



Concept Paper

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Proposed Policy-Based Loan, Project Loan, and Technical Assistance Grant Georgia: Energy Storage and Green Hydrogen Sector Development Program

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 19 September 2022)

Currency unit	–	lari (GEL)
GEL1.00	=	\$0.3531
\$1.00	=	GEL2.8324

ABBREVIATIONS

ADB	–	Asian Development Bank
BESS	–	battery energy storage system
COVID-19	–	coronavirus disease
CSAP	–	Climate Change Strategy and Action Plan
EEC	–	European Energy Community
EU	–	European Union
GDP	–	gross domestic product
GHG	–	greenhouse gas
GNERC	–	Georgian National Energy and Water Supply Regulatory Commission
GSE	–	Georgian State Electrosystem
HPP	–	hydropower plant
IED	–	Independent Evaluation Department
IMF	–	International Monetary Fund
MW	–	megawatt
PBL	–	policy-based loan
SDP	–	sector development program
TA	–	technical assistance
VRE	–	variable renewable energy

NOTE

In this report, "\$" refers to United States dollars.

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PROGRAM AT A GLANCE

1. Basic Data		Project Number: 54448-001	
Project Name	Energy Storage and Green Hydrogen Sector Development Program	Department/Division	CWRD/CWEN
Country	Georgia	Executing Agency	Ministry of Economy and Sustainable Development of Georgia
Borrower	Georgia		
Country Economic Indicators	https://www.adb.org/Documents/LinkedDocs/?id=54448-001-CEI		
Portfolio at a Glance	https://www.adb.org/Documents/LinkedDocs/?id=54448-001-PortAtaGlance		
2. Sector		Subsector(s)	
✓ Energy	Electricity transmission and distribution	ADB Financing (\$ million)	45.000
	Energy sector development and institutional reform		30.000
		Total	75.000
3. Operational Priorities		Climate Change Information	
✓ OP2: Accelerating progress in gender equality		GHG reductions (tons per annum)	0
✓ OP3: Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability		Climate Change impact on the Project	Medium
✓ OP6: Strengthening governance and institutional capacity			
		ADB Financing	
		Adaptation (\$ million)	0.000
		Mitigation (\$ million)	75.000
		Cofinancing	
		Adaptation (\$ million)	0.000
		Mitigation (\$ million)	90.000
Sustainable Development Goals		Gender Equity and Mainstreaming	
SDG 5.c		Some gender elements (SGE)	✓
SDG 7.1, 7.2, 7.b			
SDG 13.a		Poverty Targeting	
SDG 16.b		General Intervention on Poverty	✓
4. Risk Categorization:	Complex		
5. Safeguard Categorization	Environment: B	Involuntary Resettlement: B	Indigenous Peoples: C
6. Financing			
Modality and Sources		Amount (\$ million)	
ADB		75.000	
Sovereign SDP - Program (Regular Loan): Ordinary capital resources		30.000	
Sovereign SDP - Project (Regular Loan): Ordinary capital resources		45.000	
Cofinancing		90.000	
To be determined - SDP - Project loan (Partial ADB Administration)		90.000	
Counterpart		10.000	
Government		10.000	
Total		175.000	
Currency of ADB Financing: US Dollar			

I. THE PROPOSAL

1. The proposed Energy Storage and Green Hydrogen Sector Development Program (SDP), (formerly Promoting Policies and Investments to Develop New Technologies), through investment and policy support, will strengthen electricity grid security, improve the regulatory framework, and pave the way for greater private sector participation in the development of energy storage and renewable energy including wind, solar, and green hydrogen.¹ The program supports the government's goals of reforming the energy sector, enhancing cross-border electricity trading, and improving the efficiency of the transmission network, as reflected in Asian Development Bank's (ADB) country partnership strategy for Georgia, 2019–2023.² The program is aligned with the following operational priorities of ADB's Strategy 2030: accelerating progress in gender equality (priority 2); strengthening governance and institutional capacity (priority 6); and tackling climate change (priority 3) by fostering green economic growth and encouraging a shift to a low greenhouse gas (GHG) emission development path.³

II. PROGRAM AND RATIONALE

A. Background and Development Constraints

2. **Georgia's V-shaped recovery.** Georgia's sound policy response to the coronavirus disease (COVID-19) crisis generated a robust economic recovery in 2021.⁴ Gross domestic product (GDP) rebounded sharply from a contraction of 6.8% in 2020 to 10.4% growth in 2021. Initial concerns about potential spillovers from the Russian invasion of Ukraine have not materialized and did not alter the economic outlook for 2022.⁵ Instead, economic performance is expected to remain robust on account of an increased influx of migrants from the Russian Federation and strong growth in remittances and exports. Improved external inflows are expected to narrow the current account deficit to 8.2% of GDP in 2022, compared with 9.8% in 2021.⁶ Economic output is projected to grow by 6% in 2022, signaling economic resilience and prudent macroeconomic management.

