



Report and Recommendation of the President to the Board of Directors

Project Number: 47919
April 2014

Proposed Loan and Administration of Loan Adjaristsqali Georgia LLC Adjaristsqali Hydropower Project (Georgia)

This is an abbreviated version of the document approved by ADB's Board of Directors that excludes information that is subject to exceptions to disclosure set forth in ADB's Public Communication Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 10 April 2014)

Currency unit	–	lari (GEL)
GEL1.00	=	\$0.5720496539
\$1.00	=	GEL1.7481

ABBREVIATIONS

ADB	–	Asian Development Bank
AGL	–	Adjaristsqali Georgia LLC
BOO	–	build–own–operate
CEI	–	Clean Energy Invest
EBRD	–	European Bank for Reconstruction and Development
EIRR	–	economic internal rate of return
ha	–	hectare
IFC	–	International Finance Corporation
MW	–	megawatt

NOTES

- (i) The fiscal year (FY) of Adjaristsqali Georgia LLC ends on 31 March. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2013 ends on 31 March 2013.
- (ii) In this report, “\$” refers to US dollars.

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CONTENTS

Page

PROJECT AT A GLANCE

I. THE PROPOSAL	1
II. THE PROJECT	1
A. Project Identification and Description	1
B. Development Impact, Outcome, and Outputs	2
C. Alignment with ADB Strategy and Operations	3
D. Implementation Arrangements	3
III. THE PROPOSED ADB ASSISTANCE	4
A. The Assistance	4
B. Value Added by ADB Assistance	4
IV. POLICY COMPLIANCE	5
A. Safeguards and Social Dimensions	5
B. Anticorruption Policy	7
C. Assurances	7
V. RECOMMENDATION	7

APPENDIXES

1. Design and Monitoring Framework	11
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PROJECT AT A GLANCE

1. Project Name: Adjaristsqali Hydropower Project		2. Project Number: 47919	
3. Country: Georgia		4. Department/Division: Private Sector Operations Department Infrastructure Finance Division 1	
5. Sector Classification:			
Sectors	Primary	Subsectors	
Energy	✓	Large hydropower generation	
6. Thematic Classification:			
Themes	Primary	Subthemes	
Economic Growth		Widening access to markets and economic opportunities Promoting economic efficiency and enabling business environment	
Environmentally Sustainable Growth		Global and regional transboundary environmental concerns	
Private Sector Development		Promotion of private sector investment	
Regional Cooperation and Integration	✓	Cross-border infrastructure	
6a. Climate Change Impact:		6b. Gender Mainstreaming:	
Adaptation		Gender equity theme	
Mitigation	✓	Effective gender mainstreaming	
Not applicable		Some gender elements	
		No gender elements	✓
7. Targeting Classification:		8. Location Impact:	
General Intervention	Targeted Intervention		
	Geographic dimensions of inclusive growth	Millennium development goals	Income poverty at household level
✓			
Rural	Low	Urban	Low
National	High	Regional	High
9. Nonsovereign Operation Risk Rating:			
10. Safeguard Categorization:			
	Environment	A	
	Involuntary resettlement	A	
	Indigenous peoples	C	
11. ADB Financing:			
Sovereign/Nonsovereign	Modality	Source	Amount
Nonsovereign	Loan	OCR	Up to \$75 million
12. Cofinancing:			
	Financier	Category	Amount
	EBRD	Loan	
	IFC	Loan	
	Canadian Climate Fund for the Private Sector in Asia Under the Clean Energy Financing Partnership Facility	Loan	Up to \$15 million
13. Counterpart Financing: Not Applicable			
14. Aid Effectiveness: Not Applicable			

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation for (i) a proposed loan of up to \$75 million; and (ii) proposed administration of a loan of up to \$15 million to be provided by the Canadian Climate Fund for the Private Sector in Asia under the Clean Energy Financing Partnership Facility, both to Adjaristsqali Georgia LLC (AGL) for the Adjaristsqali Hydropower Project in Georgia.¹

