Project Data Sheet

Project 54448-001

Project Name: Energy Storage and Green Hydrogen Sector Development Program
Project Number: 54448-001
Country / Economy: Georgia
Project Status: Proposed
Project Type / Modality of Assistance: Loan

Source of Funding / Amount:
- Loan: Energy Storage and Green Hydrogen Sector Development Program
  - Ordinary capital resources
  - US$ 103.00 million

Operational Priorities:
- OP2: Accelerating progress in gender equality
- OP3: Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability
- OP6: Strengthening governance and institutional capacity

Sector / Subsector: Energy / Electricity transmission and distribution - Energy sector development and institutional reform
Gender: Some gender elements

Description:
The proposed sector development program (SDP), 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. 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. 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.
Georgia’s V-shaped recovery. Georgia’s sound policy response to the coronavirus disease (COVID-19) crisis generated a robust economic recovery in 2021. Gross domestic product (GDP) rebounded sharply from a contraction of 6.8% in 2020 to 10.4% growth in 2021. While concerns about potential spillovers from neighboring countries remained to be seen, the economy did not alter the economic outlook for 2022. 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 11.5% in 2021. GDP growth is expected to grow by 6% in 2022, signaling economic resilience and prudent macroeconomic management.

Sound macroeconomic management and positive outlook. Counter cyclical fiscal expenditure to mitigate the impact of the COVID-19 pandemic and the GEC (2020) resulted in a breach of fiscal rule threshold in 2020. 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 2022, and the ratio of public debt to 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).

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 Turkey 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. 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,” and subsequently approved the Energy Strategy of Georgia (2020-2030) in consultation with the European Commission. 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 (2020-2025), (v) the Law on Development of the Energy Sector of Georgia (2020), and (vi) the Law on Promoting the Production and Use of Energy from Renewable Sources (2019). In 2021, under an ADB-funded program, Georgian State Electric System (GSE) undertook substantial corporate governance reforms and successfully terminated its insolvency proceedings. The electricity market is being piloted on a large customer base and was projected to be fully opened to all participants by September 2022.

Energy security. Georgia’s energy mix is dominated by hydropower (75%), accounting for 37% of total energy consumption and 57% of electricity generation. The country’s hydropower capacity is at peak levels, with a large surplus in summer and a deficit in winter. The surplus in electricity generation is mainly due to the seasonal surplus in water availability, and the deficit is due to the high electricity demand in winter. The government has achieved much from this surplus energy.

Unutilized seasonal surplus electricity. During summer, when demand is low and generation is high because of peak water availability, the expectation for HPPs is to export electricity to regional players like Turkey. However, demand in Turkey 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.

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, and battery energy storage must be integrated into the transmission network, allowing for better utilization of renewable energy and new 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.

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 Contribution together with the 2030 Climate Change Strategy and Action Plan (CSAP), 2021-2023. 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, and for better integration of renewable energy, and developing relevant policy frameworks. 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.

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. ADB’s Independent Evaluation Department (IED), in its latest project performance evaluation report for the Energy 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. 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 support the growth of renewable energy, including private sector participation in renewable energy projects. As part of 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.

i) Financial sustainability and sector performance of energy sector improved (Georgia State Energy Policy) Impact ii) GHG Emissions in the energy generation and transmission sector reduced by 15% below the reference scenario projection by 2030 Outcome The expected outcome is energy security enhanced.
1. Policy and regulatory framework to allow sustainable BESS deployment approved
2. Policy, strategy, and regulatory framework to encourage development of green hydrogen with private sector participation developed
3. Climate and Disaster Resilient Battery energy storage system installed

Geographical Location: Nation-wide

**Safeguard Categories**

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<th>Category</th>
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<tr>
<td>Environment</td>
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<td>Involuntary Resettlement</td>
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<td>Indigenous Peoples</td>
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**Summary of Environmental and Social Aspects**

Environmental Aspects
- Involuntary Resettlement
- Indigenous Peoples

**Stakeholder Communication, Participation, and Consultation**

- **During Project Design**
- **During Project Implementation**

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<tr>
<th>Role</th>
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<tr>
<td>Responsible ADB Officer</td>
<td>Tareen, Adnan</td>
<td>Central and West Asia Department</td>
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<tr>
<td>Responsible ADB Department</td>
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<td>Energy Division, CWRD</td>
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<tr>
<td>Executing Agencies</td>
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<td>Ministry of Economy and Sustainable Development of Georgia</td>
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**Timetable**

- **Concept Clearance**: 04 Oct 2022
- **Fact Finding**: 22 Jan 2024 to 02 Feb 2024
- **MRM**: -
- **Approval**: -
- **Last Review Mission**: -
- **Last PDS Update**: 12 Oct 2022

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