3. **Sound macroeconomic management and positive outlook.** Countercyclical fiscal expenditure to mitigate the impact of the COVID-19 pandemic in 2020 resulted in a breach of fiscal rule for the fiscal deficit and public debt. In compliance with the Economic Liberty Act (2011), the authorities adopted a credible fiscal adjustment plan to ensure compliance with the fiscal rule by 2023. The public debt to GDP ratio was rapidly brought below the 60% threshold and is expected to reach 45.3% in 2022. The fiscal deficit declined from 9.3% of GDP in 2020 to 6.1% in 2021 but remained above the 3% threshold and is projected at 3.6% for 2022. The authorities plan to reduce the deficit to 3.6% of GDP in 2022 and below 3% in 2023, in compliance with the fiscal rule. Georgia's macroeconomic outlook is stable and is expected to sustain robust and inclusive economic growth, underpinned by strong institutions, credible fiscal and monetary policies, sustainable debt levels, and proven commitment to structural reforms (footnote 5).

¹ Green Hydrogen: hydrogen gas produced by splitting water into hydrogen and oxygen using renewable electricity.

² ADB. 2019. [Country Partnership Strategy: Georgia, 2019–2023—Developing Caucasus's Gateway to the World](#). Manila.

³ ADB. 2018. [Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific](#). Manila.

⁴ ADB. 2022. [Asian Development Outlook: Mobilizing Taxes for Development](#). Manila.

⁵ International Monetary Fund. 2022. [Request for a Stand-By Arrangement: Staff Report; And Statement by the Executive Director for Georgia](#). Washington, DC.

⁶ The current account deficit is expected to decline slightly in relation to GDP, from 9.8% in 2021 to 8.2% in 2022.

4. **Energy sector background.** The government began structural reform of the energy sector in 1996 when it unbundled the existing utility into separate generation, transmission, and distribution companies. In 2012, the government passed market and regulatory reforms to harmonize electricity market legislation with that of Türkiye and southeast European countries. In June 2014, Georgia signed an association agreement with the European Union (EU), undertaking an obligation to become a member of the European Energy Community (EEC) through ongoing reforms and legal approximation with the EU's third energy package.⁷ These initiatives transformed the energy sector from a state monopoly to a liberalized market; most energy sector entities operate as private companies, and the government established Georgian National Energy and Water Supply Regulatory Commission (GNERC) as an independent regulator, and introduced the long-term concessions and guaranteed power purchase agreements for private investments in hydropower plants (HPPs). In 2015, Parliament approved the core act, "Main Directions of the State Policy in the Energy Sector of Georgia,"⁸ and subsequently approved the Energy Strategy of Georgia (2020–2030) in compliance with the directions provided in the core act. In April 2017, Parliament ratified the accession agreement to the EEC and the country's subsequent membership in the EEC. The membership framework requires that the government, in compliance with the EU's third energy package, align its energy market with the EU's best practices. During 2019–2021, Parliament adopted multiple legislations, including (i) the Law on Energy and Water Supply (2019), (ii) Electricity Market concept design (2020), (iii) the Energy Efficiency Law (2020), (iv) the National Energy Efficiency Action Plan, (v) the Energy Efficiency Labelling Law (2019), and (vi) the Law on Promoting the Production and Use of Energy from Renewable Sources (2019). In 2021, under an ADB-funded program,⁹ Georgian State Electrosystem (GSE) undertook substantial corporate governance reforms and successfully terminated its insolvency proceedings. The electricity market is being piloted on large customers and was projected to be fully opened to all participants by September 2022.