II. THE PROJECT

A. Project Identification and Description

1. Project Identification

2. Georgia has made significant progress in energy sector reforms over the past 10 years since 2003 to address chronic power shortages and the poor financial condition of electricity and gas companies. Until 2006, the country's electricity demand surpassed total supply, so the balance needed to be imported. However, in 2007, supply exceeded total demand as a result of the Government of Georgia's effort to increase the generation capacity of hydropower plants, and Georgia has since become an electricity exporter.² While Georgia imports electricity in winter when supply is low, it has significant excess generation in summer, and the volume of exports is increasing each year. In view of its rich but underdeveloped hydro resources, Georgia has set a strategic goal to become a regional energy hub by trading energy with neighboring countries. Among others, Turkey is the most attractive given its peak demand in summer (when demand in Georgia is lower), projected capacity shortfall, and higher electricity market prices. The government is hence promoting development of new hydropower plants. The proposed project is the second private hydropower plant designed for energy export and the first to be financed on a limited recourse basis.

3. In March 2013, Tata Power Company Limited (Tata Power) and Clean Energy Invest (CEI and, collectively with Tata Power, the sponsors), approached the Asian Development Bank (ADB) to request a loan for the project. Such request was made based on ADB's long partnership history with Tata Power and the International Finance Corporation (IFC), and ADB's experience in financing private hydropower projects. The project team also had a preliminary discussion with the European Bank for Reconstruction and Development (EBRD), which was also approached by the sponsors. Through these initial discussions, the Private Sector Operations Department believed that the project possesses sound fundamentals, ADB's participation will bring significant developmental benefits and demonstration impact, financing from ADB is absolutely necessary to make the project happen, and the success of the project will send an important signal to the market and help build confidence for private sector participation in Georgia's hydropower development and cross-border energy trade.

2. Project Design

4. The project involves the construction, operation, and maintenance of two separate run-of-river hydropower plants operating in a cascade with a total capacity of 185 megawatts (MW). The project facilities include one weir on the Chirukhistsqali River, two dams with reservoirs on the Adjaristsqali River and Skhalta River, three tunnels with a total length of 32.7 kilometers, and two hydropower plants. The main hydropower plant will be constructed on the Adjaristsqali River near Shuakhevi village utilizing water collected from the Chirukhistsqali, Skhalta, and Adjaristsqali rivers;

¹ The design and monitoring framework is in Appendix 1.

² Ministry of Energy and Natural Resources of Georgia. 2010. *Energy Sector of Georgia*. Tbilisi.

and a small hydropower plant will be constructed at Skhalta village utilizing water diverted from the Chirukhistsqali River.

3. The Borrower and Sponsors

5. The borrower is Adjaristsqali Georgia LLC (AGL), a special purpose vehicle to be owned by CEI, Tata Power, and IFC.

6. CEI was established in 2010 as a single purpose company to develop the project.

7. Tata Power is India's largest integrated power corporation in the private sector. While most of its operations are in India, it is planning to expand overseas business. It is also increasing clean energy investments, with a target of 20%–25% of its portfolio by 2020.

B. Development Impact, Outcome, and Outputs

1. Impact

8. Successful implementation of the project will provide further impetus to hydropower development in Georgia by catalyzing more private sector investment and increasing cross-border energy trading in the region. Georgia has rich hydropower resources, and successful implementation of the project will not only act as a template for further hydropower development but also foster confidence among potential investors and lenders and promote further private sector investment in the country's hydropower sector overall. This will help alleviate the country's dependence on imported fossil fuel through the utilization of clean and sustainable indigenous water resources. Low-cost surplus energy can be exported to neighboring countries—increasing energy trade in the region, and fostering regional cooperation and integration. The project will also generate additional revenues for Georgia through energy trade with Turkey. The government's earnings from royalties and taxes related to energy export can be used for other priority expenditures of Georgia to promote economic growth and improve social services.

2. Outcome

9. The project's outcome is increased production and export of hydropower. The project will produce the additional electricity of 450 gigawatt-hours per annum from 2017 onward. The project will avoid greenhouse gas emissions equal to 200,000 tons of carbon dioxide (CO₂) per year of operation. Furthermore, revenue of \$67.9 million is expected for the government through royalties and indirect taxes, which can be used for other priority expenditures of Georgia to promote economic growth and improve social services.

