to ensure consistency with ADB's Procurement Guidelines.

45. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages.

46. All consultants will be recruited according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).¹³ The terms of reference for all consulting services are detailed in Section D.

47. There are 2 main consulting contracts as under:

- (i) Construction supervision consultant contract: It is proposed to use quality- and cost-based selection (QCBS) method for selection of the consultant with a standard quality:cost ratio of 90:10. Shortlisted firms will be required to submit Full Technical Proposals". The contract is for construction supervision of the works covered under project 6 only.
- (ii) A firm will be recruited for the financial audits of project 6 for FY2016 to FY1019 using least cost selection method. Shortlisted firms will be required to submit biodata technical proposals". The terms of reference are attached in section D.

C. Procurement Plan for Tranche 6

Basic Data

Project Name: Urban Services Improvement Investment Program	
Project Number: 43405	Approval Number: L3441
Country: Georgia	Executing Agency: Ministry of Regional Development and Infrastructure
Project Procurement Classification: B	Implementing Agency: United Water Supply Company of Georgia
Procurement Risk: Low	
Project Financing Amount: \$117 million ADB Financing: \$99 million Cofinancing (ADB Administered): Not applicable Non-ADB Financing: \$18 million	Project Closing Date: 30 September 2019
Date of First Procurement Plan: 19 September 2016	Date of this Procurement Plan: 19 September 2016

¹³ Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

Process Thresholds, Review and 18-Month Procurement Plan

Project Procurement Thresholds

48. Except as ADB may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works		
Method	Threshold	Comments
International Competitive Bidding (ICB) for Works	Above \$5,000,000	
International Competitive Bidding for Goods	Above \$1,000,000	

Consulting Services	
Method	Comments
Quality and Cost Based Selection (QCBS)	RFP (Quality:Cost ratio 90:10)
Quality Based Selection	
Consultants' Qualifications Selection	
Least-Cost Selection	RFP
Fixed Budget Selection	

Goods and Works Contracts Estimated to Cost \$1 Million or More

49. The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value*	Review [Prior / Post/Post (Sample)]	Bidding Procedure	Advertisement Date (quarter/year)	Comments
CW-01	Procurement of works for Construction of Water Supply and Sewerage Systems in Marneuli, including construction of sewerage system in Bolnisi	[This information was deemed confidential according to exception (v) of paragraph 97 of ADB's Public Communication Policy (2011)]	Prior	1S1E	Q3/2016	Large Works
CW-02	Procurement of civil, mechanical and electrical works for STP Construction in Marneuli, Bolnisi, and Chiatura (Design, Build and Operate)	[This information was deemed confidential according to exception (v) of paragraph 97 of ADB's Public Communication Policy (2011)]	Prior	2S	Q4/2016	Design Build Operate
CW-03	Procurement of works for Construction of Water Supply system in Chiatura	[This information was deemed confidential according to exception (v) of	Prior	1S1E	Q3/2016	Large Works

		paragraph 97 of ADB's Public Communication Policy (2011)]				
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(*including VAT)

Consulting Services Contracts Estimated to Cost \$100,000 or More

50. The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months:

Package Number	General Description	Estimated Value*	Recruitment Method	Review (Prior / Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
CONS-01	Construction Supervision Consultant	[This information was deemed confidential according to exception (v) of paragraph 97 of ADB's Public Communication Policy (2011)]	QCBS	Prior	Q3/2016	FTP	International assignment Quality:Cost ratio of 90:10
CONS-02	Auditor for auditing APFS for FY2016, FY2017, FY2018 and FY2019	[This information was deemed confidential according to exception (v) of paragraph 97 of ADB's Public Communication Policy (2011)]	LCS	Prior	Q4/2016	BTP	National assignment

(*including VAT)

Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000 (Smaller Value Contracts)

51. The following table groups smaller-value goods, works and consulting services contracts for which the activity is either ongoing or expected to commence within the next 18 months:

Goods and Works								
Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review [Prior / Post/Post (Sample)]	Bidding Procedure	Advertisement Date (quarter/year)	Comments

Consulting Services								
Package Number	General Description	Estimated Value	Number of Contracts	Recruitment Method	Review (Prior / Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments

Indicative List of Packages Required Under the Project

52. The following table provides an indicative list of goods, works and consulting services contracts over the life of the project, other than those mentioned in previous sections (i.e., those expected beyond the current period).

Goods and Works							
Package Number	General Description	Estimated Value	Awarded Contract Value	Procurement Method	Advertisement Date (quarter/year)	Date of ADB Approval of Contract Award	Comments

Consulting Services							
Package Number	General Description	Estimated Value	Awarded Contract Value	Recruitment Method	Advertisement Date (quarter/year)	Date of ADB Approval of Contract Award	Comments

D. Consultant's Terms of Reference

53. The terms of reference for procurement of consultants for various activities as per the procurement plan are attached as per details given below:

- Auditors for auditing APFS from FY2016 to FY2019 (Annexure 1)
- Construction supervision consultants (Annexure 2)

VII. SAFEGUARDS

A. Social Safeguards

54. In order to ensure compliance with ADB Safeguard Policy Statement (2009), MRDI as EA and UWSCG as IA will ensure social safeguards compliance under the Investment Program. The government adopted on 17 December 2010 a land acquisition and resettlement framework (LARF), upon which social safeguards compliance for all projects are based. The involuntary resettlement process as required under the LARF will be followed during implementation and necessary resettlement plans will be prepared.

55. The LARF will be reviewed regularly and, if necessary, updated during later tranches of the MFF, if indicated by unanticipated new types of impacts (review of applicability and relevance). The eligibility and entitlement provisions of the LARF will not be lowered in subsequent revisions and updates.

56. An involuntary resettlement due diligence was conducted to determine the impacts and consequently project 6 is classified C. There is no land acquisition involved in Marneuli, Bolnisi, and Chiatura for the construction of water supply and sewerage facilities, including the treatment plants, as they are being constructed on the existing state owned lands. The water supply and sewer network will be laid within the right of way of the public roads.

57. In case of any unanticipated impacts during construction, civil works for that section will be temporarily suspended. UWSCG will inform ADB, and will prepare a resettlement plan for review and approval by ADB, which will be disclosed and implemented, and a monitoring report will be submitted prior to possessing the land and commencing the civil works.

B. Environmental Safeguards

58. In order to ensure compliance with ADB Safeguard Policy Statement (2009),¹⁴ MRDI as EA and UWSCG as IA will ensure the implementation of the following requirements and procedures for the Investment Program. MRDI has endorsed the Environmental Assessment and Review Framework that has been prepared for the Investment Program, which was updated in May 2015.¹⁵

Environmental Management Actions	Implementation Activities	Conditions Required to Complete Actions
Pre-construction commences	Activity 1: Project becomes effective	
Environmental recording system established in IPMO, UWSCG	Activity 2: IPMO established with ESU. Environment staff appointed to ESU A track records system to be established and functional	Budget, facilities and staff for ESU have been provided according to Loan Agreement
Design and implement baseline monitoring for environmental conditions	Activity 3: Prepare project baseline environmental matrix in the IEEs	
ES prepares Design Brief for	Activity 4: Pre-construction	Appointment of Design and

¹⁴ Available at: <http://www.adb.org/documents/safeguard-policy-statement>

¹⁵ Updated EARF is available at: <http://www.adb.org/projects/documents/urban-services-improvement-investment-program-may-2015-earf>

Environmental Management Actions	Implementation Activities	Conditions Required to Complete Actions
design consultants that incorporates EMP Design requirements ES checks Design Brief meets EMP requirements	Design; Incorporation of EMP requirements	Supervision consultant with necessary technical capacity to address EMP requirements
ES extracts construction requirements from EMP and pass to design consultants for inclusion in Tender documents ES reviews Tender documents and confirm that environmental management provisions are sufficient	Activity 5: Tender documents prepared	Standard environmental conditions have been prepared which are integrated into Tender documents IEEs are attached to the tender documents
ESU review environmental conditions of Bid and rank contractors on this ability ESU review and ensure environmental monitoring and supervision tasks in the CSC's contract	Activity 6: Tenders evaluated and Contractor appointed Construction Supervision Consultant hired	ES to be a member of the Bid Evaluation Panel
ES reviews SEMP	Activity 7: Contractor prepares SEMP	Contractor appoints Environmental Manager After award of contract Contractor has maximum 30 days and prior to commencing civil works to prepare SEMP ADB CWRD Guidance notes on preparing SEMP available
CSC endorses and ESU verifies the acceptability of SEMP at site meeting ESU ensure that all permits are obtained as required by the national regulations	Activity 8: Contractor inducted to site by ESU	Contractor cannot take possession of construction site until: (i) SEMP has been approved; (ii) permits have been obtained as required by the national regulations; and (iii) induction is completed satisfactorily
ES informs IPMO that Contractor is now cleared to start work Pre-construction completed	Activity 9: Contractor approved to start work	

Construction commences	Activity 1: Contractor begins work.	
<p>CSC assists in:</p> <p>ES, IPMO monitors contractor's SEMP compliance activities</p> <p>ES audits construction activities</p> <p>ES evaluates monitoring program</p>	<p>Activity 2: Environmental monitoring undertaken and reports prepared.</p> <p>By Contractor: Monthly environmental report sent to IPMO</p> <p>By CSC: Environmental performance reflected in a section of quarterly project progress reports</p> <p>By IPMO: Bi-annual environmental report to ADB and country environmental agency within 1 month after each half of the calendar year</p>	<p>Contractor complies with SEMP requirements for implementing and monitoring work on-site</p> <p>Contractor, CSC and IPMO comply with reporting requirements on environmental safeguards</p> <p>ADB CWRD Guidance notes on preparing monitoring reports available</p>
Construction completed	Activity 3: Construction completed and project commissioned	<p>Project works completed in accordance with the SEMP and all sites satisfactorily rehabilitated and restored.</p> <p>ES reviews and sign-off on completed work</p> <p>The STPs are successfully commissioned by the Contractor under design, build and operate contract</p> <p>Final environmental monitoring report prepared (post-construction environmental audit report) as part of the hand-over memorandum</p> <p>Payments may be withheld if sites not cleared and closed to meet SEMP specifications</p>

ADB = Asian Development Bank, CSC = construction supervision consultant, CWRD = Central and West Asia Department, EMP = environmental management plan, ES = environmental specialist, ESU = environmental safeguards unit, IEE = initial environmental examination, IPMO = investment program management office, SEMP = site environmental management plan, STP = sewage treatment plant, UWSCG = United Water Supply Company of Georgia.

Source: Asian Development Bank.

59. UWSCG will require the contractors to prepare and implement site specific environmental management plan (EMP) for each subproject in order to implement the environmental requirements of the initial environment examinations (IEEs), which will also form

an integral part of construction contracts. The site specific environmental management plans will be endorsed by the construction supervision consultants, and subsequently approved by UWSCG. Environmental mitigation measures during construction will be implemented by the contractor, and will be monitored by the construction supervision consultant. UWSCG will be responsible for overall EMP implementation with assistance from the construction supervision consultant and environmental consultant engaged by UWSCG under IPMO.

60. Any change in investment scope and technical design will be promptly informed by UWSCG to ADB, and the respective IEE/EMP will be updated by the consultant, which will be endorsed by the construction supervision consultant and UWSCG before submitting to ADB for disclosure. Unanticipated environmental impacts will be promptly reported to ADB and no civil works are allowed until a solution for mitigation or compensation is sought.

61. Since the STPs will be constructed by using the DBO contract, the related IEEs will have to be updated during the final design stage including meaningful public consultation. The updated IEEs should further explain the suitability of the technical option of the treatment facility.

62. Meaningful public consultation with project affected people and stakeholders for all the IEEs including updated IEEs are required. Disclosure on ADB website and to the project affected people will be made for the safeguard documents and monitoring reports.

63. All the complaints will be handled by the project Grievance Redress Mechanism and in compliance with the ADB Accountability Mechanism Policy 2012.

64. Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS.

VIII. GENDER AND SOCIAL DIMENSIONS

65. To support the primary goal of the Investment Program in ensuring effective and sustainable WSS systems, gender development will be addressed in the Investment Program. A gender and social development consultant is engaged under IPMO to assist UWSCG in implementing the gender action plan (GAP) and reaching the targets. Projects 1, 2, 3, 4, 5, and 6 are classified as effective gender mainstreaming, and each tranche has a GAP. While most actions under GAP are on track, the following require further attention by UWSCG management: (i) human resource development strategy to increase women in UWSCG management (15% in 2016); (ii) 30% of customer service center staff are women (currently achieving 18-26%); and (iii) verification of new jobs being advertised encouraging qualified women to apply.

66. UWSCG has plans to improve career and employment opportunities, and to establish a gender balanced human resource management system. To conduct regular gender analysis and identify gender trends in employment the UWSCG introduced a sex-disaggregated employee database. Currently, 23.5% of employees are women in the company. In the head office, 15% of top management are women.

67. The GAP prepared under previous projects will continue to be implemented under Project 6, which would comprise of:

- i. maintenance of a sex-disaggregated database to conduct annual gender analysis and implement gender sensitive human resource strategy; and
- ii. facilitate women's career development by encouraging the enrolment of girls at the WSS program at university level and the employment of women (15% minimum of new positions created through the project), with a stipulation that all advertisements explicitly encourage applications from qualified women. This is in agreement with UWSCG in recognition of likely new jobs divided between technical/admin (indoors) and manual/maintenance (outdoor). Also, the minimum target for female employment in customer service center is 30% in line with agreed ongoing practice.

68. UWSCG's outreach to the communities will be improved, particularly to address women as household managers and water collectors. During previous tranches, an information, education and communication (IEC) campaign was conducted by an apex nongovernment organization (NGO) with an extensive experience of working on gender issues and dissemination of information throughout the country. The apex NGO worked through local NGOs to address gender issues within the Investment Program. Involvement of NGOs facilitated better participation of communities, improved grievance and complaint mechanisms and awareness amongst the communities about the Investment Program. The materials developed by the NGO for the IEC campaign is being used for further communication campaigns under projects 4 and 5. The Investment Program will develop an IEC campaign in all appropriate languages to educate communities on the above issues and inform them about the Investment Program benefits.

69. **Results GAP.** The direct gender benefits of the overall program when completed will be expanded, improved, continuous 24 hour, potable, water supply to 100,000 households benefitting approximately 150,000 women. A significant number of families and women will benefit from new water supply and sanitation, improved sanitation and hygiene knowledge, and a greater knowledge capacity in water efficiency and use. A sex-disaggregated customer database has been established allowing the company to design awareness campaigns that are gender inclusive and targeted for greater effectiveness. After more than two years after the GAP implementation commenced, the project has resulted in 101 female employees being trained, of whom 84 are Service Center staff, out of a total of 321, constituting 31% against a target of 30%. The training also targeted women-only training of potential leaders and managers. A Human Resources expert company was hired to design a performance system to identify gaps, develop an incentive system and enable talented women to be promoted. The most elusive target to reach in the GAP has been 30% females in management. The total number of employees is 2,745 of whom 647 are female (23% against a target of 30%), and of whom 25 women out of 268 in total are managers, at around 9% against a target of 30%. In comparison, the head office of UWSCG has 32% female staff (of 386 employees) of whom 21% (17) hold managerial positions. At the Service Centers, 8 women out of 190 in total are managers. Given the difficulties of achieving an unrealistic target of 30% women in management, 20% would be a much more realistic target given the sector.

Male-female participation rates in UWSCG & management positions vs. GAP female targets (Survey October 2015)

	Total	Men	%	Women	%	Gender Action Plan Female Target
Number of employees	2,745	2,098	76	647	23	30%
No. of managers	268	243	90	25	9	30%
No. of employees in head office	386	259	67	127	32	30%
No of managers in head office	78	61	78	17	21	30%
No. of employees in Service Centers	2,359	1,839	77	520	22	
No. of managers in Service Centers office	190	182	95	8	4	
UWSCG staff trained	321	220	68	101	31	30%
UWSCG staff trained on gender sensitive leadership	20*			106	100	
UWSCG staff trained on financial management and accounting	50	32	64	18	36	
No. of employees in Technical field	1,547	1,468	94	79	5	

Note: * - according to 2014 data.

Source: United Water Supply Company of Georgia.

70. Through a project in Marneuli, Bolnisi, and Chiatura baseline data on household water management and sanitation practices will be created by conducting a household survey. A post-intervention survey will be conducted after the IEC campaign and compare with the baseline. This will show if and why households were convinced to access the water and sanitation services of the UWSCG. The household survey and IEC will be conducted by UWSCG. Impact assessment of the public awareness in all project areas will further inform UWSCG's country wide public relation campaign.

71. In addition, the GAP will specifically address the needs of households headed by women¹⁶ through the complaints analysis. The UWSCG has already created a sex-disaggregated customer database, and plans to establish a sex-disaggregated complaints database to conduct gender analysis of customer feedback and identify and address women customer's needs and priorities accordingly.

Gender Action Plan – Project 6

Action and Description	Target/Indicator and Timeframe	Institutional Responsibility
Output 1: Water Supply and Sewerage system efficiency improved through rehabilitation and reconstruction, and extended coverage		
1. Ensure construction of water supply and sewerage networks include house connections to all households in Marneuli, construction of Sewage network in	1.1 52,740 people in Marneuli and Chiatura will have access to 24-hour potable water supply of whom 50% are females 1.2 46,380 people in Marneuli and	UWSCG

¹⁶ Female-headed household means a household financially managed by a woman/lacking a male head.

Action and Description	Target/Indicator and Timeframe	Institutional Responsibility
Bolnisi and construction of water supply system in Chiatura	Bolnisi will have access to sanitation facilities of whom 50% are females	
Output 2: Project implementation support and public awareness program effectively implemented, information on hygiene and sanitation disseminated		
<p>2. Knowledge of gender specific customer behavior gained:</p> <p>2a. Conduct survey on household water management, household needs, sanitation practices and knowledge gaps in Marneuli, Bolnisi and Chiatura</p> <p>2b. Analyze knowledge gaps of households (especially women as household managers) on water, hygiene, sanitation, environmental impact of sewage, customer rights, and efficient water use</p> <p>3. Gender sensitive public relations campaign and outreach program developed and implemented:</p> <p>3a. Develop IEC material on water, hygiene, sanitation, customer rights and water usage efficiency based on customer needs, knowledge gaps, and gender sensitive needs assessment</p> <p>3b. Train staff of customer care centers as hygiene and sanitation advocates in Marneuli, Bolnisi and Chiatura</p> <p>3c. Roll out public awareness program in Marneuli, Bolnisi and Chiatura</p>	<p>2a. Results of survey are analyzed in report (2016)</p> <p>2b. Public awareness program is informed by survey results (2017) - 50% target of women reached by the public awareness program (2018)</p> <p>3.a IEC material on water, hygiene and sanitation practices, customer rights, complaint mechanisms is disseminated in Marneuli, Bolnisi and Chiatura (2017- continuous)</p> <p>3.b and 3.c Local women NGOs and female community leaders involved in IEC material distribution and are trained to conduct public awareness program (2017-onwards) - All staff of customer care centers trained on water, hygiene, sanitation practices, customer rights and complaint mechanisms (2017- continuous)</p>	UWSCG
<p>4. Complaints redressed in a gender sensitive way:</p> <p>4a. Sex-disaggregated customer complaints database established</p>	<p>4.a Annual report on quantity and redress of complaints published (2016-continuous) and Annual report to also include gender</p>	UWSCG

Action and Description	Target/Indicator and Timeframe	Institutional Responsibility
	analysis of complaints (2016-continuous)	
5. Female Recruitment	<p>5.1 15% minimum of new positions created through the project are for women (2016-continuous) <i>(Baseline - The total number of employees is 2,745 of whom 647 are female (23% against a target of 30%), and of whom 25 women out of 268 in total are managers, at around 9% against a target of 30%)</i></p> <p>5.2 At least 30% of customer care unit staff are women (2016-continuous) <i>(Baseline - At the Service Centers, 22% of employees and 4% of managers are women)</i></p> <p>5.3 10% minimum of female water sector professionals through fostering the enrolment of females at the WSS program at university level</p>	

IEC = information-education-communication, NGO = nongovernment organization, UWSCG = United Water Supply Company Limited.

Source: Asian Development Bank.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

Impacts the Project is aligned with:

Improved health of residents in the secondary towns of Georgia¹⁷

Design Summary	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome Improved water supply and sanitation services in the secondary towns in Georgia	a. Residents' access to safe water supply increased from 69% in 2015 to 100 % in 2019 in Marneuli and from 89% in 2015 to 100 % in 2019 in Chiatura b. Residents' access to safe sanitation increased from 19% 2015 to 100% in 2019 in Marneuli and from 39% in 2015 to 100% in 2019 in Bolnisi through provision of sewer connections to all existing households, and a sewage treatment plant commissioned in Marneuli, Bolnisi and Chiatura for safe disposal of sewage by 2019 c. A total of 61,780 people will receive safe and improved water and sanitation services of whom 50% are females	a. to b. - National statistics on water supply quality and effluent discharge from MEPNR, MA, and UWSCG c. Annual sex disaggregated socioeconomic surveys undertaken as part of the PPMS to determine public satisfaction with the quality of water supply and sanitation	Risk National Government's failure to progressively increase water and wastewater tariffs and to provide viability gap funding on time during project operation. .
Outputs 1. Water Supply and Sewerage system efficiency improved through rehabilitation and reconstruction, and extended coverage	1a. About 15.7 km of main transmission line, 179 km of distribution network, 11,800 cum capacity reservoir, 1037 m ³ /h pumping station, 32 m ³ /h booster pumping Station constructed or replaced in Marneuli by 2019 1b. 124 km of sewer line, 9 sewage pumping stations, and a sewage treatment plant of capacity about 22.9 MLD (1 st phase) constructed to treat and safely discharge of sewage in Marneuli by 2019	1a to 1h - Semi-annual progress reports prepared by UWSCG, PPMS reports prepared by UWSCG, and Project component completion and commissioning certificates provided by investment program construction supervision consultant	

¹⁷ The Impact statement is referenced from the approved MFF facility DMF in March 2011 and subsequent amendment in November 2012

Design Summary	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	<p>1c. About 40 km of sewer line and a sewage treatment plant of capacity about 2.5 MLD constructed to treat and safely discharge of sewage in Bolnisi by 2019</p> <p>1d. About 56 km of main transmission line and distribution network, headworks, 8,100 cum capacity reservoir, 5 pumping stations with capacity of 374 cum/h constructed or rehabilitated in Chiatura by 2019</p> <p>1e. A sewage treatment plant of capacity about 5 MLD constructed to treat and safely discharge of sewage in Chiatura by 2019</p>		
<p>2. Project implementation support and public awareness program effectively implemented, information on hygiene and sanitation disseminated</p>	<p>2a. Public awareness program to disseminate information on hygiene and sanitation targeting women as household managers rolled out in Marneuli, Bolnisi, and Chiatura with the help of construction supervision consultants and investment program management office by 2019</p> <p>2b. Service center in Marneuli, Bolnisi, and Chiatura having a customer care unit staffed by at least 30% women by 2019 that informs, educates, and communicates on water, hygiene, and sanitation. (Baseline 2015: 77% male; 22% female)</p>	<p>2a. to 2b.- Semi-annual progress reports prepared by UWSCG, PPMS reports prepared by UWSCG, and UWSCG annual work plans</p>	
<p>Key Activities with Milestones:</p> <p>1. Water Supply and Sewerage system efficiency improved through rehabilitation and reconstruction, and extended coverage</p> <p>1.1 Water Supply and Sewerage network constructed in Marneuli (March 2019)</p> <p>1.2 Sewerage System constructed in Bolnisi (March 2019)</p> <p>1.3 Water Supply System constructed in Chiatura (March 2019)</p> <p>1.4 Sewage Treatment Plants constructed in Marneuli, Bolnisi, and Chiatura (March 2019)</p> <p>2. Project implementation support and public awareness program effectively implemented, information on hygiene and sanitation disseminated</p> <p>2.1 Construction supervision consultants engaged (Q1 2017)</p>			

Design Summary	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
2.2 Information awareness campaigns on water, hygiene and sanitation practices, consumer rights, complaint mechanisms in Marneuli, Bolnisi and Chiatura conducted - (31 March 2019)			
2.3 GAP implemented (31 March 2019)			
Inputs			
ADB: \$99.00 million from OCR			
Government: \$18.00 million			
Assumption for Partner Financing			
The government ensures UWSCG staff efficiently delivers the services			

ADB = Asian Development Bank, ADF = Asian Development Fund, cum = cubic meter, GAP = gender action plan, km = kilometer, MA = Ministry of Agriculture, MEPNR = Ministry of Environment Protection and Natural Resources, MLD = million liters per day, OCR = ordinary capital resources, PPMS = project performance management system, UWSCG = United Water Supply Company of Georgia.

Sources: United Water Supply Company of Georgia and Asian Development Bank.

B. Monitoring

72. **Project performance monitoring.** Disaggregated baseline data for output and outcome indicators gathered during Investment Program processing will be updated and reported quarterly through Investment Program quarterly progress reports prepared by UWSCG, and after each ADB review mission. These quarterly reports will provide information necessary to update ADB's project performance reporting system.¹⁸

73. **Compliance monitoring.** Compliance on covenants will be monitored through regular ADB review missions and on a quarterly basis in discussion with UWSCG and MRDI.

74. **Safeguards monitoring.** Monitoring and reporting of the implementation on safeguards compliance with requirements and procedures will be prepared by UWSCG. Based on the contractor's monthly site inspection reports, semi-annual environmental safeguards monitoring reports will be prepared with assistance from the UWSCG's environmental consultant, and submitted to ADB for disclosure within 1 month of the reporting period, i.e. by end of July and January respectively. The reports will also be disclosed on UWSCG website in Georgian language. External monitoring will be carried out by an Independent Monitoring Agency appointed by UWSCG in two phases, once during the RP implementation, and once a year later. The monitoring reports will be submitted prior to possessing the land, and commencing the civil works. Quarterly project progress reports will include a section on safeguard covenants' compliance and safeguard performance.

