



විදුලිබල හා බලශක්ති අමාත්‍යාංශය
மின்சக்தி மற்றும் வலுசக்தி அமைச்சு
MINISTRY OF POWER AND ENERGY



ප්‍රගති වාර්තාව
முன்னேற்ற அறிக்கை
Progress Report

2023





Ministry of Power and Energy

Progress Report – 2023

Power Section

No: 437, Galle Road,
Colombo 03.
Telephone No - 011 2574922
Fax - 011 2574741
Web Site - www.powermin.gov.lk

Energy Section

No: 80, Sir Ernest de Silva Mawatha,
Colombo 07.
Telephone No - 011 2370033
Fax - 011 2372115
Web Site - www.energymin.gov.lk

Contents

	Page No.
Introduction	vi
Chapter 01 – Ministry of Power and Energy	
1.1 Vision, Mission, Objectives	01
1.2 Main Divisions under the Ministry	02
1.3 Institutions comes under the Ministry	02
1.4 Actions taken for the challenges faced by the Ministry and its results – 2023	03
1.5 Performance of Power Section functions in the year 2023	05
1.6 Performance of Energy Section functions in the year 2023	14
1.7 Financial Progress of the Ministry of Power and Energy up to 30 th September 2023	23
Chapter 02 – Ceylon Electricity Board	24
Chapter 03 – Lanka Electricity Company (Private) Limited	35
Chapter 04 – Sri Lanka Sustainable Energy Authority	38
Chapter 05 – LTL Holdings (Private) Limited	46
Chapter 06 – Lanka Coal Company (Private) Limited	61
Chapter 07 – Lanka Atomic Energy Board	64
Chapter 08 – Sri Lanka Atomic Energy Regulatory Council	70
Chapter 09 – Sri Lanka Energies (Private) Limited	79
Chapter 10 – Ceylon Petroleum Corporation	82
Chapter 11 – The Ceylon Petroleum Storage Terminal Limited	89
Chapter 12 – Petroleum Development Authority of Sri Lanka	94

Tables

Table 1.1	Electricity Installed Capacities by Different Energy Sources
Table 1.2	Information of Fuel import by M/S Sinopec Fuel Oil Lanka (Pvt.) Ltd (as at 24.09.2024)
Table 1.3	Fuel imports Details of Ceylon Petroleum Corporation (01/01/2023 to 09/20/2023)
Table 1.4	Impact of Petrol and Diesel sales for the Profitability of CPC
Table 1.5	Progress of issuing fuel through National Fuel Permit (from 1 st August 2022 to 1 st August 2023)
Table 1.6	Amount of dollar loan to be paid by Ceylon Petroleum Corporation (as at 31.12.2022)
Table 1.7	Annual Revenue of Energy Section
Table 1.8	Financial Progress of the Capital Budget 2023
Table 10.1	Imports of Petroleum Products of Ceylon Petroleum Corporation (01.01.2020 – 31.08.2023)
Table 10.2	CPC Island-wide Sales Information from 2021 – 31 st August 2023
Table 10.3	Information of Fuel Sales for Power Sector (2016 – 31 st August 2023)
Table 11.1	Fuel Storage Capacity of CPSTL as on 2023.09.30
Table 11.2	Progress of fuel distribution to Ceylon Petroleum Corporation in the year 2023
Table 11.3	Progress of fuel distribution to Lanka Indian Oil Company in the year 2023
Table 11.4	Progress of fuel distribution to C/S Sinopec Fuel Oil Lanka Pvt. Ltd. in the year 2023

Figures / Maps / Note

- Figure 1.1 Electricity Generation Mix in detail (January to end of August 2023)
- Figure 1.2 Installed Capacity of Energy Sources (%) – 2023
- Figure 1.3 RE Electricity Power Generation
- Figure 1.4 Revisions in sales Price of Petroleum Products
(June 2021 - 01st October 2023)
- Figure 10.1 Import of refined petroleum products in the last three years
(01.01.2021 – 31.08.2023)
- Figure 10.2 Production Composition of Ceylon Petroleum Corporation Refinery
January – 31st August 2023
- Figure 10.3 Ceylon Petroleum Corporation Petrol, Diesel and Aviation Fuel
Quantity of Sales (2020 Jan – 31st August 2023)
- Figure 10.4 Aviation Fuel Sales in 2023
- Figure 11.1 Progress of fuel distribution in 2023
- Note 10.1 Petroleum products sales mix of Ceylon Petroleum Corporation

Introduction

The Ministry of Power and Energy was established in accordance with Gazette No. 2289/43 dated July 22, 2022, with the main objective of formulating, implementing, monitoring, and evaluating policies, plans, and projects related to the scope of power and energy, as well as providing services to the people in an efficient and people-friendly manner.

Accordingly, there are eight (8) institutions under the supervision of the power sector, namely Ceylon Electricity Board (CEB), Lanka Electricity Private Company (Pvt) Ltd. (LECO), Sri Lanka Sustainable Energy Authority (SLSEA), Sri Lanka Atomic Energy Board (SLAEB), Sri Lanka Atomic Energy Regulatory Council (SLAERC), L.T.L. Holdings (Pvt) Ltd, Lanka Coal Company (Pvt) Ltd. and Sri Lanka Energies (Pvt) Ltd. are supervised and three (3) entities under the supervision of the energy sector namely, Ceylon Petroleum Corporation (CPC), Ceylon Petroleum Storage Terminals Ltd. (CPSTL) and Petroleum Development Authority of Sri Lanka (PDASL).

Our country has also directly felt the adverse impact of the COVID pandemic in the last period on the whole world. There were social, economic, and political challenges, and the power and energy sectors were also in dire straits. But in 2023, we were able to gradually solve those problems and setbacks and overcome many of those challenges. The Ministry identified special strategies for this purpose and took steps to implement those strategies with good supervision.

A summary of the work carried out during the year 2023 under the Power Division of this Ministry is given below.

In the meantime, Sri Lanka has already declared its policy of achieving 70 % of electricity from Renewable Sources by 2030 and carbon neutrality by 2050. Furthermore, government decided not to establish coal power plants in future. Government of the Sri Lanka (GOSL) has also committed to reduce 5% emission unconditionally and 20% emission conditionally under the National Determined Contributions (NDCs) submitted to the office of United Nations Framework Convention on Climate Change. The implementation and monitoring plan of the NDCs in respect of the power sector has been completed. The Ministry of Power & Energy also responsible for implementation of Sustainable Development Goal (SDG) no. 7, “Ensure access to affordable, reliable, sustainable and modern energy for all” and working for achieve committed targets.

Initial actions taken to attract private investors by preparing plans for power generation from solar, wind and other low cost renewable sources.

Among all efforts to mitigate climate change, decarbonization in the energy sector is one of the main focuses of this Ministry. Being the dominant contributor for the global greenhouse gas emission, energy sector needs to be shifted from brown to green by promoting cleaner energy in future. It requires collective efforts to promote ‘Renewable Energy’ and to implement ‘Energy Efficiency measures’ which may need to transit from fossil-based to carbon neutrality to slow down the climate change.

Under these policy frameworks, it has to cater the annual demand of approximately 16,500 GWh of electricity for more than 7,500,000 electricity consumers from power plants having a total installed capacity of approximately 4991MW.

Also, a summary of the work carried out during the year 2023 under the Energy Division of this Ministry is given below.

The policy decision taken by the government to expand the distribution of petroleum products has allowed other competing entities to enter the market. Accordingly, China's Sinopec Company has been already granted a license to import and distribute petroleum products in the country and allowed two other companies to enter in to the local market. Actions have been identified to improve the efficiency by supervising the relevant sectors and initial actions have been taken to reach targets. Efforts have been made to create competition in the market and pass on the benefit to the consumer.

A system of rules and regulations is being developed to regulate the post-part fuel industry and continued the supervision and monitoring of the sector to ensure the quality and reliability of

fuel and to make the distribution of fuel systematic and efficient.

Accordingly, 12 tankers of the oil tanker complex are being developed by the Ceylon Petroleum Legal Corporation and 10 tanks by Trinco Petroleum Terminal Pvt. Ltd.

Preliminary work to start a green hydrogen project in the Northern Province and the preparation and implementation of regulations relating to the pre-part petroleum industry are also underway. In the first half of the year, fuel (diesel) for agricultural activities and fuel for fisheries were successfully implemented.

At a time when the entire world has been challenged by the energy crisis, the achievements made by this ministry in the process of continuous supply of electricity and energy to the people of Sri Lanka and the progress up to September 2023 will be presented here.

Chapter One

Ministry of Power and Energy

1.1. Vision, Mission, Objectives

Vision

“To make Sri Lanka the energy hub of Asia”

Mission

Power Section

“Provide Quality, Reliable, Sustainable and Affordable Electricity for economic prosperity of the nation”

Energy Section

“Enhancing access to low cost energy to meet national needs by management of fuel importation and integration of domestic new energy sources into the energy mix, and ensuring an environmental friendly sustainable energy supply by regulation of energy related policy enforcement in complying with relevant laws and regulations”

Objectives

- 70% of the electricity generated by Renewable Energy by 2030.
- Increase Power Generation Capacity of the country from the existing 4,809 MW to 7,629 MW by 2025 with maximum feasible development of Renewable Energy.
- Improve Transmission Network;
- From 799 km to 1,300 km in the 220 kV network by 2025
- From 2,361 km to 3,000km in the 132 kV network by 2025
- Enhance the distribution network to provide quality service and meet the overall domestic electricity demand.
- Reduce Technical and Commercial losses of the System from 9% to 8% by 2025.
- Convert the power system of the country to a Smart Grid by encouraging manufacturing of electrical equipment locally.
- Ensure the quality and reliability throughout the fuel supply chain.
- Promote efficient and effective use of petroleum products.
- Ensure more efficient, effective and safe storage and distribution of fuel throughout the country.
- Be a partner in the energy self-sufficiency of Sri Lanka's by optimizing production of domestic oil and natural gas by 2030.
- Implementation of modern standard electrical equipment and green building concepts to promote efficiency in electricity consumption.
- Be a leading contributor for making Sri Lanka a Carbon neutral country by 2050.

1.2 Main Divisions under the Ministry

The Ministry of Power and Energy consist of the following divisions.

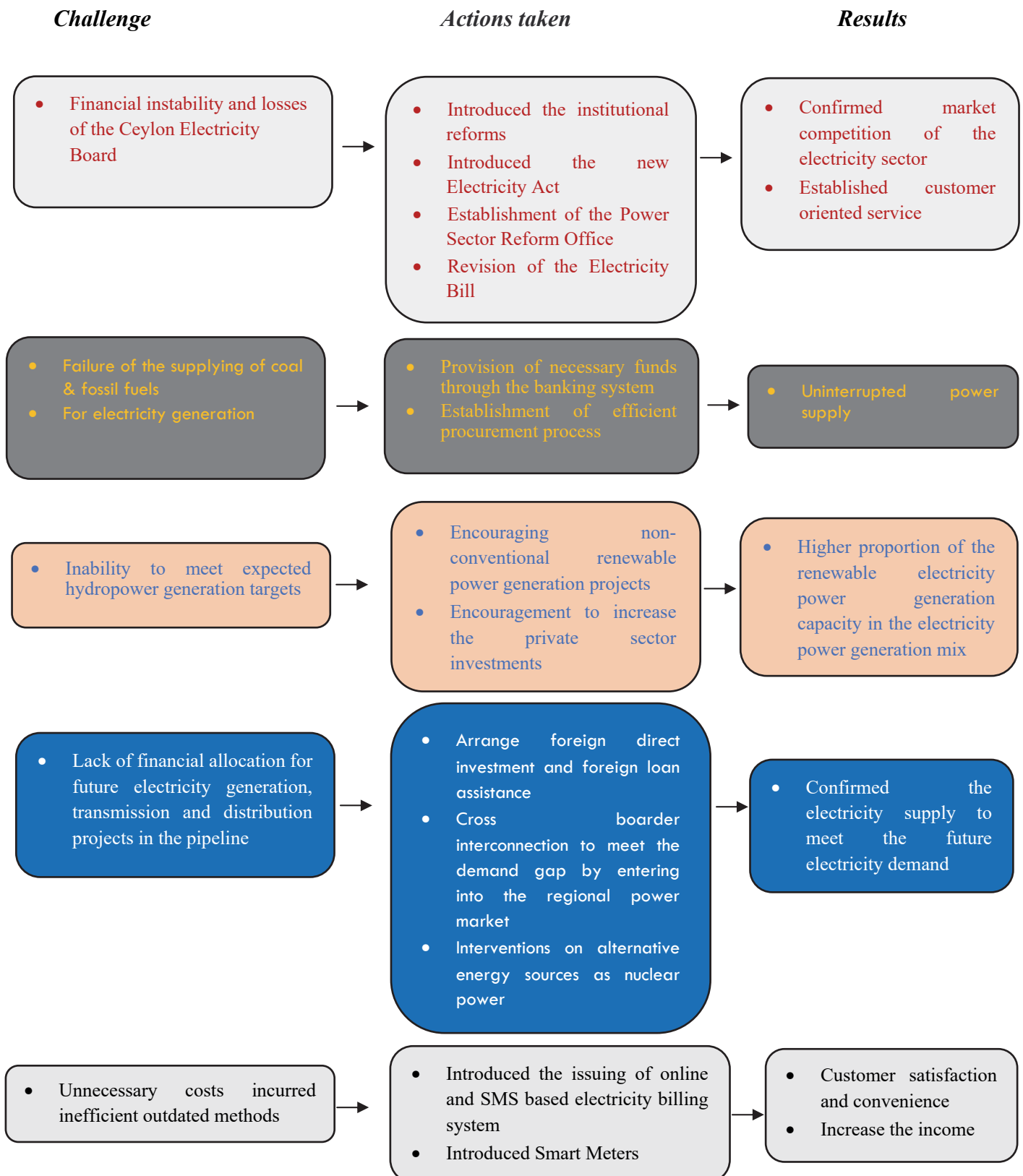
- Administration Division
- Development Division
- Policy, Technical and Research Division
- Generation, Transmission and Distribution Division
- Planning Division
- Procurement Division
- Finance Division
- Internal Audit Division

1.3 Institutions comes under the Ministry

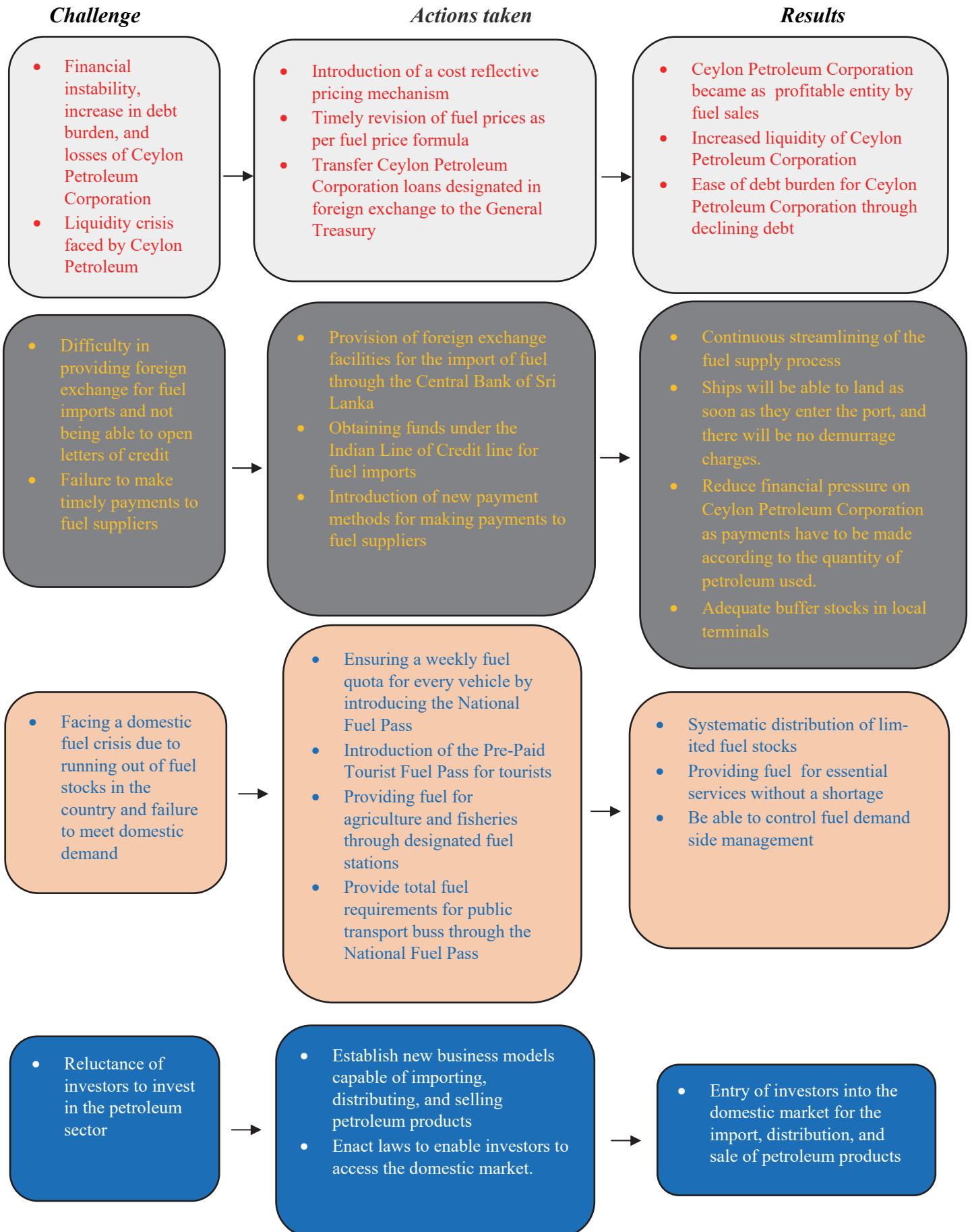
- Ceylon Electricity Board
- Lanka Electricity Company (Private) Limited
- LTL Holdings (Private) Limited
- Sri Lanka Sustainable Energy Authority
- Sri Lanka Atomic Energy Regulatory Council
- Sri Lanka Atomic Energy Board
- Lanka Coal Company (Private) Limited
- Sri Lanka Energies (Private) Limited
- Ceylon Petroleum Corporation
- Ceylon Petroleum Storage Terminal Limited
- Petroleum Development Authority of Sri Lanka
- M/S Trinco Petroleum Terminal Limited

1.4 Actions taken for the challenges faced by the Ministry and its results – 2023

Power Sector:



Energy Sector:



1.5 Performance of Power Section functions in the year 2023

1.5.1. Introduction

The entire world is in energy transition. Together with the world, we all have to be prepared to get our systems adjusted. The Ministry has taken action to introduce new Electricity Act with essential Electricity Sector institutional Reforms in order to formation of respective institutions/companies under unbundling process of CEB. The Ministry has taken initiatives to restructure the electricity industry by unbundling the existing utility. This process will facilitate the electricity industry of the country to be more competitive and be more service oriented. Power Sector Reform Office already established and 10 working groups have been appointed. Funding agencies such as JICA, USAID, ADB and WB are assisting to provide facilities and expertise to preparation of HR Plan on allocating existing staff of CEB, Transfer Plan on allocating human resource, assets, liabilities and other reforms.