5. **Energy security.** Georgia's energy mix is dominated by hydropower (75%), and due to seasonal variations in water availability, relies heavily on imports from neighboring countries (Russian Federation and Azerbaijan) to meet demand-supply gap. Georgia's power consumption peaks in the winter, when hydropower generation is lowest resulting in 40% of the supply coming from imported electricity and domestic thermal generation using imported natural gas. Most HPPs are run-of-the river and have surplus power in the summer; because of strong public opposition, there is limited opportunity for developing large hydro-pumped storage projects. Power supply security is at high risk without balanced regional trade and investment in large pumped storage, HPPs, and variable renewable energy (VRE) sources. Electricity consumption is increasing at 7% per year, with an estimated winter deficit peak of 20%. In 2021–2022, imports were at a record high, with an alarming dependence on supply from Russian Federation.

6. **Transmission network stability constraints.** In addition to relying heavily on Russian Federation for supply, Georgia is also dependent on Russian Federation for system security of its transmission network. GSE's network faces about 48 hours of blackouts annually and relies on Russian Federation's transmission system operator for primary frequency regulation. Although Georgia has large potential for wind and solar power, plans to integrate 1,300 megawatts (MW) of wind and 500 MW of solar to its system by 2030; the transmission network does not allow integration of VRE sources of more than 750 MW because of its limited ability to manage frequency fluctuations, which constrains deployment of full VRE potential in the country.

⁷ Official Journal of the European Union. 2014. Association Agreement between the European Union and the European Atomic Energy Community and their member states, of the one part, and Georgia, of the other part. L261/4, Volume 57, 30 August. The EU's Third Energy Package comprises legislation related to the opening of the EU's gas and electricity market. It was adopted by the European Parliament and the Council of the European Union in July 2009.

⁸ Government of Georgia. 2015. [State Policy in Energy Sector](#). Tbilisi.

⁹ ADB. [Georgia: Electricity Transmission Sector Reforms Program](#).

7. **Geopolitical concerns.** For both issues—i.e., network stability and meeting the seasonal demand-supply gap—Georgia is heavily dependent on Russian Federation, which is a concern in the context of the ongoing regional geopolitical situation and is considered a serious challenge to energy security. Because of increased demand, Georgia imported more electricity from Russian Federation in 2021–2022 than in previous years. The government is intensifying its effort to boost energy security by ensuring energy self-reliance and diversifying the energy mix to become a low-carbon economy.

8. **Unutilized seasonal surplus electricity.** During summer, when demand is low and generation is high because of peak water availability in rivers, the expectation for HPPs is to export electricity to regional players like Türkiye. However, demand in Türkiye has not been forthcoming and electricity exports have not been as envisaged. With more renewable energy projected to come online, the seasonal surplus will still need to be exported or stored even after the increased in-country demand is met. Unfortunately, no energy storage facility, planned investments, or supporting incentive policies are in place to help Georgia benefit from this surplus energy.

9. **Policy and regulatory constraints in integrating new technologies to address energy security.** The government has achieved much in reforming the energy sector; however, Georgia has yet to align its policy and regulatory frameworks to adopt new technologies such as energy storage and green hydrogen, which are emerging as the future of energy security. The frameworks must recognize energy storage as a service, battery energy storage system (BESS) as a storage device, and must allow appropriate tariffs and revenue generation structures for such investments to become commercially viable for the private sector. Similarly, green hydrogen, as a new technology, requires policies, tariff incentives, risk mitigation measures, a licensing approach, and a market structure to encourage private sector investment. Without such policies, frameworks, and market operating guidelines, private sector participation will remain constrained.

10. **Government reform agenda.** The energy policy and strategy of Georgia (footnote 8) is based on securing energy supplies, providing energy to consumers at affordable rates, transposing EU energy legislation into Georgian law in accordance with the EEC agreement, increasing the share of renewable energy, and increasing energy transit/trade, among other key measures. In 2021, the government approved the updated Nationally Determined Contribution¹⁰ together with the 2030 Climate Change Strategy and Action Plan (CSAP), 2021–2023.¹¹ The CSAP serves as the action plan for implementing the commitments made under the Nationally Determined Contribution. The goal set for energy generation and transmission is to reduce GHG emissions by 15% by 2030. This goal is to be implemented through three key objectives: increasing the share of renewable energy, strengthening the transmission network for better integration of renewable energy, and developing relevant policy documents. The proposed program is in line with the government’s energy policy directives, and is also fully aligned with the government’s climate change commitments and action plan under the Paris Agreement.