75. **Gender and social dimensions monitoring.** See design and monitoring framework and the GAP for monitoring indicators. Currently, the IPMO reports on GAP indicators confirm the figures. The RETA consultant has also guided on UWSCG's public awareness program. GAP implementation monitoring table for the Project will be attached to the quarterly progress reports.

¹⁸ ADB's project performance reporting system is available at:
<http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool>

C. Evaluation

76. Within 6 months of physical completion of each project under the Investment Program the MRDI will submit a project completion report to ADB.¹⁹

D. Reporting

77. UWSCG will provide ADB with: (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure projects continue to be both viable and sustainable, project accounts and the EA audited financial statements, together with the associated auditor's report, should be adequately reviewed.

E. Stakeholder Communication Strategy

77. The Project intends to maximize the benefits by transparently communicating relevant project information to stakeholders by various means. The consultations are being carried out during design and implementation of the WSS system and gender analysis is being carried out on needs and problems of men and women in relation to WSS services, with minimum 50% participation from women. The stakeholder communication strategy during project execution aims to: (i) improve public support and sustainability of the rehabilitated/upgraded WSS systems; (ii) facilitate change in the hygiene and sanitation practices of the population in the project area; and (iii) promote public feedback during the construction and operation phase of the facilities. Item (ii) is covered under the hygiene and sanitation promotion under the GAP. Promotion of public feedback (item iii) is covered under the Grievance Redress Mechanism disclosure for the IEE implementation, establishment of customer care units, and web disclosure of safeguards plans/monitoring reports, contract awards, and audited financial statements.

78. UWSCG will disclose all key project-related information, including the scope, cost, and financial and institutional arrangements of the Project, project safeguard reports such as IEE, and procurement related information in English and Georgian languages on their respective websites. When the new water and sewer connections are being given or when the UWSCG introduces new tariff and other charges, they will conduct extensive consultations and establish communication programs with support of consultants in order to ensure effective participation, understanding and support of stakeholders.

79. As a part of the IPMO team, UWSCG has a Safeguard Specialist who would act as a focal point for regular contact with the project affected people and other stakeholders. In addition the customer care units will be designated as program focal points for regular contact with other interested stakeholders. All the key project related information will be made available with the local UWSCG offices in Georgian language. The safeguard specialist from construction supervision consultant will supervise monitor implementation of EMP and GAP. The Director of UWSCG will be responsible person for monitoring the disclosure and dissemination of the information. The communication strategy for the program is summarized in the table on the next page.

¹⁹ Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

Communications Strategy Matrix for Project 6

Communications Context: <i>Public support and sustainability of the rehabilitated/expanded sewerage and sanitation system in the project areas depend on increased public awareness on the benefit of these investments to their wellbeing and modification in their hygiene and sanitation practices. Moreover, quality of construction works and UWSCG service also need transparency and an effective mechanism for receiving and addressing public feedback.</i>									
Project Objective: <i>Safe, reliable, and sustainable sewerage and sanitation system that contribute to improved living standards and environment in the project areas</i>									
Strategic Elements						Work Plan Elements			Evaluation
Communication Objective	Key Risks	Audience	Current/ Desired Behavior	Messages/ Info Needs	Channel Activity	Time	Responsibility	Resource Needs	Expected Outcomes
1. Public is informed of the benefits of (a) improved WSS, and (b) hygiene/ sanitation practices to the population in the project areas ²⁰	Lack of interest to connect to the improved sewerage and sanitation system and unwillingness to change behavior related to hygiene and sanitation	Households in the project areas	Move from unwillingness to willingness to connect Improved behavior related to hygiene and sanitation	Incidence of waterborne diseases and how an improved sewerage and sanitation system and better hygiene can save money and time	IEC materials (posters/ pamphlets) distributed in schools, offices, market places and hospitals/clinics in project towns Newspaper ads and articles Training and seminars	continuous	Local women NGOs and female community leaders involved in IEC material distribution and are trained to conduct public awareness program Staff of service centers trained on water, hygiene, sanitation practices, customer rights and complaint mechanisms		Target households connections to the improved/ upgrade sewerage system achieved Target improvement in hygiene of population achieved

²⁰ This is part of the gender action plan for the Investment Program.

Communications Context: <i>Public support and sustainability of the rehabilitated/expanded sewerage and sanitation system in the project areas depend on increased public awareness on the benefit of these investments to their wellbeing and modification in their hygiene and sanitation practices. Moreover, quality of construction works and UWSCG service also need transparency and an effective mechanism for receiving and addressing public feedback.</i>									
Project Objective: <i>Safe, reliable, and sustainable sewerage and sanitation system that contribute to improved living standards and environment in the project areas</i>									
Strategic Elements						Work Plan Elements			Evaluation
Communication Objective	Key Risks	Audience	Current/ Desired Behavior	Messages/ Info Needs	Channel Activity	Time	Responsibility	Resource Needs	Expected Outcomes
2. Stakeholders informed of likely environmental impacts during construction and mitigation measures planned and actually conducted	Complaints from local communities may cause delay	Communities	Maintain support for the project	Information on subproject environmental impacts and mitigation measures	Visits by environment specialists of IPMO and construction supervision consultants Posting of updated IEEs/EMPs and EMRs in the ADB website Explanations by contractors		UWSCG (through its social development specialists from IPMO and construction supervision consultant, and contractors		No complaint received from local community on management of environmental impacts from the subprojects
3. Stakeholders/ general public informed of mechanism for providing feedback on the project thereby improving quality of project outputs	Unidentified feedback or unresolved concerns may affect quality of construction and operations of the facilities	Communities	Improved public feedback and support for the construction activities and improved quality of UWSCG service	Information on subproject Grievance Redress Mechanism under IEE Information on the UWSCG customer care units	Visits and consultations by IPMO and construction supervision consultants' specialists IECs (included in item 1)		UWSCG (through its IPMO and local offices) Customer care units		Public feedback/ complaints are received and addressed leading to improved quality of construction and improved operations of the UWSCG

Communications Context: <i>Public support and sustainability of the rehabilitated/expanded sewerage and sanitation system in the project areas depend on increased public awareness on the benefit of these investments to their wellbeing and modification in their hygiene and sanitation practices. Moreover, quality of construction works and UWSCG service also need transparency and an effective mechanism for receiving and addressing public feedback.</i>									
Project Objective: <i>Safe, reliable, and sustainable sewerage and sanitation system that contribute to improved living standards and environment in the project areas</i>									
Strategic Elements						Work Plan Elements			Evaluation
Communication Objective	Key Risks	Audience	Current/ Desired Behavior	Messages/ Info Needs	Channel Activity	Time	Responsibility	Resource Needs	Expected Outcomes
4. Bidders and the public are informed of contract awards	Complaints from bidders or interested parties may delay works	Bidders/ general public	Improved trust on the selection of contracts for civil works and supply of goods	Info on results of bid evaluation	Publication in a local newspaper or widely available website	Upon UWSCG signing of bid evaluation report	UWSCG (through Procurement Specialist under IPMO)		Improved transparency in contracting and improved public trust
5. General public is informed of project expenditures	Low public trust on the expenditures may affect willingness to support project during implementation	General public	Improved public trust	Audited financial report	Disclosure in ADB website	Within 30 days upon receipt	ADB Project Team		Improved transparency and public trust in expenditures related to the project

ADB = Asian Development Bank, EMP = environmental management plan, IEC = information-education-communication, IEE = initial environmental examination, UWSCG = United Water Supply Company Limited, WSS = water supply and sanitation.

Source: Asian Development Bank.

X. ANTICORRUPTION POLICY

80. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the Project.²¹ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the EA and all Project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the Project.²²

81. To support these efforts, relevant provisions are included in the framework financing agreement, loan and project agreements, loan regulations, and the bidding documents for the Investment Program. The government will disclose to the public, and update annually the current status of the Investment Program and how the proceeds of the facility are used. For each contract financed under the Investment Program, UWSCG will disclose on their respective websites information on, among others, the: (i) list of participating bidders; (ii) name of the winning bidder; (iii) basic details on bidding procedures and procurement methods adopted; (iv) amount of contract awarded; (v) list of goods/services, including consulting services procured; and (vi) intended and actual utilization of the facility proceeds.

XI. ACCOUNTABILITY MECHANISM

82. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.²³

XII. RECORD OF PAM CHANGES

83. PAM Updates

Initial PAM	:	07 July 2016
Revised	:	

²¹ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

²² ADB's Office of Anticorruption and Integrity website is available at: <http://www.adb.org/integrity/unit.asp>

²³ For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

ANNEXURE 1

TERMS OF REFERENCE FOR THE AUDIT OF THE ANNUAL PROJECT FINANCIAL STATEMENTS OF THE URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM – PROJECT 6 (Loan ****-GEO and Loan ****-GEO(SF), PROJECT 6 FOR THE YEAR ENDING DECEMBER 31, 2016 to SEPTEMBER 30, 2019

A. Background

1. The management of the United Water Supply Company of Georgia (UWSCG) requires an auditor to carry out an audit of the Annual Project Financial Statements (APFS) for the loan listed below under Urban Services Improvement Investment program (USIIP):

- Project 6: Loan -----GEO- Loan Agreement dated on -----.

2. The auditor will initially provide to UWSCG the Audit Opinion on the Annual Project Financial Statements (APFS) and Management Letter (with copies to ADB) for the financial year (FY) ending on 31 December 2016 (FY2016) for the above loan, and for subsequent FYs from FY2016 to FY2019, subject to extension of the contract annually by UWSCG based on the satisfactory performance of the auditors for auditing of the APFS for the previous FY.

B. Objectives

3. The objective of the APFS is to enable the auditor to express an opinion on the financial position of the Project listed above for the five financial years ending on 31 December (FY2016 to FY2019), and on the funds received and expenditures for the year then ended.

4. The prospective auditors are required to submit a proposal and a work plan to provide the audit services by addressing among other things:

- the extent (if any) that the auditor would not conform to the agreed auditing standards and indicate any alternative standards, if any;
- whether the audit would be conducted as a completed audit (i.e., will the auditors carry out their audit after financial yearend, when the books of account are, or are being, closed);
- whether an audit carried out after financial year-end would be supplemented by one or more interim audits during a financial year. The principal purpose is to test ongoing systems and internal controls, and to relieve pressure on the staff of the entity and on the auditor at year-end;
- the manner in which the auditor proposes to address any statutory requirements relating to audit (e.g., certifications relating to shareholders' equity required under the companies' act) or to which they may be implicitly bound by contractual obligations of the employer (e.g. ADB auditing requirements);
- specific actions required on the part of UWSCG (e.g., access to computer systems and records, disclosures);
- discussions before signing the opinion and report on any matters arising from the audit, and with whom these discussions would be held; and
- the timetable for provision of opinions and reports.

C. Scope of Services (for each FY)²⁴

5. **Auditing Standards and Program.** The audit will be carried out in accordance with the International Standards of Auditing (ISA) as published by the International Auditing and Assurance Standards Board of the International Federation of Accountants (IFAC), with special reference to ISA 800 (Auditor's Report on Special Purpose Audit Engagements) and to relevant Asian Development Bank (ADB) guidelines. In conducting the Projects audit, special attention should be paid to the following:

- a) All funds provided by the Asian Development Bank (ADB) and its co-financiers have been used in accordance with the conditions of the Financing Agreement of Loan ----- dated ----- 2016, with due attention to economy and efficiency, and only for the purposes for which the loan was granted;
- b) Counterpart funds have been provided and used in accordance with the conditions of the relevant financing agreement, with due attention to economy and efficiency, and only for the purposes for which the financing was provided;
- c) Goods and services financed have been procured in accordance with the relevant financing agreement;
- d) All necessary supporting documents, records, and accounts have been kept in respect of Project ventures;
- e) The PFS have been prepared in accordance with generally accepted accounting principles and practices and relevant ADB guidelines, and give a true and fair view of the financial position of the Project 6 as of 31 December of each FY and 30 September as of 2019, and of resources and expenditures for the year ended;
- f) Review the compliance with covenants in the financing agreement and with ADB's specific requirements with respect to the financial management of the Projects in Article IV of the Loan Agreement;
- g) Provide a statement on the scale, effectiveness and reliability of the accounting and administrative procedures of the borrower;
- h) Provide a report on the efficiency and economy on the use of resources;
- i) Provide comments on the accounting principles adopted by the entity under audit (if other accounting principles were adopted, provide comments on the impact of the financial statements arising from deviations from international accounting standards);
- j) Verify financial and administrative internal control systems; and
- k) Define areas of improvement in the PMO's systems (e.g., improvements in accounting and data processing operations).

6. The audit program will consider the risk of material misstatements resulting from fraud or error. It should include procedures that are designed to provide reasonable assurance that material misstatements (if any) are detected.

7. **Accounting Policies and Changes.** The auditor should comment on the Project's accounting policies, and confirm the extent to which the agreed project accounting policies have been applied. In particular, the auditor should note the impact on the APFS arising from any material deviations from the agreed accounting standards. The auditor should also comment on any accounting policy changes, either during a financial year, or from one year to another.

²⁴ The scope of services and inputs by various experts as mentioned in Section III and IV of the TOR shall remain same for each FY2016, FY2017, FY2018 and FY2019.

8. **Project Financial Statements.** The Projects Financial Statements should be prepared in accordance with the cash-based International Public Sector Accounting Standard (IPSAS) promulgated by the International Federation of Accountants (IFAC). In addition to the Cash Receipts and Disbursement Statement, Project Financial Statements shall include statement of Sources and Uses of Funds for the current fiscal year and accumulated to date, showing comparison of budget and actual funds received from ADB and counterpart funds separately and use of funds by main categories of expenditures.

9. The auditor should pay particular attention as to whether:

- expenditures have been made wholly and necessarily for the realization of Project objectives;
- information and explanation necessary for the purpose of the audit have been obtained; and
- supporting records and documents necessary for purpose of the audit have been retained.

10. **Management Letter.** On conclusion of the audit, the auditor will prepare a Management Letter for the audited Project, detailing:

- a) Any material weaknesses in the accounting and internal control systems that were identified during the audit;
- b) Recommendations to rectify identified weaknesses;
- c) The status of significant matters raised in previous management letters;
- d) Practical recommendations on the steps that could be taken to become materially compliant with the agreed project accounting policies, together with a time frame for making these changes;
- e) The degree of compliance with each of the financial covenants in the loan agreement and recommendations for improvement;
- f) Matters that have come to the auditor's attention during the course of the audit which have a significant impact on project implementation;
- g) Any other matters that the auditor considers should be brought to the attention of the Project's management; and
- h) Significant matters that the auditor considers should be brought to ADB's attention.

11. **Compliance with Financial Covenants.** The auditor will confirm compliance with each financial covenant contained in the Project legal documents. Where present, the auditor should indicate the extent of any on compliance by comparing required and actual performance measurements for each financial covenant for the financial year concerned. Below are given financial covenants for the loan agreement for project 6. The auditor shall verify the degree of compliance with each of the financial covenants.

- a) Withdrawals from the Loan Account may be made for reimbursement of eligible expenditures incurred under the Project before the Effective Date, but not earlier than 12 months before the date of this Loan Agreement in connection with Works, Goods, and Consulting Services, subject to a maximum amount equivalent to 20% of the Loan amount.
- b) Notwithstanding any other provision of this Loan Agreement, no withdrawal shall be made from the Loan Account until the Subsidiary Loan Agreement, in form and substance satisfactory to ADB, has been duly authorized and executed and delivered

on behalf of, the Borrower, MRDI and UWSCG, and is legally binding upon the parties thereto in accordance with its terms.

12. **Compliance with Financial Assurances.** The auditor will confirm compliance with all financial assurances contained in the Project legal documents. Where present, the auditor should indicate the extent of any noncompliance by comparing required and actual performance of the borrower in respect of these ADB requirements for the financial year concerned.

13. **Use of Funds for the Purpose Intended.** The auditor will confirm, or otherwise, that:

- All external funds have been used in accordance with the relevant financing agreements covering the Project, with due attention to economy and efficiency, and only for the purpose for which the financing was provided;
- Counterpart funds have been provided and used in accordance with the relevant financing arrangements and only for the purpose for which the financing was provided; and
- Goods and services financed have been procured in accordance with the relevant financing agreements.

14. **Record Keeping.** The auditor will pay particular attention to whether all necessary supporting documents, records, and accounts have been kept in respect of all Project activities, with clear linkages between the accounting records and the APFS. This will include: (i) computation and recalculation, including checking the mathematical accuracy of estimates, accounts or records; (ii) reconciliation, including reconciling related accounts to each other, subsidiary records to primary records and internal records to external documents; (iii) physical observation, including inspecting or counting tangible assets, such as materials, inventory, land buildings, property or equipment; (iv) confirmation, including directly confirming balances or transactions with external third parties, such as cash balances, accounts receivable or accounts payable; (v) sampling, including vouching or examining supporting documentation to determine if balances are properly stated; and (vi) tracing, including tracing journal postings, subsidiary ledger balances, and other details to corresponding general ledger accounts or trial balances.

15. **Internal Control Systems.** The auditor will assess the adequacy of the Project financial management systems, including internal controls, including whether: (i) proper authorizations are obtained and documented before transactions are entered into; (ii) accuracy and consistency are achieved in recording, classifying, summarizing and reporting transactions; (iii) reconciliations with internal and external evidence are performed on a timely basis by the appropriate level of management; (iv) balances can be confirmed with external parties; (v) adequate documentation and an audit trail is retained to support transactions; (vi) transactions are allowable under the agreements governing the Project; (vii) errors and omissions are detected and corrected by project personnel in the normal course of their duties, and management is informed of recurring problems or weaknesses; (viii) management does not override the normal procedures and the internal control structure; and (ix) assets are properly accounted for, safeguarded and can be physically inspected.

D. Experts and Inputs

16. The auditor must be authorized to practice in Georgia and be capable of applying the agreed auditing standards. The auditor should have adequate staff, with appropriate professional qualifications and suitable experience, including experience in auditing the

accounts of entities comparable in nature, size and complexity to the entity whose audit they are to undertake. Audit firm and proposed staff should be from the member country of the ADB.

17. To this end, the auditor is required to provide curriculum vitae (CV) of the auditors who will provide the opinions and reports, together with the CVs of managers, supervisors and key personnel likely to be involved in the audit work. These CVs should include details of audits carried out by these staff, including ongoing assignments. Indicative tasks for the auditors are given in Attachment 1.

18. The auditor shall not alter any conditions of Contract and substitute key experts proposed and agreed during Contract negotiation.

E. Duration of Contract

19. The duration of the assignment to conduct financial audit of project 6 under USIIP would be initially up to 30 June 2017, with possibility of an extension on year on year basis until 30 September 2019 through a written confirmation by UWSCG.

20. The Contract extension would be with mutual consent and subject to satisfactory performance of audit service for the previous FY and prior approval of ADB. Additional Notice to Proceed will be issued to the auditors to notify commencement of the audit for subsequent FY (from FY2016 to FY2019).

F. Deliverables

21. The schedule for deliverables for auditing of each FY will be as under:

Deliverables	Submission Date
Draft Audit Report	Within 6 weeks from the date of issue of NTP for respective FY
Final Audit Report and Management Letter	1 week after receiving comments from the UWSCG for respective FY

22. The financial statements and auditor's opinion thereon shall be submitted in both Georgian and English. The auditor shall present 6 hard copies of each report in Georgian, 6 hard copies of each report in English and the electronic versions of each in Ms Word and PDF formats.

23. It is highly desirable that the auditor become familiar with the relevant ADB guidelines, which explain the ADB's financing reporting and auditing requirements. Please refer to *Handbook for Borrowers on the Financial Management and Analysis of Projects* which can be accessed from the following website:

http://www.adb.org/Documents/Handbooks/Borrowers_Fin_Gov_Mgt_Investment/default.asp

24. The auditor should understand that working papers under ADB Projects can be subject to the review by authorized ADB staff.

G. Budget and Payment Terms

25. The estimated budget (excluding indirect taxes) for conducting audits of project 6 for various FY shall be as under, and the auditors are requested to quote the fees for each FY separately while submitting their proposal:

- FY2016: \$50,000.00
- FY2017: \$100,000.00
- FY2018: \$150,000.00
- FY2019: \$200,000.00
- Total: \$500,000.00

26. UWSCG will sign a lump-sum payment contract and the payment will be linked to the deliverables of the respective financial year audits, according to following schedule:

Deliverables	Payment Schedule
Draft Audit Report (including Company and Project audit) for each FY	80% of the total Contract Price for the respective FY upon submission of Draft Report, acceptable to the UWSCG for each FY
Final Audit Report and Management Letter for each FY	20% of the total Contract Price for the respective FY upon submission of the Final Report and Management Letter, acceptable to UWSCG/ADB

H. Support from UWSCG

27. UWSCG will provide suitable office space for carrying out the services, and all the available required project documentation related to assignment.

28. The responsibility for the preparation of financial statements including adequate disclosure is that of the management of Project Management Office (PMO). This includes the maintenance of adequate accounting records and internal controls, the selection and application of accounting policies, and the safeguarding of the assets of the company. As part of the audit process, the auditor may request from management written confirmation concerning representation made to the auditor in connection with the audit.

29. The Projects' accounts (books of account) provide the basis for the preparation of the APFS and are established to reflect the financial transactions in respect of the Project as maintained by the PMO. The auditor will have full and complete access, at all reasonable times, to all records and documents including books of account, legal agreements, bank records, invoices and any other information associated with the Project and deemed necessary by the auditor. Confirmation should also be obtained of amounts disbursed and outstanding at ADB.

30. The auditor will be impartial and independent from any aspects of management or financial interest in the entity under audit. In particular, the auditor should be independent of the control of the entity. The auditor should not, during the period covered by the audit, be employed by, or serve as director for, or have any financial or close business relationship with the entity. The auditor should not have any close personal relationships with any senior participant in the management of the entity. The auditor must disclose any issues or relationships that might compromise their independence.

Attachment 1
Position Based Terms of Reference (applicable for each FY)

Position Title	Key Experts (National)	Expected Inputs (months)	Preferred Qualification	Tasks and Responsibilities
Chief Auditor	National	0.5	Degree in finance/economics or related fields; working experience in the country/region; preferable 5 years of working experience in audit company on a leading positions.	Responsible for the conduction of the Audit Overall Management; Issuance of the Audit Opinion
Audit Manager	National	0.5	Degree in finance/economics or related fields; preferable 5 years of working experience in audit company on a leading positions, implementing similar assignment.	General Management of the assignment; Audit Planning; Leading an audit team Implementation of Pre-Audit Procedures; Approving the Audit Programs Reviewing the System of Internal Controls; Reviewing Draft Audit Reports (Company and Project) and Draft Management Letters Reviewing Final Audit Reports (Company and Project); and Final Management Letters
Senior Auditor	National	1.0	Degree in finance/economics or related fields; preferably 5 years of working experience as an auditor in the audit company having relevant working experience with donor funded projects and large enterprises/organizations as entity;	Implementation of Pre-Audit Procedures; Statistical sampling. Reviewing the System of Internal Control; Auditing financial statements in accordance with ISA and the ADB's Guidelines; Reviewing the compliance with accounting principles; Preparation of auditor's report and management letter Reviewing the compliance of the Company in terms of tax obligations; and Reviewing Tax Declaration submission and its respective payments.

Position Title	Key Experts (National)	Expected Inputs (months)	Preferred Qualification	Tasks and Responsibilities
Auditor	National	1.0	Degree in finance/economics or related fields; preferably 3 years of working experience in an audit company as an auditor having relevant experience of auditing donor funded projects and various organizations.	Audit of Project financial statements; and Summarizing audit works Preparation of auditor's report and management letter

ANNEXURE 2

UNITED WATER SUPPLY COMPANY OF GEORGIA (UWSCG) ADB FINANCED URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM

TERMS OF REFERENCE FOR CONSTRUCTION SUPERVISION CONSULTANT

A. Introduction

1. Georgia (hereinafter referred to as "the Borrower") has received a loan from the Asian Development Bank (hereinafter referred to as "the Bank" or "ADB") for Urban Services Improvement Investment Program to be implemented by the United Water Supply Company of Georgia (UWSCG). UWSCG was established following an order No. 11/13 of the Ministry of Economic Development of Georgia under Georgian Commercial Law on 14 January 2010, by merging the two regional water companies West Water LLC and East Water LLC. With the merger, the UWSCG took over the assets of its predecessors. UWSCG is 100% state-owned, where the share is held by the Ministry of Regional Development and Infrastructure of Georgia. Amongst the water-related competencies of the Ministry are: coordination and support for the development of water systems in Georgia; coordination of regional programs funded by national and international sources and oversight of their implementation; support and coordination of international/trans-boundary cooperation of Georgian regions and local self-governance units.

2. It is intended that part of the proceeds of the ADB loan mentioned above will be applied towards the cost of consulting services for Construction/Rehabilitation Supervision of the following contracts:

- i. Marneuli Water Supply and Sewage System, including Bolnisi Sewage System;
- ii. Marneuli and Bolnisi Sewage Treatment Plants (STP);
- iii. Chiatura Water Supply System; and
- iv. Chiatura Sewage Treatment Plant.

B. Background

3. The Georgia Urban Services Improvement Investment Program (Investment Program) will improve the health of residents in the secondary towns of Marneuli, Bolnisi and Chiatura. The outcome of the Investment Program is improved water supply and sewerage system services in these secondary towns. The outputs comprise:

- i. **Component 1: Infrastructure Improvement.** The first component will include infrastructure investments to rehabilitate, improve and expand sanitation facilities in 3 secondary towns.
- ii. **Component 3: Investment Project Implementation.** The third component will provide project implementation support comprising construction supervision, safeguards compliance.