In 2022, due to the decrease in water capacity associated with hydro power plants and failure to supply fuel and coal at the right time due to the financial crisis, electricity had to be interrupted. This was caused by the negative impact of many factors such as the increase in the price of fossil fuel and coal in the world market, the lack of suppliers coming forward for tenders, the depreciation of the rupee and the financial deficit of the Ceylon Electricity Board. However, through the methods adopted in the year 2023, the necessary credit facilities have been providing for the continuous supply of coal for the Norochcholai Coal Plant and the contribution of other power plants and renewable energy projects was also able to provide electricity without interruptions.

The electricity tariff was amended by adjusting the costs incurred by the Ceylon Electricity Board, and the electricity tariff allow to be revised twice a year. By reducing the debt burden, the Ceylon Petroleum Corporation was able to make timely payments for petroleum oil and the projects for the development of electricity generation, transmission and distribution are able to be implemented continuously.

A system has been introduced from 26.06.2023 with new variables for the price paid to developers who supply power to Ceylon Electricity Board under standard power purchase agreements, generated by small scale hydro, wind, ground mounted solar, floating solar, biomass (dendro and agro waste) and industrial waste power plants. And the price paid for electricity generated by solar panels connected to the national grid has been revised as the new variable rate system of Rs. 46.46-48.89 range with effect from 26.06.2023.

Today, Energy Security has become an integral part of national economy. However, the cost of electricity generation from fossil fuel which takes about 30% of the demand depending on the rainfall has become a huge burden due to increasing fuel price, which has exacerbated due to the economic crisis experienced in the recent past. Addition of LNG power plants to the system will be commissioned in 2024. Therefore, the meeting of the demand gap with cost effective electricity has become a huge challenge. In this context the government is of the opinion that the proposed cross boarder interconnection would meet the demand gap by entering into the regional power market.

Sri Lanka has sought assistance from the Office of Legal Affairs (OLA) of International Atomic Energy Agency (IAEA) to conduct a gap analysis in the National Nuclear Law to determine whether it is compatible for future nuclear power programme as an adequate basis for the

implementation of the relevant international Nuclear legal instruments, standards, and guidance etc.

Development of online system for Project Approval of Sri Lanka Sustainable Energy Authority is completed. Test runs are ongoing. Development of solar service providers registration of SLSEA was completed and Trial and testing work is being carried out. E - billing system for electricity billing by LECO and E application system completed. Around 20,082 of the targeted 50,000 consumers of LECO were registered for e-billing consumers. 98% out of total consumer base has been enrolled in SMS billing and all of these

consumers have the option to receive their bills electronically as e-bills with the provided link. Rest of the consumers can download their E-Bill through the LECO website. No any printed bills are delivered now.

Action taken to introduce Smart Meters in Sri Lanka by CEB and LECO and CEB. 22,000 meters have been installed by LECO. A contract was awarded to install 50,000 smart meters by CEB & contract awarded for the construction of SCADA system in Dehiwala area. Reliability Supply Improvement Process pilot project by LECO is 50% completed and SCADA Platform development have been 100% completed using WSO2 IoT and API platforms.

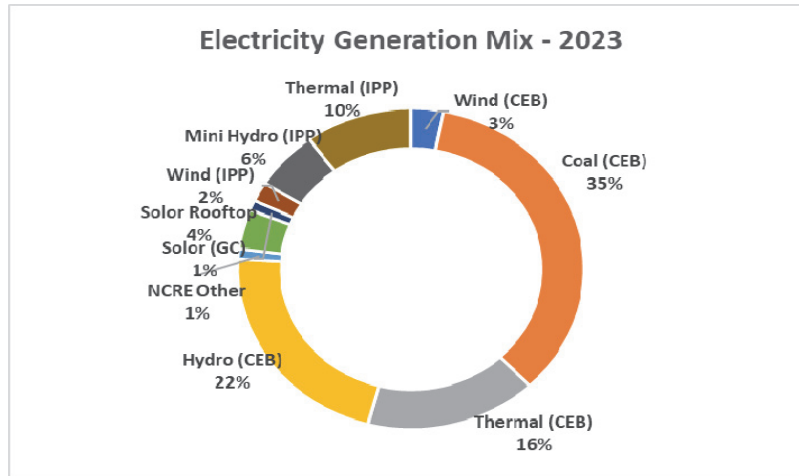
1.5.2 Electricity Sector at a Glance

- Total Number of Electricity Users in 2023 (CEB- 7,000,635 + LECO- 596,259) - 7,596,894

	<u>No. of Users</u>
○ Domestic	- 6,509,953
○ Religious Places	- 46,207
○ Industries	- 72,892
○ General Purposes	- 948,370
○ Hotels	- 657
○ Government Entities	- 9,727
○ Agriculture Purposes	- 3,296
○ Street Lights	- 5,792
- Electricity Demand Decrease from Jan. to Sep. 2023- 11% (compared to the same duration in previous year)
- Net Electricity Generation in 2023 - 10,341 GWh (up to end of August)

○ Hydro (CEB)	- 22%
○ Mini Hydro (IPP)	- 6%
○ Thermal (CEB)	- 16%
○ Thermal (IPP)	- 10%
○ Coal	- 35%
○ Wind (CEB)	- 3%
○ Wind (IPP)	- 2%
○ Rooftop Solar	- 4%
○ Ground mounted Solar	- 1%
○ Other	- 1%

Figure 1.1 - Electricity Generation Mix in detail (January to end of August 2023)



Source – CEB article on Progress Report, 2023

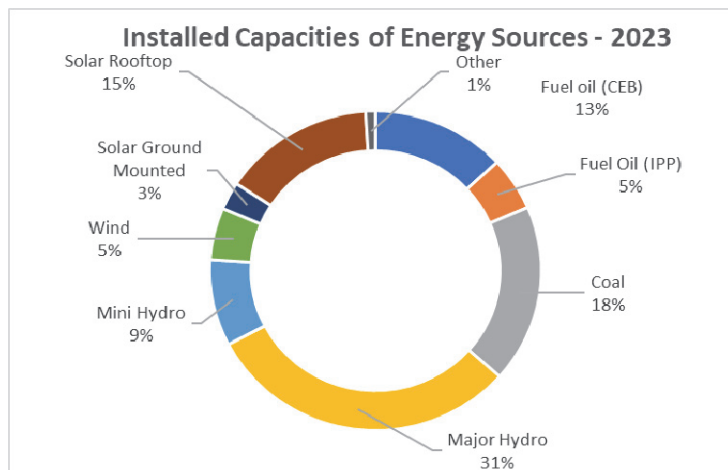
Electricity Installed Capacity - 4991 MW (Up to August 2023)

Table 1.1 Electricity Installed Capacities by Different Energy Sources

	Energy Source	Capacity (MW)	No. of Power Plants
1	Thermal	Fuel oil (CEB)	654
2		Fuel Oil (IPP)	270
3		Coal	900
4	Renewable Energy	Major Hydro	1,538
5		Mini Hydro	434
6		Wind	265
7		Solar Ground Mounted	140
8		Solar Rooftop	742
9		Other	48
	Total Capacity	4,991	359

Source - CEB Statistical Digest 2022/ SLSEA article on Progress Report, 2023

Figure 1.2 – Installed Capacities of Energy Sources (%) – 2023

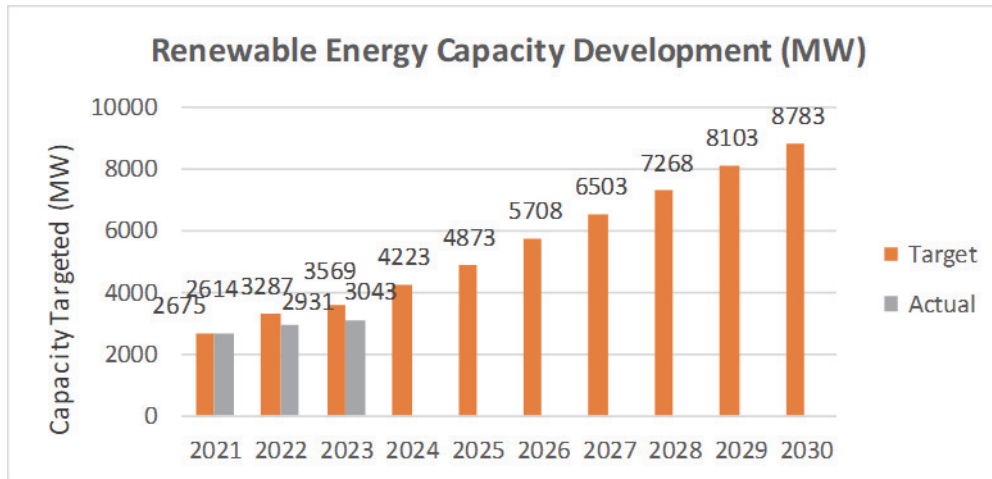


Source - SLCEB Statistical Digest 2022/ SLSEA article on Progress Report, 2023

- Renewable Energy Capacity Development Targets

Towards to achieve the target of 70% out of total energy requirement by 2030, the renewable energy capacity is planned to increase up to 8783 MW out of the total requirement (12,547 MW) by 2023. It can be shown as follows;

Figure 1.3 –RE Electricity Power Generation



Source - SLSEA article on Progress Report, 2023

1.5.3 Progress of the Power Sector – 2023 (Jan - Sep)

Electricity demand in the country during the last fifteen years has been growing at an average rate of about 4.2% per annum while peak demand has been growing at a rate of 2.7% per annum. The Net Generation in the year 2022 was recorded as 15,942 GWh. It was 4.6% decrease compared to 2021. Meanwhile the maximum demand was recorded as 2,708 MW in the year 2022 and recorded 3.3% decrease compared to the previous year. The Net Generation and the Maximum Demand recorded for the last eight months of the year 2023 was 10,341GWh and 2,415MW and this was 5% and 11% decrease with respect to the previous year.

(a) Electricity Generation Expansions

As of August 31, 2023, the total energy generation reached 10,341 GWh, with major hydro generation accounting for 22% of the total, while coal power generation represented 35%. Thermal oil contributed 26% to the overall energy mix, with other renewable sources comprising 18%. In contrast, major hydro generation's share for the same period in 2022 was slightly higher at 29%.

In order to cater the growing electricity demand, the Ministry is implementing power generation projects as per the Government policies and Long-Term Generation Expansion Plan of CEB. The following electricity generation projects being implemented by the Ministry are in different implementation stages.

I. Renewable Power Generation

i. Major Hydro

- Uma Oya Hydro Power Project – 120 MW



Dyraaba Dam

The Uma Oya Project is a multipurpose development implemented under the Ministry of Irrigation mainly to divert the 14-5 MCM of water to irrigate approximately 5,000 hectares of land in Hambanthota and Monaragala Districts. Power generation is the second objective of the project.

The constructions of power house and the transmission line is almost completed and testing works are ongoing. The power station will connect to the national grid and the end of this year and generate 290 GWh of electricity annually. Filling of the Dyraaba Dam's Reservoir was completed. The tunnel is almost completed and third-party investigation is conducting to release water to power plant. Overall progress is around 99%. The total estimated cost of the project is USD 530 Million.

- Moragolla Hydro Power Project – 31 MW



Powerhouse Spiral Casing Installation

Moragolla is the final hydropower project which is constructed on the Mahaweli river basin. This project site is located in the Ulapane area of the Kandy district. The expected annual energy generation of the project is 100 GWh.

Dam construction, tunnel excavation, power house construction and plant fabrication are in progress. Overall progress is 59%. It is expected to complete the project and generate electricity by December, 2024. Total estimated cost of the project is USD 114 Mn.

ii. Mini Hydro

- 14 MW Seethawaka Hydro Power Plant
- Two cascaded Mini Hydro Plant with the capacity of 7 MW each will construct by Sri Lanka Energies (Pvt) Ltd. The expected annual energy generation is about 40 GWh and expected to commission in 2025.

II. Other Renewable Energy (ORE)

During the year 2023, 31.4 MW added through Ground Mounted Solar (7 MW) wind (15 MW), mini hydro (5.4 MW) and Agri waste Bio mass (4 MW). About 3943 Solar rooftops installed with 82.03 MW capacity. The initial activities of following major renewable energy projects are carried out by the Ministry in collaboration with SLSEA and CEB.

i. Solar Power projects

- 100 MW Siyambalanduwa Solar Power Park

In this initiative to establish a 100 MW solar park and associated transmission line in Siyambalanduwa, emphasis has been made to use barren lands unsuited for agriculture or other economic development activities for solar power generation. Formation of the SPV for the consortium with three developers is completed and take initial action to commence the construction work. This solar park will be expected to commission in 2026.

- 150 MW Hambantota Solar Project

Under the tender for the Establishment of 150 MW solar Power Plants in 5-10 MW Ac capacities on Build, own and Operate basis (BOO) a consortium company has been formed with 19 developers. Development of substation and transmission line also included in this project. EOIs issued and energy permits assured to investors. The EPC contractor for construction of transmission line has been chosen. Contracts for the construction of Collector substation and grid augmentation to be awarded. Acquiring of lands for the transmission line is in progress.

- 700 MW Poonakary Tank Solar Project

The project proposal presented by the United Solar Energy SL (Pvt) Company has been evaluated and the permission granted to develop total capacity of 700 MW solar power plant with a battery energy storage system at Poonakary Lake, Kilinochchi. The project is proposed to be implemented with a total investment of USD 1727 million as a 100% foreign direct investment. The project proponent company has proposed to construct three anicuts around the Poonakari Lake to prevent the ingress of seawater at a cost of USD 13.5 million as part of the proposed project. Instead, the Northern Provincial Council, the Northern Provincial Irrigation Department, and the Department of Agricultural Development have already agreed to grant 1080 acres of the shallow area of the lake to the company on a 35-year lease agreement to establish the power plant.

- 135 MW Sampur Ground mounted Solar Power Project -

This project will be implemented in two phases; Phase I- 50 MW and Phase II- 85 MW. Approval obtained for the IEE study and transmission line from Sampur to Kappalthurei identified. The project will implement by the Trincomalee Power Company Limited (TPCL) which is a joint venture

of National Thermal Power Corporation of India (NTPC) and CEB under AIIB Financing. Total estimated cost is USD 170 Mn.

- 100 MW Oddamawadi Solar Project -

100 MW solar plant will be established with a Transmission line. RFP issued and selection of EPC contractor is in the progress. The tender will awarded after completing the process.

ii. Wind Power projects

- 250 MW Mannar Wind Project

The proposed project, 2nd phase of the “Thambapawani Wind Park” will generate 400 GWh of clean energy annually. The provisional approval for the development of 250 MW of wind capacity has been given to the Adani Green Energy (Pvt) Limited. Feasibility study completed and approval of EIA is pending from CEA. Land acquisition is in progress. This project will be commissioned in 2025.

This project will help to attract much needed investments to develop the region and will also improve the infrastructure of the area by way of enhanced electricity supply and improved roadways. Apart from that, employment opportunities will be created and life standard of the residents will be improved.

- 234 MW Pooneryn Wind Project (Phase I & II)

It has been proposed to build a wind park in the Poonaryn Beninsula with a capacity of 234 MW. The provisional approval was given to Adani Green (Pvt) Limited to implement wind park in two phases; phase I -100MW and phase II -134 MW. Pre- feasibility study is completed. Phase I will be commissioned in 2024 and phase II will complete in 2026. The land acquisition is in progress.

400kV Backbone transmission line from Northern collector to new Habarana for support this project and other power generation projects in Northern province has been designed and RFP will be issued. This project will be completed in 2026.

- 210 MW Veravil Wind project

It is planning to set up a 210 MW wind power project in Veravil, in the Kilinochchi district. Site selection and feasibility study were completed in 2023. The Bird Study is being carried out with the assistance of the USAID Sri Lanka Energy program. Environmental Impact Assessment (EIA) will be done after selecting a consultancy firm. However, this project is in initial stage and the procurement process will commenced in 2024.

- Installation of Hybrid Renewable Energy Systems for three Island in North

This project aims to electricity the three islands by constructing hybrid power plants with solar, wind, diesel generation and Lithium – Iron battery storage for the three northern islands of Delft, Analathivu and Nayanathivu. Technical evaluation for select the contractor to design, supply and construction is being done and project will complete in 2024.