11. **ADB’s previous experience, lessons, and development coordination.** Lessons from the project completion report for a previous ADB-financed project and regional experience in the sector suggest that: (i) strong government ownership is critical to achieving results, and (ii) sustainability requires continuous, long-term engagement on reforms supported by investments.¹² ADB’s Independent Evaluation Department (IED), in its latest project performance evaluation

¹⁰ Government of Georgia. 2021. [Nationally Determined Contribution \(NDC\)](#). Tbilisi.

¹¹ Government of Georgia. 2021. [Climate Change Strategy and Action Plan, 2030](#). Tbilisi.

¹² ADB. 2018. [Completion Report: Regional Power Transmission Enhancement Project in Georgia](#). Manila.

report for the Regional Power Transmission Enhancement Project, recommended that ADB provide financing for new investments in HPPs, hydrogen generation, energy storage, and other renewable energy, thus contributing to power supply security.¹³ Based on lessons and recommendations of IED, the proposed SDP will support the government in deploying battery storage and developing policy and regulatory reforms essential to supporting private sector participation in renewable energy, including green hydrogen, in the energy mix. Among development partners, the program was discussed and developed in consultation with the International Monetary Fund (IMF) country team and is in line with support provided by the World Bank, EU, and other bilateral development partners to promote clean energy and energy security.

B. Proposed Solutions and Impact of the Program

12. The program will be aligned with the following impacts: (i) financial sustainability and performance of energy sector improved (footnote 8), and (ii) GHG emissions in the energy generation and transmission sector reduced by 15% below the reference scenario projection by 2030 (footnote 8). The expected outcome is energy security enhanced.

13. The proposed program will help the government enhance energy security through three outputs. The policy-based loan (PBL) will support reforms under outputs 1 and 2, whereas the project loan will support output 3. All three outputs will help Georgia to meet its commitments in reducing GHG emissions under the CSAP, 2030.

14. **Output 1: Policy and regulatory framework to allow sustainable battery energy storage system deployment approved.** An ongoing technical study being done for GSE by the consultants provided with the EU's support, assessed multiple electricity storage options to address country's energy security concerns. Of these options, BESS was found to be most appropriate for Georgia as the others were either not cost effective or could not be developed because of strong public opposition (e.g., large pumped-hydro storage). However, BESS installation requires policy and regulatory intervention to be sustainable. This output will help the government adopt policy and regulatory measures to make BESS investments commercially viable. Under tranche 1 of the proposed PBL, the government will (i) amend legislation to define BESS as an electricity storage device, (ii) approve the regulatory framework for market participation and monetization of BESS as a service, (iii) approve a regulatory mechanism and supplementary guidelines on licensing and collecting revenue from the sale of electricity by BESS, and (iv) approve incentives in areas where women entrepreneurs can play an important role in promoting new energy technologies.

15. **Output 2: Policy, strategy, and regulatory framework to encourage development of green hydrogen with private sector participation developed.** One way to utilize Georgia's surplus electricity is to use seasonal (summer) surplus power from HPPs to generate hydrogen or synthetic methane for further use in other sectors, or for using it as fuel for converting this hydrogen back into electricity later. Because hydrogen is a new technology, incentive policies and regulatory interventions are required to promote private sector participation; however, in Georgia, no such reforms have been implemented. Under tranche 2 of the proposed PBL, the government will (i) approve a strategy for green hydrogen development with capacity targets set for 2030, 2040, and 2050;¹⁴ (ii) approve a policy for the development of green hydrogen, including incentives to encourage private sector participation; (iii) approve the regulatory framework

¹³ IED. 2022. [Performance Evaluation Report: Regional Power Transmission Enhancement Project in Georgia](#). Manila: ADB.

¹⁴ During the due diligence stage, ADB will further consult with government on possibility of sovereign/non-sovereign investments in hydrogen projects to help government develop a commercially viable funding model.

clarifying role of the regulator, and amend the associated legal framework, and (iv) approve guidelines for regulated entities in the energy sector on encouraging the participation of women entrepreneurs in energy sector operations and development.