4. The Construction Supervision Consultant (the Consultant) will supervise construction of wastewater facilities under Component 1 in the towns of Marneuli, Bolnisi and Chiatura. The construction works shall include: Headworks, Reservoirs, Pumping Stations, Transmission Mains, Distribution Network, Sewage Network, Sewage Pumping Stations, Special Constructions (crossings), Sewage Pumping Station and all related works. The works to be supervised will include house connections.

5. The Consultant will be responsible for:

- i. Supervision of all construction works, including STP;
- ii. Design review of sewage treatment plants being implemented under Design & Build & Operate contracts;
- iii. Providing on-the-job training to counterpart UWSCG engineers seconded to the consultants team; and
- iv. Providing assistance for commissioning and handing over of works to UWSCG

C. Objectives

6. The objective of the Project is to improve water supply and sewerage systems in Georgia. This consulting service for construction supervision is required to assist United Water Supply Company of Georgia (UWSCG) to supervise and control construction of all above listed civil works (with mechanical and electrical components) in the three towns of Georgia mentioned in Clause 4 above.

D. Project Brief Description

7. Brief Description of the Project is defined in below Table 1. The figures are approximate.

Table 1:

Package Name	Tentative Commencement Date
Marneuli	
Water Supply and Sewage Systems	September, 2016
Sewage Treatment Plant	March, 2017
Bolnisi	
Sewerage Network	September, 2016
Sewage Treatment Plant	March, 2017
Chiatura	
Water Supply System	September, 2016
Sewage Treatment Plant	March, 2017

8. It is envisaged that there will be following contract packages:

- i. Marneuli water supply and sewage systems and Bolnisi sewage network;
- ii. Marneuli, Bolnisi and Chiatura Sewage Treatment Plants
- iii. Chiatura Water Supply System.

E. Scope of Work

9. The Program will improve water systems in the above mentioned towns. The contracts to be supervised are given in the table above.

10. The consultant is expected to assist UWSCG supervise the civil work contract packages as planned.

11. The consultant team will be engaged to perform as the Engineer for all the above contracts. Which will be under FIDIC MDB Harmonized Edition Conditions of Contract and for Treatment Plants - Model Form of International Contract for Process Plant Construction published by the Engineering Advancement Association of Japan (ENAA) or FIDIC Gold Book. The Consultant will administer the construction contracts and ensure that the works are constructed in accordance with the provisions of the construction contracts, as stated in the Conditions of Contract, Drawings, Specifications, Bills of Quantities and Schedule of Prices.

12. The consultant's representatives will be full-time professional engineers in the Project area under each contract and will make all necessary arrangements for quality control and implementation of the works.

13. The consultant will carry out a critical review the detailed design prior to the commencement of works to identify defects or omissions that compromise on consistency of the design and completeness of works. This review will be carried out immediately after the services commence and will be completed within 4 weeks. On completion of the review, the Supervision Consultant will prepare a report, setting out all findings and recommendations for correcting any defects or omissions identified. Notwithstanding these, the Supervision Consultant will immediately inform the Employer of any defect or omission that may have a substantial impact on the Program at the time the defect or omission is uncovered. The consultant will submit four copies of the review report to the employer.

14. The task of the Consultant will include but not be limited to:

- a. ensure that the construction methods as proposed by the contractor for carrying out the works are satisfactory in accordance with international best practice; checking of Contractor's setting out of the Works;
- b. Inspection of contractor's construction equipment; materials;
- c. Monitor safety of the works, property, personnel, and general public; monitoring the schedule of mitigation measures for adverse environmental impacts;
- d. Establish efficient procedures for verifying contractor performance and reporting progress and problems in a timely manner, including quality control reports, quantity survey records, requests for variation or change orders, contractor's claims and invoices;
- e. Agree measurements for works completed and in progress with the Contractor; check Contractor's interim and final valuations and prepare payment certificates;
- f. Develop and implement procedures for timely payments to the Contractors by the Employer and monitor for compliance;

- g. Regularly monitor physical and financial progress against the milestones as per the Contract so as to ensure completion of contract on time; maintain a daily diary of site activities including plant and labor records; hold weekly progress meetings with the Contractors to discuss progress and problems on the Contracts and take Minutes of Meetings;
- h. attend third party inspections as necessary and provide certification on the quality of the supplies based on such inspections (Note: time inputs associated with this requirement are deemed to be included in Table 1, but associated expenses will be reimbursed at cost);
- i. assess Contractors' claims for time extension, variations, additional compensation etc and recommend appropriate decisions;
- j. check Contractors' design and drawings for Design and Build Contracts;
- k. undertake project performance monitoring and evaluation in accordance with the Program Framework and ADB's *Project Performance Management System (PPMS) Handbook* including the baseline data survey and the following annual survey and reporting up to project completion;
- l. ensure that the Contractors do not involve child labor for the execution of the civil works contracts in accordance with the provisions of the contract agreement;
- m. prepare and issue a monthly progress report for each Contract detailed quarterly reports giving physical and financial progress against approved Contract Programmes and a detailed Project Completion Report;
- n. undertake all site testing of the Works and commissioning tests prior to issuance of a Taking Over certificate;
- o. review Contractors' submitted Operation Manuals; monitor preparation of and approve the "as built" drawings before submission to the Employer;
- p. review the Contractors' Environmental Management Plans (EMP), supervise and monitor the implementation of environmental mitigation measures required, in the event of occurrence of any unexpected environmental impacts, coordinate with the UWSCG, to provide necessary mitigation measures; and prepare quarterly reports on compliance with the EMPs for the Employer and the ADB;
- q. monitor performance of the Contractor during the Defects Liability Period (and O&M period, if applicable);
- r. prepare and submit draft Project Completion Report two months before end of Defects Liability Period (DLP);
- s. prepare and submit final Project Completion Report on completion of DLP or alternative date as agreed with the Employer;

- t. provide on the job training for any counterpart staff seconded to the project by the UWSCG for strengthening their capacity in supervision of construction and managing and monitoring social and environmental safeguards;
 - u. prepare, monitor and submit LARP and Safeguard Documents during construction phase if necessary; and
 - v. prepare post-construction environmental audit according to ADB requirements.
15. With reference to quality control, the Consultant shall submit reports or other relevant documents which include:
- i. completed plan-schedules;
 - ii. measurement sheets supporting interim valuations;
 - iii. completed and signed Forms (Form N2);
 - iv. materials quality certificates;
 - v. certificates for pipe testing; and
 - vi. laboratory certificates for external concrete testing
16. If so required by the employer, the Supervision Consultant will provide any of the following as additional services: (i) prepare reports, including technical appraisals, additional contract documentation, and/or review and comment on the contractor's proposals, as may be required for the successful completion of the Contracts; and (ii) provide any other specialist services as may be required from time to time.
17. The employer will authorize all additional services, other than minor extras that do not materially affect the scope of the supervision work, at the rates established in the construction supervision contract, or at rates mutually agreed upon when the services require the use of specialists not listed in the contract.

F. Implementation Arrangements

18. The Construction Supervision Consultant will assist the UWSCG in construction supervision but will be the Engineer to the Contracts. The Consultant's Team will be headed by a Team Leader/Chief Resident Engineer, and composed of international and domestic experts. The consultant will provide independent teams for each civil works contract headed by an international Resident Engineer. Each team will report to the Team Leader/Chief Resident Engineer.

G. Staffing Requirement

19. The Consultant shall provide services over a 40 month period. The staff requirement is detailed in Table 2 below:

Table 2: Staff Requirement for Construction Supervision Consultants

	Professional	Location	Nos.	Men/Months (During Construction)	Men/Months (During DNP)	Total
I	International Staff					
1	Team Leader / Chief Resident Engineer	Central office	1	33	3	36
2	Resident Engineer Marneuli and Bolnisi WW Network	Marneuli and Bolnisi	1	33	3	36
3	Resident Engineer – Marneuli, Bolnisi and Chiatura STP	Marneuli, Bolnisi and Chiatura	1	24	6	30
4	Resident Engineer – Chiatura Water Supply System	Chiatura	1	22	3	25
5	Mechanical Engineer	Central office and sites as required	1	6	1	7
6	Electrical/ICA Engineer	Central office and sites as required	1	6	1	7
7	Contracts Engineer/QS	Central office and sites as required	1	12	1	13
8	Treatment Process Engineer	Central Office and Marneuli, Bolnisi and Chiatura WWTP	1	6	1	7
9	Structural Engineer	Central Office and sites as requires	1	3	1	4
10	Geotechnical Engineer	Central Office and sites as required	1	3	1	4
	Subtotal -- International Staff			148	21	169
II	National Staff					
1	Assistant Resident Engineer – Marneuli/Bolnisi	Marneuli/Bolnisi	1	36	1	37
2	Civil Works Inspector – Marneuli/Bolnisi	Marneuli/Bolnisi	1	36	0	36
5	Assistant Resident Engineer - Chiatura	Chiatura	1	24	1	25
6	Civil Works Inspector – Chiatura	Chiatura	1	18	1	19
7	Public Awareness Specialist	Central office and sites as required	1	8	0	8
8	Environmental Specialist	Central office and sites as required	1	36	1	37
	Subtotal -- National Professional Staff			158	4	162
	Total – International and National Professional Staff			306	25	331
III	Support Staff					
1	Document Controller/Secretary Translator	Central office	1	36		
2	Accountant	Central office	1	40		
3	Driver for Team Leader	Central office	1	36		
	Total Support Staff			112		

i. Project Staff

20. **Team Leader/Chief Resident Engineer (International).** The Team Leader will be responsible for overall supervision of all construction activities as described in the Duties of the Consultant preferably with Degree in Civil Engineering, or similar qualification, and corporate membership of a relevant professional institution. He/she will have preferably 20 years experience in planning and implementation of large-scale water supply and sanitation projects, preferably construction of water transmission mains and distribution networks, sewerage networks and wastewater treatment plants. Preferably 5 years of this experience will have been as Team Leader and a minimum of 10 years experience will have been in developing countries, some preferably in Central and West Asia. Skills in human resource management, previous experience on ADB projects and familiarity with ADB Guidelines would be advantageous. A post graduate qualification in construction or project management would be advantageous but is not as essential as proven experience of similar projects. The Team leader will be based in the Consultant's central project office in Georgia (Tbilisi) and will report regularly to the UWSCG project management unit.

21. **Resident Engineers (International).** The three Resident Engineers will each be responsible for supervision of construction activities in one of the towns of Marneuli, Bolnisi and Chiatura. Each Resident Engineer should preferably have a Degree in Civil Engineering, or similar qualification, and preferably 15 years experience in the implementation of large-scale sanitation projects, preferably construction of water transmission sewerage networks and wastewater treatment plants. He/she should preferably have 7 years experience in developing countries, preferably in Central and West Asia. Skills in human resource management, previous experience on ADB projects and familiarity with ADB Guidelines, and a working knowledge of FIDIC, including Gold Book based contracts, particularly the MDB Harmonized Edition, would be advantageous. A post graduate qualification in construction or project management would be an advantage but is not essential.

22. **Mechanical Engineer (International).** The Mechanical Engineer (International) will assist the Resident Engineers in supervising the construction activities in the towns of Marneuli, Bolnisi and Chiatura. He/she should preferably have a Degree in Mechanical Engineering, or similar qualification, and preferably 12 years experience in the implementation of large-scale water supply and sanitation projects, preferably including water and wastewater pumping stations and treatment plants. He/she should preferably have preferably 5 years experience in developing countries, preferably in Central and West Asia. Previous experience on ADB projects and familiarity with ADB Guidelines would be advantageous.

23. **Electrical/ICA Engineer (International).** The Electrical Engineer will assist the Resident Engineers in supervising the construction activities in the towns of Marneuli, Bolnisi and Chiatura. He/she should preferably have a Degree in Electrical Engineering, or similar qualification, and preferably 12 years experience in the implementation of large-scale water supply and sanitation projects, preferably wastewater pumping stations and treatment plants, and associated SCADA. He/she will be familiar with the latest European standards for electrical safety and preferably have 5 years experience in developing countries, preferably in Central and West Asia. Previous experience on an ADB projects and familiarity with ADB Guidelines would be advantageous.

24. **Contracts Engineer/QS (International).** The Contracts Engineer will assist the Team Leader/Chief Resident Engineer in the contract management of all construction activities, review

claims related to price adjustments for civil works.. He/she should have a Degree in Engineering or Quantity Surveying, or similar qualification, and preferably 10 years experience in the implementation of large-scale construction projects, preferably including water and sanitation projects. He/she preferably have 5 years experience in developing countries, preferably in Central and West Asia. Previous experience on ADB projects and familiarity with ADB Guidelines would be advantageous. He/she should have experience in the use of FIDIC contracts; particularly the MDB Harmonized Edition, Gold Book and in assessing and evaluating Contractor's claims.

25. Structural Engineer (International). Structural Engineer will assist Team Leader and Resident Engineers for support in reviewing Contractor's detailed design, including structural calculations, models and drawings, specifications and civil works during pre-construction stage for Marneuli, Bolnisi and Chiatura contracts. He/she will make review contractor's final designs will analyze design compliance in terms of ERQ, drawings, BOQ, Schedules of prices. He/she will make comparative analysis of BOQ items for concrete and reinforcement works, costs analysis against contract lump-sum. Review and comments on construction method statement from Contractor. He/she will assist Resident Engineer for support in reviewing shop drawings for the above works. He/she should have a Degree in Structural Engineering or similar qualification, and preferably 7 years experience in the implementation of large-scale construction projects, preferably including water and sanitation projects. He/she should have some experience in developing countries, preferably in Central and West Asia. Previous experience on an ADB projects and familiarity with ADB Guidelines would be advantageous.

26. International Geotechnical Engineer (International). The expert shall have minimum bachelor's degree in Geology with a minimum of 10 years relevant experience. The Engineer will review geotechnical reports to be submitted by Contractors for all structures (reservoirs, manholes, valve chambers, trust blocks etc.); responsible for reviewing any kind of structure so that it can fulfill a specific purpose, and remain safe, economic and functioning throughout its intended lifetime. Geotechnical includes investigating on both the immediate loads and demands on the structure based on soil conditions, as well as any likely future changes, and ensuring a structure is designed to withstand those loads, Ground and soil investigations, Oversee foundations, slope and embankment construction, Laboratory and in-situ testing, Responsible for overall management of geotechnical engineering services, including P & L responsibility, Verify geotechnical reports and test results, instruct contractors on engineering analysis and report validation; approves contractor's field exploration and laboratory tests, Verification of geotechnical calculations using governing codes (Eurocodes or Georgian codes) and standards as instructed by the Employer, Verification of engineering plans (foundations), design and reinforcement details of reservoirs etc., Provide comments on geotechnical, structural and civil drawings for approval by the Engineer, Review shop drawings as required during construction.

27. Treatment Process Engineer (International). The Wastewater Treatment Process Engineer should have a Bachelor's degree in a relevant engineering discipline (Civil, Mechanical, Chemical) from a recognized university with a minimum of 10 years experience in the process and hydraulic design of wastewater treatment plant, with particular knowledge of the activated sludge process and sludge treatment/disposal in the climatic conditions that prevail in Marneuli, Bolnisi and Chiatura. He/she must have previous demonstrable experience of reviewing design and build documents.

28. Work will include checking and approving the final detailed design and drawings of the Marneuli, Bolnisi and Chiatura wastewater treatment plants prepared by the successful

Contractors, to ensure compliance with the performance requirements. The Wastewater Treatment Engineer should also be able to assist, if required, with the commissioning of the wastewater treatment plants in Marneuli, Bolnisi and Chiatura. to ensure that the specified performance is achieved on a sustainable basis.

29. **Assistant Resident Engineers/Civil Works Inspectors (National).** The Assistant Resident Engineers will assist the International Resident Engineers in supervising construction activities in each of the towns of Marneuli/Bolnisi and Chiatura. They should preferably have a Degree in Civil Engineering, or similar qualification, and preferably 8 years experience in the implementation of large-scale sanitation projects, preferably construction of sewerage networks and wastewater treatment plants. Fluency in the English language and experience with international organizations shall be an advantage.

30. **Public Awareness Specialist (National).** The Public Awareness Specialist will be responsible for informing stakeholders of the activities of the contractors in all towns. He/she should preferably have a Degree in a relevant discipline and some experience in the implementation of large-scale construction projects, preferably construction of distribution networks, sewerage networks and wastewater treatment plants. Experience with international organizations shall be an advantage.

31. **Environmental Specialist (National).** The Environmental Specialist will be responsible for monitoring compliance with the contractors' environmental management plans in all towns. He/she will be responsible for preparation of post-construction environmental audit according to ADB requirements. He/she should preferably have a Degree in a relevant discipline and experience with monitoring compliance with ADB safeguard policies in the implementation of large-scale construction projects, preferably including water and sanitation projects. Fluency in the English language and experience with international organizations shall be an advantage.

H. Reports

32. The Consultant will submit the following reports:

Table 3: Required Reports

Types of Reports	UWSCG	ADB
Inception Report (month 1) English and Georgian versions	3	1
Progress Reports (monthly) English and Georgian versions	3	1
Progress Reports (quarterly) English and Georgian versions	3	1
Post-Construction Audit Report English and Georgian versions	3	1
Draft Contract Completion Report. English and Georgian versions	3	1
Final Contract Completion Report. English and Georgian versions	3	1

33. All reports must be accompanied by soft copies (prepared in agreed software and submitted by e-mail and CD).

I. Facilities

34. Contractors will provide vehicles, including operation & maintenance, for Consultants' International and National Staff during Construction activities. Also, Contractors will provide office space, including, furniture, printers, utilities costs, in Marneuli, Bolnisi and Chiatura for Resident Engineers and Consultant Staff. Staff Accommodation costs will be borne by the Contractor.

J. Duration of the Assignment

35. It is currently envisaged that the assignment will commence on August 2016 and be completed in September 2019.

K. Budget

36. Estimate Budget for the assignment excluding local VAT is \$4,000,000 (four million dollars) which includes, remuneration for international and national staff, support staff, out-of-pocket expenses, such as, international air travel and per-diem for international staff, contingencies.

ANNEXURE 3

FINANCIAL MANAGEMENT

A. Introduction

1. The update of the Financial Management Assessment (FMA) was undertaken to determine the capacity of the implementing agency in managing its financial resources effectively and efficiently. Such a capacity is critical to the success of the Investment Program. The assessment determines the adequacy of systems and controls including accounting and financial reporting, auditing, internal control, funds disbursement and flows, information systems, and personnel complement, among others.

2. The FMA was conducted at the IA level for the United Water Supply Company of Georgia (UWSCG). The findings were updated and incorporated by obtaining detailed information on financial operations at agency and project levels from the management consultant, project accountant/financial consultant at PMF and Auditors for ongoing ADB loan projects.

B. Executive Summary

3. The FMA has considered two types of risks: (i) inherent risks i.e., risks outside the direct control of the UWSCG financial management, and (ii) control risks i.e., risks concerning the internal functioning and control of the UWSCG Finance and Accounting division.

4. The biggest inherent risk that UWSCG has been facing and will be facing in the coming years is the unstable political future situation exacerbated by the forthcoming elections in October 2016, which may result in changes in the management of the water company and may affect the planned water related regulations and tariff reforms.

5. The results of the FMA of the internal (control) risks indicate that the existing financial management capabilities and performances of UWSCG Finance and Accounting division may be considered acceptable to ADB in relation to the projects related accounting and auditing requirements and arrangements. However, additional support through the Program is needed to prepare sound and reliable company's financial statements, financial monitoring reports, and asset management reports as the company is in the process of transitioning to the adoption of International Accounting Standards (IAS). The auditor has provided a disclaimer opinion for the financial statements of FY2013 and FY2014 in relation to issues with valuation of assets and inconsistencies found in the revenue accounting figures. Trainings and workshops have been conducted under the program to improve the accounting and financial management system, but a continued support until the end of the Program is still needed.

6. Another identified UWSCG FM risks is that an internal auditing unit is not in place. An internal audit department would help the company to accomplish its strategic objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of financial risk management, control, and governance processes.

7. The analysis of the historical financial performance of UWSCG shows that UWSCG is dependent on the government subsidies to meet its operating costs since: (i) tariff reforms have not yet been implemented; (ii) operational cost were not fully under control. Therefore, the project's financial management risk of the company is considered high. However, efforts to

mitigate this risk are already underway, but further support to UWSCG for the improvement of the financial management system through the engagement of management and accounting professionals is needed. The government has been making subsidy payments to the company to meet these costs and is committed to this in the future. A covenant has been included in the loan agreement to confirm the advance or surplus payment of subsidies to the company to meet future O&M costs. Further, a tariff implementation road map aimed at moving the company to self-sustainability, with clear timelines for implementation and where tariff increases are linked to a minimum operating ratio of 1 has been agreed with government. The implementation of this tariff road map has also been included as a loan covenant for the project. These measures will ensure project sustainability.

C. IA - Financial Performance and ongoing reforms

8. The Water Supply Regional Development Authority (WSRDA) was established by Presidential Edict No. 192 in May 2009 as the lead agency responsible for national WSS sector planning and policy formulation under the Ministry of Regional Development and Infrastructure (MRDI). WSRDA was tasked to provide direction to the two regional water companies serving the western and eastern part of Georgia (excluding Tbilisi, Rustavi and Batumi) and also acted as the sector policy maker in a transitional set-up. WSRDA was liquidated by President Decree in 2010, after set up of UWSCG.

9. By 2010, UWSCG was found and started to function on 14th of January. It was created under the enterprise law of the Ministry of Economy and Sustainable Development with a capitalization of GEL57.9 million. Main activities of the enterprise comprise water supply and sanitation services for population and legal bodies.

10. The company is headed by the director who has 5 deputies in different fields – first deputy director, deputy director in finances, deputy director in commercial issues, deputy director in technical issues, and deputy director in administrative issues. The company has 6 regional branches – Samegrelo and Zemo (upper) Svaneti, Imereti, Racha-Leckhumi and QvemoSvaneti, Shida Qartli and Mtskheta-Mtianeti, Qvemo Qartli and Kakheti and 51 service-centres. Approximately 2,500 employees are employed in the company, out of which approximately 300 employees work in head office. Management structure of the company comprises departments and divisions.

11. **Revenue.** The most important sources of revenues are operational revenues and subsidies from the central government. Operational revenues consist of the revenues based on the sale of water and wastewater services measured through water meter readings or through flat rate billed amounts per household without a water meter. Revenues are booked as one amount on a monthly basis and include water and wastewater revenues although a recommendation from the management consultant is to separate the type of revenue in the accounting system.

12. The last tariff revision application was undertaken in 2011 and approved by the regulator in October 2011. Until September 2010, all service centers had their own tariffs for non-domestic metered customers, domestic metered customers, and domestic non-metered customers. All in tariffs for non-domestic customers varied between 0.15 GEL/m³ to 2.96 GEL/m³ for commercial non-domestic customers. The new established metered tariffs went up to 0.499 GEL/cum (all in) from GEL 0.27/cum for metered domestic customers and 4.307 GEL/cum (all in) for non-domestic metered customers. Domestic non-metered households pay based on the number of persons per household. Unmetered domestic tariffs vary between the

service centers. The lowest rate is a combined all in tariff of 0.35 GEL/month in Mtskheta up to 2.155 GEL/month in other service areas. The actions undertaken by UWSCG to get domestic customers metered along with the overall high collection efficiency (95%),¹ which is an indication of customers' willingness to pay, have had a good impact on the billed consumption patterns. However, the tariffs set by UWSCG are not enough to act as a full cost recovery tariff and government subsidies are required to meet the operational expenses (for a large part to pay for electricity costs) as shown in the Table 1.

13. **Operational expenses.** The main cost accounts currently in use in UWSCG are: (i) direct cost of sale; and (ii) indirect cost or administrative costs. The direct costs include only the costs involved in producing, distributing and selling potable water and collect and treat wastewater and exclude any overhead or other expenses. Costs belonging to this category are: (i) materials; (ii) salaries; (iii) electricity; (iv) fuels; and (v) depreciation. Indirect costs are not directly related to the production, distribution or sales of water or the collection and treatment of wastewater. UWSCG has specified these costs under the category of administrative costs.

14. **Financial performance.** The analysis of the historical financial performance of UWSCG shows that UWSCG is dependent on the government subsidies to meet its operating costs. The government has supported UWSCG with adequate grants to maintain the operating ratio² less than 1 over time. As of 2015, the company had a surplus subsidies of GEL 30.20 million accumulated from previous years and is projected to have a surplus subsidies of GEL 29.66 million in 2016. The considerable surplus of subsidy accumulated from previous years indicates that the operating ratio of 1 will be also met in the future. UWSCG's unaudited financial statements for 2014 and the projection for FY2015 indicate that the company operational expenses dramatically increased although the turnover had remained substantially constant. This is mainly due to a considerable increase of expenses in salaries related to a corresponding increase in the number of employees. However, actions and plans to rationalize the H&R company's structure and to reduce the related expenses have been initiated in 2015 and will be further implemented in the coming years.

Table 1: Historical audited/Unaudited performance of UWSCG
(\$ million)

		FY2010	FY2011	FY2012	FY2013	FY2014*	FY2015*	FY2016*
		Audited	Audited	Audited	Audited	Unaudited	Projected	Projected
A	Operating Revenues Sales (billed water and wastewater)	18.33	26.84	27.17	34.68	35.04	32.69	34.43
B	Subsidy utilized	5.37	3.34	3.57	1.24	8.41	10.07	8.83
C	Subsidy % of Revenue	23%	11%	12%	3%	19%	24%	20%
D	Operational Expenses (without depreciation and amortization)	23.70	30.18	30.74	35.92	43.45	42.76	43.26
F	Operating Ratio (no Subsidy) - (D/A)	1.29	1.12	1.13	1.04	1.24	1.31	1.26

¹ Tariff collection efficiency has improved: 86% (2010), 94% (2012), and 96% (2013 and 2014).