3. Outputs

10. The output is the construction and successful commissioning of a 185 MW hydropower project by 2017. The plant is expected to create local employment opportunities in excess of 600 jobs during construction and over 50 jobs after commissioning in southern Georgia, an area of particular development concern to ADB.

C. Alignment with ADB Strategy and Operations

1. Consistency with Strategy 2020 and Country Strategy

11. The project is consistent with ADB's Strategy 2020.³ The project addresses two of the three strategic agendas of Strategy 2020—environmentally sustainable growth and regional cooperation and integration.

12. The first country partnership strategy for Georgia is being prepared. Meanwhile, ADB operations in the country continue to be guided by the interim operational strategy, 2008–2009, which has identified ADB's operational priorities consistent with the government's development agenda.⁴ Development and utilization of the considerable domestic hydropower potential is a top priority. Georgia has significant renewable energy resources, especially hydropower and geothermal. The project will strengthen Georgia's energy security by adding more generating capacity using its indigenous hydro resource, particularly during the winter months when there are domestic energy supply shortfalls.

2. Consistency with Sector Strategy and Relevant ADB Operations

13. The project is fully consistent with the ADB Energy Policy (2009), which promotes effective regional cooperation and integration in the energy sector to strengthen energy security. The policy stresses the importance of harnessing energy efficiency, which is essential to improve energy security and reduce emissions of greenhouse gases.⁵

D. Implementation Arrangements

14. Table 3 summarizes the implementation arrangements.

Table 3: Summary Implementation Arrangements

Aspects	Arrangements
Regulatory framework	The build–own–operate (BOO) agreement is between the Ministry of Energy and Natural Resources of Georgia, Adjaristsqali Georgia LLC (AGL), and its shareholders. Under the BOO agreement, the government allows AGL to develop the project on a BOO basis for the duration of plant life (20 years) plus a 4-year construction period. The BOO agreement provides such terms as priority access to the transmission lines, usage of water, and other rights and obligations of AGL and the government during the construction and operations phases that are typical for a project of this type.
Management	Supervised by Clean Energy Invest (CEI) and Tata Power; Tata Power has over 8,500 megawatts (MW) of power development and operational experience, including renewables and cross-border hydropower. CEI has extensive knowledge and skill sets in the engineering and operation of hydropower plants.
Construction Arrangements	
Type of arrangement	The project will be executed under two separate contracts of civil works and electromechanical works, both of which have been awarded following international competitive bidding. The detailed design and supervision will be provided by Mott MacDonald from the United Kingdom, the owner's engineer. New transmission lines to evacuate electricity from the project will be the responsibility of the government.
Operations Arrangements	
Revenue structure	The project is designed as a day-peak plant. Its power will be evacuated using a 60 kilometer 220 kilovolt transmission line to Batumi, after which it will be sold to the Turkish

³ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

⁴ ADB. 2008. *Interim Operational Strategy: Georgia, 2008–2009*. Manila.

⁵ ADB. 2009. *Energy Policy*. Manila.

Aspects	Arrangements
	spot market for 9 months. For the remaining 3 months, the electricity will be sold in Georgia to either private distribution companies or to the Electricity System Commercial Operator at the best available price. However, after the first 10 years of operation, AGL will be free to sell all its power in the Turkish market.
Operation and maintenance	To be undertaken by AGL, with assistance from Tata Power.
Performance monitoring	Key performance indicators, including output and outcome indicators, compliance with Asian Development Bank (ADB) safeguard requirements, construction progress, updates, and financial performance during operation, will be reported by AGL and monitored by ADB and other lenders.

Source: Adjaristsqali Georgia LLC.

III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

15. ADB's proposed assistance will have two components: (i) a loan of up to \$75 million from ADB's ordinary capital resources, and (ii) administration of a loan of up to \$15 million to be provided by the Canadian Climate Fund for the Private Sector in Asia under the Clean Energy Financing Partnership Facility.⁶ The loans will have a tenor of up to 18 years, including a grace period of up to 4 years, and will be repaid semiannually. They will carry respective interest rates as well as commitment and front-end fees to be determined and/or endorsed by ADB's investment committee.