III. Thermal Energy Generation

i. Liquefied Natural Gas (LNG)

- 300 MW LNG Combined Cycle Power Plant facility at Kerawalapitiya

The construction works of this first 300 MW, LNG combined cycle plant in “Sobadanavi” power plant have been delayed due to the impact of recent economic crisis. The Gas turbine is ready to commission in November 2023. Fabrication of Vapour turbine is in progress. Overall progress of the project is around 60%.

(b) Electricity Transmission and Distribution Development

- Under the "Medium Voltage Development Plan for the year 2018 - 2027" prepared by the Ceylon Electricity Board, arrangements have been made for the construction of a power line on 33 kV double circuit zebra towers from Kerawalapitiya Grid Substation to Nugape Grantry. For the existing as well as upcoming new industries in Nugape, Bopitiya and Uswatakeiyava areas, an additional capacity over 30 MW electricity demand is expected.
- The long-term transmission plan of Ceylon Electricity Board has been prepared and the grid development projects which are necessary have been identified. MOU has been signed between CEB and Tebian Electric Apparatus Co, Ltd (TBEA Company) of China, to provide financial assistance for the implementation of the following 7 Transmission and Grid Substation projects which were approved by the Department of National Planning.
 - i. 220 kV Transmission Line Project from New Anuradhapura to New Habarana - 45 km
 - ii. Transmission Line project from Matara to Hambantota– 77 km
 - iii. Construction of 132/33 kV Grid Substation at Homagama
 - iv. Construction of 132/33 kV Grid Substation at Negambo
 - v. Construction of 132/11 kV Grid Substation at Kandy City
 - vi. Construction of 132/33 kV Grid Substation and 220/132 Switch Gear Station at Wariyapola ;
 - vii. 220kV Kerawalapitiya - Colombo (Port City) - Second Underground Cable System – 15 km

- The Construction of Polpitiya Hambantota 220kV Transmission Line project, in which the construction work are being carried out by the Ceylon Electricity Board to meet the electricity needs of the Southern Province of Sri Lanka, under the Asian Development Bank, Green Energy Development and Energy Efficiency Improvement Investment Program -Tranche 2, has completed the construction works and connected to the national grid.

(c) Institutional Reforms for Power Sector

- A Cabinet Sub-Committee was appointed to carry out institutional reforms for the power sector and the report of that committee was handed over. When preparing the report, the committee obtained the opinions of the Honorable Members of Parliament, Ministers who were previously in charge of Ministry of Power, regulatory bodies and Public Utilities Commission, Ceylon Electricity Board and Lanka Electricity Company (Private) Limited and the management of utility companies, Sri Lanka Institute of Engineering and Trade Unions.
- The Power Sector Reforms Secretariat (PSRS) comprising local and international experts
- was established in terms of the approval given by the Cabinet of Ministers on Institutional reforms in the power sector under the supervision of the Ministry.
- The Bill of the proposed new Electricity Act has been already forwarded to obtain the approval of the Cabinet of Ministers, before publishing the Bill in the gazette notification.

(d) Electricity Tariff Revision 2023

- The approval of the Cabinet of Ministers was granted for the revision of electricity tariff which aims the implementation of the cost-reflective electricity tariff methodology as

proposed by the Ceylon Electricity Board in order to ensure the financial stability of the electricity sector.

- Accordingly, the overall electricity tariff existed till then was increased by approximately 35% from 15.02.2023 since the Ceylon Electricity Board faced a severe financial crisis due to the absence of a tariff setting methodology to cover the cost.
- Also, the existing electricity tariff to that date was reduced by 14.2% from 01.07.2023 and a relief was provided to the public in terms of the approval granted by the Cabinet of Ministers dated 09.01.2023 to revise the electricity tariffs bi-annually (January 01 and July 01 of every year).
- The previously anticipated 4,500 GWh of Hydro power generation for the year 2023 by the Public Utilities Commission of Sri Lanka and the Ceylon Electricity Board was severely reduced to an estimated 3,750 GWh as a result of the severely affected rainfall patterns in the country due to the severe drought began in the country since July. Furthermore, as per the approval of the above Cabinet of Ministers, the electricity tariff existed till then had to be increased by 18% from 20.10.2023, as the emergency supplementary thermal power had to be procured under emergency conditions due to the urgent need to release water from the Samanalawa Reservoir for agricultural purposes.

(e) International Collaborations

- A Memorandum of Understanding (MoU) has been signed between the CEB and the Japan Electric Power Information Center (JEPIC) on technology transfer with the two organizations after having the consent of the Department of Attorney General and received the approval from the Cabinet of Ministers to extend whenever necessary.

- Activities related to get the membership of the Energy Centre of South Asian Association of Regional Cooperation (SAARC) under the guidance of the Foreign Ministry.
- The activities have been carried out with the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) under the guidance of the Foreign Ministry.

- Participated and activities carried out in the first meeting on Administration Board of the BIMSTEC and the second assembly of the Electricity Network Inter Connection.
- Submitted the reviews on electricity distribution, selling and interchange and pricing on policy document of the BIMSTEC following .

- South Asia Regional Energy Partnership (SAREP)

As a part of the SAREP program, two events held in Sri Lanka on “Cross Border Power Trade”. Taking forward the activities of SAREP Task Force-1 (TF-1) on “Coordination of Policies, Legal and Regulatory Frameworks for Cross Border Electricity Trade”, the 11th Meeting was held on 9th October 2023 followed by the three-day workshop. The key objective of TF-1 is harmonization of policy, legal and regulatory issues for fair allocation of costs and risks through conducive policies, legal and regulatory instruments, in order to create the enabling systemic conditions for a sustainable market for implementation and expansion of CBET projects. Representatives from Bangladesh, Nepal, Bhutan, India and Sri Lanka Participated in Task Force meeting and workshops.

1.5.4 Development Projects and Programmes for 2024

(a) Electricity Generation.

- Mannar 50MW Wind Power Project – Capacity enhancement by 50MW to Mannar wind power project extension by CEB under AIIB Financing. Total estimated cost is USD 70 Mn.
- Installations of 80 MW of rooftop solar PV for government buildings, 50 MW of Rooftop solar PV Systems for religious sites and 50MW floating solar plants under the Indian Credit line program (USD 100 Mn)
- Fixing solar panels (5 KW) in religious places (825 Piriven schools) under the Indian grant of USD 10 Mn grant in collaboration with the Ministry of Buddhasasana, Religious and Cultural Affairs. Agreement signed in October 2023.
- 500KW Ground Mounted Solar with Battery Storage Power Project to set off the electricity bills of religious institutes - Sri Lanka Sustainable Energy Authority will be implemented this project under the financing of the Sri Lanka Energy Fund. The estimated cost of the project is LKR 100 Mn.
- Feasibility Study on Resource Optimization Options in the existing Wind Power Projects in Puttlam Area – Sri Lanka Sustainable Energy Authority will be implemented this study with the aim of harness energy to the maximum economic utilization. The estimated cost of LKR 250 Mn is expected to obtain as grant financing.
- Small scale wind plants with total capacity of 60 MW have been planned to establish in Mannar, Bolawatta, Kappalthurai, Madampe and Trincomalee.

(b) Transmission and Distribution

- Associated first stage transmission system to Sampur solar power plant -
The project will implement by TPCL under AIIB Financing. Total estimated cost is USD 40 Mn.
- 2nd 220kV Underground Cable from Keralapitiya to Colombo Port with AIIB financing. Total estimated cost is USD 50 Mn.
- Construction of Matara – Hambantota 132 kV, 85 km Transmission Line- Construction of Matara - Hambantota 132 kV, Zebra Double Circuit transmission line, will implement by Ceylon Electricity Board to rectify transmission line overloading in Southern network under CEB & ADB Financing. Total estimated cost is LKR 4,255.4 Mn.
- Supply of Peak Reduction Energy Storage System (ESS) in Hambantota District-This project is to install 5MW/10.7MWh ESS to supply energy during peak time and daytime under the grant of Korea Institute for Advancement of Technology (KIAT).
- Efficient Street lighting system in the Divulapitiya Pradesheeya Sabha-
This pilot project will be implemented under financing of Sri Lanka Energy Fund by Sri Lanka Sustainable Energy Authority and the estimated cost is LKR 25.5 Mn.

(c) Other projects

- Technical Cooperation Projects under International Atomic Energy Agency (IAEA)
 - Increasing the application of advanced Non- Destructive Testing Method
 - Developing national infrastructure for a nuclear power programme
 - Establishing Medical Cyclotron facility to produce positron emission tomography radiopharmaceuticals- phase II
 - Supporting prerequisites for quality cancer diagnosis and treatment.

The above four projects have implemented by Sri Lanka Atomic Energy Board

1.6 Performance of Energy Section functions in the year 2023

The Energy Division of the Ministry of Power and Energy identifies, implements and monitors relevant policies, programs and projects to increase the efficiency and performance of the petroleum industry in the country. Since the operation of all sectors of the national economy is dependent on the supply of petroleum products, the Ministry always works to ensure a continuous supply of fuel. Accordingly, many policies and programs were implemented to meet the domestic petroleum demand in the year 2023 by avoiding the difficulties in meeting the local demand for fuel in the last year. Among them, the following steps can be identified in particular.

- Establishing a viable business model for the import, distribution and sale of petroleum products in the domestic market, providing opportunities for new investors.
- Unloading fuel from ships without delay by introducing alternative payment methods for imports of crude oil and refined petroleum products from late 2022.
- Determining domestic petroleum prices according to a cost-reflective fuel price formula and periodically revising fuel prices accordingly.
- Distribution of limited fuel stock across the island under the National Fuel Pass System that came into effect from August 1, 2022.
- To improve the financial viability of the Ceylon Petroleum Corporation, Transferring the foreign exchange debt stock of the Ceylon Petroleum Corporation worth of USD 2.5 billion under public debt obligations.
- Introducing new regulations to regulate upstream and downstream petroleum industry.
- Increasing annual revenue by providing opportunities to new entrants to the petroleum market.
- Facilitating the establishment of an export-oriented petroleum refinery near Hambantota together with the Board of Investment of Sri Lanka.

1.6.1 Issuing License to competitive entities for import, sale and distribution of petroleum products based on long-term agreements

In the economic crisis faced by the country since 2022, the Ceylon Petroleum Corporation (CPC) and the Lanka Indian Oil Company (LIOC) had to face the difficulty of procuring the foreign exchange required for fuel import. As a result, a fuel crisis was created in the country as these two agencies failed to supply fuel to the market continuously.

As a solution to this, Expressions of Interests were invited on 25.07.2022 from interested foreign companies to provide the opportunity to import, distribute and sell petroleum products without

utilizing the local foreign exchange reserves. Accordingly, following three companies were selected and contracts were signed with the following two companies among three companies to import, distribute and sell petroleum products.

- M/s Sinopec Fuel Oil Lanka (Private) Limited
- M/s R.M. Parks. Inc.

M/S Sinopec Fuel Oil Lanka (Pvt.) Ltd started its commercial operations in the country in September 2023 and it is expected to distribute fuel throughout the island by 150 fuel stations. As on 24.09.2023, fuel import information of M/S Sinopec Fuel Oil Lanka (Pvt.) Ltd is indicated by Table 1.2 Accordingly, it shows that USD 52 million worth of fuel has been imported.

Table 1.2
Information of Fuel imported by M/S Sinopec Fuel Oil Lanka (Pvt.) Ltd as at 24.09.2024

S/No	Fuel Type	Import Quantity - MT	Import Cost (USD)
1	Super Diesel	2,295.11	3,034,000.15
2	Auto Diesel.	20,778.96	23,758,074.82
3	Petrol E 92 UNL	16,830.01	21,885,354.77
4	Petrol 95 UNL	2,657.90	3,912,901.49
Total		42,561.98	52,590,331.23

Source: M/S Sinopec Fuel Oil Lanka (Pvt.) Ltd

Ceypetco Fuel Station



Lanka IOC Fuel Station



SINOPEC Fuel Station



Signing agreements with Sinopec Fuel Oil Lanka Pvt. Ltd.



Signing agreements with R. M Park Company



1.6.2 Introduction of different payment terms to import petroleum products.

In the face of the economic crisis faced by the country, a shortage of fuel was created in the country in the year 2022 due to difficulty in obtaining the foreign exchange required for fuel import. As a solution to this, the following alternative payment methods were introduced for importing fuel to suit the limited amount of foreign exchange available in the country.

- Payment under Ex-storage Modality basis. By this method cargo will discharge to the CPC & CPSTL storage terminal and payment will be done piecemeal basis for the quantity draw from the storage. This arrangement ensures the continued fuel supply and relaxes the cash flow tightness of the CPC.

- A modality has been introduced to Jet A-1 imports without any import cost to the CPC. Suppliers were allowed to bring the cargoes on their own as per the CPC schedule & selling will be done by CPC. The payment will be made weekly basis as per the sales quantity provided by the Aviation function of CPC.
- As a recent attempt CPC introduced new payment mechanism i.e. ex-tanker/ floating storage & this will enable CPC to draw cargoes from the tanker within a specific period up to 2-3 unloading occasions. Payment will be done at the time of cargo is drawn from the tankers.

Following the above alternative payment methods, the fuel crisis in the country and the economy gradually recovered. Ceylon Petroleum Corporation has imported fuel worth 1.829 billion US dollars by 20 September 2023 following alternative methods and the detailed information is given in Table No.1.3

Table 1.3

**Details of fuel imports of Ceylon Petroleum Corporation by following different payment methods
From 01/01/2023 to 09/20/2023**

	PAYMENT TERM (USD)	PRODUCT	OUTTURN QTY. -MT	CARGO VALUE (USD) DAP
1	Ex-Storage	Super Diesel	16,509	14,030,852.73
		Auto Diesel.	450,573	377,410,071.73
		Petrol E 92 UNL	517,263	458,122,861.89
		Petrol 95 UNL	18,987	17,547,217.90
		JET A-1	36,028	37,512,827.76
		FUEL OIL 180 CST (1.8% M.S.)	31,417	21,211,634.05
		CRUDE OIL	913,839	606,128,670.21
		NAPHTHA	16,462	12,535,735.27
2	Supplier-Modality	JET A-1	73,221	64,035,596.59
		Auto Diesel 0.05% M.S.	38,400	30,687,264.54
3	Credit	Petrol 92 UNL	35,085	34,542,572.43
		FUEL OIL 180 CST (1.8% M.S.)	61,464	36,028,803.33
		CRUDE OIL	91,001	60,476,631.30
4	Ex-Tanker	CRUDE OIL	94,189	59,138,016.08
Total			2,394,437	1,829,408,755.81

Source: Ceylon Petroleum Corporation

1.6.3 Continue the Retail Fuel Price Adjustment Mechanism

The Ministry of Power and Energy has worked to introduce a transparent cost reflective fuel price mechanism since June 2022 and the maximum price for fuel will be published in the government Gazette. Fuel suppliers are bound to adhere to the maximum price limit so published. During the year 2023, the fuel price was revised in 09 times according to the fuel price formula and there is a decrease in the fuel price in the middle half of this year compared to the middle half of the previous year. The variation of fuel price before and after

the introduction of the fuel price mechanism is shown in figure 1.4 and after the introduction of the fuel price mechanism, the effect on the profit of Ceylon Petroleum Corporation from the sale of diesel and petrol is shown in table number 1.4.

With the introduction of the fuel pricing formula, the Ceylon Petroleum Corporation became profitable from the sale of fuel and, the benefit of the reduction in fuel prices of the international market was given to the consumer.

Figure 1.4
Revisions in sales Price of Petroleum Products
(June 2021 - 01st October 2023)

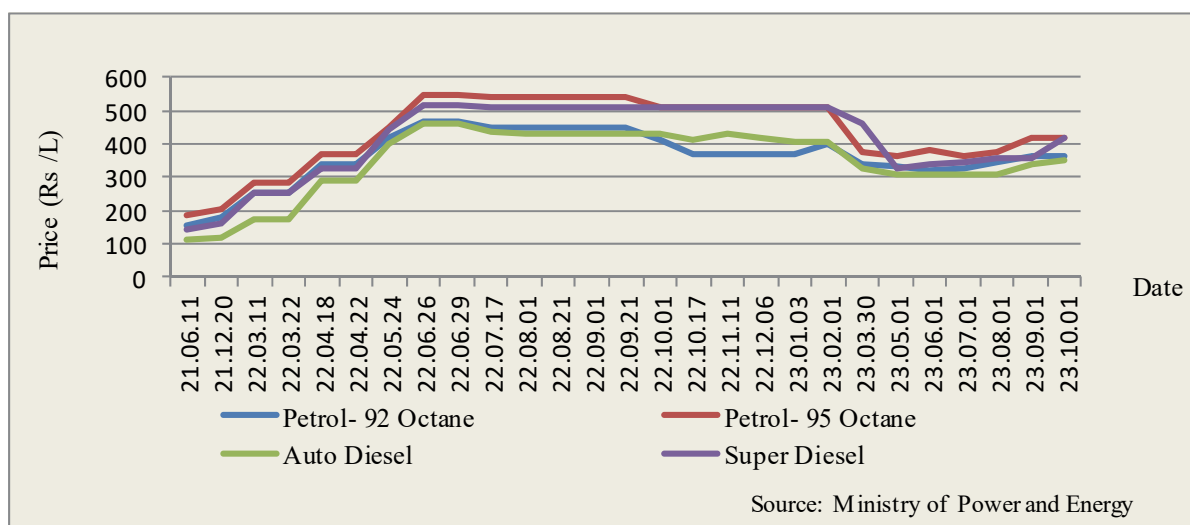


Table 1.4
Impact of Petrol and Diesel sales for the Profitability of CPC.