16. Output 3: Climate and Disaster Resilient Battery energy storage system installed.

In the study carried out for GSE with EU funding, battery storage emerged as a key solution for electricity grid security and effective utilization of new VRE sources. This study analyzed multiple scenarios to match storage capacity with a deployment plan for VRE. The study proposes a “network security scenario” of 150 MW/90 megawatt hour BESS installation for ancillary services—primary frequency regulation, minimizing blackouts, and eliminating reliance on Russian transmission system operators. In other scenarios, it suggests increasing storage capacity but timing it by pairing battery capacity addition with planned increase of VRE capacity. The proposed project will support Georgia in developing its first large-scale BESS at the 500kV Ksani grid station site, to be operated as a government asset under the network security scenario. The investment and accompanied reforms (output 1) will encourage the private sector to participate in subsequent BESS investments in the country as VRE capacity increases.

17. ADB’s value addition and sustainability. The program builds on ADB-led policy dialogue and reform program that started in 2018. The envisaged policy work will require international experience and knowledge of new energy technologies, which ADB can provide through technical assistance (TA), regional sector knowledge, and institutional experience in the energy sector. Similarly, ADB’s experience in grid security and battery energy storage systems in other countries will benefit the government in addressing complexities in the design and implementation of the investment project. The sustainability of the reforms will be ensured through a post-program partnership framework, and tariff reforms will ensure sufficient revenue to sustain the project component beyond the program period.

C. Proposed Financing Plans and Modality

18. The program is estimated to cost \$175 million including ADB’s proposed loan of \$75 million, comprising (i) a stand-alone PBL of \$30 million in two tranches of \$15 million each, where tranche 1 will finance policy actions under output 1 and tranche 2 will finance policy actions under output 2; and (ii) a project loan of \$45 million. The project loan component will require cofinancing of \$90 million and government counterpart financing of \$10 million.¹⁵ The two-tranche PBL funding modality for the SDP has been proposed because: (i) battery energy storage systems and green hydrogen are new technologies, and Georgian law and GNERC neither recognizes energy storage as a service nor does it have tariff mechanisms in place; such investments will require market-based revenues to meet operation and maintenance costs and ensure return on investment—therefore, output 3 will be commercially unviable without implementation of output 1; (ii) although the policy actions will be firmed up at the approval stage of the project, output 2 will require longer to create consensus on green hydrogen policies, regulations and incentives for private sector participation (output 2), the underlying policy actions (for both tranches) will already be agreed upfront and implemented; given these complexities, and so as not to affect the other two outputs, the green hydrogen component has been separated under tranche 2; and (iii) a programmatic approach has not been proposed as the output 2 size is small and linked with output 1 and does not qualify for processing it as an entire sub-program.

19. Climate mitigation is estimated to cost \$75,000,000. Climate adaptation estimates will be further assessed during the implementation of the TA. ADB will finance 100% of mitigation costs.

¹⁵ Agence Française de Développement and the Export-Import Bank of Korea have shown interest in cofinancing the investment component; however, this will require further discussion at a later stage.

D. Development Financing Needs and Budget Support

20. The government's development financing needs for 2022 are projected at \$820 million. The proposed PBL will be required in 2024. The budget deficit is expected to be 2.3% of GDP in 2024 (footnote 5). The PBL size is based on the financing needs of Georgia (IMF's staff report of June 22 projected gross financing needs at 5.1% of GDP in 2024), its absorption capacity, and the development impact of the reforms. A standby arrangement agreed with the IMF in June 2022 provides additional assurances to bridge the financing gap, if needed.

E. Implementation Arrangements

21. The implementation arrangements are summarized in Table 1. The Ministry of Economy and Sustainable Development is the executing agency of the program and is also the implementing agency for the PBL component along with Georgian National Energy and Water Supply Regulatory Commission and Georgia Energy Development Fund (state-owned entity). GSE will be the implementing agency for the project loan component. The implementing agencies have substantial experience working with ADB, the World Bank, and other bilateral partners on policy as well as investment projects.

Table 1: Indicative Implementation Arrangements

Aspects	Arrangements
Indicative implementation period	March 2024–September 2027
Indicative completion date	March 2027
Management	
(i) Executing agencies	Ministry of Economy and Sustainable Development
(ii) Key implementing agency	For policy-based loan: Ministry of Economy and Sustainable Development; Georgia Energy Development Fund; Georgian National Energy and Water Supply Regulatory Commission For project loan: Georgian State Electrosystem

Source: Asian Development Bank.

III. PROJECT PREPARATION AND READINESS

22. The government has done a pre-feasibility study to assess different storage options. Transaction TA will be required for project preparation and conducting due diligence. To ensure high readiness at loan approval, TA consultants under the transaction TA will support (i) preparation of detailed bidding-level design and bidding documents; (ii) technical, financial, environmental, and social safeguard assessments and other relevant project documents; (iii) policy gap analysis, drafting of relevant policies, strategies, and regulatory framework; and (iv) capacity building of implementing agencies in understanding the dynamics of new technologies.