B. Value Added by ADB Assistance

16. The proposed transaction merits ADB's assistance for the following reasons:

- (i) The project will promote regional cooperation and integration, and will generate additional revenues for Georgia through energy trade with Turkey.
- (ii) The project will strengthen Georgia's energy security by adding more generating capacity using its domestic clean energy resource.
- (iii) ADB will provide critical gap financing for successful implementation of the project, which is not readily available in the market. The nature of the project (e.g., long construction period, high up-front capital expenditure, competitive tariffs assuming a long asset life) is appropriately financed by long-tenor debt to match the cash-flow profile.
- (iv) Once approved, this will be ADB's first private sector loan for development of Georgia's energy sector as well as the first nonsovereign cofinancing by ADB, EBRD, and IFC in Georgia's energy sector.
- (v) ADB will support and promote private sector investments between ADB's developing member countries.

⁶ As the implementing entity, ADB disburses the funds which it has received from the Canadian Climate Fund for the Private Sector in Asia under the Clean Energy Financing Partnership Facility. The fund will assume all credit risks on the principal and interest repayments related to the loan. As such, this loan will not count as ADB exposure to the project. (ADB. 2010. Exposure and Investment Limitations on Nonsovereign Operations. *Operations Manual*. OM D13/BP. Manila).

IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

17. In compliance with ADB's Safeguard Policy Statement (2009), the project is classified as category A for environment, category A for involuntary resettlement, and category C for indigenous peoples. The potential environmental and social impacts and risks of the project have been identified and effective measures to avoid, minimize, mitigate, and compensate for the adverse impacts are incorporated in the safeguard reports and plans. AGL will implement extra measure to allay concerns of villagers around the project sites regarding the potential effect of tunneling and construction related activities triggering new landslides, potential loss of water supply (groundwater or springs), and impacts of construction on traffic. The institutional capacity and commitment of AGL to manage the project's social and environmental risks are deemed adequate, and measures are being continually improved such as better coordination of activities with its contractors. Information disclosure and consultations with affected people are conducted in accordance with ADB requirements.⁷ A national environmental and social impact assessment was approved under Georgian national regulations. Another assessment was prepared to meet the lenders' safeguard requirements, and was disclosed on the ADB website on 27 June 2013. An environmental and social management plan was prepared, including a series of management plans as part of the construction environmental management plan. Contractors will also develop environment, health and safety plans in accordance with the construction environmental management plan. To ensure proper risk mitigation, AGL and its contractors will implement these and incorporate specific measures to address stakeholders' concerns. The environmental and social compliance audit on advance works showed satisfactory implementation of the management measures. The environmental and social impact assessment for the transmission line is expected to be conducted according to Georgian and World Bank requirements since the government approached the World Bank to finance the facility.

18. While no protected areas will be impacted by the project, a biodiversity action plan was developed in consultation with multiple stakeholders. Spoils during construction of tunnels, dams, adits, and other civil works will be used in concrete production, as road aggregate, or disposed of in spoil dumps. Some 10% of annual mean flow was initially set as part of a two-stage approach to environmental flow assessment. A second stage will be implemented to identify sensitive riverine mesohabitats, determine reach-specific flow requirements, and establish measures as part of an adaptive management approach. Physical cultural resources have been avoided and AGL has developed chance find procedures.⁸ Public consultations and stakeholder workshops have been conducted. Concerns regarding road damage caused by vehicles and equipment transport, and potential reduction in supply from water resources, were identified in the community meetings and safeguard planning as well as through the grievance redress mechanism. Measures to address these concerns are in place and will be implemented as needed. AGL has established an environmental, health, safety, and social unit responsible for managing safeguard issues. An emergency preparedness and response plan with emphasis on road safety, landslide risks, and fluctuating river flow will also be prepared.

