Sri Lanka: Power System Reliability Strengthening Project

Project Name: Power System Reliability Strengthening Project
Project Number: 51122-001
Country: Sri Lanka
Project Status: Active
Project Type / Modality of Assistance: Technical Assistance
Source of Funding / Amount:
- TA 9460-SRI: Power System Reliability Strengthening Project
  - Technical Assistance Special Fund
  - US$ 1.50 million
- TA 9460-SRI: Power System Reliability Strengthening Project (Supplementary)
  - Technical Assistance Special Fund
  - US$ 250,000.00

Strategic Agendas:
- Environmentally sustainable growth
- Inclusive economic growth

Drivers of Change:
- Governance and capacity development
- Knowledge solutions

Sector / Subsector: Energy - Electricity transmission and distribution

Gender Equity and Mainstreaming:
- Some gender elements

Description:
The objectives of the transaction technical assistance (TRTA) are (i) to undertake study on power supply reliability and protection development; and (ii) to conduct technical, economic, financial, safeguards and governance due diligence, prepare project cost estimates, procurement plan and implementation schedule. The TRTA is included in the 2017 program and listed in the country operations business plan for Sri Lanka 2018-2020.

Project Rationale and Linkage to Country/Regional Strategy:
Sri Lanka’s energy sector performance has achieved a national electrification ratio of 99.3% (2016) of the households up from 29% in 1990. However, the demand for electricity continues to grow with increasing economic growth and improving living standards of the population. While trying to meet this increasing demand the sector continues to struggle because of the high cost of electricity emanating from poor generation mix and inadequate level of reliability. This is partly due to underinvestment in the transmission network, medium voltage network, and protection system resulting from high government debt-to-GDP ratio over the years and the poor financial status of Ceylon Electricity Board (CEB) the state-owned public utility whose operations have been constrained by non-implementation of full cost recovery tariff and receivables.

In 2015-2016, Sri Lanka suffered three country-wide blackouts within the span of 7 months. All these blackouts were attributed to poor operation of the protection system, lack of operational flexibility and bottlenecks in the transmission system. Economic loss from the three blackouts was estimated at monetarized value at the unit of $/kWh un-served activity. Indirect social impacts, such as increase in crime rates, were also reported.

Strengthening the transmission system, improving the 33/11 kilovolt (kV) medium voltage network, and upgrading the protection system are needed to ensure reliable operation of the power system. These interventions will also help increase absorption of intermittent wind and solar power which in turn will contribute to achieving government targets for clean energy development. Similarly, these will improve the quality of power supply in rural areas, where currently the quality is low.

The project is consistent with the national sector investment program that is based on the National Energy Policy and Strategies of Sri Lanka and Vision 2025. The project is also in line with Asian Development Bank (ADB’s) country partnership strategy for Sri Lanka where the energy sector is expected to focus on, among others, expanding non-traditional renewable energy using wind and solar, and improving reliability of power supply. The project is also strongly linked to recently approved ADB programs supporting investments in removing bottlenecks in power transmission and strengthening distribution system, and expanding access to clean electricity and promote renewable energy development.

Lessons from previous projects will be considered and incorporated into the project design and implementation arrangements. Specifically, the project will integrate renewable energy, and improve implementation arrangements by strengthening CEB and Lanka Electricity Company (Private) Ltd. (LECO) capacity in complex project supervision and safeguard monitoring.
Two separate consulting firms will be selected for (i) undertaking study on power supply reliability and protection development (Part A), and (ii) conducting project preparatory due diligence (Part B). The TRTA will require total of 58 person-months of consulting services (34 international and 24 national) in the areas of (i) Part A: power system modeling and analysis, power system protection, and power system operation with intermittent renewable (wind and solar) integration, transmission and generation planning and operation, and (ii) Part B: power system engineering, transmission and distribution, economics, financial analysis, environmental and social safeguards, procurement and others.

Procurement (including consulting services) to be financed by ADB will follow ADB’s Procurement Policy and Regulations (2017, as amended from time to time). The two consulting firms and consultants will be engaged by ADB through quality and cost-based selection (with quality to cost ratio of 90:10), using a simplified technical proposal. The TRTA financed equipment will be procured by the consultants. The disbursements under the TRTA will be made under ADB’s Technical Assistance Disbursement Handbook (May 2010, as amended from time to time).

Responsible ADB Officer: Zhou, Aiming
Responsible ADB Department: South Asia Department
Responsible ADB Division: Energy Division, SARD

Executing Agencies:
- Asian Development Bank
- Ceylon Electricity Board
- Lanka Electricity Company (Private) Ltd.
- Ministry of Power and Renewable Energy

Timetable:
- Concept Clearance: -
- Fact Finding: -
- MRM: -
- Approval: 11 Dec 2017
- Last Review Mission: -
- Last PDS Update: 25 Sep 2018

TA 9460-SRI

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Project Page: https://www.adb.org/projects/51122-001/main
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