² Operating ratio is the ratio of UWSCG's operating expenses over its operating revenue, with "operating expenses" meaning all expenses of UWSCG on operation and maintenance including staff salaries, cost of energy, chemicals and consumables, routine maintenance, spare parts, consumables, etc. but excluding capital expenditure and debt service obligations. The "operating revenue" means the revenue collected by UWSCG from the sale of water and other revenues excluding grants from the government.

G	Operating Ratio (With Subsidy) (D/(A+B))	1	1	1	1	1	1	1
	Total Subsidy provided by Gov.	16.05	10.44	14.00	17.50	3.00	9.00	14.00
	Net Subsidy(without debt repayment)	15.41	10.44	14.00	17.06	1.14	4.14	8.29
	Pool of subsidies	10.04	17.15	27.58	43.40	36.13	30.20	29.66

*based on unaudited financial statements)

Source: United Water Supply Company of Georgia.

15. **Mitigation measures and ongoing reforms.** In order to ensure the operational sustainability of the water company, the respective loan agreements for the previous projects provide for covenants for Borrower to: (i) take steps to strengthen regulatory function, including tariff setting for the cost recovery; (ii) cause UWSCG to achieve financial stability through attainment of an operating ratio (i.e. ratio of expenditure over revenue) of 1 by the end of 2019; and (iii) until such time as tariff increases for UWSCG to meet the operating ratio, provide funds to UWSCG necessary to meet the viability gap. Accordingly, UWSCG has been advised to submit regularly its financials to the regulatory authority and seek revision in tariffs to reduce its dependence on government subsidies.

16. In this regard, the water company has submitted a tariff adjustment roadmap in September 2016, included in the 3-years business plan from 2017 to 2019, to attain the operating ratio of 1 by 2019. Further, the recruitment of consultants to strengthen the regulatory function, including financial management regulations and tariff setting, has been finalized on 14 July 2016.³ The company has also recently initiated a close consultation with the GNERC for the tariff reforms and a joint working group has been established for this purpose. ADB will monitor, through a loan covenant, the implementation of the tariff adjustment proposed in the business plan and will require the government to take adequate steps to ensure that, in 2017, GNEWSRC will take initial steps to set tariffs annually based on cost recovery principles, in particular to assure full recovery of operation and maintenance costs, taxes, depreciation of assets, and a return on capital based on socially equitable principles that ensure consumers will not pay for inefficient services.

17. In order to improve UWSCG's operation and management, a 3-year management consultancy contract was envisaged under the Investment Program. Though the bids for appointment of management consultants were received in 2012, the signing of the contract with a renowned water utility operator (Sachsen Wasser GmbH) was delayed by 1 year, and the contract was signed on 2 July 2013. Because of this delay, original target of preparation of business plan by 2013 was not met by UWSCG, and the same was extended to end of 2014.⁴

18. The management consultant has submitted several reports, namely base year data report, asset management program, human resources and organization development plan, financial management plan, institutional development plan, standard operating procedures,

³ The objective of the consultancy assignment is to assist the government in capacity development of the GNERC by providing tariff setting methodology and relevant training for its staff. The assignment will include developing the necessary rules and standards for regulating water utilities, and starting performance monitoring of major water utilities including UWSCG.

⁴ This was effected in Schedule 5 of the Loan Agreement between the Borrower and ADB dated 5 February 2015 for Project 4, which deemed a modification of the requirement set forth in (a) paragraph 6(i) of Schedule 6 of the FFA and (b) subparagraph 6(a) of Schedule 5 to the Loan Agreement between the Borrower and ADB dated 10 May 2011 for Project 1.

management information systems, operating performance report, annual operating plan (for 2014 and 2015), etc. UWSCG has started implementing the recommendations of the management consultant since FY2015 to strengthen its management and operating efficiency by streamlining and improving the service delivery. In particular, the following plans are being implemented: (i) the SOP to improve the operational effectiveness of the company in the areas of O&M, water loss reduction, asset management, commercial operations; financial management, IT infrastructure, HR&D, energy efficiency, and key performance indicators and benchmarking; (ii) the Key Performance Indicators database which has been devised to allow local service centers to put information on KPIs, which are updated on a regular basis, and used for internal analyses and management; (iii) the Annual Operation Plan (AOP) used as a planning tool for UWSCG to ensure the achievement of long- and mid-term strategic goals and objectives; (iv) the human resources and organization development plan to rationalize the structure from the H&R point of view (the administration costs in 2016 were reduced by 195,000 GEL); and (v) the Non-Revenue Water reduction plan based on which the UWSCG has started awareness campaign in service centers and is implementing a full metering program to drastically reduce the non-metered consumption aside from the customer identification.

19. UWSCG prepared the water company business plan which was submitted in December 2014. However, the document was not in acceptable format, and UWSCG agreed to hire an international financial management expert to prepare a financial analysis model which takes into consideration past financial performance of the company from FY2010 onward until FY2014, and projects the long-term financials (until FY2025). The financial data showed, under appropriate assumptions, how the operating ratio (defined as the ratio of operating expenditures, excluding depreciation, to operating income, excluding subsidies), would be brought down to 1 by FY2019.

20. The financial model, developed by the financial expert, shows, through a sensitivity analysis, the impact on the operational grant (subsidy) due to: (i) changes in tariff and O&M costs; (ii) changes in demand growth and O&M costs; and (iii) changes in tariff and its starting date of implementation (all other variables remain the same as current situation). In particular, in the first scenario, the subsidy can be reduced by 92% only if the tariffs are increased to 35%-40% over 5 years⁵ and O&M costs reduced by 20%. In the second scenario (no tariff adjustment), the subsidy can be reduced by 80% only if demand for water grows up to 25% over 5 years and O&M costs reduced by 20%. In the third scenario, if tariffs are increased by 25% for domestic and 30% for non-domestic over 5 years and change is proposed starting FY2016, the operation support (subsidy) can be reduced by 92%. The historical and projected Statement of Income and Statement of Cash Flow are presented in Annexure 3.1 and Annexure 3.2.

21. Based on the information and plans described above, UWSCG has submitted a 3-years Business Plan in September 2016 (for the 2017-2019 period) which includes: (i) performance improvement programs and operation and maintenance (O&M) plans measured through KPIs and benchmarking; (ii) analysis of water demand and nonrevenue water reduction programs; (iii) revenue enhancement through the adoption of a tariff adjustment roadmap, and (iv) rationalization of the company human resources structure along with cost optimization programs to achieve financial stability by attaining an operating ratio of 1 by the end of 2019, as required by the loan agreement.

⁵ Tariff escalation has been considered from 1 January 2017 with increase of 15% and 20% over the tariff charged in previous financial year on domestic and non-domestic (including special customers), respectively. The second change with percentage escalation has been considered from 1 January 2019 and thereafter the change has been considered at 10% every alternate year for all categories of customers.

22. In conclusion, the FMA indicates that UWSCG is currently financially dependent of government subsidy since: (i) tariff reforms have not yet been implemented, though the government has recently shown a firm commitment to implement a tariff adjustment roadmap for the next 3 years and subsidies have been regularly provided; (ii) operational cost were not fully under control while operational revenues are relative constant, though several actions have been recently taken to reduce the operational cost; and (iii) the financial accounting management is weak. All these aspects endanger considerably the project sustainability if they are not properly addressed. Therefore, the project's financial management risk is considered high. However, efforts to mitigate this risk are already underway, as mentioned above, provided through the support of management consultants working with UWSCG to improve management information systems, revenue enhancement measures, and accounting and auditing systems. Other proposed actions are: (i) provision of further support to UWSCG to improve the financial management system through the engagement of experts to assist UWSCG prepare the financial statements for the past years and implement the asset management plan; (ii) assurance from the government to make subsidy payments to the company to meet the O&M costs; a covenant has been included in the loan agreement to confirm the advance or surplus payment of subsidies to the company to meet future O&M costs; (iii) approval by the government of a tariff implementation road map aimed at moving the company to self-sustainability, with clear timelines for implementation and where tariff increases are linked to a minimum operating ratio of 1; the implementation of this tariff road map has also been included as a loan covenant for the project. These measures will ensure project sustainability.

D. Country Public Financial Management

23. The reform of the public financial management (PFM) system of Georgia has been a priority for the government in the last eight years. The Budget System Law approved in 2003 set in place the principles of comprehensiveness, transparency, and accountability for the budget system as well as rules and procedures for the processes at all stages, which include budget preparation, discussion, approval and execution, consolidation, reporting and auditing of the actual expenditures.⁶ All extra budgetary funds were closed and all state financial transactions were unified within a Treasury Single Account. This change increased the transparency of the budget process and information on revenue collection and spending was available to any interested group.

24. In 2006, the Basic Data and Directions document (BDD) was introduced. The document outlined the main macroeconomic indicators and basic directions and priorities of the government for the next four fiscal years. The line ministries, budget agencies and local self-government (LSG) units were involved in the development of the BDD.

25. In 2009, Georgia adopted a new Budget Code, which was designed to improve the budget process. With the adoption of the new Budget Code, the budget process became simplified and unified under a common system. This change also positively affected the transparency of the budget process. The BDD became binding with the legislation and includes government program, macro-fiscal projections, expenditure ceilings of the spending units for the coming 4 fiscal years, programs of the spending units for the coming 4 years and framework for their financing.

⁶ Public Expenditure and Financial Accountability (PEFA). The World Bank and European Commission, November 2008.

26. Since 2012 Program budgeting has been introduced on state budget level and since 2013 on Local Government level. All the spending units plan and report in terms of programs and subprograms compared to previous experience of organizational structure of the budget.

27. New IT systems were actively introduced in the budget process: e-Treasury and e-Budget are the two in-house web-based program which is used for budget planning and budget execution process and are fully in compliance with one-another.

28. Economic Liberty Act was adopted by the parliament and will be in force from 2014 which sets fiscal rule (30% limit on budget expenditure; 60% limit on government debt and 3% limit on fiscal deficit).

29. PEFA self-assessment was conducted and evaluated by World Bank in 2012 and published in 2013 which shows major progress in the most of the indicators⁷. The document is posted on the World Bank website.

E. Risk Assessment

30. Risk assessment was performed for agency financial management capacity. Table 1 summarizes the results.

Table 2: Risk Assessment

Risk	Risk Assessment	Risk Mitigation Measures
Inherent Risk		
Country specific risks	Moderate	Increasing political unstable future situation which may result in changes in the management of the water company and may affect the planned water related regulations and tariff reforms.
Entity Specific Risks	High	Operational sustainability of UWSCG depends on tariff reforms and improvement/optimization of the operation and management systems.
Project Specific Risks	Low	Project 6 is economically viable and the subprojects are financially viable if the tariff increases are implemented until 2040 and these are affordable to domestic consumers.
Control Risks		
A. Implementing Agency	Low	UWSCG has experience managing and implementing water supply projects of the scale and scope as in the proposed ADB project.
B. Funds Flow Arrangements	Low	UWSCG is experienced in ADB funding arrangements, as well as those in other international lending agencies. UWSCG coordinates with MOF and designated banks for all local and foreign project transactions.
C. Staffing	Low	UWSCG is sufficiently staffed with experienced personnel, sufficiently complemented by trained financial consultants. Project accountants in ongoing ADB project have been trained on ADB procedures.
D. Accounting Policies and Procedures	Substantial	UWSCG has procedures to follow the Georgian NAS. Manual on systems and procedures to effect policies is available to accounting and finance staff. However, International Financial Reporting Standards (IFRS) have been adopted and made mandatory by the government as the only reporting standards in

⁷ http://www.wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2013/09/23/000333037_20130923113645/Rendered/PDF/811420PER0P1310Box0379831B00PUBLIC0.pdf

Risk	Risk Assessment	Risk Mitigation Measures
		Georgia for a majority of enterprises, including UWSCG. UWSCG is in the process of transitioning to the adoption of International Accounting Standards (IAS).
E. Internal Audit	High	Utilities are not required to have internal audit functions by GNERC.
F. External Audit	High	<p>UWSCG are audited annually by an external auditor and are provided with unqualified opinions. Projects are subject to external audit annually by private audit group using IAS/IFRS in compliance with accounting law requirements. The opinions are being reviewed and analyzed by CWOD - Finance Specialist and corrective actions, if any are proposed to the EAs. UWSCG has been fully satisfactorily compliant with project related auditing requirements.</p> <p>The UWSCG's audits for the financial statement of FY2013 and FY2014 presented a disclaimer in relation to issues with valuation of assets and inconsistencies found in the revenue accounting figures.</p>
G. Reporting and Monitoring	Moderate	UWSCG comply with reporting needs of MOF and other agencies as well as ADB project periodic reporting. Detailed information exchange could improve at project level and between central and project levels.
H. Information Systems	Low	UWSCG uses the <i>ORIS</i> accounting software for internal and project operations. UWSCG is now implementing new software, FINA, which allows the department of procurement, accounting and logistics to work in one system. Linking those systems in one network will sophisticate working efficiency and maximize information exchange between central and project units, which in its case will decrease delays in reporting.

IAS = international accounting standards; IFRS = international financial reporting standards; NAS = national accounting standards; MOF = Ministry of Finance.

F. Funds Flow Mechanisms

31. Ministry of Finance controls ADB funds. Imprested account of projects does not exist and payments are released directly from ADB Headquarter to contractors or to UWSCG in case of reimbursement. The funds flow diagram is shown below.



32. UWSCG has experience in the management of ADB funds disbursements. UWSCG do not have direct experience managing foreign exchange risk, however the foreign exchange risk is being managed by MOF and therefore burden of foreign exchange variation will not be passed onto consumers through user tariffs.

33. Current practice for counterpart financing is for the government's share. The government annually approves the counterpart financing schedule in accordance with allocated funds. UWSCG submits payment request for approval by MRDI.

G. Personnel

34. Total number of personnel as of 2016 is approximately 2,500. The customers include: (i) more than 270,000 domestic, and (ii) approximately 13,000 non-domestic customers (public and government institutions, schools, hospitals, production and service business, etc.). Domestic customers metered are approximately 87,000 so far, while 183,000 are not metered yet. For non-domestic customers, 100% are metered. Staff-to-customer ratio is 9 staff per 1000 customers.

35. Financial Department is composed of the Accounting Division Financial-Economic Division; Material Management Division which includes Central Storage and the fourth is Property Management Division. The Financial Accounting Division prepares the company's financial statements and determines the annual tax obligations. The Financial Economic Division is in charge of tariff review and calculation, and budget preparation and coordination. Material management division is responsible for recording of commodity material values into the accounting program. Property Management Division's scope includes registration and systematization Company's assets as well as solicitation with administrative agencies regarding assets disposal.

36. The Procurement Department comprises by 12 staff, who manage Public Procurements according to National Procedures. All water supply and sanitation projects funded by ADB are implemented directly by UWSCG, as for other funded projects are implemented by the MDF with close cooperation with UWSCG. MDF's involvement includes procurement, monitoring and reporting.

H. Accounting Policies and Procedures

i. Accounting System, Policies and Procedures

37. On 5 February 1999 the Georgian Accounting Standards Commission was formed under the Parliament with the job of facilitating the transition to the adoption of International Accounting Standards (IAS) in Georgian accounting practices. International Financial Reporting Standards (IFRS) has been translated and fully adopted and made mandatory as the only

reporting standards in Georgia for a majority of enterprises, including UWSCG. However, since the beginning of the Program, the current way of accounting in UWSCG is the Georgian tax based accounting, which conflicts in many cases with IAS and IFRS. The company has started the process of transitioning to IFRS with the support of the management consultant. In particular, a series of financial SOPs have been developed and prepared in close cooperation with the respective responsible accounting division represented by either the division head or a senior accountant of the respective division and presented in several workshops and trainings in 2014 and 2015.

38. The financial SOPs prepared by the consultant include: (i) vendor invoice journalizing; (ii) vendor invoice payments; (iii) payroll journalizing and reconciliation; (iv) asset depreciation and repair of assets accounting; (v) billed revenues journalizing and reconciliation; (vi) accounts receivables payments journalizing and reconciliation; (vii) financial reporting (Monthly closing Trial Balance; Preparation of monthly statements and external IFRS reporting); (viii) budget preparation – department and corporate; (ix) international loans accounting; (x) fuel accounting and allocation; and (xi) stock - warehouse accounting.

39. UWSCG has only started in 2015 implementing the recommendations and a special focus is needed on the implementation of an Activity Based Costing (ABC) system. The benefits associated with an ABC systems are: (i) the costs are associated to products or services (activity cost pools) therefore, the company will have accurate actual value of the output of the products and or services accompanying products; (ii) better control of performance of process; (iii) the company is able to fully identify all the costs that are associated with producing a single unit of drinking water or treated wastewater. Through the adoption of the ABC system, the company would be able to develop pricing strategies and accordingly tariffs and market their products much more transparently and efficiently.

40. The second key priority is the use of only one accounting system instead of two and the adoption of FMG Soft as the official accounting system, so the focus on more accurate accounting figures may be initiated. Integration with other modules can be a next step within FMG soft. The integrated framework of modules of FMG Soft allows the current stand-alone Billing/Collection function to get integrated with FMG Soft – General Ledger Module and would solve current discrepancies between billed revenues and commercial account receivable and financial revenues and accounts receivable. Until date these modules are still being tested.

41. Further support to UWSCG then is needed to improve the financial management system through the engagement of management and accounting professionals to assist UWSCG and follow up on the implementation of the operational and financial-accounting operating procedures developed by the management consultant.

ii. Budget System

42. UWSCG prepares annual budget based on the national government guidelines. The budget committee within UWSCG prepares the detailed budget with inputs from each department. Each department is asked to provide committee with the products and funds that are needed for efficient functioning. After service centers are asked to submit their version of detailed budget, then the preparation of the budget is nearing the final stage, when the director makes the final approval of the budget. After the approval of the director the detailed budget is submitted to MRDI. If company receives the approval from MRDI the preparation of annual budget is completed. Re-allocation of funds must be approved by the MRDI.

43. Project budgets are prepared annually by the UWSCG Financial Department and project Financial Consultant in sufficient detail as to include physical and financial targets. Existing Financial Consultant for the ADB project follows ADB budget procedures, utilizing the prescribed form showing targeted quarterly disbursements, including allowance for re-allocations. The budget for counterpart funds is presented to UWSCG, which after review and endorsement by the agency, is eventually submitted to MRDI and MOF for the approval process in accordance with the Budget Law.

iii. Billing and Collection

44. The Billing Department of UWSCG prepares the billing for all service centers and monitors collection. It is composed of two divisions: Data Recording Division and Marketing and Customers Service Division, which includes one subdivision –Hot Line. The main responsibility for billing department is provision of completeness of category “domestic” consumers bases according to the regional branches; Control and monitoring of exact reflection of charging and revenues in the bases; provision of completeness of category “commercial” consumers bases according to the territorial entities; Control and monitoring of exact reflection of charging and revenues in the bases; Giving the appropriate directives to the territorial entities to complete the base; consulting the consumers, reception of applications, provision of on time response to the applications, monitoring of application performance, inform the consumers and interested people with useful information; provision of hotline service; designing the strategic plans for marketing projects.

iv. Safeguard over Assets

45. All water supply and sanitation assets managed by the former regional water companies and LSG were turned over to the UWSCG. UWSCG is now in the process of making an inventory of all below-ground assets. The describing part on above ground assets is accomplished and comparing part is in process. UWSCG contracted the Association for Protection of Land Owners’ Rights to undertake the inventory and registration of all above-ground assets of the UWSCG in each service center. This includes the creation of GIS database and registration of the said assets with the public registry. Lands and buildings are registered in National Public registry, vehicles and special technique is registered in the Ministry of Internal Affairs and the Property Certificate is issued for those objects, other main assets are given to the responsible individuals and identified by special codes. Company also has photo archive. The dislocation of mobile assets are strictly regulated by Division of asset management. The status of the below-ground assets (i.e. pipes, boreholes, submersible pumps) in each service center will also be documented and compiled in a database. The describing of below-ground assets are carried-out by contractor and all characteristics of the assets will be depicted as well.

46. The audit reports for FY2013 and FY2014 provided a disclaimer opinion in relation to issues with valuation of assets and inconsistencies found in the revenue accounting figures. In particular, because of the unclear operation of transferring the water and sanitation related assets from the central government to UWSCG, it is not yet possible to finalize the asset valuation and, therefore, the corresponding value has not been recorded in the financial books. In this regard, ADB has been supporting UWSCG under Project 3 to build its asset data base on GIS platform, which will facilitate identification and will make condition assessment and valuation exercise simpler. Moreover, the management consultant has been supporting UWSCG to achieve improvements in asset and financial management. Further support to

UWSCG is needed to improve the asset management system through the engagement of experts to assist UWSCG prepare and implement an asset management plan.

I. Internal Audit

47. UWSCG has no internal audit department. GNERC, at present, does not require utility companies it regulates to submit audited financial statements. However, an internal audit department would help the company to accomplish its strategic objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of financial risk management, control, and governance processes. The function would specifically focus on: (i) effectiveness and efficiency of (financial and commercial) operations; (ii) reliability of financial and management reporting by auditing the functional splits as captured in the accounting SOPs - reports would include Financial Statements for internal and external use (tax, budget and water regulation authorities), but also internally like KPIs progress reports; (iii) compliance and compliance control with laws and regulations; (iv) safeguarding of assets; (v) Identifying, analyzing, responding, gathering information about, and monitoring of strategic risks; (vi) addressing risks of fraud; and (vii) reporting on conditions of risk, criteria of risk, cause: consequence, and corrective action. A recommendation of the management consultant is that throughout the company, and specifically through the use of FMG Soft, where financial data is processed and generated throughout several modules, proper internal audit instruments should be made available and institutionalized.

J. External Audit

48. UWSCG are audited annually by an external auditor and are provided with unqualified opinions. Projects are subject to external audit annually by private audit group using IAS/IFRS in compliance with accounting law requirements. The opinions are being reviewed and analyzed by CWOD - Finance Specialist and corrective actions, if any are proposed to the EAs. UWSCG has been fully satisfactorily compliant with project related auditing requirements.

Table 3: Audited financial statements for the Project

No.	Loan No.	Tranche No.	FY	Due Date	Submitted		Auditor's Opinion	Remarks
					eFile	Hard copy		
1	L2749	1	2011	30-Sep-12	28-Feb-13	13-Mar-13	Unqualified	
2	L2749	1	2012	30-Sep-13	30-Sep-13	07-Oct-13	Unqualified	
3	L2749	1	2013	30-Sep-14	16-Sep-14	25-Sep-14	Unqualified	
4	L2749	1	2014	30-Sep-15	03-Oct-15	16-Oct-15	Unqualified	
5	L2749	1	2015	30-Sep-16	22-Jul-16	-	Under review	
6	L2807	2	2011	30-Sep-12	Waived	N/A	N/A	
7	L2807	2	2012	30-Sep-13	30-Sep-13	07-Oct-13	Unqualified	
8	L2807	2	2013	30-Sep-14	16-Sep-14	25-Sep-14	Unqualified	
9	L2807	2	2014	30-Sep-15	03-Oct-15	16-Oct-15	Unqualified	
10	L2807	2	2015	30-Sep-15	22-Jul-16	-	Under review	
11	L3078	3	2014	30-Jun-15	27-Oct-15	-	Unqualified	Revised submission: 30 December 2015
12	L3078	3	2015	30-Jun-16	30-Jun-16	15-Jul-16	-	Submitted to CWOD-PSG for Mr. Xu Yi's review on 7 July
13	L3238	4	2015	30-Jun-16	-	-	-	Consultant under recruitment
14	L3291/329	5	2016	30-Jun-17	-	-	-	Loan became effective in January 2016

49. UWSCG is required to submit to ADB an external audit of the company financial statement.⁸ In 2014, UWSCG hired Baker Tilly to conduct the audit of the company financial statement for FY2013. Baker Tilly provided a disclaimer of opinion for UWSCG's audit of FY2013 citing issues with valuation of assets, as also non-accounting of some assets taken over by UWSCG in earlier years, as the reasons. UWSCG decided to carry out a re-audit of the FY2013 along with the audit of the financial statement for the FY 2014 which have been prepared and being translated for submission to ADB. UWSCG committed to put in place some improvements with also the support of the management consultant and decided to hire another auditor, TJ-KK group, to re-audit the financial statement for FY2013 and conduct the audit for FY2014. The new auditor has confirmed the result of the previous audit and provided a disclaimer opinion in relation to issues with valuation of assets and inconsistencies found in the revenue accounting figures. This clearly indicates weak accounting and control over fixed assets and stresses the need of a proper accounting management and asset management. As mentioned above, support to UWSCG to build its asset data based also on GIS platform and on asset management in general is being provided under the Program. However, further support to UWSCG is needed and it has been proposed through a loan covenant in this project to assist UWSCG prepare the financial statement for FY2011 to FY2015 in accordance with International Financial Reporting Standards to enable UWSCG's independent auditors to provide audit opinions on such annual financial accounts. The foregoing annual financial statements shall be submitted to ADB by no later than 31 November 2017 and the audit opinions by no later than 30 April 2018.

K. Reporting and Monitoring

50. UWSCG follows the Georgian national accounting standards. Financial reports (income statement, cash flow and balance sheet) are prepared using ORIS and FMG soft accounting software

L. Information Systems

51. Currently UWSCG works using several computerized programs, such as: ORIS(accounting software); 1C (Program for storage); Billing Program; Call Center(CRM) which includes billing module, new connections module and incident management; EI Recorder- using PADs information is uploaded directly to billing Database; Docflow-Sharing documentation and information using electronic system; GIS(Geographic Information System). It is planned as well to establish Financial Program which consists with several modules, such as: Accounting, Storage, Procurement, and HR.