23. Advance contracting and retroactive financing will be undertaken for procurement of the BESS and for hiring a project implementation consultant (at least 30% of investment component value to be bid out by management review meeting). Strategic procurement planning will be completed before initiating the advance contracting process.

A. Risk Categorization and Project Procurement Risk Classification

24. The program is categorized *complex* because the aggregate loan amount is more than \$50 million. Based on their track record with previous EU, World Bank and ADB-backed reforms in the energy sector, the implementing agencies have sufficient experience and capacity to

undertake the proposed reforms. Participation of energy sector group staff is not required as the complex categorization is based solely on the SDP loan amount limitation. The program will include civil works under output 3; therefore, it is classified *category B* for environment and involuntary resettlement, and *category C* for indigenous peoples. The program's gender mainstreaming category is *some gender elements*, and the climate risk category is *low*. The project's procurement classification, pre-mitigation, is assessed to be *substantial* because of the large size of the BESS contract and implementing agencies' lack of experience in procuring battery energy storage systems.

B. Scope of Due Diligence

25. The scope of due diligence is in Table 2.

Table 2: Scope of Due Diligence

Due Diligence Output	To Be Undertaken By
Preparation of cost estimate and financing plan	Technical assistance
Financial reporting, auditing, and funds flow arrangements	Staff, technical assistance
Financial management assessment, economic and financial analysis	Staff, technical assistance
Safeguard screening and categorization results	Staff, technical assistance
Integrity due diligence	Staff
Technical due diligence, policy and regulatory gap analysis	Technical assistance
Project administration manual	Staff, technical assistance
Risk assessment and management plan	Staff, technical assistance
Safeguard documents on the environment, and involuntary resettlement	Technical assistance
Conduct strategic procurement planning process	Staff, technical assistance

Source: Asian Development Bank.

C. Processing Schedule and Resource Requirement

26. The processing schedule by milestone is in Table 3. About 16 person-months of international and national ADB staff inputs are required to process the program. The transaction TA approved simultaneously with the concept paper will provide 53 person-months of international and 67 person-months of national consultant inputs from September 2022 to December 2024.

Table 3: Processing Schedule by Milestone

Milestones	Expected Completion Date
1. Concept approval	September 2022
2. Fact-finding mission	29 September 2023
3. Management review meeting	15 November 2023
4. Loan negotiations	25 January 2024
5. Signing of cofinancing agreement	20 February 2024
6. Loan approval	29 March 2024

Source: Asian Development Bank.

D. Key Processing Issues and Mitigation Measures

27. Delays in processing may happen because of stakeholder's limited understanding of new technologies and the need for extensive consultations among stakeholders. The transaction TA will include substantial capacity building of all stakeholders, which will sufficiently mitigate the risk.

PRELIMINARY DESIGN AND MONITORING FRAMEWORK

Impacts the Program is Aligned with			
i) Financial sustainability and performance of energy sector improved ^a ii) GHG Emissions in the energy generation and transmission sector reduced by 15% below the reference scenario projection by 2030 ^b			
Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
Outcome Energy security enhanced	By 2028: a. Share of renewable energy resources in electricity generation increased to 87% (2022 baseline: 74%) (OP 3.1; OP 6.2) b. Electricity grid security improved with self-reliance on primary frequency regulation attained (2022 baseline: primary frequency regulation reliant on Russian transmission network operator) (OP 3.1; OP 6.2)	a. GNERC annual report b. GSE annual operational report	R: Geopolitical situation may affect the government plan to increase renewable-energy-based generation A: Initiatives to support private sector will generate interest in developing new technologies.
Outputs 1. Policy and regulatory framework to allow sustainable BESS deployment approved	By 2024: 1a. Amendment in legislation to define BESS as an electricity storage device approved by cabinet and submitted to Parliament (2022 baseline: not applicable) (OP 6.2.1; OP 6.2.2) 1b. Regulatory framework for market participation and monetization of BESS as a service approved by GNERC (2022 baseline: not applicable) (OP 6.2.1; OP 6.2.2) 1c. Regulatory mechanism and supplementary guidelines on licensing and collecting revenue from sale of electricity by BESS approved by GNERC (2022 Baseline: not applicable) (OP 6.2.1; OP 6.2.2)	1a. Copy of approval by cabinet (to be provided by MOESD). 1b. Copy of GNERC's approval of regulatory framework. 1c. Copy of approval by GNERC	R: Stakeholder consultation might take longer than expected to reach consensus on reforms A: Other countries share knowledge to help policy makers understand dynamics of new technologies