19. An independent expert assessment was conducted to address the concerns villagers raised. It showed that geological studies were done in a professional manner and construction activities are not expected to induce landslides of the same magnitude as those occurred in the area in the past. The same is expected with tunneling works if safe blasting methodology is

⁷ Summary Poverty Reduction and Social Strategy; Safeguards and Social Dimensions Summary (accessible from the list of linked documents in Appendix 2).

⁸ The chance find procedures are a pre-approved management and conservation approach for materials that may be discovered during project implementation.

implemented. However, to monitor the impacts of construction activities, AGL will install landslide monitoring stations in the villages. It will also record vibrations caused by blasting and survey, and monitor impacts to houses within 200 meters of the blast center. AGL has inventoried the water sources in the villages, and plans to provide temporary or permanent community water supply if these are affected by the tunnels. To manage construction traffic, AGL will engage traffic safety wardens stationed in the affected villages to assist with traffic management and provide school buses to ferry schoolchildren.

20. To ensure that AGL and its contractors can effectively implement the management measures, a communication strategy, including entry protocol to construction sites and briefing on environmental and social issues and mitigation measures before contractors implement construction activities, were recommended to be established by the lenders. AGL will also need to enhance the technical knowledge of its community liaison officers, and intensify its information campaign by providing visual information materials, fact sheets, and technical briefings to local people on geological risks and overall project risk management measures. AGL has the commitment and sufficient capability to implement the proposed measures.

21. The land acquisition and livelihood restoration plan is being implemented and an audit report has been prepared. The impact of acquisition of about 44 hectares (ha), including 9 ha belonging to 369 households, entailed economic displacement mainly because of loss of grazing land. No physical displacement of affected people is required. The remaining 35 ha is managed by the state. An external review of the land acquisition and livelihood restoration plan implementation is being undertaken, and an ADB mission will be fielded to verify and ensure compliance. A livelihood restoration program has commenced with the training of about 600 persons from affected families, of which 166 persons have been engaged either by AGL or contractors. A detailed livelihood restoration program will be prepared and submitted to ADB within 3 months after loan signing. Indigenous peoples are not present in the project area.

22. In 2013, key stakeholder concerns were raised related to the geological risks of tunneling works, which people fear may activate unstable slopes and cause landslides and affect water supply availability. Tsablana (a project-affected village) and Ghurta (located outside the project area) have intermittently blocked contractor access to the project sites. AGL has demonstrated its commitment to resolve the problem through intensive engagement with the government, negotiations, and ongoing dialogue with local villagers, involving technical experts and nongovernment organizations.

23. The project is categorized as having no gender elements. Opportunities for creating jobs for women may be limited, as the tunnel digging and other construction activities may not be suitable for women. The project is expected to provide job opportunities for 600 local people during the construction phase. ADB will ensure that investment documentation includes appropriate provisions requiring AGL to comply with national labor laws and, in addition, to take specific measures (including in relation to contractors) in relation to internationally recognized core labor standards for the ADB-financed portion of the project in compliance with ADB's Social Protection Strategy.⁹

24. Based on the assessment of potential climate change risks, the project can be classified into the medium risk category. Adaptation measures were included to address the residual risks. Given the uncertainty of changes in climate, the ongoing monitoring, adaptive management, and maintenance regime will provide sufficient resilience to the scheme once in operation.¹⁰

⁹ ADB. 2001. *Social Protection Strategy*. Manila.

¹⁰ Climate Change Risk Assessment (accessible from the list of linked documents in Appendix 2).

B. Anticorruption Policy

25. AGL and the sponsors were advised of ADB's Anticorruption Policy (1998, as amended to date) and policy relating to anti-money laundering and combating terrorist financing.¹¹ Consistent with its commitment to governance, accountability, and transparency, ADB will require AGL to institute, maintain, and comply with internal procedures and controls following international best practice standards for the purpose of preventing corruption, money laundering activities, and the financing of terrorism, and to covenant with ADB to refrain from engaging in such activities.