⁸ Loan covenant – Project 3 - In addition to annual audited financial statements referred to in subsection (a) hereinabove, UWSCG shall: (i) provide its annual financial statements prepared in accordance with national accrual-based financing reporting standards acceptable to ADB; (ii) have its financial statements audited annually by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB, in accordance with international standards for auditing or the national equivalent acceptable to ADB; and (iii) furnish to ADB, no later than 1 month after approval by the relevant authority, copies of such audited financial statements in the English language and such other information concerning these documents and the audit thereof as ADB shall from time to time reasonably request.

CONTRIBUTION TO THE ADB RESULTS FRAMEWORK

No.	Level 2 Results Framework Indicators (Outputs and Outcomes)	Targets	Methods / Comments
1.	Household population with new or improved water supply (number)	52,780	Detailed engineering designs for Marneuli and Chiatura water supply systems: - 37,380 for Marneuli - 15,400 for Chiatura
2.	Household population with new and/or improved sanitation (number)	46,380	Detailed engineering designs for Marneuli and Bolnisi sewerage systems: - 37,380 for Marneuli - 9,000 for Bolnisi
3.	Wastewater treatment capacity added or improved (cubic meters per day)	30,444 (by 2024) 37,164 (by 2044)	STP capacities based on preliminary designs: - 22,944 cum/day (by 2024) and 29,664 cum/day (by 2044) for Marneuli - 2,500 cum/day for Bolnisi - 5,000 cum/day for Chiatura
4.	Water supply pipes installed or upgraded (length of network in kilometers)	250.7	Detailed engineering designs for Marneuli and Chiatura water supply systems: - 194.7 for Marneuli - 56 for Chiatura
4.	Sewer pipes installed or upgraded (length of network in kilometers)	164	Detailed engineering designs for Marneuli and Chiatura water supply systems: - 124 for Marneuli - 40 for Bolnisi

cum = cubic meter; STP = sewage treatment plant.
Source: United Water Supply Company of Georgia LLC.

ECONOMIC AND FINANCIAL ASSESSMENTS

I. BOLNISI ECONOMIC ANALYSIS

A. Introduction and Methodology

1. The economic analysis was undertaken according to ADB Guidelines on the Economic Analysis of Projects.¹ The Investment Program economic rationale was based on: fostering economic growth and improving urban water supply and sanitation (WSS) services, and improving institutional effectiveness. The analysis describes the economic rationale and undertakes a viability analysis of the subproject. A sensitivity analysis was conducted to determine the effects of several adverse economic conditions on the overall subproject viability. The subproject analysis compares the economic internal rate of return (EIRR) with the economic opportunity cost of capital, assumed at 12%, as applied in infrastructure project studies in Georgia. Sensitivity and risk analyses are undertaken to assess the robustness of the subprojects under adverse economic conditions. The analysis uses shadow pricing and shadow exchange rate factor to convert the financial cost and benefits into economic terms and is only applicable to foreign cost components.

2. During the preparation of the economic analysis, the question of what is considered as a subproject under the investment program was considered. Official ADB Operations Manual requirement states that all sub-projects discrete and identifiable should be analyzed separately. However, in the case of water and sanitation projects, distinguishing between individual sub-projects, such as water and sewer lines, treatment plants and reservoirs do not reflect the true economic benefits of water supply and sanitation networks unless they are analyzed as a whole. Therefore, the definition of a sub-project has been determined at the town level under the investment program, under which seven towns are serviced with water supply and sewage collection and treatment systems. To satisfy the requirement, an economic analysis has been conducted at the sub-project level and the result is presented under Section F.

B. Economic Rationale

3. **Improving urban water supply and sanitation services.** Urban water supply services in the project towns have deteriorated since the collapse of the Soviet Union. The lack of capital investments for infrastructure improvement and rehabilitation has affected the quality of the services. 70% of urban households in United Water Supply Company of Georgia Limited Liability Company (UWSCG) service area do not have 24-hour water supply and this negatively affects the living conditions for people in the service area. In Bolnisi, the water supply system was rehabilitated under the Water Infrastructure Modernization Project–II financed by the European Investment Bank with co-finance of European Union Neighborhood Investment Facility (NIF).

4. **Improving institutional effectiveness.** To improve the quality of service, the investment program will improve UWSCG's capacity to deliver services. Through the enterprise resource management component, the investment program will provide a management contractor's services to help UWSCG with long-term capital planning and asset strengthening, procurement, supervision of capital improvement works, operation and maintenance (O&M), and financial management.

¹ ADB. 1997. Guidelines for the Economic Analysis of Projects. Manila; ADB. 1999. Handbook for the Economic Analysis of Water Supply Projects. Manila.

5. **Demand analysis.** Water demand estimates for future years are determined by multiplying the current unit of demand by the projected number of future users in the water system. For the sewage network, the users are equal to number of users for water assuming that each water connection will also have a sewerage connection. In terms of volume of water treated, this is based on consumption of water and takes into account of non-revenue water (NRW) that is treated but not billed. For the demand analysis of wastewater, the quantity of wastewater is assumed to equal to the total water consumed, considering allowance of about 20% for infiltration of water into sewerage system due to high ground water level in the region. The overall project is considered beneficial to the poor communities which accounts for 50% of the population in Bolnisi.

C. Economic Benefits

6. The subproject will improve sanitation infrastructure services in the town of Bolnisi. For the subproject in Bolnisi, the construction of the following components have been considered: (i) construction of sewerage system, and (ii) construction of STP.

7. Economic benefits of the subproject include the health benefits as a result of better sanitation infrastructure which are measured by considering the avoidance of loss in productivity, and avoidance of medical costs under the with-project scenario. It is assumed that as a result of more reliable sanitation service, the population served under the project would on average avoid 1 day of lost wages due to illness per capita per annum and medical fees. Other benefits include: (i) non-incremental benefits derived from the cost differential of household consumption under the project versus without project; and (ii) implementation of piped sewerage and wastewater treatment services, whose benefits are attributable to the avoidance of operating private septic tanks, cesspits and pit latrines as well as the cleaning of polluted water before discharging.

8. Sanitation benefits² are based on: (i) savings from transitions from septic tank to sewerage network, (ii) avoidance of overflow; and (iii) benefits derived from the STP. The unit savings for switching from septic tank to the sewerage network is estimated to be \$105.00 per household per year, taking into account the maintenance cost of septic tanks and cost of emptying the tank. This is multiplied by the number of households connected to the sewerage network. The overflow³ unit cost is estimated at \$6.00 per household per year, multiplied by the number of households connected to the sewerage network. The unit benefit assigned to STP is \$180 per household per year (\$50 per person multiplied by an average household size of 3.6), based on the avoidance of environmental clean-up and remedial expenditures at the Bolnisi town level, direct and indirect income and employment generation as well as increase in property values as a result of expenditures on the STP.

² The estimates for the unit benefit for switching from septic tank are based on historical costs for septage cleanup, whereas the unit benefit for the STP is based on estimates provided by UWSCG accounting for the aggregation of employment created through the construction and operation of the STP as well as the improvement of overall environment as a result of wastewater being treated.

³ The benefit due to the avoidance of septic tanks overflows set for Bolnisi at \$6 per HH and year following the practice applied during the complete project for all towns. The amount reflects the avoided costs for cleaning the houses and clothes after an overflow taking into account necessary cleaning time, material costs and the expected number of occurrences per year. The \$6 is derived from the following assumptions: (i) \$30 total cleaning cost, and (ii) septic tanks overflow every 5 years.

D. Economic Cost

9. For the Bolnisi subproject, the cost component for the wastewater disposal service include: (i) the rehabilitation and extension of the sewerage network; and (ii) the construction of a new STP. Economic cost included: (i) capital investment cost for the distribution, transmission and treatment wastewater; (ii) environmental mitigation and monitoring; (iii) capacity development; and (iv) operation and maintenance costs, including replacement cost of depreciated equipment. Economic costs are valued in local currency using the domestic prices and expressed in economic terms using the domestic price numeraire at constant 2015 prices. Financial costs of traded goods were adjusted to their respective economic values using a shadow exchange rate factor⁴ of 1.05, and the shadow wage rate for unskilled labor estimated at 0.7. The rates are calculated using 2013 data for imports, exports and exchange rates and reflect the actual circumstances in country. Transfer payments, including taxes, duties and interests as well as price inflations are excluded from the economic costs.

E. Cost Benefit Analysis

10. The economic cost-benefit ratio was used in the analysis to assess whether the subproject benefits outweigh costs. The benefit–cost ratio for the Bolnisi subproject is 1.05, thus making the subproject economically viable.

F. Results of Economic Analysis

11. The EIRR and discounted net cash flows were determined by comparing benefit streams with cost streams. Sanitation benefits are also assumed to begin in 2018. As can be seen in the following table the Bolnisi subproject becomes economically viable even in the assumed worst case scenario of revenue decreasing by 10%. For the base case scenario the economic net present value (ENPV) amounts to \$1.51 million with an EIRR of 16.75%.

12. The results of the sensitivity analysis is shown in Table 1. The switching value shown in this table is the increase/decrease in the parameter being tested which returns an EIRR equal to the opportunity cost of capital (12%).

Table 1: Economic Analysis – Summary Results

	EIRR	ENPV (\$ million)	Switching Value
Base Case	16.75%	1.51	
Capital Cost increase by 10%	15.10%	1.07	34.03%
O&M Cost increase by 10%	15.02%	0.97	27.83%
Benefit decrease by 10%	13.19%	0.37	-13.28%
1-year delay in benefit	12.50%	0.19	
Capital and O&M Cost increase by 10%	13.52%	0.52	15.31%

EIRR = economic internal rate of return, ENPV = economic net present value.

Source: United Water Supply Company of Georgia estimates.

⁴ $SERF = 1 / SCF$ (Standard Conversion Factor) $SCF = (M + X) / ((M(1+tm-sm) + X(1-tx+sx)))$ M: Import; X: Export; t: tax; s: subsidy. The Government of Georgia implemented reforms in tariff policy as well as in technical regulations sphere. As a result, nowadays Georgia has one of the most liberal foreign trade policies in the world, which implies the facilitated foreign trade regimes and customs procedures, low import tariffs and minimal non-tariff regulations, thus the SERF is very close to 1.

G. Conclusion

3. The subproject is economically viable with EIRR values exceeding the economic opportunity cost of capital (12%) for the base case scenario and all other pessimistic scenarios. The sensitivity analysis demonstrates that the Bolnisi subproject is viable even when tested under adverse economic conditions, including increases in costs, as well as delays in project implementation which would lead to delays in the realization of the benefits.

Table 2: Cost Benefit Analysis

Year	NRW Non-tech m3 mill	Water Sold Non-incr m3 mill	Incr m3 mill	Total m3 mill	Total Consump m3 mill	NRW -Non- technical \$ mill	Non-incr -mental \$ mill	Increment Value \$ mill	Total Sewerage Benefits	Total WWTP Benefits	Economic Benefit	Economic Cost	Net Benefit
2015	-	-	-	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	0.378	0.437	-	3.052	(3.052)
2018	-	0.712	-	0.712	0.712	-	0.262	-	0.504	0.582	1.640	2.830	(1.190)
2019	-	0.717	-	0.717	0.717	-	0.264	-	0.504	0.582	1.642	1.542	0.099
2020	-	0.723	-	0.723	0.723	-	0.266	-	0.504	0.582	1.644	0.693	0.950
2021	-	0.726	-	0.726	0.726	-	0.267	-	0.504	0.582	1.645	0.694	0.950
2022	-	0.729	-	0.729	0.729	-	0.268	-	0.504	0.582	1.646	0.696	0.950
2023	-	0.732	-	0.732	0.732	-	0.270	-	0.504	0.582	1.647	0.697	0.950
2024	-	0.735	-	0.735	0.735	-	0.271	-	0.504	0.582	1.648	0.698	0.950
2025	-	0.738	-	0.738	0.738	-	0.272	-	0.504	0.582	1.649	0.699	0.950
2026	-	0.741	-	0.741	0.741	-	0.273	-	0.504	0.582	1.650	0.701	0.950
2027	-	0.744	-	0.744	0.744	-	0.274	-	0.504	0.582	1.652	0.702	0.950
2028	-	0.747	-	0.747	0.747	-	0.275	-	0.504	0.582	1.653	0.703	0.949
2029	-	0.750	-	0.750	0.750	-	0.276	-	0.504	0.582	1.654	0.705	0.949
2030	-	0.754	-	0.754	0.754	-	0.278	-	0.504	0.582	1.655	0.706	0.949
2031	-	0.757	-	0.757	0.757	-	0.279	-	0.504	0.582	1.656	0.707	0.949
2032	-	0.760	-	0.760	0.760	-	0.280	-	0.504	0.582	1.657	0.708	0.949
2033	-	0.763	-	0.763	0.763	-	0.281	-	0.504	0.582	1.658	0.710	0.949
2034	-	0.766	-	0.766	0.766	-	0.282	-	0.504	0.582	1.660	0.711	0.949
2035	-	0.769	-	0.769	0.769	-	0.283	-	0.504	0.582	1.661	0.712	0.948
2036	-	0.772	-	0.772	0.772	-	0.284	-	0.504	0.582	1.662	0.714	0.948
2037	-	0.775	-	0.775	0.775	-	0.286	-	0.504	0.582	1.663	0.715	0.948
2038	-	0.778	-	0.778	0.778	-	0.287	-	0.504	0.582	1.664	0.716	0.948
2039	-	0.781	-	0.781	0.781	-	0.288	-	0.504	0.582	1.665	0.717	0.948
2040	-	0.785	-	0.785	0.785	-	0.289	-	0.504	0.582	1.666	0.719	0.948
NPV @ 12.0%						-	1.489	-	3.040	3.508	9.056	7.854	1.202 16.75%

II. BOLNISI FINANCIAL ANALYSIS

A. Introduction

13. The analysis was conducted on a without-project and with-project basis by estimating incremental costs and revenues over 26 years (between 2016 and 2041) covering the entire sanitation system for Bolnisi. The main financial viability parameters analyzed were: (i) the financial internal rate of return (FIRR), which should be greater than the weighted average cost of capital (WACC) with the financial net present value as proxy; (ii) operating ratio, which should be less than or equal to one when the water supply and sanitation system becomes fully operational; and (iii) tariff affordability, normally considered affordable if the resulting monthly charge is 5% or less than the average monthly household income. The analysis looked closely at the operating ratio as a main indicator of sustainability.

B. Basis for Financial Projections

14. In order to better assess the financial viability of the project, the total investment for Bolnisi town was considered. Total investment cost, including VAT and contingencies amounts to \$5 million completely allocated to Tranche 6.

15. **Revenue.** Revenues were based on domestic and non-domestic demand for wastewater disposal. The related tariffs are programmed to increase between 2016 and 2041 annually, first until 2018 significant and thereafter moderate. The target is to cover (i) operation and maintenance costs; (ii) operation and maintenance costs plus depreciation; and (iii) operation and maintenance costs plus total debt service plus replacements. Tariff increments are benchmarked on domestic customers' affordability and targeted cost recovery level. The demand forecast assumes that all water from existing alternative sources will be replaced with subproject water supply. Moreover, also the existing septic tanks, cesspits and pit latrines in use will be replaced by connections to the new sewerage network.

16. **Operation and Maintenance Costs.** Subproject operation and maintenance costs include staff salaries, power and energy, maintenance, and miscellaneous expenses for wastewater disposal. It is assumed that the current operation and maintenance costs will increase continuously until 2018, when the new sewerage system will start to operate. The required staff strength for waste water operation is estimated to be 20 in 2018. The annual average cost of staff is estimated to be \$148,248 including taxes and social security premiums. The energy expenditure is calculated to be \$136,412/MWh and expenditures for chemicals \$252,400. The maintenance of civil works is taken as 0.5% of asset value while the repair and maintenance of electrical and mechanical equipment is calculated as 2.5 of the value of assets.

17. **Current Tariffs:** Current water and sewerage tariffs in Bolnisi are set as follows:

- (i) domestic water supply: \$0.215/cum;
- (ii) domestic sanitation charge: \$0.041/cum;
- (iii) non-domestic water supply: \$1.733/cum;
- (iv) non-domestic sanitation: \$0.479/cum.

C. Financial Projection

18. **Tariff.** In the financial projections, where revenues and costs are given in nominal terms, the wastewater disposal tariffs are projected to increase annually between 2018 and 2040 to cover O&M cost, asset replacements and total debt service payments. For both services the tariffs for non-domestic customers were fixed by applying a cross subsidization factor decreasing towards 3 for 2018 and thereafter.

19. **Affordability Analysis.** An affordability analysis was undertaken to compare the level of household wastewater expenditure with the average household income. Average wastewater affordability ratio (bill/monthly income) is calculated to be 0.95% in 2011 and increases up to 4.00% in 2018. Thereafter due to increases in the tariffs equal to the projected income increases a constant the affordability ratio of 4.00% until 2040 is assumed. Thus, the ratio remains clearly below the internationally accepted threshold limit of 5%, which implies that the proposed domestic tariffs are affordable by the population.

Table 3: Tariff Affordability

		2015	2016	2017	2018	2019	2020	2030	2040
Daily water consumption per head	lcd	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00
Monthly water consumption per head	m ³ / month	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26
Proposed water tariff for households	USD / m ³	-	-	-	0.28	0.28	0.28	0.45	0.81
Proposed sanitation tariff for households	USD / m ³	-	-	-	0.63	0.63	0.63	1.13	2.03
Average monthly bill water supply (incl. VAT)	USD	0.92	1.08	1.25	1.41	1.41	1.41	2.26	4.06
Average bill water supply plus sanitation (inc. VAT)	USD	1.81	2.73	3.65	4.57	4.57	4.57	7.93	14.27
Average monthly HH income per head	USD / head	117.57	124.68	132.23	140.23	148.71	157.71	283.77	510.58
Percent of income spent for water supply	Percent	0.78%	0.87%	0.94%	1.01%	0.95%	0.89%	0.80%	0.80%
Percent spent for water supply and sanitation	Percent	1.54%	2.19%	2.76%	3.26%	3.07%	2.89%	2.80%	2.80%

HH = household, lcd = liters per capita per day, m3 = cubic meter

Source: United Water Supply Company of Georgia estimates.

20. From the analysis, tariff increases required for the subproject is within customer affordability and generate enough revenues to cover O&M cost, asset replacements as well as debt service payments. However, a viability gap funding (VGF) was considered and focused on different targets.

21. For the VGF, four different periods were analyzed, covering the years 2015 to 2040, the reference year for the engineers' infrastructure design. However, for these periods the necessary VGF to achieve certain targets were calculated and is detailed below in Table 4.

22. There are first the VGF amounts listed which are necessary to ensure the operator's financial viability (liquidity). They sum up to zero, signaling that the revenues cover the O&M cost and additionally the replacement expenditures, excluding the total debt service payments. Moreover, the proposed tariff adjustments ensure a sufficiently high FIRR for both the base case and the worst case scenario (revenues minus 10%). Table 4 shows that no VGF support is needed to ensure a FIRR > WACC in the base case neither for risk prevention. This means that the subproject is financially viable through the design life even in the worst case scenario.

Table 4: Required Viability Gap Funding (USD)

Period	Revenues	O&M costs	Replacements	Debt Service	VGF for liquidity	VGF for FIRR>WACC	VGF for risk prevention	VGF total
2015 to 2021	10.751	5.153	14.865	0.488	0.795	0.000	0.000	0.795
2022 to 2027	17.787	6.441	20.210	1.844	1.844	0.000	0.000	1.844
2028 to 2033	26.085	7.976	29.630	1.844	1.844	0.000	0.000	1.844
2034 to 2040	46.131	11.880	34.973	2.151	1.844	0.000	0.000	1.844
2011 to 2040	100.754	31.451	99.679	6.327	6.327	0.000	0.000	6.327

FIRR = financial internal rate of return, O&M=operation and maintenance, TDS=total debt service, VGF=viability gap funding.

23. The above analysis shows that UWSCG will be in a position to meet the operation and maintenance cost from the revenues generated, and can therefore fulfil the requirement of maintaining operating ratio of less than 1 as defined in the loan agreement⁵. The current water and sanitation tariffs are very low, and in the financial analysis it is proposed to reset the initial tariffs at a higher level based on the affordability analysis. However, even if it is assumed that the government start revising tariffs from the current level in FY2017 and onwards at an average incremental rate of 5% per annum, the revenue generated will be more than the operation and maintenance cost even in the first year of operation i.e. FY2018. With the strengthening of the tariff regulatory authority under the Investment Program, it is expected that the tariffs will be revised regularly by taking into consideration UWSCG's operation and maintenance costs, including replacement of assets, and customer affordability, thereby dependence on the government subsidy will be reduced.

24. **Weighted Average Cost of capital.** The WACC was calculated on after-tax basis, resulting in an estimated 2.86% (in real terms) and was used as the hurdle rate for the FIRR to measure subproject viability. Funding sources are the OCR loan and Government contribution. Average inflation is estimated at 1% per annum for foreign cost and at 5% for local costs. The WACC is presented in Table 5.

Table 5: Weighted Average Cost of Capital

	Capital Investments		Nominal Rate	Corporate Profit Tax	After Tax Rate	Inflation rate	Real Rate	WACC Real
	MUSD	%						
ADB - Asian Development Fund (ADF)	0.00	0.0%	2.00%	15.0%	1.70%	1.00%	0.69%	0.00%
ADB - Ordinary Capital Resources (OCR)	6.02	80.1%	2.62%	15.0%	2.22%	1.00%	1.21%	0.97%
Government	1.49	19.9%	15.00%	0.0%	15.00%	5.00%	9.52%	1.89%
Total Capital Investment	7.52	100.0%						2.86%

ADB = Asian Development Fund, WACC = weighted average cost of capital.

Source: United Water Supply Company of Georgia estimates.

25. **Sensitivity Analysis.** Table 6 provides the results of sensitivity tests and indicates that the Bolnisi subproject is viable under highly adverse economic conditions as shown below.

⁵ Operating ratio is the ratio of UWSCG's operating expenses over its operating revenue, with "operating expenses" meaning all expenses of UWSCG on operation and maintenance including staff salaries, cost of energy, chemicals and consumables, routine maintenance, spare parts, consumables, etc. but excluding capital expenditure and debt service obligations. The "operating revenue" means the revenue collected by UWSCG from the sale of water and other revenues excluding grants from the government.

**Table 6: Financial Internal Rate of Return
(\$ million)**

	FIRR Percent	FNPV MUSD
Base Case	7.81%	2.987
Capital Cost increase by 15%	6.41%	2.347
O&M Cost increase by 10%	5.94%	1.798
Revenues decrease by 10%	4.93%	1.162
1-year delay in revenue	6.18%	2.479
Capital and O&M Cost increase by 10%	5.07%	1.371
Switching value Capital Cost	69.96%	
Switching value O&M Cost	25.12%	
Switching value Revenue	-16.37%	
Switching value Revenue	18.48%	
WACC	2.86%	

FIRR=financial internal rate of return; FNPV=financial net present value;
Switching value=change in parameter that will make the FIRR equal to the WACC.

Source: United Water Supply Company of Georgia estimates.

26. **Conclusion.** The subproject is financially viable when (i) the proposed tariff increases are implemented every year until 2040 and should be affordable to domestic consumers; and (ii) the Government should make available counterpart funds. Income affordability is a major factor in rationalizing tariffs, thus the monthly household income needs to be reviewed periodically. The sensitivity analysis indicates that the subproject FIRRs are above the WACC even under adverse economic conditions.