Month	CPC Operating profit (Rs. Mn.)	Contribution from Petrol and Diesel for Operating profit (Rs. Mn.)	Overall Net Profit of CPC (Rs. Mn.)
June 2022	7,425	430	(679)
July 2022	9,974	5,137	6,314
August 2022	9,569	7,721	1,776
September 2022	16,342	12,787	5,629
October 2022	10,910	8,859	1,963
November 2022	13,872	12,418	5,310
December 2022	4,749	6,561	3,932
January 2023	10,134	7,654	3,865
February 2023	12,508	10,851	9,434
March 2023	15,666	13,059	16,381
April 2023	10,363	7,198	13,749
May 2023	12,039	9,902	12,901
June 2023	10,351	8,826	13,191
July 2023	8,402	6,684	9,959
Aug 2023	8,030	4,729	9,166

Source: Ceylon Petroleum Corporation

1.6.4 Introducing the National Fuel Pass

The National Fuel Pass was introduced as one of the management strategy to control the fuel crisis started at the beginning of 2022. By providing a fuel guarantee for all vehicles through the National Fuel Pass, the fuel queues in the country ended. All fuel stations owned by the Ceylon Petroleum Corporation and the Lanka Indian Oil Company were well managed in accordance with the National Fuel Pass system.

However, due to factors such as the gradual stabilization of the country's macro economy and the entry of foreign competitive companies into the local fuel market, the local fuel demand was able to be adequately supplied. Accordingly, since there was no longer a need to issue fuel through fuel permits, the National Fuel Pass System was terminated from August 31, 2023.

Table 1.5
Progress of National Fuel Pass from 1st August 2022 to 1st August 2023

Total Registered vehicles – 6,526,872			
Supplier Type	No of Stations	Transactions	Consumed Liters
CPC	1,072	282,979,999	1,810,795,375.07
LIOC	210	47,466,635	330,264,686.20
Total	1,282	333,446,634	2,141,060,061.27
Fuel Type	Transactions	Consumed Liters	
Petrol	292,764,932	1,265,676,844.81	
Diesel	37,681,702	875,383,216.46	

Source: ICTA

1.6.5 Assisting for the financial stability of the Ceylon Petroleum Corporation

Due to the increase the debt amount of Ceylon Petroleum Corporation, the debt sustainability of the corporation has lost and the amount of dollar debt to be paid on 31.12.2022 is USD 3404.25 million.

Table 1.6
Details of Ceylon Petroleum Statutory Corporation Dollar debt due as at 31.12.2022

No	Description	Debt Amount (Mn of USD)	Total (Mn of USD)
USD loan amount to be paid to local commercial banks			
01	Peoples Bank	1,362.65	2,456.25
	Bank of Ceylon	1,093.60	
Other USD loan amount to be paid			
02	National Iran Oil Company	248.00	948.00
	To the general treasury under the Indian credit Line	700.00	
Total			3404.25

Source: Ceylon Petroleum Corporation

Based on the Cabinet decision No. 23/0154/604/014 and dated 30.01.2023, USD 2456.25 million amount of depth payable to local state commercial banks was transferred to the General Treasury. Further, the Cabinet of Ministers has given approval to the Secretary of the Treasury to use the excise tax levied on petroleum products to service the debt transferred to the Treasury. As a result of that, the net profit of the corporation increased due to the reduction of loan premiums and interest payment expenses.

1.6.6 Formulation of regulations governing the petroleum industry

Regulation of the petroleum industry is carried out by the Ministry of Power and Energy and agencies under the Ministry. The necessary regulations and orders are published by the Minister of Power and Energy from time to time. Accordingly, the following regulations and orders were announced by the Minister of Power and Energy in the year 2023.

(a) Regulations relating to the upstream petroleum industry

- Petroleum Resources (Joint Study Agreements) Regulations No. 01 of 2023

These orders were made by the Minister of Power and Energy under the powers of the Petroleum Resources Act No. 21 of 2021, providing for joint studies within the designated areas as determined and demarcated by the Sri Lanka Petroleum Development Authority. These orders will make it easier to attract investors for petroleum exploration activities.

- Petroleum Resources (Service Provider Licensing) Regulations No. 2 of 2023

These orders were made by the Minister of Power and Energy in accordance with the powers of the Petroleum Resources Act No. 21 of 2021 to streamline the provision of services for petroleum exploration activities. Accordingly, all service providers must be registered under the Petroleum Development Authority of Sri Lanka.

(b) Regulations relating to the downstream petroleum industry

- Petroleum Products Licensing Regulations No.1 of 2023

Under the powers of the Petroleum Products (Special Provisions) Act No. 33 of 2002, these orders were made by the Minister of Power and Energy promulgating the conditions applicable to grant a license to import, export, sell, supply or distribute of petroleum in Sri Lanka and the general conditions applicable to such licensee.

1.6.7 Revenue collection performance

The Ministry of Power and Energy regulates the petroleum industry and grants licenses to industrialists engaged in the petroleum industry. Accordingly, licenses are given for the import of lubricating oil, bitumen, bunkering oil, aviation fuel and the establishment of fuel stations. Revenue was raised by increasing the number of licenses issued annually and the revenue from license fees charged in the year 2023 is shown in Table No. 1.7

Table 1.7
Annual Revenue of Energy Section

No.	Main Sources	Category of Charges	from 2022.01.01 to 2022.12.31		from 2022.01.01 to 2022.12.31	
			Number of Registered Companies	Revenue Collected (Rs.)	Number of Registered Companies	Revenue Collected (Rs.)
1	Lubricant License Fee and Variable Fee	Lubricant License Fee	27	135,030,000.00	30	105,758,975.55
		Lubricant Variable Fee	-	-		190,290,357.57
2	Bitumen License Fee and Variable Fee	Bitumen License Fee	15	16,000,000.00	22	24,800,000.00
		Bitumen Variable Fee		4,927,500.00		7,478,000.00
3	Bunkering License Fee	Bunkering License Fee	16	31,258,782.00	12	20,903,782.00
4	Jet Oil License Fee	Jet oil License Fee	-	-	2	10,082,494.00
5	Shed Establishment License Fee	License fee for importation Storage Distribution and sale of Petroleum Product in Sri Lanka	-	-	2	612,522,200.00
Total Collection				187,216,282.00		971,835,809.12

Source: Ministry of Power and Energy

Rs 187,216,282.00 revenue has been earned in the year 2022, and Rs 971,835,809.12 revenue has been earned in 2023 by August 31, 2023. It is grown the revenue increase by 418% compared to the previous year. Thus, for the growth of revenue, the liberalization of the petroleum market affected the provision of opportunities for new suppliers to enter the market.

1.6.8 Establishment of a petroleum refinery and related product processing center in Hambantota

The Ministry of Power and Energy invited “expressions of interests” from qualified investors on 24.02.2023 to establish an export-oriented petroleum refinery in Hambantota. Accordingly, seven investors expressed their interest and after evaluating the submitted proposals, two institutes were qualified to submit detailed proposals. Those two institutions were informed on 27.06.2023 to submit their detailed proposals and only one institution submitted its detailed proposal. Currently, the Project Committee and the Cabinet appointed negotiating committee are evaluating the detailed proposal.

Key features of the project

- The capacity of the refinery - Minimum 100,000 barrels per day
- Expected Investment – USD 1.5 billion – USD 2 billion
- Expected Project Period – 2024 – 2027

Expected outcomes by the project

- Project is expected to be an export-catalytic high value investments for rapid and sustainable growth of the country
- Providing substantial medium and high-end (operators, technician, graduates, engineers, chemists etc.) direct employment for Sri Lankans while creating further indirect employment opportunities in support services

- Opportunity for a modern refinery producing with productions meeting the international standards
- Project is expected to be a catalytic investment to boost liquid cargo shipments to the Port of Hambantota which will indirectly bring added revenue in foreign currency for inward/outward movement of ships carrying crude oil and finished products
- Project is expected to enhance the energy security of the country by increasing the availability of the refined petroleum product within the country.

Proposed Hambantota Petroleum Refinery and Petroleum Products Processing Centre



1.6.9 Future Plans/Programmes for 2024

- Establishment of Export Oriented Petroleum Refinery and Associated Product Processing Center in Hambantota Area.
- Establish strong regulatory frameworks for Upstream Petroleum Industry to ensure the attraction of investors to the exploration industry.
- Providing the necessary facilities for the development of the oil tank farm at Trincomalee.
- Establishment of a robust regulatory framework for local petroleum industry.

1.7 Financial Progress of the Ministry of Power and Energy up to 30th September 2023

Table 1.8

Financial Progress of the Capital Budget 2023 Ministry of Power and Energy - Head 119

	Expenditure Item	Allocation (Rs Mn)	Expenditure		
			As at 30.09.20 23 (Rs Mn)	As a %	
Operational Activities					
Minister Office					
1	Rehabilitation & improvement of capital assets	Buildings	1.50	1.50	100
		Plant & Machinery	1.50	-	-
		Vehicles	8.40	3.51	42
2	Acquisition of capital assets	Furniture & office equipment	0.30	0.25	84
		Plant & Machinery	0.30	-	-
Administration & Establishment Services					
1	Rehabilitation & improvement of capital assets	Buildings	1.10	-	-
		Plant & Machinery	0.40	-	-
		Vehicles	1.00	-	-
2	Acquisition of capital assets	Furniture & office equipment	1.00	0.08	8
		Plant & Machinery	1.70	-	-
		Software improvement	0.30	-	-
Development Activities					
1	Garbage Processing & Treatment Project		1,913.20	1,600.00	84
2	Project Cost Accounting on Foreign Funded Projects of the CEB		36,000.00	7,565.10	21
3	Solar Rooftop Project for Government Buildings, Low-Income Houses & Religious Places		876.00	-	-
4	Research & Development		0.50	-	-
5	Petroleum Development Authority		75.00	3.50	5
6	Sri Lanka Sustainable Energy Authority		50.00	-	-
7	Sri Lanka Atomic Energy Board		50.00	12.59	25
8	Sri Lanka Atomic Energy Regulatory Council		7.00	4.00	57
	Total		38,989.20	9,190.53	24

Chapter Two Ceylon Electricity Board



Introduction

Ceylon Electricity Board (CEB) is a state-owned enterprise established by the Act No. 17 of 1969 dated November 1, 1969 and as amended by Act Nos. 31 of 1969, 29 of 1979, and 32 of 1988. Sri Lanka Electricity Act No. 20 of 2009 as amended by Act No. 31 of 2013 brought CEB under the regulatory purview of the Public Utilities Commission of Sri Lanka (PUCSL). CEB is empowered to generate, transmit and distribute electrical energy to all categories of consumers, to collect revenue as per a cost reflective end user tariff approved by the PUCSL and to perform its functions as provided under its Act and in accordance with the licenses issued by the PUCSL so to ensure that the total revenue of the Board is sufficient for all its activities.

Vision

Enrich Life through Power.

Mission

To develop and maintain an efficient, coordinated and economical system of electricity supply to the whole of Sri Lanka, while adhering to our core values; Quality, Service to the Nation, Efficiency and Effectiveness, Commitment, Safety, Professionalism and Sustainability.

Goals

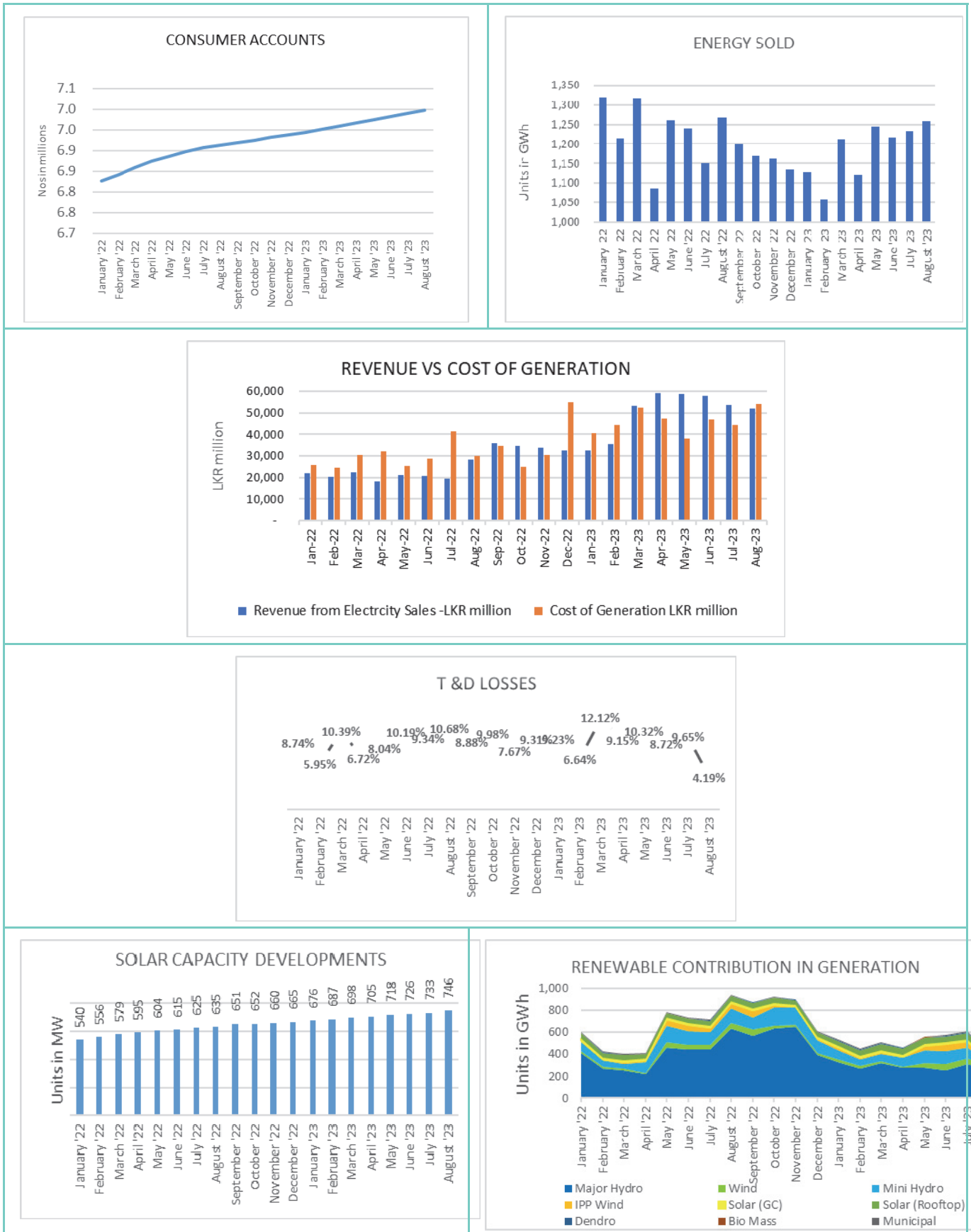
CEB recognizes eight goals for the Corporate Plan 2019-2023 by giving due consideration to the Sustainable Development Goals (SDG) issued by the United Nations. Following are the eight Goals formulated in order to realize the organization's long-term Vision and Mission.

- Making CEB Financially Stronger
- Enhancement of low-cost energy generation
- Electricity to entire country at an affordable price
- High quality electricity supply and services to customers
- Stronger relationship with external stakeholders
- Enhanced employee engagement
- Operational excellence with state of art technology
- Optimizing integration of green energy

a) Environmental Sustainability

We are committed to be an innovative enterprise in Sri Lanka, whilst safeguarding our environment for the future generations. Best environmental management practices are adopted throughout the CEB to ensure its complete compliance with relevant environmental legislation and regulatory standards while building the trust and confidence of the community in CEB's operations. We conduct our business through a participatory approach involving the community and other stakeholders in all stages of our development projects to ensure the optimum benefit to the community in the long run.

b) Performance Highlights – 2023 (up to August)

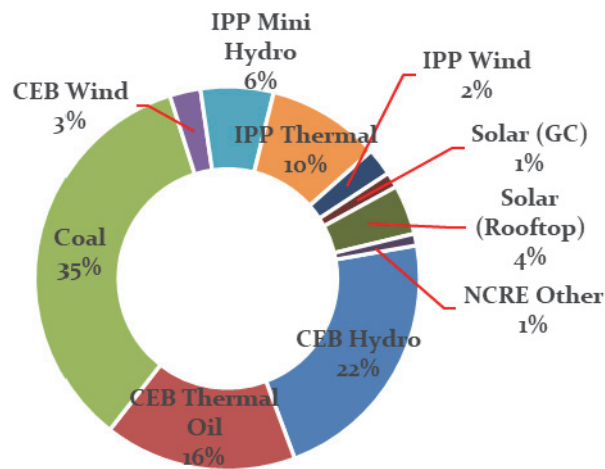


c) Overview of Electricity Supply

Electricity demand in the country during the last fifteen years has been growing at an average rate of about 4.2% per annum while peak demand has been growing at a rate of 2.7% per annum. The Net Generation in the year 2022 was recorded as 15,942 GWh. It was 4.6% decrease compared to 2021. Meanwhile the maximum demand was recorded as 2,708 MW in the year 2022 and recorded 3.3% decrease compared to the previous year. The Net Generation and the Maximum

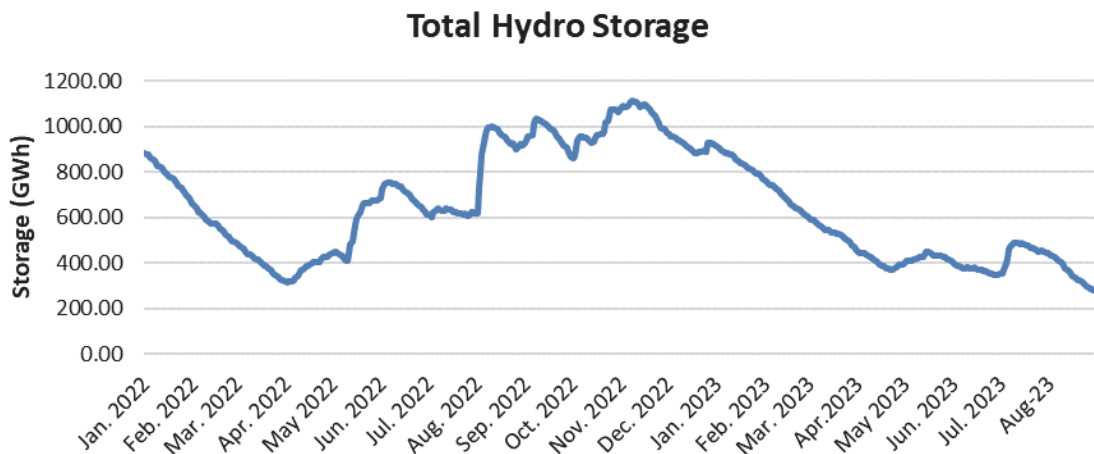
Demand recorded for the last eight months of the year 2023 was 10,341GWh and 2,415MW and this was 5% and 11% decrease with respect to the previous year.