C. Assurances

26. Consistent with the Agreement Establishing the Asian Development Bank, the Government of Georgia's no objection to the proposed assistance to AGL will be obtained. ADB will enter into suitable finance documentation, in form and substance satisfactory to ADB, following approval of the proposed assistance by the Board.¹²

V. RECOMMENDATION

27. I am satisfied that the proposed loans would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the loan of up to \$75,000,000 from ADB's ordinary capital resources, and
- (ii) the administration by ADB of the loan of up to \$15,000,000 to be provided by the Canadian Climate Fund for the Private Sector in Asia under the Clean Energy Financing Partnership Facility,

both to Adjaristsqali Georgia LLC for the Adjaristsqali Hydropower Project in Georgia, with such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board.

Takehiko Nakao
President

22 April 2014

¹¹ ADB. 2003. *Enhancing the Asian Development Bank's Role in Combating Money Laundering and the Financing of Terrorism*. Manila.

¹² ADB. 1966. *Agreement Establishing the Asian Development Bank*. Manila.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and/or Indicators with Baseline	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
<p>Impacts</p> <p>Georgia's hydropower sector development</p> <p>Private sector participation in Georgia's hydropower increased</p> <p>Cross-border energy trade as a means of regional cooperation and integration promoted</p>	<p>Hydropower installed capacity in Georgia increases by 185 MW, from 3,330 MW in 2012 to 3,515 MW in 2017.</p> <p>Power plants under private ownership increase from 46 in 2010 to at least 47 in 2017.</p> <p>Share of export in total electricity consumption increases from 4.6% in 2013 to 4.8% in 2017.</p>	<p>Statistics published by MOE of Georgia, ESCO, Georgian State Electrosystem, World Bank, and ADB</p> <p>MOE statistics</p>	<p>Assumption</p> <p>The government remains committed to the Midterm Action Plan of the Government of Georgia, 2012–2015</p> <p>Risk</p> <p>Deteriorating political or macroeconomic environment in the region affects dispatch or pricing in regional power market</p>
<p>Outcome</p> <p>Increased production and export of hydropower</p>	<p>An estimated annual production of 450 GWh from 2018 onward^a</p> <p>About 400 GWh of electricity delivered to off-takers in regional markets by 2018^b</p> <p>200,000 tons of CO₂ equivalent avoided annually^c</p> <p>\$67.9 million of additional government revenue to Georgia from royalties, taxes, and export earnings</p>	<p>Statistics published by MOE of Georgia and ESCO</p> <p>Financial statements of Adjaristsqali Georgia LLC</p> <p>Project reporting</p> <p>ADB's annual review</p> <p>Financial covenants monitoring reports</p>	<p>Assumptions</p> <p>Higher cost of electricity in Turkey</p> <p>Reliable transmission and distribution network within Georgia and Turkey</p> <p>Risks</p> <p>Hydrology risk</p> <p>Absence of power purchase agreements</p> <p>Merchant power sales risk</p>
<p>Outputs</p> <p>Hydropower plant developed and commissioned</p>	<p>185 MW of additional hydropower capacity commissioned in 2016</p> <p>600 new full-time jobs created during construction from 2014 to 2016</p> <p>Satisfactory environmental and social management system</p>	<p>Project reporting</p> <p>ADB's annual review</p> <p>Financial covenants monitoring reports</p>	<p>Assumption</p> <p>All regulatory requirements met on time</p> <p>Risk</p> <p>Project delays caused by contractor's underperformance or other external factors</p>

Activities with Milestones	Inputs
1.1 Financial close by July 2014	
1.2 Commissioning of the hydropower project by April 2017	

ADB = Asian Development Bank, CO₂ = carbon dioxide, EBRD = European Bank for Reconstruction and Development, ESCO = Electricity System Commercial Operator, GWh = gigawatt-hour, IFC = International Finance Corporation, MOE = Ministry of Energy, MW = megawatt.

^a Generated electricity is calculated as follows: Plant load factor 27.8% x 185 MW x 365 x 24 = 450 GWh.

^b Primarily in Turkey.

^c Assuming that the total electricity generation or 450 GWh is 87% exported to Turkey and 13% sold in Georgia, and the emission factors are 0.605 (Turkey) and 0.333 (Georgia). Taking into account volatility in hydrology, the reduction in CO₂ is estimated to be 200,000 tons per year.

Source: Asian Development Bank.