**Table 6: Financial Internal Rate of Return
(\$ million)**

Year	Revenue	Viability	Delayed Revenue	Financial Cost			Net Benefits					
		Gap Funding		Capital	O&M	Total	Base case	Capital + 15%	O&M + 10%	Revenue -10%	1-yr Delay in Benefit	Cap & O&M + 10%
2015	0.325	-	-	1.995	0.286	2.281	(1.956)	(2.256)	(1.985)	(1.989)	(2.281)	(2.184)
2016	0.341	-	0.325	1.728	0.281	2.009	(1.668)	(1.927)	(1.696)	(1.702)	(1.684)	(1.869)
2017	0.649	-	0.341	0.759	0.698	1.456	(0.807)	(0.921)	(0.877)	(0.872)	(1.116)	(0.953)
2018	1.127	-	0.649		0.697	0.697	0.429	0.429	0.360	0.317	(0.048)	0.360
2019	1.031	-	1.127		0.699	0.699	0.332	0.332	0.262	0.229	0.427	0.262
2020	1.028	0.116	1.031		0.701	0.701	0.444	0.444	0.373	0.341	0.446	0.373
2021	1.026	0.111	1.028		0.703	0.703	0.435	0.435	0.365	0.332	0.437	0.365
2022	1.042	0.103	1.026		0.704	0.704	0.442	0.442	0.371	0.338	0.426	0.371
2023	1.058	0.096	1.042		0.705	0.705	0.449	0.449	0.379	0.343	0.433	0.379
2024	1.074	0.090	1.058		0.706	0.706	0.457	0.457	0.387	0.350	0.441	0.387
2025	1.090	0.083	1.074		0.708	0.708	0.466	0.466	0.395	0.357	0.450	0.395
2026	1.107	0.077	1.090		0.709	0.709	0.475	0.475	0.404	0.365	0.459	0.404
2027	1.124	0.072	1.107		0.710	0.710	0.485	0.485	0.414	0.373	0.468	0.414
2028	1.141	0.066	1.124		0.711	0.711	0.495	0.495	0.424	0.381	0.478	0.424
2029	1.158	0.061	1.141		0.713	0.713	0.506	0.506	0.435	0.390	0.489	0.435
2030	1.175	0.056	1.158		0.714	0.714	0.518	0.518	0.446	0.400	0.500	0.446
2031	1.193	0.052	1.175		0.715	0.715	0.529	0.529	0.458	0.410	0.512	0.458
2032	1.211	0.047	1.193		0.717	0.717	0.542	0.542	0.470	0.421	0.524	0.470
2033	1.229	0.043	1.211		0.718	0.718	0.555	0.555	0.483	0.432	0.536	0.483
2034	1.248	0.040	1.229		0.719	0.719	0.568	0.568	0.496	0.443	0.549	0.496
2035	1.266	0.036	1.248		0.720	0.720	0.582	0.582	0.510	0.455	0.563	0.510
2036	1.285	0.033	1.266		0.722	0.722	0.596	0.596	0.524	0.467	0.577	0.524
2037	1.304	0.029	1.285		0.723	0.723	0.610	0.610	0.538	0.480	0.591	0.538
2038	1.324	0.026	1.304		0.348	0.348	1.002	1.002	0.967	0.870	0.982	0.967
2039	1.343	0.023	1.324		0.726	0.726	0.641	0.641	0.569	0.507	0.621	0.569
2040	-	0.021	1.343		0.727	0.727	(0.706)	(0.706)	(0.779)	(0.706)	0.637	(0.779)
NPV	18.252	0.896	17.744	4.270	11.891	16.161	2.987	2.347	1.798	1.162	2.479	1.371
Applied WACC (real)						FIRR	7.81%	6.41%	5.94%	4.93%	6.18%	5.07%
	2.864%					Discount Rate @ W/FNPV	2.987	2.347	1.798	1.162	2.479	1.371
Time span	26 years					Sensitivity Indicator	FIRR	1.2	2.4	3.7	7.5	3.5
idual Values	excluded !						FNPV	1.4	4.0	6.1	6.1	5.4
						Switching Value	FIRR	70.0%	25.1%	-16.4%		18.5%
						FNPV						
Note: Subproject remains viable (at WACC) even if capital Investment increases							Viable	Viable	Viable	Viable	Viable	Viable

ECONOMIC AND FINANCIAL ASSESSMENTS

I. CHIATURA ECONOMIC ANALYSIS

A. Introduction and Methodology

1. The economic analysis was undertaken according to ADB Guidelines on the Economic Analysis of Projects.¹ The Investment Program economic rationale was based on: fostering economic growth and improving urban WSS services, and improving institutional effectiveness. The analysis describes the economic rationale and undertakes a viability analysis of the subproject. A sensitivity analysis was conducted to determine the effects of several adverse economic conditions on the overall subproject viability. The subproject analysis compares the EIRR with the economic opportunity cost of capital, assumed at 12%, as applied in infrastructure project studies in Georgia. Sensitivity and risk analyses are undertaken to assess the robustness of the subprojects under adverse economic conditions. The analysis uses shadow pricing and shadow exchange rate factor to convert the financial cost and benefits into economic terms and is only applicable to foreign cost components. The analysis is undertaken in constant 2016 prices using the domestic price numeraire.

2. During the preparation of the economic analysis, the question of what is considered as a subproject under the investment program was considered. Official ADB Operations Manual requirement states that all sub-projects discrete and identifiable should be analyzed separately. However, in the case of water and sanitation projects, distinguishing between individual sub-projects, such as water and sewer lines, treatment plants and reservoirs do not reflect the true economic benefits of water supply and sanitation networks unless they are analyzed as a whole. Therefore, the definition of a sub-project has been determined at the town level under the investment program, under which seven towns are serviced with water supply and sewage collection and treatment systems. To satisfy the requirement, an economic analysis has been conducted at the sub-project level and the result is presented under Section F.

B. Economic Rationale

3. Improving urban water supply and sanitation services. Urban water supply services in the project towns have deteriorated since the collapse of the Soviet Union. The lack of capital investments for infrastructure improvement and rehabilitation has affected the quality of the services. 70% of urban households in United Water Supply Company of Georgia Limited Liability Company (UWSCG) service area do not have 24-hour water supply and this negatively affects the living conditions for people in the service area.

4. **Improving institutional effectiveness.** To improve the quality of service, the investment program will improve UWSCG's capacity to deliver services. Through the enterprise resource management component, the investment program will provide a management contractor's services to help UWSCG with long-term capital planning and asset strengthening, procurement, supervision of capital improvement works, operation and maintenance (O&M), and financial management.

5. **Demand analysis.** Water demand estimates for future years are determined by multiplying the current unit of demand by the projected number of future users in the water system. For the sewage network, the users are equal to number of users for water assuming

¹ ADB. 1997. Guidelines for the Economic Analysis of Projects. Manila;ADB. 1999. *Handbook for the Economic Analysis of Water Supply Projects*.

that each water connection will also have a sewerage connection. In terms of volume of water treated, this is based on consumption of water and takes into account of non-revenue water that is treated but not billed. For the demand analysis of wastewater, the quantity of wastewater is assumed to equal to the total water consumed, considering allowance of about 20% for infiltration of water into sewerage system due to high ground water level in the region. The overall project is considered beneficial to the poor communities which accounts for 50% of the population in Chiatura.

C. Economic Benefits

6. The subproject will improve water supply and sanitation infrastructure services in the town of Chiatura. For the subproject in Chiatura, the construction of the following components have been considered: (i) construction of well field and water transmission main; (ii) water pumping stations; (iii) reservoirs; (iv) the water distribution network; and (v) the construction of a new Sewage Treatment Plant (STP).

7. Economic benefits of the subproject include three main factors: (i) incremental benefits attributable to better water supply under with-project scenario; (ii) non-incremental benefits attributable to water supply under with-project scenario; and (iii) health benefits as a result of better water and sanitation infrastructure. Estimates for benefits derived from incremental water supply are based on quantity of incremental water sales (in m³) under the project, multiplied by the estimated savings/m³ such as: (i) time spent for water collection; (ii) construction of individual wells/boreholes; (iii) pumping cost and water storage tank investment; and (iv) household O&M costs. Estimates for benefits attributable to non-incremental water supply are based on the cost differential of household consumption under the project versus without project. Health benefits are measured through: (i) avoidance of loss in productivity, and (ii) avoidance of medical costs under the with-project scenario. It is assumed that as a result of more reliable water supply service, the population served under the project would on average avoid 1 day of lost wages due to illness per capita per annum and medical fees. Other benefits are derived from: (i) reduction in Non-Revenue Water, which increases the amount of water sold; (ii) non-incremental benefits is derived from the cost differential of household consumption under the project versus without project; and (iii) implementation of wastewater treatment services, from which benefits are derived from avoidance of operating private septic tanks, cesspits and pit latrines as well as the cleaning of polluted water before discharging.

8. Sanitation benefits² are based on benefits derived from the STP. The unit savings for switching from septic tank to the sewerage network is estimated to be \$105.00 per household per year, taking into account the maintenance cost of septic tanks and cost of emptying the tank. This is multiplied by the number of households connected to the sewerage network. The overflow³ unit cost is estimated at \$6.00 per household per year, multiplied by the number of households connected to the sewerage network. The unit benefit assigned to STP is \$180 per household per year (\$50 per person multiplied by an average household size of 3.6), based on the avoidance of environmental clean-up and remedial expenditures at the Chiatura town level,

² The estimates for the unit benefit for switching from septic tank are based on historical costs for septage cleanup, whereas the unit benefit for the STP is based on estimates provided by UWSCG accounting for the aggregation of employment created through the construction and operation of the STP as well as the improvement of overall environment as a result of wastewater being treated.

³ The benefit due to the avoidance of septic tanks overflows set for Chiatura at \$6 per HH and year following the practice applied during the complete project for all towns. The amount reflects the avoided costs for cleaning the houses and clothes after an overflow taking into account necessary cleaning time, material costs and the expected number of occurrences per year. The \$6 is derived from the following assumptions: (i) \$30 total cleaning cost, and (ii) septic tanks overflow every 5 years.

direct and indirect income and employment generation as well as increase in property values as a result of expenditures on the STP.

D. Economic Cost

9. For the Chiatura subproject, the cost component for the water supply system includes the construction of: (i) well field and transmission mains; (ii) pumping stations; (iii) reservoirs; (iv) and the water distribution network. For the wastewater disposal service the cost component includes the construction of a new waste water treatment plant. Economic cost included: (i) capital investment cost for distribution, transmission and treatment of water, including any land acquisition and resettlement costs; (ii) environmental mitigation and monitoring; (iii) capacity development; (iv) operations and maintenance costs, including replacement cost of depreciated equipment. Economic costs are valued in local currency using the domestic prices and expressed in economic terms using the domestic price numeraire at constant 2016 prices. Financial costs of traded goods were adjusted to their respective economic values using a shadow exchange rate factor⁴ of 1.00, and the shadow wage rate for unskilled labor estimated at 0.7. The rates are calculated using 2016 data for imports, exports and exchange rates and reflect the actual circumstances in country. Transfer payments, including taxes, duties and interests as well as price inflation are excluded from the economic costs.

E. Cost Benefit Analysis

10. The economic cost-benefit ratio was used in the analysis to assess whether the subproject benefits outweigh costs. The benefit–cost ratio for the Chiatura subproject is 1.65, thus making the subproject economically viable.

F. Results of Economic Analysis

11. The economic internal rate of return (EIRR) and discounted net cash flows were determined by comparing benefit streams with cost streams. As can be seen in the following table the Chiatura subproject becomes economically viable even in the assumed worst case scenario of a 10% decrease in benefits. For the base case scenario the ENPV amounts to \$10.28 million with an EIRR of 27.36%.

12. The results of the sensitivity analysis are shown in Table 1. The switching value shown in this table is the increase/decrease in the parameter being tested which returns an EIRR equal to the opportunity cost of capital (12%).

⁴ SERF = 1 / SCF (Standard Conversion Factor) | SCF = (M + X) / ((M (1+tm-sm) + X (1-tx+sx)) | M: Import; X: Export; t: tax; s: subsidy. The Government of Georgia implemented reforms in tariff policy as well as in technical regulations sphere. As a result, nowadays Georgia has one of the most liberal foreign trade policies in the world, which implies the facilitated foreign trade regimes and customs procedures, low import tariffs and minimal non-tariff regulations, thus the SERF is very close to 1

Table 1: Economic Analysis – Summary Results

	EIRR	ENPV (\$ million)	Switching Value
Base Case	27.36%	10.28	
Capital Cost increase by 10%	25.37%	9.58	145.35%
O&M Cost increase by 10%	26.58%	9.77	200.15%
Benefit decrease by 10%	24.39%	8.03	-45.71%
1-year delay in benefit	21.87%	7.61	
Capital and O&M Cost increase by 10%	24.67%	9.06	84.20%

EIRR=economic internal rate of return, ENPV=economic net present value.

Source: United Water Supply Company of Georgia estimates.

G. Conclusion

13. The subproject is economically viable with EIRR values exceeding the economic opportunity cost of capital (12%) for the base case scenario and all other pessimistic scenarios. The sensitivity analysis demonstrates that the Chiatara subproject is viable even when tested under adverse economic conditions, including increases in costs, as well as delays in project implementation which would lead to delays in the realization of the benefits.

Table 2: Cost Benefit Analysis

Year	NRW Non-tech m3 mill	Water Sold Non-incr m3 mill	Incr m3 mill	Total m3 mill	Total Consump m3 mill	NRW -Non- technical \$ mill	Non-incre -mental \$ mill	Increment Value \$ mill	Total Sewerage Benefits	Total WWTP Benefits	Economic Benefit	Economic Cost	Net Benefit
2015	-	-	-	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-	5.000	(5.000)
2018	-	-	-	-	-	-	-	-	-	-	-	6.968	(6.968)
2019	0.291	1.604	0.357	1.961	2.253	0.139	3.841	0.170	-	-	4.150	0.742	3.408
2020	0.298	1.653	0.361	2.015	2.313	0.142	3.959	0.172	-	-	4.273	0.757	3.516
2021	0.300	1.682	0.363	2.045	2.345	0.143	4.027	0.173	-	-	4.342	0.763	3.579
2022	0.301	1.710	0.365	2.075	2.376	0.143	4.094	0.174	-	-	4.411	0.769	3.642
2023	0.303	1.738	0.366	2.105	2.407	0.144	4.162	0.174	-	-	4.480	0.775	3.705
2024	0.304	1.766	0.368	2.134	2.438	0.145	4.230	0.175	-	-	4.550	0.781	3.768
2025	0.305	1.795	0.370	2.164	2.470	0.145	4.297	0.176	-	-	4.619	0.788	3.831
2026	0.307	1.823	0.371	2.194	2.501	0.146	4.365	0.177	-	-	4.688	0.794	3.894
2027	0.308	1.851	0.373	2.224	2.532	0.147	4.432	0.178	-	-	4.757	0.800	3.957
2028	0.310	1.879	0.375	2.254	2.564	0.147	4.500	0.178	-	-	4.826	0.806	4.020
2029	0.311	1.908	0.376	2.284	2.595	0.148	4.568	0.179	-	-	4.895	0.812	4.083
2030	0.312	1.936	0.378	2.314	2.626	0.149	4.635	0.180	-	-	4.964	0.818	4.146
2031	0.316	1.961	0.378	2.339	2.655	0.151	4.696	0.180	-	-	5.026	0.824	4.203
2032	0.320	1.987	0.378	2.364	2.684	0.152	4.756	0.180	-	-	5.089	0.829	4.260
2033	0.323	2.012	0.378	2.390	2.713	0.154	4.817	0.180	-	-	5.151	0.835	4.316
2034	0.327	2.037	0.378	2.415	2.742	0.156	4.878	0.180	-	-	5.213	0.840	4.373
2035	0.331	2.062	0.378	2.440	2.771	0.157	4.938	0.180	-	-	5.275	0.845	4.430
2036	0.334	2.088	0.378	2.465	2.800	0.159	4.999	0.180	-	-	5.338	0.851	4.487
2037	0.338	2.113	0.378	2.491	2.829	0.161	5.059	0.180	-	-	5.400	0.856	4.544
2038	0.342	2.138	0.378	2.516	2.858	0.163	5.120	0.180	-	-	5.462	0.862	4.601
2039	0.345	2.164	0.378	2.541	2.887	0.164	5.180	0.180	-	-	5.525	0.867	4.657
2040	0.349	2.189	0.378	2.567	2.916	0.166	5.241	0.180	-	-	5.587	0.873	4.714
NPV @ 12.0%						0.711	20.934	0.852	-	-	22.497	11.815	10.682 27.36%

II. CHIATURA FINANCIAL ANALYSIS

A. Introduction

14. The analysis was conducted on a without-project and with-project basis by estimating incremental costs and revenues over 26 years (between 2017 and 2042) covering the entire water supply and sanitation system for Chiatura. The main financial viability parameters analyzed were: (i) the financial internal rate of return (FIRR), which should be greater than the weighted average cost of capital (WACC) with the financial net present value as proxy; (ii) operating ratio, which should be less than or equal to one when the water supply and sanitation system becomes fully operational; and (iii) tariff affordability, normally considered affordable if the resulting monthly charge is 5% or less than the average monthly household income. The analysis looked closely at the operating ratio as a main indicator of sustainability.

B. Basis for Financial Projections

15. In order to better assess the financial viability of the project, the total investment for Chiatura town was considered. Total investment cost, including VAT and contingencies amounts to \$17.93 million completely allocated to Tranche 6.

16. **Revenue.** Revenues were based on domestic and non-domestic demand for water supply service and wastewater disposal. The related tariffs are programmed to increase between 2017 and 2040 annually, first until 2018 significant and thereafter moderate. The target is to cover (i) operation and maintenance costs; (ii) operation and maintenance costs plus depreciation; and (iii) operation and maintenance costs plus total debt service plus replacements. Tariff increments are benchmarked on domestic customers' affordability and targeted cost recovery level. The demand forecast assumes that all water from existing alternative sources will be replaced with subproject water supply. Moreover, also the existing septic tanks, cesspits and pit latrines in use will be replaced by connections to the new sewerage network.

17. **Operation and Maintenance Costs.** Subproject operation and maintenance costs include staff salaries, power and energy, maintenance, and miscellaneous expenses for water supply and wastewater disposal. It is assumed that the current operation and maintenance costs will increase continuously until 2018, when the new water and sewerage system will start to operate. The required staff strength for water and waste water operation is estimated to be 26 in 2018. The annual average cost of staff is estimated to be \$164,016 including taxes and social security premiums. The energy expenditure is calculated to be \$280,287/MWh and expenditures for chemicals \$2.62 for 1000 cubic meter of water produced in 2018. The maintenance of civil works is taken as 0.5% of asset value while the repair and maintenance of electrical and mechanical equipment is calculated as 2.5 of the value of assets. Maintenance expenses are assumed to increase significant from 2015 to 2018. This is mostly due to the repair and maintenance of new assets that will be added, which will constitute a major portion of the O&M expenditures.

18. **Current Tariffs.** Current water and sewerage tariffs in Chiatura are set as follows:

- (i) domestic water supply: \$0.215/cum;
- (ii) domestic sanitation charge: \$0.041/cum;
- (iii) non-domestic water supply: \$1.733/cum;
- (iv) non-domestic sanitation: \$0.479/cum.

C. Financial Projection

19. **Tariff.** In the financial projections, where revenues and costs are given in nominal terms, the water supply tariffs as well as the wastewater disposal tariffs are projected to increase annually between 2015 and 2040 to cover O&M cost, asset replacements and total debt service payments. For both services the tariffs for non-domestic customers were fixed by applying a cross subsidization factor decreasing towards 3 for 2017 and thereafter.

20. **Affordability Analysis.** An affordability analysis was undertaken to compare the level of household water expenditure with the average household income. Table 3 presents the affordability levels for selected years. Average water and wastewater affordability ratio (bill/monthly income) is calculated to be 1.76% in 2015 and increases up to 4.00% in 2018. Thereafter due to increases in the tariffs equal to the projected income increases a constant the affordability ratio of 4.00% until 2040 is assumed. Thus, the ratio remains clearly below the internationally accepted threshold limit of 5%, which implies that the proposed domestic tariffs are affordable by the population.

Table 3: Tariff Affordability

		2015	2016	2017	2018	2019	2020	2030	2040
Daily water consumption per head	lcd	140.00	140.00	140.00	140.00	140.00	140.00	140.00	140.00
Monthly water consumption per head	m ³ / month	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26
Proposed water tariff for households	USD / m ³	-	-	-	0.22	0.22	0.22	0.36	0.64
Proposed sanitation tariff for households	USD / m ³	-	-	-	0.32	0.32	0.32	0.49	0.88
Average monthly bill water supply (incl. VAT)	USD	0.87	0.95	1.04	1.12	1.12	1.12	1.79	3.23
Average bill water supply plus sanitation (inc. VAT)	USD	1.38	1.84	2.29	2.75	2.75	2.75	4.25	7.65
Average monthly HH income per head	USD / head	123.17	130.62	138.52	146.90	155.79	165.22	297.28	534.90
Percent of income spent for water supply	Percent	0.71%	0.73%	0.75%	0.76%	0.72%	0.68%	0.60%	0.60%
Percent spent for water supply and sanitation	Percent	1.12%	1.41%	1.66%	1.87%	1.76%	1.66%	1.43%	1.43%

HH = household, lcd = liters per capita per day, m³ = cubic meter

Source: United Water Supply Company of Georgia estimates.

21. From the analysis, tariff increases required for the subproject is within customer affordability and generate enough revenues to cover O&M cost, asset replacements as well as debt service payments. However, a viability gap funding (VGF) was considered and focused on different targets.

22. Regarding the VGF, four different periods were analysed, covering the years 2015 to 2040, the reference year for the engineers' infrastructure design. However, for these periods the necessary VGF to achieve certain targets were calculated and is detailed below in Table 11.

23. There are first the VGF amounts listed which are necessary to ensure the operator's financial viability (liquidity). They sum up to zero, signaling that the revenues cover the O&M cost and additionally the replacement expenditures as well as the total debt service payments. Moreover, the proposed tariff adjustments ensure a sufficiently high FIRR for both the base case and the worst case scenario (revenues minus 10%). Table 4 shows that no VGF support is needed to ensure a FIRR > WACC in the base case neither for risk prevention. This means that the subproject is financially viable through the design life even in the worst case scenario.

Table 4: Required Viability Gap Funding (USD)

Period	Revenues	O&M costs	Replacements	Debt Service	VGF for liquidity	VGF for FIRR>WACC	VGF for risk prevention	VGF total
2015 to 2021	23.307	5.566	(28.023)	1.910	0.000	0.000	0.000	0.000
2022 to 2027	40.266	7.094	(47.509)	4.428	0.000	0.000	0.000	0.000
2028 to 2033	64.140	8.906	(47.126)	4.428	0.000	0.000	0.000	0.000
2034 to 2040	122.380	13.347	(55.062)	5.166	0.000	0.000	0.000	0.000
2011 to 2040	250.092	34.913	(177.721)	15.933	0.000	0.000	0.000	0.000

FIRR = financial internal rate of return, O&M=operation and maintenance, TDS=total debt service, VGF=viability gap funding.

24. The above analysis shows that UWSCG will be in a position to meet the operation and maintenance cost from the revenues generated, and can therefore fulfil the requirement of maintaining operating ratio of less than 1 as defined in the loan agreement⁵. The current water and sanitation tariffs are very low, and in the financial analysis it is proposed to reset the initial tariffs at a higher level based on the affordability analysis. However, even if it is assumed that the government start revising tariffs from the current level in FY2017 and onwards at an average incremental rate of 5% per annum, the revenue generated will be more than the operation and maintenance cost even in the first year of operation i.e. FY2018. With the strengthening of the tariff regulatory authority under the Investment Program, it is expected that the tariffs will be revised regularly by taking into consideration UWSCG's operation and maintenance costs, including replacement of assets, and customer affordability, thereby dependence on the government subsidy will be reduced.

25. **Weighted Average Cost of capital.** The WACC was calculated on after-tax basis, resulting in an estimated 1.78% (in real terms) and was used as the hurdle rate for the FIRR to measure subproject viability. Funding sources are the OCR loan and Government contribution. Average inflation is estimated at 1% per annum for foreign cost and at 5% for local costs. The WACC is presented in Table 5.

Table 5: Weighted Average Cost of Capital

	Capital Investments		Nominal Rate	Corporate Profit Tax	After Tax Rate	Inflation rate	Real Rate	WACC Real
	MUSD	%						
ADB - Asian Development Fund (ADF)	0.00	0.0%	2.00%	15.0%	1.70%	1.00%	0.69%	0.00%
ADB - Ordinary Capital Resources (OCR)	6.94	65.4%	2.95%	15.0%	2.51%	1.00%	1.49%	0.98%
Government	3.68	34.6%	15.00%	0.0%	15.00%	5.00%	9.52%	3.30%
Total Capital Investment	10.62	100.0%						4.28%

ADB = Asian Development Fund, WACC = weighted average cost of capital.

Source: United Water Supply Company of Georgia estimates.

26. **Sensitivity Analysis.** Table 6 provides the results of sensitivity tests and indicates that the Chiatura subproject is viable under highly adverse economic conditions as shown below.

⁵ Operating ratio is the ratio of UWSCG's operating expenses over its operating revenue, with "operating expenses" meaning all expenses of UWSCG on operation and maintenance including staff salaries, cost of energy, chemicals and consumables, routine maintenance, spare parts, consumables, etc. but excluding capital expenditure and debt service obligations. The "operating revenue" means the revenue collected by UWSCG from the sale of water and other revenues excluding grants from the government.

**Table 6: Financial Internal Rate of Return
(\$ million)**

	FIRR Percent	FNPV MUSD
Base Case	6.87%	3.381
Capital Cost increase by 15%	5.41%	2.259
O&M Cost increase by 10%	5.53%	2.171
Revenues decrease by 10%	4.37%	1.085
1-year delay in revenue	6.06%	1.754
Capital and O&M Cost increase by 10%	4.60%	1.423
Switching value Capital Cost	45.20%	
Switching value O&M Cost	27.94%	
Switching value Revenue	-14.72%	
Switching value Revenue	17.27%	
WACC	4.28%	

FIRR=financial internal rate of return; FNPV=financial net present value;
Switching value=change in parameter that will make the FIRR equal to the WACC.

Source: United Water Supply Company of Georgia estimates.

27. **Conclusion.** The subproject is financially viable when the proposed tariff increases are implemented every year until 2040 and should be affordable to domestic consumers. Income affordability is a major factor in rationalizing tariffs, thus the monthly household income needs to be reviewed periodically. The sensitivity analysis indicates that the subproject FIRRs are above the WACC even under adverse economic conditions.