CEB’s annual expenditure on generation significantly varies with the amounts of electricity generated from thermal power plants of both CEB and Independent Power Producers (IPP). The generation mix reported for the first eight months of the year 2023 is depicted below.



Securing of fuel supplies both coal and liquid fuels, has a direct impact on the operation of thermal power stations and also very important in managing the finances of the CEB. On the other hand, the performance of hydropower plants is intricately tied to the variability of rainfall. The

variability in water supply directly correlates with the CEB’s revenue, as hydropower's cost-effectiveness depends on maintaining optimal reservoir levels for stable, continuous electricity production. The variation of storage levels of hydro reservoirs from Jan 2022 up to August 2023 is depicted below:



CEB needs considerable investment to develop and maintain its transmission and distribution network, for the expansion of CEB’s present electrical network to cater to the increase in demand as well as to ensure reliable power supply.

Rural Electrification schemes have been introduced to improve the quality of life of rural people and the economic development of rural areas. GOSL needs to compensate the CEB, through investment or operational support whenever such projects become commercially non-viable.

As CEB nears the completion of its ambitious mission to electrify the entirety of Sri Lanka, the organization has pivoted its efforts towards enhancing service quality to cultivate consumer satisfaction. Furthermore, CEB is actively aligning with current government policies and global environmental trends by promoting green technologies where feasible, thereby contributing to sustainable energy solutions. In light of this consumers are now allowed to generate electricity at rooftops within their premises and to synchronize generators with the CEB system, while consuming and exporting energy, under four schemes namely Net Metering, Net Accounting, Net + and Net ++. Further, A new module was

added to “CEBAssist” module namely, Rooftop Solar PV Application Processing System, which allows the distribution staff to attend and process solar PV clearance requests, connection applications, internal workflows, field inspection tasks, etc. to ensure the efficiency of the solar PV integration process.

In addition, CEB is focusing on the improvement of quality of service. Therefore, the Star Rating Program for Consumer Service Centers (CSCs) has been continued to improve the quality of customer services. Accordingly, Distribution Divisions are entrusted to implement the star rating program and the final task is to obtain ISO 9001:2015 Quality Management System Certificate at the 7th Star level.

1.1. Electricity Demand

In the first eight months of 2023, electricity demand witnessed a 4% decline, attributed to tariff adjustments. The peak demand observed during this period stood at 2,414.8 MW, in contrast to the previous year's 2,708.1 MW. Over the course of these eight months, a total of 10,341 GWh of electricity was generated, with 9,469 GWh being successfully sold.

1.2. Electricity Demand Forecast for 2024

For year 2024 the electricity demand forecast based on CEB Long Term Generation Expansion Plan 2023-2042 is as follows:

Year	Demand		Generation		Peak
	(GWh)	Growth Rate (%)	(GWh)	Growth Rate (%)	(MW)
2024	17,705	5.8%	19,222	5.7%	3,149

1.3. Power Generation

The Generation Division of Ceylon Electricity Board is responsible for the operation and maintenance of Thermal and Hydropower Plants owned by CEB. Generation Assets consist of 18 Hydropower Plants (with Broadlands hydropower plant) totaling to an installed capacity of 1,413 MW, one (01) 900 MW Coal-Fired Power Plant, seven (07) Thermal Power Plants with an installed capacity of 811 MW, eight large Oil-Fired Power Plants (with KCCP 2 -157 MW oil power plant) with 761 MW and 50MW Oil-Fired Power Plants of 1 MW each and 104 MW Mannar Wind Power Plant.

CEB also operates few power plants in the isolated networks in surrounding islands of Jaffna Peninsula. Accordingly, the total installed Capacity of CEB-Owned Power Plants as at 31st August 2023 was 3,228 MW.

The generation details of CEB and Independent Power Producers (IPPs) as at 31st August 2023 is given below.

Description	Generation (GWh)
CEB Hydro	2,287
Thermal - Coal	3,574
Thermal - Oil	1,677
Wind	268
IPP NCRE (Small Hydro)	636
Thermal	990
Wind	240
Solar (Grid Connected)	135
Solar (Rooftop)	433
Dendro, Bio Mass & Municipal	101
TOTAL	10,341

As of August 31, 2023, the total energy generation reached 10,341 GWh, with major hydro generation accounting for 22% of the total, while coal power generation represented 35%. Thermal oil contributed 26% to the overall energy mix, with other renewable sources comprising 18%. In contrast, major hydro generation's share for the same period in 2022 was slightly higher at 29%.

2. Financial Status of the Organization

2.1 Financial Challenges Faced

The current macroeconomic conditions in the country, coupled with the non-implementation of a tariff that accurately reflects costs, have significantly impacted the CEB's financial performance negatively. Despite facing substantial challenges, the CEB managed to adjust its tariff rates on three occasions, effective from 2022-08-10, 2023-02-15, and most recently on 2023-07-01. However, even with the latest tariff adjustment as of 2023-07-01, the CEB anticipates a projected loss of LKR 32.5 billion for the fiscal year 2023.

The main financial challenges faced by CEB can be summarized as below,

- The reduction in end-user tariffs, effective from 2023-07-01, has resulted in a projected financial loss for the year 2023.
- Increased payment of fuel for the electricity generation due to the dry weather condition in this year.
- Constraint of banking facility of People's Bank by LKR 56 billion.
- The unavailability of short-term coal loan facilities from People's Bank.
- The country's credit rating downgrade has impacted the financing of power generation infrastructure projects.
- There is a risk associated with coal procurement due to foreign exchange shortages.
- Ongoing projects are experiencing delays in commissioning, attributed to inflation and the global crisis.
- The default vulnerability of People's Bank makes it challenging to pursue foreign purchases.
- A persistent liquidity crisis within CEB has led to defaults on commitments.
- Escalating coal prices and other commodity price increases add to financial pressures.

2.2 Proposed Financial Strategies

In order to cope up with the above challenges, it is proposed to implement following strategies without any further delay to arrest current financial turmoil described in the section 0.

- Implementation of stringent measures to recover outstanding from customers and monitoring of progress.
- Daily allocation of funds for each Division on the basis of approved Allowed Revenue given in the Decision Document of Electricity Tariff 2023. Subsequently, the allocation of funds for each Division shall be periodically reassessed based on the actual cash disbursements.
- Revisit the outstanding Letter of Credits (LCs) to be established at the bank and make arrangements to establish any urgent on priority basis.
- Enforce limitations on the utilization of the CAPEX budget, allowing exceptions only for critically urgent capital expenditure needs upon obtaining approval from the Addl. GM.
- Obtain the maximum credit period for all procurements (Goods and Services) and contract payment.
- Strict prioritization in pooling of cash and disbursements
- Restructuring of debt portfolio through extend of maturity.
- Conversion of major payables suppliers to structured term loans.
- Organize the payment commitments for coal by setting aside funds daily from collections.
- Procurement shall be restricted to essential goods and services directly related to ensuring the uninterrupted supply of electricity.
- Budget must be limited to Allowed Revenue based on zero budgeting instead of incremental budgeting.
- Exploration of additional sources of income through existing under-utilized resources.
- Review existing inventory levels and maintain optimum level of stocks (Coal, Fuel, Spares, Distribution materials, etc...). The stock holding period to be bring down to three months with the supervision of Addl. GM. Additionally, promptly make arrangements for the disposal of obsolete, stagnant, and other waste materials.
- Explore the possibility of meeting CEB's foreign exchange (FOREX) needs through various banks, reducing dependence on People's Bank.
- Expediting the execution of cost-effective renewable energy generation projects to alleviate the burden on CEB.
- The investment in proposed power infrastructure needs to be fast-tracked to ensure uninterrupted power supply to the nation. However, conventional financing sources may not be attractive due to CEB's debt burden. Therefore, unconventional sources of financing are expected to be pursued, such as Public- Private Partnerships, Green Bonds for Green Projects and Syndicate Financing.

3. Progress of the Development Projects & Activities

Developments projects/studies are being continued for both generation and transmission expansions and the progress/status of the projects as at 30th September 2023 is depicted below.

3.1. Hydro Power Development Projects

Name of project	Capacity	Physical Progress as at 2023-09-30	Expected date of completion
Uma Oya Hydro Power Project	120 MW	99%	November 2023
Moragolla Hydro Power Project	30.5 MW	59%	December 2024

3.2. LNG Development Projects

Name of project	Capacity	Physical Progress as at 2023-09-30	Expected date of completion
Deployment of Floating Storage and Regasification Unit (FSRU) and Mooring System	-	43%	October 2026
Procurement of Liquefied Natural Gas (LNG)	-	Not started yet	March 2026
Development of First 300MW LNG Combined Cycle Power plant facility at Kerawalapitiya	300 MW	57%	December 2024
Development of second 300MW LNG combined cycle power plant facility at Kerawalapitiya	300 MW		December 2025
Procurement of 10 Acre Land for LNG 2 Project		95%	March 2023

3.3. Generation Developments Studies

In 2023, significant advancements were made in conducting the Pre-Feasibility and Detailed Feasibility studies for a Pumped Storage Hydropower Project. Notably, Phase 1 of the pre-feasibility study for the Victoria-Wewathenna site commenced in June 2023 and is currently underway.

4. Development Programs for the Year 2024

4.1. Transmission Developments

There are additional transmission enhancements earmarked for the year 2024 to enhance system reliability. The table below provides details on the current status of these projects.

Project	Progress
Construction of Northern Collector-Vavuniya-Habarana 400kV transmission line	Board Approval obtained for preliminary works and Funds not yet committed.
Construction of Habarana- PSPP- Kirindiwela 400kV transmission line	Necessary approvals to be obtained.
Construction of Northern Collector-Pooneryn 220 kV transmission line	Preliminary works carryout by TCP. To be financed by the project developer.
Construction of Kappalthurei – Sampur 220kV Transmission Line	Preliminary works carryout by the Projects Division. Discussions are in final stage with AIIB for funding.
Construction of New Habarana - Kappalthurei 220kV Transmission Line	To be funded by AFD Loan Scheme 2021, but loan signing is yet to be done.

Project	Progress
Construction of Kerawalapitiya-Port 2 nd 220 kV Underground Cable	Price Bid to be opened. Discussions are in final stage with AIIB for funding.
Construction of Matara - Hambantota 132 kV, 85 km Transmission Line	ADB has committed for funding, but loan signing is yet to be done. NPD approval received.
Construction of Biyagama Zone 132/33 kV Grid Substation	
Construction of Mirigama 220/33 kV Grid Substation	
Construction of Kalawana 132/33 kV Grid Substation	
Construction of Tissamaharama 132/33 kV Grid Substation	
Construction of Baddegama 132/33 kV Grid Substation	
Construction of Homagama 132/33 kV Grid Substation	
Construction of Peliyagoda 132/33 kV Grid Substation	
Construction of Negombo 132/33 kV Grid Substation	
Construction of Kandy City 132/11 kV Grid Substation	
Construction of Yakkala 132/33 kV grid substation	
Construction of Wariyapola 132/33 kV Grid Substation & 220/132 kV Switching Station	
Construction of Ekala 132/33 kV Grid Substation	
Augmentation of Aniyakanda and Chunnakam 132/33kV GS	Board funds required.
Construction of Victoria - Rantambe 220 kV Transmission Line	Preliminary works in progress. Planned to secure CEB funds.
Construction of Samanalawewa – Embilipitiya 132 kV Transmission Line with Zebra	To be funded by AFD Loan Scheme 2021, but loan signing is yet to be done. Preliminary works ongoing.
Reconstruction of Badulla – Laxapana 132kV, 74.5km Transmission Line	
Reconstruction of New Laxapana - Balangoda 132kV Transmission Line with Zebra	
Vavuniya Grid Substation 220 kV Development	
Construction of Welimada 132/33 kV Grid Substation	
Construction of Keeriyankalliya 132/33 kV grid substation	

4.2. Generation Developments

There are supplementary generation improvements scheduled for 2024. These enhancements aim to

address rising demand, bolster energy security, and enhance system reliability. The table below offers insights into the present status of these projects.

Project	Progress
Implementation of 50 MW/ 50 MWh Battery Energy Storage System to be commissioned by end of 2024	Financing to be secured through ERD
Initiate work related to establishment of Renewable Energy Desk with Resource Forecasting System	Financing to be secured
Initiate procurement process of the 200 MW IC Engine power plant in Kerawalapitiya expected to be commissioned by 2026 as per LTGEP 2023-2042	PC and CANC to be appointed
Initiate procurement process of the 100 MW Gas Turbine power plant expected to be commissioned by 2027 as per LTGEP 2023-2042	Procurement methodology is to be decided
BESS projects to be commissioned in year 2025 and 2026 as per LTGEP 2023-2042	Site identification and securing finances to be done

4.3. Generation Development Studies

In 2024, Phase 2 of the Pre-Feasibility and Detailed Feasibility studies for a Pumped Storage

Hydropower Project, will be undertaken for the optimal site determined in the preceding phase.

4.4. Distribution Developments

Programs of the four distribution divisions for the year 2024 are given below:

Distribution Division 1

Programmes & Projects for 2024	Unit	Target for the Year 2024
MV Tower Lines*	km	11
MV Pole Lines (Lynx, Raccoon, Elm & UG)	km	105
Programmes & Projects for 2024	Unit	Target for the Year 2024
MV Pole Lines (ABC)	km	20
LV Lines (ABC)	km	74
MV re-conducting & conversion to be completed (Tower)	km	4
MV re-conducting & conversion to be completed (Pole)	km	65
LV conversion to be completed (fly to ABC)	km	310
Distribution Substations to be constructed (Distribution/Ring/Radial/Re-Distribution)	Nos.	215
Primary Substation to be constructed	Nos.	2
Primary Substation to be augmented	Nos.	4
Gantries to be constructed*	Nos.	5
Gantries to be augmented / modified	Nos.	2
Auto Reclosers to be installed (excluding for new gantries)	Nos.	22
Load Break Switches to be installed	Nos.	45

Note: * As the SESRIP is no longer under the purview of DD1, the scope of the same was removed from the 2024 targets.

Distribution Division 2

Programmes & Projects for 2024	Unit	Target for the Year 2024
MV Tower Lines	km	66
MV Pole Lines	km	88
MV UG cables	km	1
MV Tower Lines Conversion	km	10
MV Pole Lines Reconductoring and Conversion	km	154
New Gantries	Nos.	19
Gantry Modifications	Nos.	11
New Primary Substations	Nos.	1
Primary Substation Augmentations	Nos.	2
Ring Substation Modifications	Nos.	2

Distribution Division 3

Programmes & Projects for 2024	Unit	Target for the Year 2024
MV Tower Lines	km	100
MV Pole Lines (Lynx, Raccoon, Elm & UG)	km	229
MV Pole Lines (ABC)	km	13
LV Lines (ABC)	km	141
MV reconductoring & conversion to be completed (Tower)	km	0
MV reconductoring & conversion to be completed (Pole)	km	105
LV conversion to be completed (fly to ABC) *	km	1820
Distribution Substations to be constructed (Distribution / Ring / Radial / Re-Distribution)	Nos.	110
Primary Substation to be constructed*note 2	Nos.	1
Primary Substation to be augmented	Nos.	0
Gantries to be constructed	Nos.	11
Gantries to be augmented / modified	Nos.	1
Auto Recloser to be installed (excluding for new gantries)	Nos.	33
Load Break Switches to be installed	Nos.	97

*Note: * As per the DCC minute no: DCC-C-4583, conversion of AAC lines in to 3ph ABC were restricted to special occasions with approval of respective AGM on the recommendation of provincial DGM. Therefore, amount mentioned item amount will not be fully utilized.*

Distribution Division 4

Programmes & Projects for 2024	Unit	Target for the Year 2024
MV Tower Lines - 33kV Lynx DC **	km	81
MV Pole Lines (Lynx, Raccoon, Elm & UG)	km	64
ABC lines (33 kV/11 kV)	km	6
Conversions (11 kV to 33 kV to 11 kV Weasel to Raccoon / Raccoon to Lynx)	km	81
Gantries (Pole/ 2 SSBB/ 2SDBB) **	No	6
Primary Substations (PSSs)**	No	4
Augmentation and/or shifting of PSSs	No	2
Installation of Load Break Switches (Excluding anticipated Bulk Supplies)	No	75
Installation of Auto Reclosers (Excluding for new Gantries and anticipated Bulk Supplies)	No	10

Note: ** 50km of 33 kV Lynx DC lines and 03 nos. of 2SSBB are to be constructed under SESRIP and 02 nos. of PSS are to be constructed under MVNEIP

Chapter Three

Lanka Electricity Company (Private) Limited



1. Introduction

Lanka Electricity Company (Private) Limited (LECO) is a limited liability company incorporated in 1983 under the Companies Act no. 17 of 1982 and the Companies Act No 07 of 2007. Its primary objective is to distribute electricity within its franchised area, covering the prime economic zone along the western coastal belt of Sri Lanka from Negombo to Galle. LECO serves approximately 600,000 consumers. Subsequently by the Electricity Act No 20 of 2009, LECO was brought into the regulatory domain of the Public Utilities Commission with the issue of a distribution license to the company.