<p>2. Policy, strategy, and regulatory framework to encourage development of green hydrogen with private sector participation developed</p>	<p>1d. Incentives in areas where women entrepreneurs can play an important role in promoting new energy technologies approved by MOESD. (2022 baseline: one) (OP 2.1.3)</p> <p>2a. Strategy for green hydrogen development with capacity targets set for 2030, 2040, and 2050 approved by cabinet (2022 baseline: not applicable) (OP 6.2.1; OP 6.2.2)</p> <p>2b. Policy for development of green hydrogen including incentives for encouraging private sector participation approved by cabinet and submitted to Parliament (2022 baseline: not applicable) (OP 6.2.1; OP 6.2.2)</p> <p>2c. Regulatory framework clarifying role of GNERC approved and associated legal framework ammended (2022 baseline: not applicable) (OP 6.2.1; OP 6.2.2)</p> <p>2d. Guidelines for regulated entities on encouraging women entrepreneur participation in energy sector approved by GNERC (2022 Baseline: None) (OP 2.1.3; 2.3.2)</p>	<p>1d. Copy of approval by MOESD.</p> <p>2a. Document establishing approval of government (provided by MOESD)</p> <p>2b. Copy of cabinet approval (provided by MOESD)</p> <p>2c. Copy of GNERC approval</p> <p>2d. Copy of approval provided by GNERC</p>	
<p>3. Climate and Disaster Resilient Battery energy storage system installed</p>	<p>3a. Climate and disaster resilient BESS of 150 MW capacity installed by 2027 (2022 baseline: 0) (OP 3.1.3; OP 3.1.4; OP 3.1.5)</p>	<p>3a. Project progress reports submitted by GSE establishing commission of the BESS.</p>	

Key Activities with Milestones for Project Components (Output 3)

1. Output 3: Climate and Disaster Resilient Battery Energy Storage System Installed

- 3.1 Complete analyses including the policy and regulatory Gap analysis (Q2 2023)
- 3.2 Complete environmental and social safeguards assessment and documentation (Q2 2023)
- 3.3 Prepare bidding documents for BESS and provide support in technical and commercial evaluation of bids (Q3 2023)
- 3.4 Build capacity of government counterparts in understanding the new technologies and associated challenges in adopting policies supporting private sector participation (Q4 2024)

Project Management Activities

- Issue request for proposal for project implementation consultant under the loan (Q3 2023)
- Complete the recruitment of project implementation consultant under the loan (Q1 2024)

Inputs

ADB:

\$75 million loan (stand-alone policy-based loan of \$30 million—in two tranches of \$15 million each—and a project loan of \$45 million)

\$1.775 million (\$0.775 million TASF-other sources, \$0.5 million Clean Energy Financing Partnership Facility, and \$0.5 million Republic of Korea e-Asia and Knowledge Partnership Fund)

The government will provide counterpart support for the TA component in the form of counterpart staff, office space, and other in-kind contributions.

Government: \$10 million

Name of Cofinancier: To be determined \$90 million (loan)

A = assumption, ADB = Asian Development Bank, BESS = battery energy storage systems, GSE = Georgian State Electrosystem, GNERC = Georgian National Energy and Water Supply Regulatory Commission, MOESD = Ministry of Economy and Sustainable Development, OP = operational priority, R = risk.

^a Government of Georgia. 2015. [State Policy in Energy Sector](#). Tbilisi.

^b Government of Georgia. 2021. [Climate Change Strategy and Action Plan, 2030](#). Tbilisi.

Contribution to Strategy 2030 Operational Priorities:

In the report and recommendation of the President, the expected values and methodological details for all OP indicators to which this operation will contribute results will be detailed in the Contribution to Strategy 2030 Operational Priorities linked document.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/LinkedDocs/?id=54448-001-ConceptPaper>

1. Initial Poverty and Social Analysis
2. Sector Assessment (Summary): Energy
3. Technical Assistance for Program Preparation
4. Procurement Risk Classification