**Table 7: Financial Internal Rate of Return
(in million USD)**

Year	Revenue	Viability Gap Funding	Delayed Revenue	Financial Cost			Net Benefits					
				Capital	O&M	Total	Base case	Capital + 15%	O&M + 10%	Revenue -10%	1-yr Delay in Benefit	Cap & O&M + 10%
2015	0.977	-	-	-	0.354	0.354	0.623	0.623	0.587	0.525	(0.354)	0.587
2016	1.002	-	0.977	-	0.349	0.349	0.653	0.653	0.618	0.553	0.627	0.618
2017	1.004	-	1.002	4.670	0.774	5.444	(4.440)	(5.140)	(4.517)	(4.540)	(4.442)	(4.984)
2018	1.453	-	1.004	3.976	0.777	4.752	(3.299)	(3.896)	(3.377)	(3.444)	(3.748)	(3.774)
2019	1.433	-	1.453	-	0.787	0.787	0.646	0.646	0.567	0.502	0.666	0.567
2020	1.411	-	1.433	-	0.797	0.797	0.614	0.614	0.534	0.473	0.635	0.534
2021	1.370	-	1.411	-	0.803	0.803	0.567	0.567	0.486	0.430	0.608	0.486
2022	1.330	-	1.370	-	0.809	0.809	0.520	0.520	0.439	0.387	0.561	0.439
2023	1.345	-	1.330	-	0.819	0.819	0.526	0.526	0.444	0.391	0.510	0.444
2024	1.384	-	1.345	-	0.825	0.825	0.559	0.559	0.476	0.420	0.520	0.476
2025	1.423	-	1.384	-	0.832	0.832	0.592	0.592	0.509	0.449	0.552	0.509
2026	1.464	-	1.423	-	0.838	0.838	0.626	0.626	0.542	0.479	0.586	0.542
2027	1.504	-	1.464	-	0.844	0.844	0.660	0.660	0.576	0.510	0.619	0.576
2028	1.546	-	1.504	-	0.850	0.850	0.696	0.696	0.610	0.541	0.654	0.610
2029	1.588	-	1.546	-	0.857	0.857	0.731	0.731	0.646	0.573	0.689	0.646
2030	1.655	-	1.588	-	0.867	0.867	0.788	0.788	0.702	0.623	0.721	0.702
2031	1.697	-	1.655	-	0.872	0.872	0.825	0.825	0.738	0.655	0.783	0.738
2032	1.740	-	1.697	-	0.878	0.878	0.863	0.863	0.775	0.689	0.820	0.775
2033	1.784	-	1.740	-	0.883	0.883	0.901	0.901	0.812	0.722	0.857	0.812
2034	1.828	-	1.784	-	0.889	0.889	0.939	0.939	0.851	0.757	0.895	0.851
2035	1.873	-	1.828	-	0.894	0.894	0.979	0.979	0.890	0.792	0.934	0.890
2036	1.919	-	1.873	-	0.900	0.900	1.019	1.019	0.929	0.827	0.974	0.929
2037	1.965	-	1.919	-	0.905	0.905	1.060	1.060	0.970	0.864	1.014	0.970
2038	2.012	-	1.965	-	0.910	0.910	1.102	1.102	1.011	0.901	1.055	1.011
2039	2.060	-	2.012	-	0.916	0.916	1.144	1.144	1.053	0.938	1.096	1.053
2040	2.122	-	2.060	-	0.923	0.923	1.199	1.199	1.107	0.987	1.137	1.107
NPV	22.965	-	21.338	7.481	12.103	19.584	3.381	2.259	2.171	1.085	1.754	1.423
Applied WACC (real)						FIRR	6.87%	5.41%	5.53%	4.37%	6.06%	4.60%
	4.276%			Discount Rate @ W/		FNPV	3.381	2.259	2.171	1.085	1.754	1.423
Time span	26 years			Sensitivity Indicator		FIRR		1.4	2.0	3.6	1.7	3.3
idual Values	excluded !					FNPV		2.2	3.6	6.8	6.8	5.8
				Switching Value		FIRR		45.2%	27.9%	-14.7%		17.3%
						FNPV						
Note: Subproject remains viable (at WACC) even if capital Investment increases							Viable	Viable	Viable	Viable	Viable	Viable

ECONOMIC AND FINANCIAL ASSESSMENTS

I. MARNEULI ECONOMIC ANALYSIS

A. Introduction and Methodology

1. The economic analysis was undertaken according to ADB Guidelines on the Economic Analysis of Projects.¹ The Investment Program economic rationale was based on: fostering economic growth and improving urban WSS services, and improving institutional effectiveness. The analysis describes the economic rationale and undertakes a viability analysis of the subproject. A sensitivity analysis was conducted to determine the effects of several adverse economic conditions on the overall subproject viability. The subproject analysis compares the economic internal rate of return (EIRR) with the economic opportunity cost of capital, assumed at 12%, as applied in infrastructure project studies in Georgia. Sensitivity and risk analyses are undertaken to assess the robustness of the subprojects under adverse economic conditions. The analysis uses shadow pricing and shadow exchange rate factor to convert the financial cost and benefits into economic terms and is only applicable to foreign cost components. The analysis is undertaken in constant 2013 prices using the domestic price numeraire.

B. Economic Rationale

2. **Improving urban water supply and sanitation services.** Urban water supply services in the project towns have deteriorated since the collapse of the Soviet Union. The lack of capital investments for infrastructure improvement and rehabilitation has affected the quality of the services. 70% of urban households in United Water Supply Company of Georgia Limited Liability Company (UWSCG) service area do not have 24-hour water supply and this negatively affects the living conditions for people in the service area.

3. **Improving institutional effectiveness.** To improve the quality of service, the investment program will improve UWSCG's capacity to deliver services. Through the enterprise resource management component, the investment program will provide a management contractor's services to help UWSCG with long-term capital planning and asset strengthening, procurement, supervision of capital improvement works, operation and maintenance (O&M), and financial management.

4. **Demand analysis.** Water demand estimates for future years are determined by multiplying the current unit of demand by the projected number of future users in the water system. For the sewage network, the users are equal to number of users for water assuming that each water connection will also have a sewerage connection. In terms of volume of water treated, this is based on consumption of water and takes into account of non-revenue water that is treated but not billed. For the demand analysis of wastewater, the quantity of wastewater is assumed to equal the total water consumed, considering allowance of about 20% for infiltration of water into sewerage system due to high ground water level in the region. The overall project is considered to be beneficial to the poor communities which accounts for 50% of the population in Marneuli.

¹ ADB. 1997. Guidelines for the Economic Analysis of Projects. Manila; ADB. 1999. *Handbook for the Economic Analysis of Water Supply Projects*.

C. Economic Benefits

5. The subproject will improve water supply and sanitation infrastructure services in the town of Marneuli and its surrounding villages. For the subproject in Marneuli, the construction of the following components have been considered: (i) construction of water transmission mains; (ii) pumping stations; (iii) reservoirs; (iv) the water distribution network; (v) sewerage system; (vi) sewage pumping stations; and a new (vii) sewage treatment plant (STP).

6. Economic benefits² of the subproject include three main factors: (i) incremental benefits attributable to better water supply under with-project scenario; (ii) non-incremental benefits attributable to water supply under with-project scenario; and (iii) health benefits as a result of better water and sanitation infrastructure. Estimates for benefits derived from incremental water supply are based on quantity of incremental water sales (in m³) under the project, multiplied by the estimated savings/m³ such as: (i) time spent for water collection³; (ii) construction of individual wells/boreholes; (iii) pumping cost and water storage tank investment; and (iv) household O&M costs⁴. Estimates for benefits attributable to non-incremental water supply are based on the cost differential of household consumption under the project versus without project. Health benefits are measured through: (i) avoidance of loss in productivity, and (ii) avoidance of medical costs under the with-project scenario. It is assumed that as a result of more reliable water supply service, the population served under the project would on average avoid 1 day of lost wages due to illness per capita per annum and medical fees⁵. Other benefits are derived from the implementation of piped sewerage and wastewater treatment services, from which benefits are derived from avoidance of operating private septic tanks, cesspits and pit latrines as well as the cleaning of polluted water before discharging.

7. Sanitation benefits⁶ are based on: (i) savings from transitions from septic tank to sewerage network; (ii) avoidance of overflow; and (iii) benefits derived from the STP. The unit savings for switching from septic tank to the sewerage network is estimated to be \$105.00 per household per year, taking into account the maintenance cost of septic tanks and cost of emptying the tank. This is multiplied by the number of households connected to the sewerage

² Socioeconomic survey and focus group workshops under ADB-PPTA Preparing a Multitranchise Financing Facility for the Georgia Urban Services Improvement Investment Program. 170 households in Marneuli, 35 households in Mestia, 590 household in Zugdidi, and 24 households in Anaklia.

³ The socioeconomic survey showed that 32% of households in Marneuli and 11% of households in Zugdidi spent 1–10 minutes daily collecting water from sources outside the house. Households that connect to the system will be able to use the time allocated to water collection for other productive activities. The value of time spent collecting water was estimated as the average collection time expressed in hours per month multiplied by the local wage rate expressed in dollars per hour. After applying a conversion factor of 0.7 (local opportunity cost of labor) the resulting value is the economic cost for collecting water from a source outside the house

⁴ Households' average expenditure on wells and boreholes in Marneuli is \$610 and in Zugdidi \$437. The pump investment cost in Marneuli is \$142, in Zugdidi \$60, and in Anaklia \$83. The water storage tank investment cost in Marneuli is \$95 and in Zugdidi \$212. The investment costs were annualized using a life of 10 years for wells and boreholes and of 5 years for pumps and storage tanks, with an interest rate of 10%. O&M costs were set at 10%–20% of investment costs. The sum of water collection, well or borehole, pump, and storage costs was divided by the average annual water consumption per household and resulted in a cost per cubic meter of water—the economic cost to obtain water when piped water is not available or the estimated price of water the beneficiaries are willing to pay.

⁵ Health benefits from improved water quality and supply are avoided medical costs from waterborne diseases. About 6.5% of respondents in Marneuli and 0.2% in Zugdidi experienced waterborne diseases in the previous 12 months, causing an average of 11 indisposed days in Marneuli and 4 in Zugdidi. For those affected, the average annual medical cost was \$94 per household in Marneuli.

⁶ The estimates for the unit benefit for switching from septic tank are based on historical costs for septage cleanup, whereas the unit benefit for the STP is based on estimates provided by UWSCG accounting for the aggregation of employment created through the construction and operation of the STP as well as the improvement of overall environment as a result of wastewater being treated.

network. The overflow unit cost is estimated at \$6.00 per household per year, multiplied by the number of households connected to the sewerage network. The unit benefit assigned to STP is \$180 per household per year (\$50 per person multiplied by an average household size of 3.6), based on the avoidance of environmental clean-up and remedial expenditures at the Bolnisi town level, direct and indirect income and employment generation as well as increase in property values as a result of expenditures on the STP⁸.

8.

Table 1: Economic Data

	USD	Base Unit
Value non incremental water consumption	3,14	per cum water consumption
Value incremental water supply*	2,11	per cum water consumption
Health Benefits Water Supply	0,80	per capita connected to WS network
Septic Tank Disposal	105,00	per HH with sewerage connection
Septic Tank Overflow	6,00	per HH with sewerage connection
Loss of Work	7,50	per HH with sewerage connection
Loss of Leisure	4,50	per HH with sewerage connection
WWTP	180,00	per HH connected to WWTP

* calculated as the Average Incremental Economic Cost

Source: ADB – PPTA-Preparing a Multitranchise Financing Facility for the Georgia Urban Services Improvement Investment Program - Socioeconomic survey and focus group workshops

D. Economic Cost

9. For the Marneuli subproject, the cost component for the water supply system includes the construction of: (i) transmission mains; (ii) pumping stations; (iii) reservoirs; and (iv) the water distribution network. For the wastewater disposal service the cost component includes the construction of sewerage pipes, sewage pumping stations, and the new STP. Economic cost included: (i) capital investment cost for distribution, transmission, and treatment of water, including any land acquisition and resettlement costs; (ii) environmental mitigation and monitoring; (iii) capacity development; (iv) operations and maintenance costs, including replacement cost of depreciated equipment. Economic costs are valued in local currency using the domestic prices and expressed in economic terms using the domestic price numeraire at constant 2016 prices. Financial costs of traded goods were adjusted to their respective economic values using a shadow exchange rate factor⁹ of 1.00, and the shadow wage rate for unskilled labor estimated at 0.7. The rates are calculated using 2013 data for imports, exports and exchange rates and reflect the actual circumstances in country. Transfer payments, including taxes, duties and interests as well as price inflation are excluded from the economic costs.

⁸ The benefit due to the avoidance of septic tanks overflows set for Marneuli at \$6 per HH and year following the practice applied during the complete project for all towns. The amount reflects the avoided costs for cleaning the houses and clothes after an overflow taking into account necessary cleaning time, material costs and the expected number of occurrences per year. The \$6 is derived from the following assumptions: (i) \$30 total cleaning cost, and (ii) septic tanks overflow every 5 years. The major coping strategy for sanitation was the use of pit latrines or septic tanks. 43.9% of households had to pay for service to empty pit latrines/septic tanks. On average, the payment for sanitation including all the coping costs ranged between GEL 15 – 25 (\$ 8.3 – 13.8) per household monthly (Socioeconomic survey and focus group workshops under ADB-PPTA).

9 $SERF = 1 / SCF$ (Standard Conversion Factor) | $SCF = (M + X) / (M(1+tm-sm) + X(1-tx+sx))$ | M: Import; X: Export; t: tax; s: subsidy. The Government of Georgia implemented reforms in tariff policy as well as in technical regulations sphere. As a result, nowadays Georgia has one of the most liberal foreign trade policies in the world, which implies the facilitated foreign trade regimes and customs procedures, low import tariffs and minimal non-tariff regulations, thus the SERF is very close to 1.

E. Cost Benefit Analysis

10. The economic cost-benefit ratio was used in the analysis to assess whether the subproject benefits outweigh costs. The benefit–cost ratio for the Marneuli subproject is 1.04, thus making the subproject economically viable.

F. Results of Economic Analysis

11. The EIRR and discounted net cash flows were determined by comparing benefit streams with cost streams. As can be seen in the following table the Marneuli subproject becomes economically viable even in the assumed worst case scenario of a 10% decrease in benefits. For the base case scenario the economic net present value amounts to \$13.21 million with an EIRR of 15.53%.

12. The results of the sensitivity analysis are shown in Table 1. The switching value shown in this table is the increase/decrease in the parameter being tested which returns an EIRR equal to the opportunity cost of capital (12%).

Table 1: Economic Analysis – Summary Results

	EIRR	ENPV (\$ million)	Switching Value
Base Case	15.53%	13.21	
Capital Cost increase by 10%	14.06%	8.32	27.03%
O&M Cost increase by 10%	15.10%	11.61	82.24%
Benefit decrease by 10%	13.47%	5.40	-16.90%
1-year delay in benefit	12.99%	4.11	
Capital and O&M Cost increase by 10%	13.66%	6.72	20.34%

EIRR=economic internal rate of return, ENPV=economic net present value.

Source: United Water Supply Company of Georgia estimates.

G. Conclusion

13. The subproject is economically viable with EIRR values exceeding the economic opportunity cost of capital (12%) for the base case scenario and all other pessimistic scenarios. The sensitivity analysis demonstrates that the Marneuli subproject is viable even when tested under adverse economic conditions, including increases in costs, as well as delays in project implementation which would lead to delays in the realization of the benefits.

Table 2: Cost Benefit Analysis

Year	NRW Non-tech m3 mill	Water Sold Non-incr m3 mill	Incr m3 mill	Total m3 mill	Total Consump m3 mill	NRW -Non- technical \$ mill	Non-incre -mental \$ mill	Increment Value \$ mill	Total Sewerage Benefits	Total WWTP Benefits	Economic Benefit	Economic Cost	Net Benefit
2017	-	-	-	-	-	-	-	-	0.408	-	0.408	19.071	(18.663)
2018	-	-	-	-	-	-	-	-	0.672	-	0.672	23.460	(22.787)
2019	0.606	1.365	1.635	3.000	3.606	0.696	4.043	1.879	0.942	1.527	9.086	21.039	(11.952)
2020	0.504	2.377	0.810	3.187	3.691	0.579	7.038	0.931	1.216	1.971	11.735	2.314	9.421
2021	0.513	2.432	0.817	3.250	3.762	0.589	7.203	0.939	1.227	1.989	11.947	2.327	9.621
2022	0.521	2.488	0.825	3.313	3.834	0.599	7.367	0.948	1.238	2.008	12.160	2.339	9.821
2023	0.522	2.528	0.833	3.361	3.884	0.600	7.486	0.957	1.250	2.028	12.322	2.349	9.973
2024	0.524	2.568	0.841	3.410	3.933	0.602	7.605	0.967	1.263	2.048	12.484	2.358	10.126
2025	0.525	2.608	0.850	3.458	3.982	0.603	7.724	0.976	1.275	2.068	12.646	2.367	10.279
2026	0.526	2.648	0.858	3.506	4.032	0.604	7.843	0.986	1.288	2.088	12.808	2.377	10.431
2027	0.527	2.689	0.866	3.555	4.081	0.605	7.961	0.995	1.300	2.108	12.970	2.386	10.584
2028	0.528	2.729	0.874	3.603	4.131	0.606	8.080	1.005	1.312	2.128	13.132	2.396	10.736
2029	0.529	2.769	0.883	3.651	4.180	0.608	8.199	1.014	1.325	2.148	13.294	2.405	10.889
2030	0.530	2.809	0.891	3.700	4.230	0.609	8.318	1.024	1.337	2.168	13.456	5.162	8.293
2031	0.531	2.849	0.899	3.748	4.279	0.610	8.437	1.033	1.349	2.188	13.618	4.390	9.227
2032	0.532	2.889	0.907	3.797	4.328	0.611	8.556	1.043	1.362	2.208	13.780	2.605	11.175
2033	0.540	2.931	0.917	3.847	4.388	0.621	8.679	1.053	1.376	2.231	13.959	2.506	11.454
2034	0.548	2.973	0.926	3.898	4.447	0.630	8.803	1.064	1.389	2.253	14.139	2.516	11.622
2035	0.557	3.014	0.935	3.949	4.506	0.640	8.926	1.074	1.403	2.275	14.318	2.465	11.853
2036	0.565	3.056	0.944	4.000	4.565	0.649	9.050	1.085	1.417	2.297	14.498	2.476	12.022
2037	0.573	3.098	0.953	4.051	4.624	0.659	9.173	1.095	1.430	2.319	14.677	2.486	12.191
2038	0.581	3.140	0.962	4.102	4.683	0.668	9.297	1.106	1.444	2.342	14.857	2.868	11.988
2039	0.590	3.181	0.971	4.153	4.742	0.678	9.420	1.116	1.458	2.364	15.036	2.879	12.157
2040	0.598	3.223	0.980	4.203	4.801	0.687	9.544	1.127	1.471	2.386	15.216	2.518	12.697
2041	0.606	3.265	0.990	4.254	4.861	0.697	9.668	1.137	1.485	2.408	15.395	2.529	12.866
2042	0.614	3.306	0.999	4.305	4.920	0.706	9.791	1.148	1.499	2.431	15.575	5.103	10.472
NPV @ 12.0%						3.836	46.226	6.786	8.686	12.625	78.159	64.947	13.212 15.53%

II. MARNEULI FINANCIAL ANALYSIS

A. Introduction

14. The analysis was conducted on a without-project and with-project basis by estimating incremental costs and revenues over 26 years (between 2017 and 2042) covering the entire water supply and sanitation system for Marneuli. The main financial viability parameters analysed were: (i) the financial internal rate of return (FIRR), which should be greater than the weighted average cost of capital (WACC) with the financial net present value as proxy; (ii) operating ratio, which should be less than or equal to one when the water supply and sanitation system becomes fully operational; and (iii) tariff affordability, normally considered affordable if the resulting monthly charge is 5% or less than the average monthly household income. The analysis looked closely at the operating ratio as a main indicator of sustainability.

B. Basis for Financial Projections

15. In order to better assess the financial viability of the project, the total investment for Marneuli town was considered. Total investment cost, including VAT and contingencies amounts to \$87.39 million completely allocated to Tranche 6.

16. **Revenue.** Revenues were based on domestic and non-domestic demand for water supply service and wastewater disposal. The related tariffs are programmed to increase between 2015 and 2040 annually, first until 2018 significant and thereafter moderate. The target is to cover (i) operation and maintenance costs; (ii) operation and maintenance costs plus depreciation; and (iii) operation and maintenance costs plus total debt service plus replacements. Tariff increments are benchmarked on domestic customers' affordability and targeted cost recovery level. The demand forecast assumes that all water from existing alternative sources will be replaced with subproject water supply. Moreover, also the existing septic tanks, cesspits and pit latrines in use will be replaced by connections to the new sewerage network.

17. **Operation and Maintenance Costs.** Subproject operation and maintenance costs include staff salaries, power and energy, maintenance, and miscellaneous expenses for water supply and wastewater disposal. It is assumed that the current operation and maintenance costs will increase continuously until 2018, when the new water and sewerage system will start to operate. The required staff strength for water and waste water operation is estimated to be 86 in 2018. The annual average cost of staff is estimated to be \$6,590.12 including taxes and social security premiums. The energy expenditure is calculated to be \$96.97/MWh and expenditures for chemicals \$3.39 for 1000 cubic meter of water produced in 2013. The maintenance of civil works is taken as 0.5% of asset value while the repair and maintenance of electrical and mechanical equipment is calculated as 2.5 of the value of assets. Maintenance expenses are assumed to increase significant from 2015 to 2018. This is mostly due to the repair and maintenance of new assets that will be added, which will constitute a major portion of the O&M expenditures.

18. **Current Tariffs.** Current water and sewerage tariffs in Marneuli are set as follows:

- (i) domestic water supply: \$0.215/cum;
- (ii) domestic sanitation charge: \$0.041/cum;
- (iii) non-domestic water supply: \$1.733/cum;
- (iv) non-domestic sanitation: \$0.479/cum.

C. Financial Projection

19. **Tariff.** In the financial projections, where revenues and costs are given in nominal terms, the water supply tariffs as well as the wastewater disposal tariffs are projected to increase annually between 2015 and 2040 to cover O&M cost, asset replacements and total debt service payments. For both services the tariffs for non-domestic customers were fixed by applying a cross subsidization factor decreasing towards 3 for 2017 and thereafter.

20. **Affordability Analysis.** An affordability analysis was undertaken to compare the level of household water expenditure with the average household income. Table 3 presents the affordability levels for selected years. Average water and wastewater affordability ratio (bill/monthly income) is calculated to be 0.95% in 2011 and increases up to 4.00% in 2018. Thereafter the proposed further increases in the tariffs equal to the projected income increases lead to a constant affordability ratio of 4.00% until 2040. Thus, the ratio remains clearly below the internationally accepted threshold limit of 5%, which implies that the proposed domestic tariffs are affordable by the population.

Table 3: Tariff Affordability

		2015	2016	2017	2018	2019	2020	2030	2040
Daily water consumption per head	lcd	140,00	140,00	140,00	140,00	140,00	140,00	140,00	140,00
Monthly water consumption per head	m ³ / month	4,26	4,26	4,26	4,26	4,26	4,26	4,26	4,26
Proposed water tariff for households	USD / m ³	-	-	-	0,65	0,69	0,73	1,32	2,37
Proposed sanitation tariff for households	USD / m ³	-	-	-	0,84	0,89	0,94	1,69	3,05
Average monthly bill water supply (incl. VAT)	USD	1,57	2,14	2,70	3,27	3,47	3,68	6,62	11,92
Average bill water supply plus sanitation (inc. VAT)	USD	2,76	4,33	5,90	7,48	7,93	8,41	15,13	27,23
Average monthly HH income per head	USD / head	156,76	166,25	176,30	186,97	198,28	210,28	378,36	680,78
Percent of income spent for water supply	Percent	1,00%	1,29%	1,53%	1,75%	1,75%	1,75%	1,75%	1,75%
Percent spent for water supply and sanitation	Percent	1,76%	2,60%	3,35%	4,00%	4,00%	4,00%	4,00%	4,00%

HH = household, lcd = liters per capita per day, m³ = cubic meter

Source: United Water Supply Company of Georgia estimates.

21. From the analysis, tariff increases required for the subproject is within customer affordability and generate enough revenues to cover O&M cost, asset replacements as well as debt service payments. However, a viability gap funding (VGF) was considered and focused on different targets.

22. Regarding the VGF, four different periods were analysed, covering the years 2015 to 2040, the reference year for the engineers' infrastructure design. However, for these periods the necessary VGF to achieve certain targets were calculated and is detailed below in Table 4.

23. There are first the VGF amounts listed which are necessary to ensure the operator's financial viability (liquidity). They sum up to zero, signaling that the revenues cover the O&M cost and additionally the replacement expenditures as well as the total debt service payments. Moreover, the proposed tariff adjustments ensure a sufficiently high FIRR for both the base case and the worst case scenario (revenues minus 10%). Table 4 shows that no VGF support is needed to ensure a FIRR > WACC in the base case neither for risk prevention. This means that the subproject is financially viable through the design life even in the worst case scenario.

Table 4: Required Viability Gap Funding (USD)

Period	Revenues	O&M costs	Replacements	Debt Service	VGF for liquidity	VGF for FIRR>WACC	VGF for risk prevention	VGF total
2015 to 2021	47,064	19,482	0,821	12,798	0,000	0,000	0,000	0,000
2022 to 2027	80,731	25,190	0,704	21,401	0,000	0,000	0,000	0,000
2028 to 2033	126,391	32,940	11,690	21,401	0,000	0,000	0,000	0,000
2034 to 2040	238,494	51,690	13,596	24,968	0,000	0,000	0,000	0,000
2011 to 2040	492,680	129,302	26,810	80,568	0,000	0,000	0,000	0,000

FIRR = financial internal rate of return, O&M=operation and maintenance, TDS=total debt service, VGF=viability gap funding.

24. The above analysis shows that UWSCG will be in a position to meet the operation and maintenance cost from the revenues generated, and can therefore fulfil the requirement of maintaining operating ratio of less than 1 as defined in the loan agreement.¹⁰ The current water and sanitation tariffs are very low, and in the financial analysis it is proposed to reset the initial tariffs at a higher level based on the affordability analysis. However, even if it is assumed that the government start revising tariffs from the current level in FY2017 and onwards at an average incremental rate of 5% per annum, the revenue generated will be more than the operation and maintenance cost even in the first year of operation i.e. FY2018. With the strengthening of the tariff regulatory authority under the Investment Program, it is expected that the tariffs will be revised regularly by taking into consideration UWSCG's operation and maintenance costs, including replacement of assets, and customer affordability, thereby dependence on the government subsidy will be reduced.

25. **Weighted Average Cost of capital.** The WACC was calculated on after-tax basis, resulting in an estimated 3.21% (in real terms) and was used as the hurdle rate for the FIRR to measure subproject viability. Funding sources are the OCR loan and Government contribution. Average inflation is estimated at 1% per annum for foreign cost and at 5% for local costs. The WACC is presented in Table 5.