2. Challenges faced & Strategies implemented

- **Collection of outstanding debt accumulated from the Covid Pandemic period.**

The main challenge was the collecting of outstanding debts by the customers which were accumulated from year 2020. The company executed strict debt collecting exercise by making use of new techniques to achieve debt to pre-COVID level. Introducing debt collecting call function, engagement of extra teams for debt recovery, introduction of remote disconnection (Customers with Smart Meters) immensely contributed for this achievement.

- **Material scarcity due to import restrictions.**

Due to restriction of imports of goods from 2021 and due to the ongoing foreign exchange crisis, the company's suppliers have been severely affected and many supplies have been disrupted. Due to the abnormal price fluctuations, some suppliers have

stopped supplying goods and services and it has become a challenge to deal with it within the existing procurement framework. To overcome this, certain flexibilities granted to the suppliers and introduced price varying formulas for certain items to cushion the impacts due to abnormal raw material fluctuations.

- **Escalation of local costs such as cost for printing.**

The company found that cost of the printing materials have increased nearly 6 times and its supply chain is exposed to certain risks. LECO decided to cease printed bills to the customers by introducing SMS billing which is continuing successfully. This action further contributes to save considerable foreign currencies and environment sustainability.

- **High Reliability Expectations by customers**

Customer expectations on reliability electricity supply have been extremely high with the popularization of online working and learning platforms. To cater this demand, LECO introduced short period planned maintenance works where 2-4 hours' power interruptions are taken for network maintenance instead 8-hour power cuts.

- **Escalation of the cost of electricity**

Cost of electricity has become very expensive and poor streetlamp controlling (burning streetlamps during day time) by the Local Authorities result in public objection to electricity utilities. To overcome this, streetlamp control panels are being installed in every LECO substation which facilitates proper switch operations and energy usage monitoring.

3. Progress of the Development Projects & Activities in 2023

The Company's achievement exhibits our performance and the commitment made towards the high quality of service to the stakeholders.

3.1 Operations

- Expansion and rehabilitation work in the distribution network based on the electricity demand of the customers and the requirement of enhanced supply reliability.
- Enhancement of the electricity supply efficiency to the continuous reduction of distribution losses to maintain its figure less than 4%
- Continues development in the reduction of electricity breakdowns and respective restoration time reduced to 13.75 hours up to July 2023.
- Reduction of the processing time for customer requested services including new connections.
- 1,400 nos. of streetlamp control panels installed in LECO sub stations covering nearly 50% of the system for monitoring and controlling purposes.

3.2 Developments

- LECO achieved conversion of smart meter customer to 10% of its customer base by installing 60,000 smart meters. Further automatic electric switches are being installed in the distribution system to enhance the supply reliability. This includes 120 numbers of remote Load Break Switches and 67 numbers Auto Reclosers.
- E-Billing customer base is rapidly increasing and so far about 18,500 numbers of customers are registered.
- As part of LECO Paperless Office concept, company ceased its paper billing and introduced SMS billing. During July 2023, 1/3rd of LECO customer base (nearly

200,000 nos) have been converted to SMS Billing. LECO started 100% SMS billing from 1st September 2023.

- All internal processes of the Branch and Customer Service Centers have been revisited through business process re-engineering to enhance the productivity. Modified workflows have been implemented in all Branch and CSCs.
- In-house developed Advanced Distribution Management system is introduced to automate the networks controls.
- LECO Self Payment Kiosk network has been extended to 15 locations achieving 50% coverage.

4. Programs & Projects for 2024

• Performance Management

A Performance Management System will be implemented and further developed to enhance the level of efficiency in the LECO.

• Process Costing

Process costing will be implemented throughout the company to ensure cost transparency down to the level of individual process. All ongoing cost centers will be costed based on process instances.

• SMART Grid Development Program

The SMART grid devices will be populated within the company to enhance the grid and service level visibility. The GIS platform will further be reinforced with location sensors installed in all vehicles and operational gangs. The Climate sensors will be installed in strategic locations to read the climatic conditions in planning for enhanced weather conditions. Under this, it is planned to achieve 100,000 smart meter installation target with Rs.500 Mn. investment and 90 nos. smart switches with Rs.350 Mn. investment, and smart 150 wind and rain sensors at a cost of 35Mn.

- **Enhanced Research and Development Program**

Research and development works will be enhanced in developing software and engineering solutions in enhancing the efficiency and customer services. A research and development platform will be deployed so that the company can commission the services of the external researchers and developers in sourcing software and engineering solution development skills.

- **Reliability Enhancement Project under ADB financing**

Projects to strengthen the reliability of the power system will be continued. Among them, the project planned to be carried out under a loan cost of USD 50 million which expected to be financed by the Asian Development Bank is special and it is planned to complete within four years. It is anticipated to introduce 33kV as a distribution voltage of LECO and introduce direct 132/33 kV Grid Substations to source the LECO network to improve the reliability.

- **Infrastructure development**

The construction project works of the LECO Head Office is ongoing and it is planned to be completed in the year 2024.

- **Renewable energy absorption reinforcement through micro-grid and integrated planning**

LECO believes that renewable energy backed microgrid, is the future electricity distribution modality. With the technical assistance of ADB and the experience gathered in establishing University of Moratuwa Microgrid, it is planned to implement a one transformer wise microgrid in 2024 and replicate it in coming years. This modality is a solution to over voltages in distribution network which is a constraint that impedes renewable energy admission thus facilitates the policy of achieving 70% renewable energy target while improving the reliability.

- **Energy Policy based projects.**

- In line with the National Energy Policy deliverables, it is planned to introduce 03 fast charging centers in LECO area for electric vehicles.
- Efforts taken to introduce paperless office concept will be further strengthen in 2024 by automating office functions.
- To achieve complete control of efficient streetlamp management another 1,300 nos streetlamp control panels will be installed in 2024.
- It is also planned to implement a Demand Response pilot project with the technical assistance of USAID and University of Moratuwa.

Chapter Four

Sri Lanka Sustainable Energy Authority



1. Introduction

The Sri Lanka Sustainable Energy Authority (SLSEA), established under Act No. 35 of 2007, is the driving force behind Sri Lanka's sustainable energy transformation. With a mission to harness the nation's abundant energy resources - solar, wind, water, and bioenergy - SLSEA strives to revolutionize the energy landscape, promoting environmental responsibility and energy independence. Since its inception, SLSEA has been unwavering in its commitment to sustainable energy development, paving the way for a brighter, cleaner, and more sustainable future for Sri Lanka.

Our Vision

“A Sustainable and Energy Secure Sri Lanka”

Our Mission

“To establish sustainable energy value chains by providing leadership to renewable energy, energy management and journey towards energy sustainability; through facilitation, regulation and knowledge management, paving the way for energy transition of the country, lowering the impact on the national economy and reducing the burden on the planet.”

Objectives

- Identify, assess, and harness renewables for energy security and socio-economic gains.
- Promote and manage energy efficiency across all sectors.
- Enhance energy delivery security, reliability, and cost-effectiveness.
- Ensure adequate funding for sustainable energy objectives and national energy security.

2. Key Challenges Faced and Strategies to Overcome them

Table 01 SLSEA key challenges to implementation of programmes

Area	Challenges	Strategies to Overcome
Establishment of Regulations	Regulatory development is crucial and cost-effective. It should take priority over resource-intensive renewable energy projects. Building codes and benchmark regulations are efficient ways to reduce energy consumption, but they often face delays due to lack of attention from stakeholders.	Intervention at the ministry level is required to raise awareness and proactively request the attention of other stakeholders for the gazetting of regulations, such as benchmark regulation.
	Methodology to implement projects, especially for foreign-funded projects like creating an air conditioner test lab in Sri Lanka. Challenges include lengthy procedures like signing Memorandum of Understanding (MOU). Also, the lack of yearly funds can delay new projects and equipment acquisition for appliance labeling.	Revising government policies to enhance flexibility and ensuring adequate budgetary allocation within a calendar year

Area	Challenges	Strategies to Overcome
	<p>A critical problem in policy decisions is data scarcity. To address this, categorize imported electrical appliances under ISIC classification. This categorization will help measure energy savings from an appliance labeling system.</p> <p>Compliance with ISIC classification is crucial for efficient data gathering, saving time and resources by avoiding duplicate efforts across organizations and streamlining production at the factory level.</p>	<p>Implement a policy to classify important appliances under ISIC. Ministry-level intervention should coordinate with stakeholders.</p> <p>Institutions collaborate on a practical questionnaire with the Department of Census to collect industrial, domestic, and commercial data, covering energy, financial, and social aspects.</p>
<p>Renewable energy development</p>	<p>Land acquisition delays and consequently increase project costs.</p> <p>Renewable energy project approvals from various stakeholders are often slow.</p> <p>Delay in national RE projects</p> <p>Inconsistent policies discourage investors when developing RE projects.</p> <p>Integrating RE sources into the existing power grid can be complex, especially for solar/wind.</p> <p>Lack of awareness and understanding among general public about renewable energy and energy conservation can impede the progress</p>	<p>Review land acquisition for renewables.</p> <p>Establish a high-level project approval committee.</p> <p>Appoint a presidential task force for oversight issues and barriers.</p> <p>Identify and amend legal gaps and review guidelines.</p> <p>Upgrade grid for renewables.</p> <p>Promote public awareness on renewable energy and energy conservation.</p>
<p>Financial Intervention</p>	<p>Limited funding and economic crisis pose a major challenge to achieving the 70% renewable energy target and energy management initiatives nationally.</p>	<p>CESS and royalty taxes fund SLSEA independently.</p> <p>Policy needed for incentives and loans for renewables.</p> <p>Seek financial assistance from partners for NDCs and SDGs.</p>
<p>Resources</p>	<p>The major issues in implementing renewable energy and energy management programs include a lack of human resources and other necessary facilities</p>	<p>Initiating collaborative efforts with provincial energy ministries to implement SEA programs</p> <p>We need to expand the renewable energy sector by diversifying into different resource types, including solar, wind, rooftop solar, and more and improve the carder positions</p>

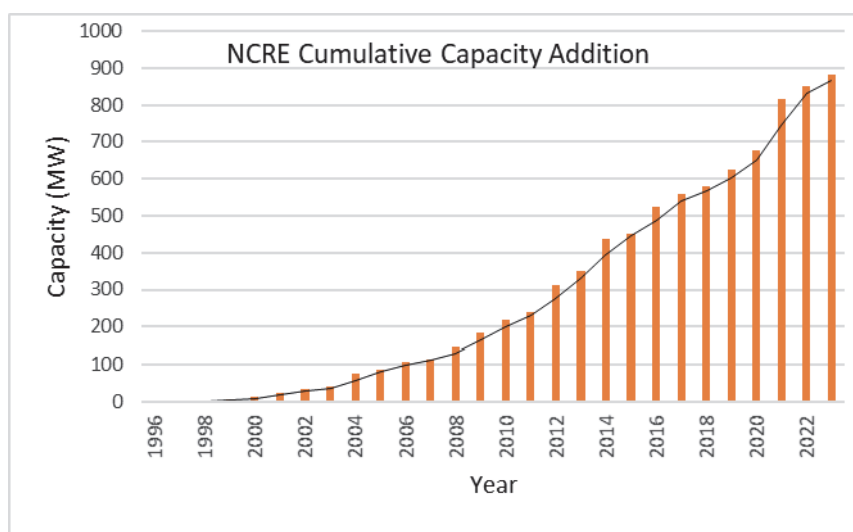
3. Key achievements in 2023

a). RE Development

In 2023, SLSEA continued its commitment to renewable energy development, facilitating the installation of a cumulative capacity of 1,619.4

MW of new renewable energy, representing a significant 33.3% share in the country's installed capacity. This would definitely a higher accomplishment than the last year recorded value of renewable energy generation share to 18.6% in electricity. The growth of renewable energy sector is shown in figure 01.

Figure 01: NCRE cumulative capacity addition



In 2023, 30.4 MW commissioned in renewable projects, 46.75 MW in SPPA agreements signed, issuance of a 3 MW energy permit, and provisional approval for 17.3 MW in projects as given in detail in table 01.

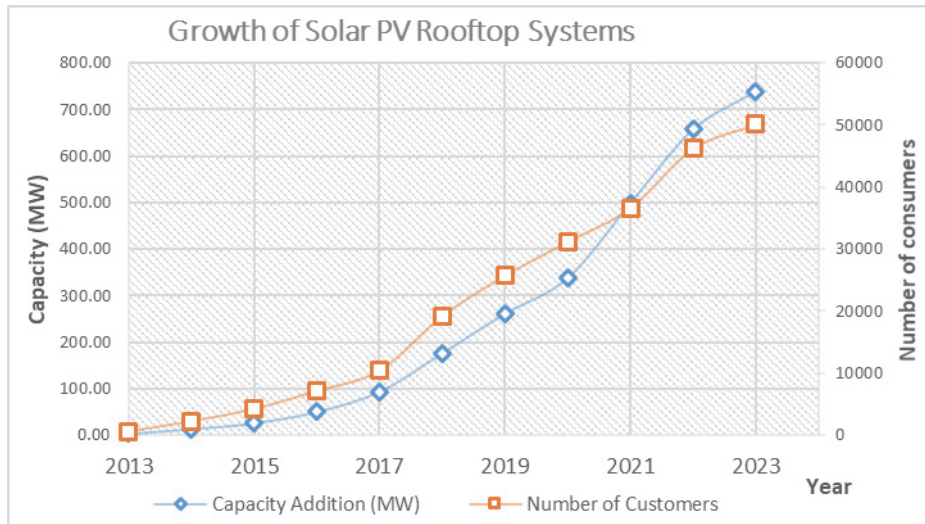
Table 02: Details of pipe line projects by end of August

Renewable Energy Source	PA Issued Projects		Energy Permit Issued Projects		PPA Signed Projects		Commissioned Projects	
	Nos.	MW	Nos.	MW	Nos.	MW	Nos.	MW
Mini Hydro	5	17.3	-	-	7	10.75	2	5.4
Wind	-	-	-	-	1	10	1	10
Solar	-	-	1	3	1	10	5	15
Biomass (Dendro)	-	-	-	-	1	10	-	-
Agricultural & Industrial Waste	-	-	-	-	2	6	-	-
Municipal Solid Waste	-	-	-	-	-	-	-	-
Total RE (MW)		17.3		3		46.75		30.4

3.1 The Soorya Bala Sangramaya programme is the most prominent rapid moving programme in SLSEA and its growth is shown in figure 02. By 2018, it had achieved a significant milestone passing the 100 MW, acquiring a national capacity for spreading up the small-

scale solar PV systems in a speedy process. Under the 3 schemes of integration of solar power to the national grid, namely net-metering, net accounting and net plus, it has been able to establish more than 747 MW of solar rooftop systems in different sectors.

Figure 02: The growth of Rooftop Solar systems



In 2023, SLSEA played a pivotal role in implementing 82 MW of projects for 3943 customers by July's end. SLSEA is progressing 80 MW of rooftop solar PV installations for government buildings, 50 MW of rooftop solar PV systems with battery storage for low-income households, and 50 MW of Rooftop solar PV Systems for religious sites under the Indian Credit line program. 86% of locations (4098) have been surveyed by the teams of consultants for the above project and prepared a detailed report by revising the project scope. To bolster technical expertise, 600 technical officers underwent a one-day training program, and 90 received certification at NVQ level 3 National in collaboration with the National Apprentice and Industrial Training Authority (NAITA) and PUCSL.

3.2 Floating Solar Projects in Kiriibban Wewa and Chandrika Wewa

The Ministry of Trade, Industry & Energy in Korea has agreed to provide grant funding of approximately KRW 14.3 billion and KRW 6.83 billion for the implementation of the above projects. The projects will involve the installation of 1 MW floating solar PV systems on Kiriibban Wewa and Chandrika Wewa, respectively.

3.3 Construction of Hybrid Renewable Energy System in Small Islands in Jaffna

The project aims to generate electricity on the islands of Analaitivu, Delft, and Nainativu in Jaffna, with hybrid power plants based on photovoltaic, wind power, diesel generator, and Lithium-ion storage batteries. The capacities of PV, wind and diesel sources with battery storage corresponding to the optimal generation mix are as follows.

Island	Diesel Generators	PV generation	Wind generation	Battery storage
Nainativu	300 kW+500 kW	700 kW	200 kW	1000 kWh (550 kW)
Analativu	150 kW +300 kW	300 kW	80 kW	550 kWh (275 kW)
Delft	300 kW +500 kW	700 kW	250 kW	800 kWh (650 kW)

The project is expected to be completed in three years. In 2023, the rebidding procedure started. The bids were opened on 31st July 2023 and closed on 14 September 2023.

3.4 Large-scale national renewable energy projects are being undertaken by SLSEA with a total capacity of 596 MW which generates total

electrical energy of 2821 GWh representing about 17% of annual energy requirement in the country. Table 03 and 04 highlights their significant contribution to the organization’s renewable energy goals and in national level and their present progress.

