



Sri Lanka: Power System Reliability Strengthening Project

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| Project Name | Power System Reliability Strengthening Project |
| Project Number | 51122-002 |
| Country | Sri Lanka |
| Project Status | Proposed |
| Project Type / Modality of Assistance | Loan |
| Source of Funding / Amount | Loan: Power System Reliability Strengthening Project Ordinary capital resources US\$ 275.00 million |
| 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 project will focus on system reliability, optimization of existing fault clearance system of the CEB and LECO network and the settings of the main protection systems. The project will ascertain the performance of existing protection system associated with transmission lines, transformers and generators connected to 220 kV and 132 kV networks and improve efficiency and reliability of the medium-voltage network in the distribution. |
| Project Rationale and Linkage to Country/Regional Strategy | <p>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.</p> <p>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.</p> <p>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.</p> <p>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's (ADB's) country partnership strategy for Sri Lanka where the energy sector is expected to focus on, among others, expanding nontraditional 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.</p> <p>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.</p> |
| Impact | Access to clean, reliable and affordable power supply in Sri Lanka increased by 2030 (Sri Lanka Energy Sector Development Plan for a Knowledge Based Economy 2015-2025) |
| Outcome | Power system efficiency and reliability improved |

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| Outputs | 1. Transmission infrastructure expanded nationwide (CEB) 2. Efficiency and reliability of medium voltage network improved (LECO) 3. Protection systems upgraded (CEB) |
| Geographical Location | Nation-wide, Anuradhapura, Chunnakam, Hambantota, Homagama, Kalawana, Kandy, Kerawalapitiya, Rajagiriya, Tissamaharama, Vavuniya, Victoria Randenigala and Rantambe Sanctuary |

Safeguard Categories

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| Environment | B |
| Involuntary Resettlement | A |
| Indigenous Peoples | C |

Summary of Environmental and Social Aspects

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| Environmental Aspects |
| Involuntary Resettlement |
| Indigenous Peoples |

Stakeholder Communication, Participation, and Consultation

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| During Project Design |
| During Project Implementation |

Business Opportunities

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| Consulting Services | 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 | 13. Advance contracting will be used for procurement in transmission and distribution subprojects to achieve high level of project readiness. Retroactive financing will be considered to expedite project implementation at government's request. Retroactive financing may be allowed for up to 20% of each loan amount for expenditures incurred prior to loan effectiveness, but no earlier than 12 months before the signing of the loan agreement. The government and the EAs were advised that ADB's approval of retroactive financing in principle does not commit ADB to finance any part of the project. |

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| Responsible ADB Officer | Zhou, Aiming |
| Responsible ADB Department | South Asia Department |
| Responsible ADB Division | Energy Division, SARD |
| Executing Agencies | <i>Ceylon Electricity Board 3rd Floor, G.O.B.A. Bldg. #50, Sir Chittampalam A. Gardiner Mawatha Colombo 02, Sri Lanka Lanka Electricity Company (Private) Ltd. 411 Galle Road Colombo 3 Sri Lanka</i> |

Timetable

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| Concept Clearance | 11 Dec 2017 |
| Fact Finding | 15 Nov 2018 to 30 Nov 2018 |
| MRM | 15 Jan 2019 |
| Approval | - |
| Last Review Mission | - |
| Last PDS Update | 25 Sep 2018 |

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| Project Page | https://www.adb.org/projects/51122-002/main |
| Request for Information | http://www.adb.org/forms/request-information-form?subject=51122-002 |
| Date Generated | 09 November 2018 |

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