Table 5: Weighted Average Cost of Capital

	Capital Investments		Nominal Rate	Corporate Profit Tax	After Tax Rate	Inflation rate	Real Rate	WACC Real
	MUSD	%						
ADB - Asian Development Fund (ADF)	0,00	0,0%	2,00%	15,0%	1,70%	1,00%	0,69%	0,00%
ADB - Ordinary Capital Resources (OCR)	69,91	80,0%	3,12%	15,0%	2,65%	1,00%	1,64%	1,31%
Government	17,48	20,0%	15,00%	0,0%	15,00%	5,00%	9,52%	1,90%
Total Capital Investment	87,39	100,0%						3,21%

ADB = Asian Development Fund, WACC = weighted average cost of capital.

Source: United Water Supply Company of Georgia estimates.

26. **Sensitivity Analysis.** Table 6 provides the results of sensitivity tests under highly adverse economic conditions and indicates that the Marneuli subproject is viable as shown below.

¹⁰ Operating ratio is the ratio of UWSCG's operating expenses over its operating revenue, with "operating expenses" meaning all expenses of UWSCG on operation and maintenance including staff salaries, cost of energy, chemicals and consumables, routine maintenance, spare parts, consumables, etc. but excluding capital expenditure and debt service obligations. The "operating revenue" means the revenue collected by UWSCG from the sale of water and other revenues excluding grants from the government.

**Table 6: Financial Internal Rate of Return
(\$ million)**

	FIRR Percent	FNPV MUSD
Base Case	4,84%	12,549
Capital Cost increase by 15%	3,54%	2,784
O&M Cost increase by 10%	4,32%	8,476
Revenues decrease by 10%	3,31%	0,711
1-year delay in revenue	3,96%	5,888
Capital and O&M Cost increase by 10%	3,45%	1,966
Switching value Capital Cost	19,28%	
Switching value O&M Cost	30,81%	
Switching value Revenue	-10,60%	
Switching value Revenue	11,86%	
WACC	3,21%	

FIRR=financial internal rate of return; FNPV=financial net present value;

Switching value=change in parameter that will make the FIRR equal to the WACC.

Source: United Water Supply Company of Georgia estimates.

27. **Conclusion.** The subproject is financially viable when the proposed tariff increases are implemented every year until 2040 and should be affordable to domestic consumers. Income affordability is a major factor in rationalizing tariffs, thus the monthly household income needs to be reviewed periodically. The sensitivity analysis indicates that the subproject FIRRs are above the WACC even under adverse economic conditions.

**Table 7: Financial Internal Rate of Return
(in million USD)**

Year	Revenue	Viability Gap Funding	Delayed Revenue	Financial Cost			Net Benefits					
				Capital	O&M	Total	Base case	Capital + 15%	O&M + 10%	Revenue -10%	1-yr Delay in Benefit	Cap & O&M + 10%
2017	1.971	-	-	19.095	1.183	20.278	(18.308)	(21.172)	(18.426)	(18.505)	(20.278)	(20.335)
2018	2.723	-	1.971	23.978	1.443	25.420	(22.697)	(26.294)	(22.842)	(22.970)	(23.450)	(25.240)
2019	3.586	-	2.723	21.164	2.226	23.390	(19.804)	(22.979)	(20.027)	(20.163)	(20.667)	(22.143)
2020	5.671	-	3.586	-	2.376	2.376	3.294	3.294	3.057	2.727	1.209	3.057
2021	5.888	-	5.671	-	2.389	2.389	3.499	3.499	3.260	2.910	3.282	3.260
2022	6.109	-	5.888	-	2.401	2.401	3.708	3.708	3.468	3.097	3.487	3.468
2023	6.282	-	6.109	-	2.411	2.411	3.871	3.871	3.630	3.243	3.699	3.630
2024	6.457	-	6.282	-	2.420	2.420	4.037	4.037	3.795	3.392	3.862	3.795
2025	6.636	-	6.457	-	2.430	2.430	4.206	4.206	3.963	3.543	4.028	3.963
2026	6.817	-	6.636	-	2.439	2.439	4.378	4.378	4.134	3.696	4.197	4.134
2027	7.001	-	6.817	-	2.448	2.448	4.553	4.553	4.308	3.853	4.369	4.308
2028	7.189	-	7.001	-	2.458	2.458	4.731	4.731	4.485	4.012	4.544	4.485
2029	7.379	-	7.189	-	2.467	2.467	4.912	4.912	4.665	4.174	4.721	4.665
2030	7.572	-	7.379	2.794	2.477	5.271	2.302	1.883	2.054	1.545	2.108	1.775
2031	7.769	-	7.572	2.034	2.486	4.520	3.249	2.944	3.000	2.472	3.052	2.797
2032	7.969	-	7.769	0.182	2.496	2.678	5.291	5.264	5.041	4.494	5.091	5.023
2033	8.175	-	7.969	0.064	2.506	2.570	5.605	5.595	5.354	4.787	5.399	5.348
2034	8.385	-	8.175	0.066	2.517	2.583	5.802	5.792	5.550	4.964	5.592	5.544
2035	8.598	-	8.385	-	2.527	2.527	6.070	6.070	5.818	5.211	5.857	5.818
2036	8.814	-	8.598	-	2.538	2.538	6.276	6.276	6.022	5.395	6.060	6.022
2037	9.034	-	8.814	-	2.549	2.549	6.486	6.486	6.231	5.582	6.266	6.231
2038	9.258	-	9.034	0.384	2.559	2.943	6.315	6.257	6.059	5.389	6.091	6.020
2039	9.485	-	9.258	0.396	2.570	2.965	6.519	6.460	6.262	5.571	6.292	6.223
2040	9.715	-	9.485	-	2.580	2.580	7.135	7.135	6.877	6.163	6.904	6.877
2041	9.950	-	9.715	-	2.591	2.591	7.358	7.358	7.099	6.363	7.124	7.099
2042	10.188	-	9.950	2.764	2.602	5.366	4.822	4.407	4.562	3.803	4.584	4.285
NPV	118.378	-	110.355	65.100	40.729	105.829	12.549	2.784	8.476	0.711	4.526	1.966
Applied WACC (real)						FIRR	4.84%	3.54%	4.32%	3.31%	3.78%	3.45%
	3.213%					Discount Rate @ W/FNPV	12.549	2.784	8.476	0.711	4.526	1.966
Time span	26 years					Sensitivity Indicator		1.8	1.1	3.2	3.3	2.9
idual Values	excluded !					FNPV		5.2	3.2	9.4	9.4	8.4
						Switching Value		19.3%	30.8%	-10.6%		11.9%
						FNPV						
Note: Subproject remains viable (at WACC) even if capital Investment increases							Viable	Viable	Viable	Viable	Viable	Viable

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

Country:	Georgia	Project Title:	Urban Services Improvement Investment Program – Project 6
Lending/Financing Modality:	Multitranchise Financing Facility	Department/ Division:	Central and West Asia Department Urban Development and Water Division

I. POVERTY AND SOCIAL ANALYSIS AND STRATEGY

Poverty targeting (MDG 7)

A. Links to the National Poverty Reduction and Inclusive Growth Strategy and Country Partnership Strategy

The Investment Program links with the government's urban water supply and sanitation (WSS) sector development plan (SDP) for 2011–2020 approved on 31 January 2011. The SDP aims to ensure continuous and reliable water supply and safe sanitation services to all urban residents by 2020. It also supports national targets to improve health and reduce household expenditure on medical care. The ADB Country Partnership Strategy (CPS) for Georgia 2014–2018 has a focus on addressing infrastructure bottlenecks, particularly those that are likely to have high economic and social impacts, such as improving vital urban infrastructure, including municipal services and WSS networks. ADB will assist the government to make the growth process more inclusive by supporting improved urban service delivery, and improving social and economic infrastructure in small towns and secondary cities. Environmental sustainability will be enhanced through assistance for clean urban transport, improved water supply, sanitation and solid waste management, and hydropower development.

B. Results from the Poverty and Social Analysis during PPTA or Due Diligence

1. Key poverty and social issues. Widespread poverty has been a major unresolved problem for Georgians since independence in 1991. Out of around 4.5 million Georgians, about 1 million are estimated to be “poor” and about 400,000 of these persons are classified as “extremely poor”. Georgia experienced jobless growth from 2004 to 2012 with an open unemployment rate of 15.5% in 2012 and another fifth of the labor force under-employed. Limited job opportunities encourage a high rate of out migration. Georgia's targeted social assistance program is key to improving living standards for the poor. One third of officially recognized poor households and 40% of extremely poor households receive no social assistance at all. Free health insurance for vulnerable families is concentrated in the poorest quintile of households, but even in this group only 21.3% are covered. The government is improving the targeting mechanism of the targeted social assistance program but realizes that creating employment is the best way to reduce poverty. Poverty is particularly high in secondary towns. 32% of households surveyed in Marneuli, Chiatura and Bolnisi live below GEL150, well below the monthly minimum subsistence level of GEL269 (\$121) / household (equivalent to GEL74 (\$33.55) / person for an average household of 3.6 persons). The national average is just 10.1%, confirming the UNICEF assertion that poverty in Georgia is mainly concentrated in secondary towns. Marneuli has a significant ethnical minorities population comprised of 83% of Azeri people.

2. Beneficiaries. Only 82% of urban residents have access to piped water service in Georgia, where the MDG-7 target is 95%. Almost 64% of customers served by United Water Supply Company of Georgia (UWSCG) experience only intermittent service, as only 25% of service centers provide 24-hour coverage. Almost half of urban residents lack piped sewer connections and rely on other onsite sanitation systems, including pit latrines and septic tanks. Wastewater treatment is extremely limited, threatening public health and the environment.

The number of households in secondary towns directly supplied by UWSCG with tap water is 57%, while 35% of households obtained water through a tap from another source or water tanker and the rest have no supply at home.^a These figures actually reflect a wide range of conditions, as some secondary towns are fully equipped with piped water and others, require all families to use alternative sources because the piped water system has not operated since the war in 1993. Among those with access to piped water, almost half have supply for only 3–4 days per week, mostly for only 2–4 hours per day.

To cope with the situation, customers purchase storage tanks and water pumps to cover the times when water supply is cut. Those without access to piped water dig wells or boreholes and pump water into a range of containers. Only 2% of households try to improve the quality of water before using it for drinking and cooking by filtering, boiling, or chlorinating it. The proportion of all households spending more than 3% of their income on utilities was 7.5%. Average water-related costs are GEL2.5/month. Functional central sewerage systems reach 38.2% of households.

Knowledge and information on the importance of WSS services is at a basic level, as are customer rights and tariff schemes.

1. Impact channels. In Marneuli town, the water supply and sewerage system, including a new sewerage treatment plant (STP), will be constructed in order to provide a reliable water and safe sanitation to 100% of the population. The sewerage and sanitation system efficiency will be improved in Bolnisi town through the construction

of about 40 km of sewer lines and a new STP. The rehabilitation and expansion of the water supply system in Chiatura will be undertaken along with the construction of a new STP to provide a comprehensive sewage collection and treatment facility in the entire town.

3. Other social and poverty issues. The main issue is unemployment, followed by social protection, both of which are included as key items in the government's key development strategy and financing plan: Basic Data and Directions (BDD), 2013 to 2016. Priorities are sustained and inclusive growth while ensuring macroeconomic stability.

4. Design features. Improving WSS services and generating awareness of the importance of clean water and hygiene will improve public health and hygiene, especially among the poor, internally displaced, and households headed by women. In communities of internally displaced people, the improved water quality and provision of public toilets and washing facilities will reduce waterborne and sanitation-related disease and significantly cut coping costs incurred to compensate for inadequate water supply and low water pressure. The quality of life will be enhanced by environmental improvement consequent to proper sewerage and sewage treatment in towns with decaying infrastructure and pit latrines. Construction for physical investments under the Investment Program will create temporary employment and require labor for system operation and maintenance in the long term.

II. PARTICIPATION AND EMPOWERING THE POOR

1. Participatory approaches and project activities. There is no specific role for civil society in this project. A policy and advisory technical assistance preceding the Investment Program consulted with central and local governments, civil society including nongovernment organizations (NGOs), and community men and women meeting separately, using key informant interviews, surveys, and focus group discussions. These consultations were used to inform design of the Investment Program. During previous tranches, an NGO has been used to develop and pilot community awareness raising materials and messages regarding water and hygiene. This responsibility has now been assumed by the water utility UWSCG, under its community outreach function and the project management consultants will have a team to assist with this function during project implementation.

☒ Information gathering and sharing ☒ Consultation ☐ Collaboration ☐ Partnership

Will a project level participation plan be prepared to strengthen participation of civil society as interest holders for affected persons particularly the poor and vulnerable?

☐ Yes. ☒ No.

III. GENDER AND DEVELOPMENT

Gender mainstreaming category: Effective gender mainstreaming

A. Key issues. Georgian women experience high levels of unemployment (only 48.5% of economically active women are employed), and women are concentrated in the informal sector and lower-paying part-time work (health care, education, agriculture).^b Factors hampering women's economic participation include an unpaid domestic work burden, the absence of affordable childcare, unequal access to assets and resources, and unequal say within households. Access to water and improved sanitation are significant problems in some secondary towns, affecting women particularly as they are responsible for purchasing, fetching, or pumping water for domestic use, maintenance of shared latrines and caring for those who get sick as a result of inadequate sanitation. Opportunities for integrating gender concerns into ADB's future investments in this sector include:

- Decrease the time women spend managing water for the household, freeing up time for their other responsibilities. Of the urban population, 18% presently has no access to piped water supply and 50% has no access to a reticulated sewerage system. Almost half of households with access to piped water supply only receive water 3–4 days per week and for 2–4 hours per day.^c
- Support awareness-raising among women in secondary towns on what constitutes good water management and service standards so that they can monitor the performance of water utilities.
- Develop consumer feedback mechanisms and monitor complaints by users to improve the responsiveness of the water utility.

B. Key actions. The project will directly address access to improved water supply, sewerage, and sanitation services for women and their households in three urban centers of Marneuli, Bolnisi, and Chiatura respectively. Overall, access to reliable water supply will increase from 69% in 2015 to 100% in 2019 in Marneuli and access to safe sanitation will increase from 19% in 2015 to 100% in 2019 and from 39% in 2015 to 100% in 2019 in Marneuli and Bolnisi respectively. Chiatura residents' access to safe water supply will also increase from 89% to 100% by 2019. Marneuli, Bolnisi, and Chiatura will have a comprehensive sewage treatment facility before discharge into the river. Supporting information campaigns will leverage increased access to a sewerage system in the three towns to improve household hygiene and health outcomes.

☒ Gender action plan ☐ Other actions or measures ☐ No action or measure

The project GAP addresses consultation with women (as part of the water utility outreach activities, target 50% of those consulted), employment of women (15% minimum of new positions created through the project, 30% in customer care, and 20% in managerial positions), with a stipulation that all advertisements explicitly encourage applications from qualified women, and within the design limitations of the sewerage network, ensuring maximum access to women in vulnerable households (widows, single parent women, senior citizens, etc.). Additionally, the GAP seeks to institutionally strengthen the water utility to address gender concerns through disaggregating customer feedback by sex for gender analysis and future planning; maintaining equal employment opportunities for the women

and men in UWSCG, and facilitating their career development; and encouraging a pipeline of water sector professionals who are female (minimum 10%) through fostering the enrolment of females at the WSS program at university level. A continuing activity from the previous tranche is outreach to customers through developing and disseminating information, education and communication (IEC) material on water, hygiene, sanitation, customer rights and water usage efficiency.

IV. ADDRESSING SOCIAL SAFEGUARD ISSUES

A. Involuntary Resettlement **Safeguard Category:** ☐ A ☐ B ☒ C ☐ FI

1. Key impacts. The water supply and sanitation facilities in Marneuli, Bolnisi, and Chiatura under Project 6 of the Investment Program will not require land acquisition as construction of the project components such as water and sewage pumping stations, sewage treatment plants, etc. will be constructed in unoccupied areas already owned by the government, and water supply and sewerage networks will be laid under public roads. The land is indeed owned by the government and no people are or have been living or farming informally on these lands, and there are no other outstanding claims on this land.

2. Plan or other Actions.

☐ Resettlement plan ☐ Combined resettlement and indigenous peoples plan

☐ Resettlement framework ☐ Combined resettlement framework and indigenous peoples planning framework

☐ Environmental and social management system arrangement ☐ Social impact matrix

☒ No action

B. Indigenous Peoples **Safeguard Category:** ☐ A ☐ B ☒ C ☐ FI

1. Key impacts. Indigenous peoples' safeguards will not be triggered by this Investment Program, as Georgia has no such communities as defined by ADB.

V. ADDRESSING OTHER SOCIAL RISKS

A. Risks in the Labor Market

1. Relevance of the project for the country's or region's or sector's labor market. The project will have insignificant impacts. ☐ unemployment ☐ underemployment ☐ retrenchment ☐ core labor standards

2. Labor market impact. Not applicable.

B. Affordability Not applicable.

C. Communicable Diseases and Other Social Risks

1. Indicate the respective risks, if any, and rate the impact as high (H), medium (M), low (L), or not applicable (NA):

☐ Communicable diseases ☐ human trafficking

☒ Others (please specify) _____

VI. MONITORING AND EVALUATION

1. Targets and indicators: Prevalence of waterborne illness in households reduced by at least 75% from current incidence of 4% of households per annum. Productive days lost to waterborne illness reduced by at least 75% from the current 8 days per person per annum. Residents' access to safe sanitation increased from 19% in 2015 to 100% in Marneuli and from 39% in 2015 to 100% in 2019 in Bolnisi. Residents' access to 24-hour potable water supply increased from 69% in 2015 to 100% in Marneuli and from 89% in 2015 to 100% in 2019 in Chiatura. Sex-disaggregated consumer database created for UWSCG to develop targeted marketing campaigns. Service center with a customer care unit staffed by at least 30% women that informs, educates, and communicates on water, hygiene, and sanitation.

2. Required human resources: A gender specialist appointed in IPMO, UWSCG staff, and safeguard specialist from Construction Supervision Consultants are responsible for monitoring of the poverty and social impact of the project. A gender consultant appointed under RETA 7563: (Promoting Gender-Inclusive Growth in Central and West Asia Developing Member Countries) has provided capacity assistance for the implementation of the GAP.

3. Information in PAM: The IPMO consultants along with UWSCG will implement an Investment Program performance monitoring system (IPPMS) to evaluate planned facilities and benefits accrued. The IPPMS activities like collection of information, benefits monitoring and evaluation, and evaluation of social impact will be carried out by the IPMO consultants supported by the management contractor, and safeguard specialist included in the team of construction supervision and project management consultants.

4. Monitoring tools: Most social outcomes will be monitored through implementation of the GAP, which is covenanted.

Sources:

- ^a United Water Supply Company of Georgia LLC figures on 1 October 2013. Relates to secondary cities and towns in Georgia, i.e. not the capital Tbilisi and not villages.
- ^b National Statistics Office of Georgia. Employment and Unemployment, Distribution of population 15 years and older by economic status and gender 1998–2011.
http://www.geostat.ge/index.php?action=page&p_id=146&lang=eng
- ^c ADB. 2013. The Way Forward: Improving Urban Water Supply and Sanitation in Georgia – Sector Development Plan.

SAFEGUARD REPORTS

Below are the links to the following reports:

1. Marneuli Town Wastewater System Subproject – Initial Environmental Examination:
<http://www.adb.org/projects/documents/geo-urban-services-improvement-t6-marneuli-wastewater-aug-2016-iee>
2. Marneuli Town Water Supply System Subproject – Initial Environmental Examination:
<http://www.adb.org/projects/documents/geo-urban-services-improvement-t6-marneuli-ws-aug-2016-iee>
3. Bolnisi Town Wastewater System Subproject – Initial Environmental Examination:
<http://www.adb.org/projects/documents/geo-urban-services-improvement-t6-bolnisi-wastewater-aug-2016-iee>
4. Chiatura Town Water Supply System Subproject – Initial Environmental Examination:
<http://www.adb.org/projects/documents/geo-urban-services-improvement-t6-chiatura-ws-aug-2016-iee>
5. Chiatura Town STP Subproject – Initial Environmental Examination:
<http://www.adb.org/projects/documents/geo-urban-services-improvement-t6-chiatura-wastewater-aug-2016-iee>
6. Updated Environmental Assessment and Review Framework
<http://www.adb.org/projects/documents/urban-services-improvement-investment-program-may-2015-earf>

RISK ASSESSMENT AND RISK MANAGEMENT PLAN

Risk Description	Risk Assessment	Mitigation Measures or Risk Management Plan
<p><u>Financial Management</u> Financial sustainability. Current water sector tariffs do not cover operation and maintenance, adversely affecting service delivery</p> <p>Given suboptimal regulations, policies, and oversight, UWSCG lack the capacity necessary to set, manage, and maintain service delivery standards and ensure economic efficiency</p>	High	<p>Government is providing and committed to provide viability gap funding in its annual budget to ensure that UWSCG will achieve an operating ratio of at least 1.</p> <p>Project 6 will support UWSCG to implement a road map for tariff adjustment and other required reforms to meet an operating ratio of 1 by 2019.</p> <p>ADB is supporting a capacity development of GNERC through providing tariff setting methodology and will require GNEWSRC to set tariffs annually based on cost recovery principles starting 2017.</p> <p>Project 6 will support the implementation of UWSCG's business plan.</p> <p>Additional support to UWSCG will be provided to improve the financial management of the company.</p>
<p><u>Procurement</u> Procurement. The procurement process is delayed due to capacity constraints.</p>	Low	<p>The procurement assessment of UWSCG is satisfactory. Through advance procurement actions, the procurement process will be accelerated. UWSCG has experienced and trained procurement specialists recruited under IPMO.</p>
<p><u>Anticorruption</u> Combating Corruption. While corruption has been reduced, some concerns regarding corruption remain due to lack of (i) stronger policy and regulatory frameworks, and (ii) government capacity.</p>	Low	<p>ADB will support the government's anticorruption initiatives. All project procurement shall follow ADB procedures.</p>

Risk Description	Risk Assessment	Mitigation Measures or Risk Management Plan
<u>Others</u>		
Environmental protection. Government's inability to protect the environment and natural resources from discharge of untreated sewage into water bodies	Low	The project will support UWSCG in constructing STP in the three towns to meet sewage discharge standards compliant with national legislation.
Gender Mainstreaming. Women will not participate in project design, planning and implementation	Low	A Gender Specialist is appointed under IPMO with specific TOR to implement and monitor the GAP
Overall	Medium	
ADB = Asian Development Bank, CF = counterpart fund, GAP = gender action plan, GNEWRC = Georgia National Energy and Water Supply Regulatory Commission, STP = sewage treatment plant, TOR = terms of reference, UWSCG = United Water Supply Company of Georgia, VGF = viability gap funding. Source: Asian Development Bank.		

GENDER ACTION PLAN

Action and Description	Target/Indicator and Timeframe	Institutional Responsibility
Output 1: Water Supply and Sewerage system efficiency improved through rehabilitation and reconstruction, and extended coverage		
1. Ensure construction of water supply and sewerage networks include house connections to all households in Marneuli, construction of Sewage network in Bolnisi and construction of water supply system in Chiatura	1.1 52,780 people in Marneuli and Chiatura will have access to 24-hour potable water supply of whom 50% are females 1.2 46,380 people in Marneuli and Bolnisi will have access to sanitation facilities of whom 50% are females	UWSCG
Output 2: Project implementation support and public awareness program effectively implemented, information on hygiene and sanitation disseminated		
2. Knowledge of gender specific customer behavior gained: 2a. Conduct survey on household water management, household needs, sanitation practices and knowledge gaps in Marneuli, Bolnisi and Chiatura 2b. Analyze knowledge gaps of households (especially women as household managers) on water, hygiene, sanitation, environmental impact of sewage, customer rights, and efficient water use	2a. Results of survey are analyzed in report (2016) 2b. Public awareness program is informed by survey results (2017) - 50% target of women reached by the public awareness program (2018)	UWSCG
3. Gender sensitive public relations campaign and outreach program developed and implemented: 3a. Develop IEC material on water, hygiene, sanitation, customer rights and water usage efficiency based on customer needs, knowledge gaps, and gender sensitive needs assessment 3b. Train staff of customer care centers as hygiene and sanitation advocates in Marneuli, Bolnisi and Chiatura 3c. Roll out public awareness program in Marneuli, Bolnisi and Chiatura	3.a IEC material on water, hygiene and sanitation practices, customer rights, complaint mechanisms is disseminated in Marneuli, Bolnisi and Chiatura (2017- continuous) 3.b and 3.c Local women NGOs and female community leaders involved in IEC material distribution and are trained to conduct public awareness program (2017- continuous) - All staff of customer care centers trained on water, hygiene, sanitation practices, customer rights and complaint mechanisms (2017- continuous)	

<p>4. Complaints redressed in a gender sensitive way: 4a. Sex-disaggregated customer complaints database established</p> <p>5. Female Recruitment</p>	<p>4.a Annual report on quantity and redress of complaints published (2016-continuous) and Annual report to also include gender analysis of complaints (2016-continuous)</p> <p>5.a 15% minimum of new positions created through the project are for women (2016-continuous) <i>(Baseline -The total number of employees is 2,745 of whom 647 are female (23% against a target of 30%), and of whom 25 women out of 268 in total are managers, at around 9% against a target of 30%).</i></p> <p>5.b At least 30% of customer care unit staff are women (2016-continuous) <i>(Baseline - At the Service Centers, 22% of employees and 4% of managers are women)</i></p> <p>5.c 10% minimum of female water sector professionals through fostering the enrolment of females at the WSS program at university level</p>	<p>UWSCG</p>
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IEC = information-education-communication, NGO = nongovernment organization, UWSCG = United Water Supply Company of Georgia LLC.
Source: Asian Development Bank.