Table 03: Details of National Projects

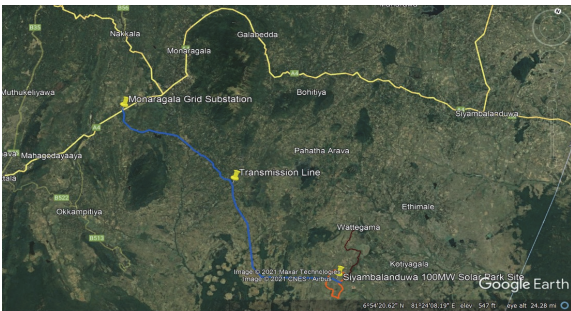
Description	Unit	Pooneryn	Mannar	Siyambalanduwa	Veravil
Benefits	Type	Wind	Wind	Solar	Wind
	Capacity MW	234	286	100	210
	annual energy generation GWh	807	1048	180	786
	annual CO ₂ emission saving ton	588,948	764,830	131,364	573,622
	fuel saving annually Liters Million	201.7	262	45	196.5
Initiated year		2018	2020	2018	2023
Expected commissioned Year		2026	2026	2025	2027

Progress	Pooneryn	Mannar	Siyambalanduwa	Veravil
<p>Previous Progress</p>	<p>Site selection and feasibility completed in 2020 and Environmental approval for Phase i (100MW) was received in 2022 and in 2022 initiated the phase 2 EIA approval, completed advance tracing of the process of land acquisition</p>	<p>Site selection and feasibility completed in 2021. Completed the procurement process of all studies including EIA and Bird and completed the half way of the EIA process in 2022. Requested all approvals from the relevant authority.</p>	<p>Site selection and feasibility study Completed in 2020. Environmental approval including other approvals completed in 2022.</p> <p>A weather station has been established, and one-year bankable data for project development was obtained in 2022.</p>	<p>Not relevant</p>
<p>2023 progress</p>	<p>EIA process for Phase 2 has been completed, and the approval is awaited. Applications for land acquisition have been forwarded to the land ministry. Process for obtaining state lands in progress.</p>	<p>All approvals except the wildlife department concern regarding the bird study were received and at the tail end of completing the EIA approval process.</p> <p>Applications for land acquisition have been forwarded to the land ministry.</p>	<p>Draft Cabinet paper for obtaining the land has been forwarded to the Ministry.</p> <p>Infrastructure development activities, such as the construction of access roads and a tree planting program in collaboration with the Department of Forest Conservation, are currently underway. The project was awarded to a developer selected through tendering by the Ceylon Electricity Board (CEB).</p>	<p>Site selection and feasibility study were completed in 2023. Environmental approval including other approvals are expected.</p> <p>The bird study is being carried out with the assistance of the USAID Sri Lanka Energy program. Environmental Impact Assessment (EIA) is going to be started with the USAID Sri Lanka Energy program and the process for selecting a consultancy firm has been initiated.</p>

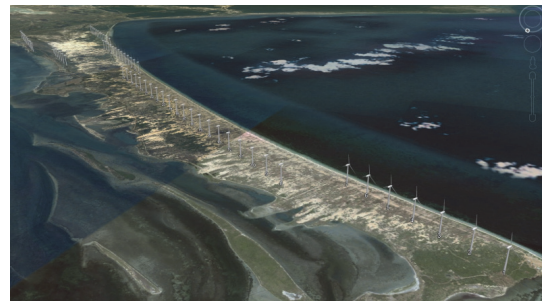
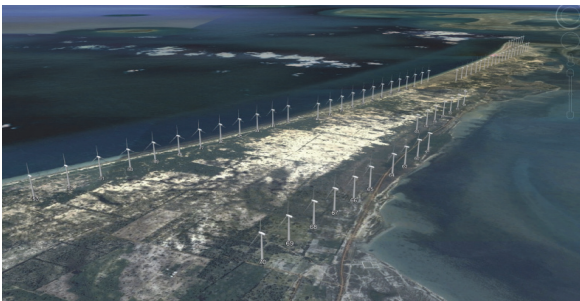
3.5 In 2023, SLSEA's Resource Mapping Division played a crucial role in renewable energy development. They updated the renewable energy development plan, initiated national park projects for 500 MW, and identified land ownership for another 500 MW of projects. This division is vital for precise resource assessments needed for technically and environmentally sound solar and

wind power plants. Projects of 100 MW capacity were prioritized for grid integration. The future direction for grid integration from 2027 to 2030 has been finalized. SLSEA also revised turbine locations for the Veravil wind park and submitted large-scale renewable sites for inclusion in the Long-Term Generation Expansion Plan (2023-2044) to the Ceylon Electricity Board (CEB).

Siyambalanduwa Solar Power Project



Pooneryn Project



Mannar Wind Power Project



Figure 03: Location of Major Projects

b). Efficiency Improvement

Following activities are being undertaken in the efficiency improvement and energy management activities of SLSEA and progress of their works are outlined below;

- A mandatory energy conservation program targeting financial and retail sectors was launched.
- Accreditation of Energy Managers, Auditors, and Service providers to promote energy efficiency in industrial and commercial sectors.
- The Appliance Energy Labeling program aimed to promote energy-efficient products, with progress on standards for refrigerators, electric motors, pedestal/table/wall fans, and water pumps. Initiatives for electric motors' energy efficiency were undertaken, along with the launch of a voluntary LED panel lights labeling program.
- SLSEA conducted surveys and research to identify policy gaps and barriers in energy efficiency and renewable energy programs.
- The Efficient Refrigerator Replacement Program was launched.
- A study on suitable technologies for street lighting replacement was initiated.
- Various awareness programs, including 'Sanasa Samaga Gamata,' energy-related questions in driving license tests, and school initiatives, were carried out.
- The 'Sanraksha' program involved energy journalist training, awareness campaigns, and media engagements.

These efforts in 2023 demonstrate SLSEA's commitment to promoting energy efficiency and sustainability across multiple sectors.

4. Programs for 2024

In 2024, SLSEA is set to carry out several key activities. These include resource identification for 500 MW of new sites and resource assessment for identified land ownership sites. Additionally, ongoing projects like Pooneryn, Siyambalanduwa, Mannar, and Veravil will continue, with the goal of completing Pooneryn and Mannar projects in 2024. SLSEA will issue licenses to project developers and facilitate land acquisition for renewable energy projects. A target of 170 MW rooftop solar system installations is set for 2024.

Furthermore, SLSEA plans to publish standards for rice cookers, pedestals, table and wall fans, revise LED lamp standards, and digitalize the appliance labeling platform with a web portal and QR codes. The SLSEA will initiate the development of draft standards for electric water boiling devices, electric cookers, and washing machines, along with conducting awareness programs for domestic appliances.

Additionally, SLSEA will launch a mandatory program for benchmark regulation in the tea sector and initiate a restructuring program for the energy auditor scheme.

Chapter Five

LTL Holdings (Pvt) Ltd



1. Introduction

LTL Holdings Limited, formerly known as the “Lanka Transformers Limited” is a public private partnership between the Ceylon Electricity Board and two other entities, the ownership of which rests with the employees of LTL Group, based on a shareholding structure of 63% to the former and 37% to the latter. The registered office of the Company is at 77 Park Street, Colombo 02. The Company had achieved robust, healthy and steady growth during its corporate journey over the past four decades and thus become a leading Power Sector Engineering Organization in Sri Lanka.

The Company having commenced its business activities in early 1980 with the manufacturing of Power Distribution Transformers, had diversified its business into Power Generation, Electricity Infrastructure Development, and Hot Dip Galvanizing etc., thereby covering the entire value chain of the power sector Engineering works in Sri Lanka. The Company had also been successful in investing in Power Plants and completing Engineering, Procurement and Construction (EPC) contracts and Civil Engineering infrastructure activities in Sri Lanka and Overseas, such as Bangladesh, Tanzania, Uganda, Kenya, Ethiopia, Ghana, Oman, India, Nepal, Jordan, Myanmar, Maldives Islands and Australia.

LTL Holdings is the largest independent power producers in Sri Lanka, providing over 300MW of power to the national grid through its subsidiaries.

In addition, Ministry of Power & the CEB awarded a Contract for the Construction of 350MW LNG operable combined cycle Power Plant to Lakdhanavi Limited, a fully owned

subsidiary & Power Plants Operations wing of the company in year 2021. Sobadhanavi Limited, the Special Purpose Vehicle (SPV) Company established for the Project has already signed all project related agreements, such as PPA with CEB, FSA with CPC, IA with government of Sri Lanka and BOI IA agreement with BOI in 2021/2022. The progress of the construction works of the Project is completed around 60%, and the First Phase of the Power Plant will be commissioned in January 2024 whilst the Second Phase will be ready operation in January 2025.

The Company is also in negotiation with Ministry of Power & Energy & CEB with regard the issuance of Letter of Intent (LOI) pertaining to Second 300MW LNG Combined Cycle Power Plant at Kerawalapitiya on BOOT basis, in order to execute the project agreements so as to enable the Company to proceed with the environmental, engineering, financial and other preliminary project development activities.

Backed by the professionally qualified and well knitted team of young engineers coupled with vast experience gained through innovative modern technology over last four decades in the field of Power Sector engineering works with international exposure, under the guidance of the Senior Management Team, the Company has now grown significantly and penetrated successfully into international markets, successfully over the last 20 years.

The Company has been bestowed upon with various awards for engineering excellence over the years for its extra ordinary performance including the prestigious Gold Award for best independent power producer (IPP) in the Asian Region, with others including:

- Winning Engineering Excellence Award in 2015 from the Institution of Engineers, Sri Lanka.
- Winning the Asian Power Awards 2016 for the excellent performance held in South Korea.



2. Challenges faced and strategies adopted to address such challenges:

Construction of 350MW Sobadhanavi RLNG Power Plant

(a) The Ministry of Power & energy and the CEB are aware that due to the national significance of the early completion of the Project and to avoid any resultant power shortages in the Country, despite the continued Force Majeure situation, the Company in good faith continued with the construction work, utilizing available financial resources of its own. The Company made a request for an equitable adjustment of Tariff along with our SLFM declaration and has shared all information requested to justify our claim to the CEB.

Further, several meetings have been conducted with CANC and PC/CEB in order to reach suitable amendments to the PPA. We also have had several meetings to discuss the matter in length, resting with meetings held on 2nd/3rd September 2023. We are confident that a positive resolution in the latter part September 2023. However, we are yet to have an indication of a firm timeline for conclusion of such negotiations or execution of a resultant amendment to the PPA.

(b) The original project loan negotiated with Asian Development Bank (ADB) and other overseas financial institutions remains suspended, pending improvement of Sri Lanka's macro-economic situation and its credit rating. However, we have been successful in the negotiations with a consortium of 9 local banks to obtain a Project Loan of LKR.45.3 Bn, subject to the proposed tariff adjustment to make such a loan serviceable from the revenue of the power plant.

Managing the impact of volatile and spiraling construction costs on EPC of the project, such as for Power Generating Units, Electrical & Mechanical Balance of plants/equipment, Civil construction, erection, installation, heavy equipment transport, engineering and supervision services, testing & commissioning, have reached to dizzy height. The unprecedented increases in freight charges, transportation of machinery/equipment, heavy bank charges on confirmed LCs and VAT local project expenses too have skyrocketed to a considerable extent. Therefore, the amendment to the PPA at this crucial juncture is of paramount importance to meet the project costs to ensure the completion of the same within the scheduled timeline.

3. Progress of the Development of Projects and activities of the Institution during the period (January 2023 to August 2023)

3.1 - 300MW Combined Cycle Yugadhanavi Power Plant at Kerawalapitiya



Installation	Yugadhanavi Power Plant, Kerawalapitiya, Sri Lanka
Total Plant Capacity	300 MW Combined Cycle HFO fired Power Plant
GT/ST Supplier	GE France/USA
Engine Model	GT – Frame 9E, ST SC5
Alternator Type	GE 9A5
Configuration	2:2:1
Machine Output	100 MW each
Number of Machines	2 GTs & 1 ST
PPA Period	25 Years start from May 2010

Annual Energy sales for the year 2023 upto 31st August, is 985.49 GWh and achieved availability is 89.17%.. The annual availability target for the year 2023 has been based at 72%.

Despite various obstacles and shortage of HFO & Auto Diesel owing to the aftermath of the Covid 19 Pandemic and foreign exchange depletion in

the country, including non-settlement of energy supply bills by the CEB, the Company ensured the operation continuously without any interruption, keeping plant availability at 89.17%, against a target availability of 72%, having operated plant during the period under review for 199 days.

3.2 Sobadhanavi 350MW RLNG Combined Cycle Power Plant at Kerawalapitiya



Almost 60% of the project work has been completed as per the schedule below, anticipating to achieve the First Phase to bring the plant into commissioning by January 2024 and the Second

Phase by January 2025. Indicated below are a few photographs of the progress levels of the constructional works at site.



Installation	Sobadhanavi Power Plant, Kerawalapitiya, Sri Lanka
Total Plant Capacity	350 MW LNG Operable Combined Cycle Power Plant
GT/ST Supplier	Siemens - Germany
Engine Model	GT – SG5 4000F ST - SST 3000
Alternator Type	GT Gen – SGen5 1200A; ST Gen – SGen5 100A
Configuration	1:1:1
Machine Output	GT – 220 MW + ST – 130MW = 350MW
Number of Machines	1 GTs & 1 ST
Project Agreements	Singed on 19 th July 2021
PPA Period	singed for 20 Years Open Cycle - Starts from January 2024 Combined Cycle – Starts from January 2025

Present Status of the Project and Special Events

The newly scheduled completion date of preliminary obligation period is 07th November 2023 and the internal targets for COD dates are January 2024 (OC) and January 2025 (CC).

Due to force majeure and change in law events, Sobadhanavi is looking for a tariff adjustment to cover exorbitant project cost increment due to high interest rates (Interest During Construction) to be incurred. Due to the current default status of the country the Company has no other option but to obtain a term loan from local banks covering debt portion, as ADB loan is suspended indefinitely. A Force Majeure was declared on 30th June 2022, highlighting inability to fulfill obligations in the preliminary obligation period, related to achieving financial closure, highlighting below points on:

1. Actions of the competent authorities related to present financial crisis in Sri Lanka.
2. Consequences of such actions by competent authorities on the market
3. Effect of such actions and subsequent market changes, on the project

Currently, the liquidity status of the country is somewhat improved, and banks are willing to accommodate USD requirements. Sobadhanavi needs to secure LKR term loan immediately as Lakdhanavi has already reached its limits in terms of equity contribution and exhausted the majority of its working capital credit lines. However, Debt Financing through local banks is not viable under current PPA structure and PPA required to be amended to address the same.

In the meantime, Sobadhanavi has managed to get credit committee approvals from below listed banks as a preliminary commitment of the

syndicate to finance 44.5 Bn LKR, while they are progressing with the obtaining the approval of the respective board of Directors.

Bank Name	Remark	Amount in Bn
Hatton National Bank, Sampath Bank, Commercial Bank, , Bank of Ceylon, People’s Bank & NDB Bank	6 bn each	36.0
Nation Trust Bank		5.0
Cargills Bank		2.5
National Savings Bank		1.0
Total		44.5

Detailed engineering activities are accelerated and more than 97% of the open cycle related detailed Engineering works have been completed. 97% of Open Cycle related foundation designs and drawings are completed and 86% of Combined Cycle related foundation designs and drawings are completed, except for few foundations’ drawings related to ST Auxiliary Module, Workshop Building, ST SEE Transformer, ST PCC, Cooling Water Pipe Supports, ST GCB, Water Treatment Plant & Mixed Bed are in progress.

Mechanical design activities also shown a significant progress and critical system designs are completed as per Section 2.3 (95% of open cycle designs and 90% of combined cycle designs). Related to Electrical designs, initial simulations and basic engineering works have been completed and total electrical design process has reached 94.5% of progress. Please refer to Section 2.2 for details related to Electrical designs.

3.3. Raj Lanka Power Plant, Natore, Bangladesh (RLPP)

Installation	RajLanka Power Plant, Natore , Bangladesh
Total Plant Capacity	52.2 MW
Engine Supplier	Wartsila Finland
Engine Model	W20V32
Machine Output	8.9 MW
Number of Machines	6
PPA Period	15 Years starts from , January,2014



The Energy sale of RLPP for the year 2023 upto August is 31.7 GWh and achieved availability is 10.5% for the period and achieved availability of 94.30%. The annual availability target for the year

2023 has been based at above 90%. This is the first Sri Lankan owned Thermal Power Plant outside Sri Lanka.

3.4 Lakdhanavi Bangla Power Plant, Comilla, Bangladesh (LBPP)

Installation	Lakdhanavi Bangla Power Plant, Comilla, Bangladesh
Total Plant Capacity	52.2 MW
Engine Supplier	Wartsila Finland
Engine Model	W20V32
Machine Output	8.9 MW
Number of Machines	6
PPA Period	15 Years starts from December,2014



Energy sales of Lakdhanavi Bangla Power Plant for the year 2023 upto 31st August is 99.58 GWh with an average plant factor of 32.8% for the

period and achieved availability is 93.89%. The annual availability target for the year 2023 has been based at above 90%.

3.5. Feni Lanka Power Plant, Feni, Bangladesh

Installation	Feni Lanka Power Plant, Feni, Bangladesh
Total Plant Capacity	114 MW
Engine Supplier	Wartsila Finland
Engine Model	Six 18V50 and one W20V32
Machine Output	18.415*6 + 9.78*1 MW
Number of Machines	7
PPA Period	15 Years starts from November, 2019



Energy sales of Feni Lanka Power Plant for the year 2023 up to 31 August is 197.60 GWh with an

average plant factor of 29.8% and achieved availability of 97.02%. The annual availability target for the year 2023 has been based at above 90.00%.

3.6 Pawandhanavi Wind Power Plant, Norochchola



Installation	Pawandhanavi Wind Power Plant, Ilanthadiya, Norochchola
Total Plant Capacity	9.8 MW
Turbine Supplier	Gamesa
Turbine Model	G58
Turbine Output	850kW
Number of Turbines	12
PPA Period	20 Years starts from September, 2012

The Energy sales of Pawandhanavi for the year 2023 upto 31st August is 15.8 GWh and achieved Plant Factor is 27.5%. The annual availability

target for the year 2024 has been based at 97.5%. This plant was subject to periodical maintenance service during the period under review.

3.7 Nividhu Mini hydro Power Plant at Belihul Oya



Installation	Nividhu Mini Hydro Plant, BelihulOya
Total Plant Capacity	2.2 MW
Turbine Supplier	Wasserkraft Volk AG, Germany
Turbine Type	Horizontal Turbo Impulse
Turbine Output	1.1 MW
Number of Turbines	2
PPA Period	15 Years starts from May,2003 1 st Extension granted was expired on 19.5.22 2 nd Extension granted is valid till 31.12.2038

The Energy sales of Nividhu PP for the year 2023 upto August is 3.5 GWh and achieved Plant Factor is 28 %. The annual availability target for the year

2024 has been based at 95.00%. The PPA has been extended upto to 31st December 2038.

3.8 Assupini Ella Mini hydro Power Plant



Installation	Assupiniella Mini Hydro Plant, Aranayake
Total Plant Capacity	4 MW
Turbine Supplier	VA Tech
Turbine Type	Horizontal Pelton
Turbine Output	2 MW
Number of Turbines	2
PPA Period	15 Years starts from November,2005 1 st Extension granted is valid till 30.10.2025

The Energy of Assupiniella sales for the year 2022 upto 31st August is 6.2 GWh and achieved Plant Factor is 27 %. The annual availability target for

the year 2023 has been based at 95%. The PPA has been extended upto 30th October 2025.

3.9 - 10MW Makarigad Hydro Power (PVT) Ltd, Nepal



Location	Water Source, Makari Gad, a tributary of the Chemeliya River in Khandeswari and Gujar Village of Darchula District in Far Eastern Nepal
Total Plant Capacity	10 MW
Energy – Saleable - Contracted	74.1 MU 69.8 MU
PPA	Signed
Turbine Supplier	Wasserkraftm Volg AG - Germany
Turbine Type	Horizontal 2 Jet Pelton
Hydrology	Rain & snow fed perennial stream

The commercial operation of the power plant has successfully been completed with effect from 11th March 2023. The Energy sales for the year 2023 upto 31st August is 22.8 GWh and achieved Plant

Factor, from the COD is 58%. The shareholding structure of LTL Energy (PVT) Ltd, a fully owned subsidiary of LTL Holdings (PVT) Ltd, is tabulated below:

S.N.	Shareholders	Shares No.	Shareholding Ratio
1	LTL Energy Private Limited	7,623,619	92.5%
2	Hydro Vision (PTE) Ltd, Nepal	618,131	7.5%
		8,241,750	

3.10 - 100MW Solar Power Park Facility at Siyambalanduwa

The Lakdhanavi Limited, with the joint venture partnership of Wind Force PLC and The Blue Circle (PTE) Ltd has submitted the Bid on 02nd December 2022. Our consortium was the only serious bidder, and the Financial Bid was opened on 24th January 2023 and the Letter of Award (LoA) was issued by the CEB. Lakdhanavi as the lead member of the consortium, provided the Bid Bond of USD 267,900 to the CEB, in the name of the Consortium, utilizing Lakdhanavi’s bank facilities.

This Project has a capacity to provide up to 100 MW (AC) of electric power at the Interconnection Point and the design life of the plant will be 20 years and the scope of Project is to lease project land, design, finance, construct, own, operate and maintain a grid connected utility-scale solar plant farm on BOO basis, at an estimated project cost USD 154 million, which will be on a equity ratio of 70:30 Debt. The equity stake of the Consortium comprises, The Blue Circle (PTE) Ltd - 40%, WindForce PLC – 30% and Lakdhanavi Ltd – 30%).

The Special Project Vehicle (SPV) has been established/incorporated on behalf of the Consortium, namely “Rividhanavi” and Preliminary Obligation Bond (POB) was raised in

favour of CEB on 15th September 2023, using facilities from Sampath Bank PLC. The signing of the Project Agreements and negotiation on PPA are in progress.

3.11 Manufacturing and Marketing of Transformers



Transformer Plant at Angulana



Transformers awaiting dispatch

The production recorded for the Period 01/01/2023 to 31/08/2023 are as follows:

2023	2022
Jan-Augt	Jan-Augt.

a)	No. of Transformers supplied to CEB/LECO	1421	760
b)	No. of Transformers supplied Other Local customers	20	125
c)	No. of Transformers exported to other countries	-	-
Total Production		1441	885

With development of rural electrification, the supply of Distribution Transformers to the CEB has been increased by 661 Nos., equivalent to 86% in comparison to the period under review. The supply of Distribution Transformers to Local

Clients shows a decrease over the corresponding period same date by 105 Nos. No orders for exports purposes have been received thus far, presumably due to the worldwide crippled economic situation.

LTLT participated for “Middle East Energy 2020 (MEE 2020)” Exhibition.



Improvements Programmed for 2024

- Enhancement of Smart Factory Production & Traceability Management Software.
- Workplace Engineering and Standardization Project
 - a) Continuously improve the ergonomics arrangement of production floor operators
 - b) Optimize the production process of each state and improve the lean manufacturing process.
- Lean layout and VSM Connectivity Project
 - a) Extend Kanban arranged list of material further upto whole material list.
 - b) Arrange analyzing and monitoring model to minimize & recycling wastages to optimize production.
- 5S Implementation and Visual Management Project
 - a) Improve further the existing 5S in the production workstation and whole factory.
 - b) Improvement and implementation of Visual Management system and integration with Smart Factory Production.
- Design type tested OLTC Transformers & Biodegradable transformers and introduce to company production.
- Improvement to buildings, construction of car park, boundary wall, generator sound proofing project and hoist installation project at a total cost of around SLR 35 Mn.

3.12 Galvanizing & Fabrication Plants at Sapugaskande



Production Details – Galvanizing Plant

PERIOD	2023 (Jan -Augt.)	2022 (Jan – Augt)	Variance
Production	In M/ Tonnes	In M/ Tonnes	In M/ Tonnes
CEB	1,143	550	593
Private Organizations	3,996	5,716	(1,720)
TOTAL	5,139	6,266	(1,127)

The production for the current year fell short of the corresponding period of the previous year by 1,127 M/Tonnes due to infra structural development works of Private Organization have decreased considerably owing of lack of building materials coupled with exorbitant prices.

The CEB continues to extend its supports in procuring the required Galvanized steel structures for the transmission lines, especially for rural electrification development works. The above obstacles casted a shadow over the progress and operation of the facility to a considerable extent.

LTL Galvanizers participated for the Architect 2020 exhibition which was held from 20th to 23rd February 2020 and obtained merit award in the national level manufacturing sector – Extra Large Category at CNCI Achiever Award 2019 for industrial excellence.



3.13 Asiatic Electrical & Switchgear Pte. Ltd, New Delhi, India



Asiatic Electrical & Switchgear (PTE) Ltd, a fully owned subsidiary of LTL Holdings (PVT) Ltd, has made steady progress during the period under review. Asiatic is in sound financial position and recorded a sales revenue of INR 784.66 million (Export 348.99 Mn + Local 435.67Mn from Jan 2023 to 31st August 2023, Mn) & recorded Net Profit Before Tax (NPBT), and this stable trend is continued successfully. In the last financial year 2022/23, the Company achieved a record turnover of INR 1 billion which is the highest figure Asiatic has recorded in its history.

Asiatic has set its footprints all across the globe and is approved in all major Utilities around the world like DEWA Dubai, AADC/ADEWA Abu Dhabi, MEW Oman, MEW Kuwait, EWA Bahrain, EAC Cyprus, Kahramaa, EEU Ethiopia, CEB Sri Lanka, Eskom South Africa, KPLC Kenya etc. Besides above, it regularly exports its products to various countries like UK, Uganda, Ghana, Nepal, Bangladesh and others.

In India, Asiatic supplies to all major Electricity distribution companies like JVVNL Jaipur, AVVNL- Ajmer, JdVVNL- Jodhpur, BEST-Mumbai, BSES- Delhi, TPDDL- Delhi, MPPVVC- Madhya Pradesh, Bescom Bangalore, KSEB- Kerala and various others. Apart from utilities, we supply a substantial volume of MV panels to local contractors who in turn are catering to the government and private projects.

Challenges faced & strategies adapted:

1. Company faced severe competition in the market & shortage for certain raw material coupled with reduction in banking limits due to the prevailing economic situation in India.
2. Strategies adapted to address the issues included Design Optimization, Reduction of raw material costs by attracting new suppliers and applying process efficiency methods and also by seeking intervention of the parent company for funding requirements.

Programme for 2024

- a. Asiatic has telescoped its attention to focus on increasing the product portfolio in 2024/25 and plans to add new products like Compact substations, Open Type LV Distribution boards such as 33 kV VCB Kiosks, 11 kV Floor mounted breakers, 11 & 33 kV Porcelain clad VCB panels etc.
- b. The Company is also focusing on 3-4 utilities in India and to increase the sales team and capture more utilities within the Country to increase in turnover.
- c. The Company intends to enhance the corporate image and brand visibility by way of SEO optimization, social media handles and participation in more national/international exhibitions, whilst re-vamping its head office to attract impression of the international customers.

d. To expand the plant capacity by constructing new buildings in the vacant area, optimizing the existing floor area, removal of old and inefficient machinery, introduction of assembly line concept and new tools to increase production.

e. To explore the possibility of penetrating into the markets of African countries to augment the business activities in the international markets.

4. Financial Position of the Institution

Performance of LTL Holdings Group of Companies during the Financial Year including Financial Highlights during January to August 2023

Tabulated below is a summary of the Financial Performance on major operations in comparison to the previous years are shown below:-

PERIOD	01 Jan '22 to 31 Aug '23	Calen.Year 01 Jan '21 to 31 Dec.22	Calen.Year 1 st Jan. to 31 Dec.'21
	(Rs. Million)	(Rs. Million)	(Rs. Million)
TURN OVER			
Manufacturing & Misc. Services	9,278	8,480	7,162
Power Generations	25,610	48,206	24,586
TOTAL	34,888	56,686	31,748
GROSS PROFIT			
Manufacturing & Misc. Services	3,284	2,536	1,601
Power Generations	7,754	11,909	7,329
TOTAL	11,038	16,057	8,930

Despite the economic crisis in the country, the gross profit generated during the period January to August 2023 recorded an increase of 46% over the corresponding period same date last year.

The year could have been much better, had the post effects of Corona/Covid 19 Pandemic, crippling the economy of the country since March 2020, considerably. The depleted foreign exchange situation coupled with the restrictions enforced by the Central Bank of Sri Lanka on imports too have had severe impacts on the performance of the group of companies.

The Revenue of Power Generation has increased due to very high prices of LNG worldwide. Bangladesh Power Development Board (BPDB) has shifted its dependency from gas plants to HFO based power plants for power generation needs of the country. Hence, the plant factor for our power plants in Bangladesh (Raj Lanka / Lakdhanavi Bangla/ Feni Lanka) has increased considerably.

Dividend Income from Foreign Subsidiaries – 2023

The Company had received dividend income from its foreign investments, earning much needed foreign exchange to the Country during the year

under review, amounting to a sum of almost USD 4.5Mn as per the details tabulated below:

Dividend Income from Foreign Subsidiaries – 2023

Asiatic Electrical & Switchgear (PTE) Ltd, India	USD.	85,000.00
Bright International Power PTE Ltd, Singapore	USD.	100,000.00
Lakdhanavi Bangla Power Ltd, Bangladesh	USD.	750,000.00
Feni Lanka Power	USD.	3,600,000.00
Raj Lanka Power Ltd, Bangladesh	USD.	<u>Nil.</u>
Total	USD.	<u>4,535,000.00</u>

The Bangladesh power plants operations have made a tremendous improvement in harnessing all potential available and earned a remarkable profit to improve the dividend payments to its stakeholders during the year under review.

Upward Revision of CEB Tariff Adjustments

The PUSL, after having had several rounds of discussions with the Ministry of Power & Energy, Ministry of Finance and CEB, has approved the upward revision of Tariff with effect from August 2022. This increase in Tariff would ease the financial crisis of the CEB to a considerable extent in the ensuing months, in expediting the settlement of all outstanding bills due to the IPPs and CPC.

5. Programmes & Projects for 2024**(a) Development of Power Plant Projects****300MW RLNG – II Combined Cycle Power Plant at Kerawalapitiya**

The brief details of the aforementioned Power Plant are given below, for kind information.

Date of Tender floated by the CEB	21 st June 2021
Date of Bid Submission	15 th December 2021
Technical qualification evaluated & found qualified	In December 2021
Financial qualification evaluated & found qualified	28 th January 2022
Validity of Bid extended till	10 th March 2023
Scheduled COP for Open Cycle 220MW		In 2023
Scheduled COP for Open & Closed Cycle 350MW		In 2025

Lakdhanavi was the sole bidder in the procurement process. The Company has requested the Ministry of Power & Energy and the CEB for the issuance of the Letter of Intent (LoI), in order to execute the Project Agreements to enable Lakdhanavi to proceed with environmental, engineering, financial and other preliminary Project Development activities.

(b) 100MW Solar Power Project in Bangladesh

Lakdhanavi has identified an opportunity of a 100MW Solar Plant at Munshiganj District with feasible land and interconnection facility. Acquisition/Leasing out of required land is currently under evaluation by the Government. This is an IPP renewable power project, on a BOO basis for 20 years of operation on a “No Electricity No Payment” basis. The report on preliminary Techno Commercial Feasibility of the project has been obtained. However, Lakdhanavi and its subsidiaries do not fulfil the Operator Member’s Qualification set forth by the Off-Taker, the BPDB and therefore negotiations are being carried out with several technically qualified Operating Members, who are interested in investing in the Project to explore the possibility of a joint venture partnership to undertake the project.

© Restructuring of the Ownership of LTL Holdings Limited by issuing New Shares

The restructuring of the Ownership of LTL Holdings Ltd was subject to in-depth study of the Cabinet Committee on Economic Management (CCEM) and a Cabinet decision made in September 2016, regarding finalization of the Restructuring of the Ownership of LTL Holdings (PVT) Ltd.

LTL Holdings Ltd submitted the Listing Application to CSE on 31st March 2023 and is currently finalizing the valuation and IPO pricing. Considering the potential size of the IPO and ongoing market volatilities, the IPO would require strong participation of both local and foreign institutional investors. Discussions with potential investors are currently in progress and based on the time required to obtain regulatory approvals and time needed by investors to obtain internal approvals, the IPO could be successfully implemented only towards January 2024.

The Board of Directors of LTL Holdings, on the recommendations made by the Management of LTL, decided to issue 5.5 Mn more shares to the Share Market to mobilize funds required for its new projects, especially 300MW LNG 2 Combined Cycle Power Plant, which is currently on the pipeline.

(d) Expansion of Manufacturing in Africa

The company, having taken into consideration of the market trends in the region of African Countries, has made arrangements to carry out Feasibility Studies, in order to expand its manufacturing arm to international heights. Accordingly, LTL Holdings has made proposal to establish a brand-new transformer manufacturing facility either in Tanzania or Uganda in collaboration with a company already identified which currently refines copper, which could cater to the rising transformer demand in the region.

LTL Holdings is confident that the experience gained thus far, having been a strong & regular successful bidder for the tenders in east African region, would open avenues to establish its presence in Africa. Therefore, the Company in order to penetrate into high-level competition, intends coming up with a solid pricing strategy to harness the potentials to win tenders, for which a low-cost transformer manufacturing is a must.

(e) Renewable Energy – Proposed Power Plan Projects in 2024

100MW Solar Power Plant Project in Cambodia

Extensive feasibility studies were carried out and proposals were made for the development of 100MW Solar Power Plant Project in Cambodia. Suitable land areas were identified, and negotiations are underway to explore the possibility of acquiring the sites.

6. Performance under Corporate Social Responsibilities

LTL Holdings (PVT) Ltd has spent a sum of Rs.10,471,177/- for the period January to August 2023 and the Company continues to extend and share its goodwill by providing the voluntary services towards the Social Responsibility and carried the following works during the period under review:

- Providing job oriented industrial training facilities to university undergraduates in the Engineering Fields, comprising,

Electrical, Mechanical, Civil, Management Accountant and offering job opportunities to trainees upon successful completion of training, in accordance to placements available.

- Lighting facilities were provided to the Buddhist Temples in the remote areas of the country donations etc., granted to Universities & Social Welfare Societies, the details of which are incorporated in schedule below:

Nos.	Description of Payments	Amount Paid – SLR.
1	Supply of 03 Nos.x 500kVA Soundproof used generators X 01 x 400kVA New Sound Proof generator with SSCL	2,226,915.00
2	Monthly Electrical maintenance expenses for Buddhist Temples	3,051,762.00
3	Supply of LED Flood Lights & fittings to Kotmale temple	915,850.00
4	Annual WIFI System Sri Maha Bodiya Solar system in Anuradhapura	24,000.00.
5	Cost of electrical panel & light fixtures for Seruwawila Temple	145,000.00
6	LED Light fittings & Trpt charges – Rajagiriya Jayasekera Rama Temples	67,300.00
7	Supply of LED Floor Light & fittings – Getabaru Temple	1,456,600.00
8	Sponsorship for Sports events etc. – University of Moratuwa/Kelaniya	480,000.00
9	Donation to HelpAge Sri Lanka	500,000.00
10	Sponsorship for New Year Festival – Police Traffic Headquarters	50,000.00
11	Donation to Wayamba Cancer Society	100,000.00
12	Donation to Posan, sports & musical activities	303,750.
13	Revamping laboratories – University of Peradeniya	1,000,000.00
14	Sponsorship for Seminars on Electrical Engineering	150,000.00
TOTAL		10,471,177.00

Chapter Six

Lanka Coal Company (Pvt.) Ltd



1. Introduction

Lanka Coal Company (Pvt.) Ltd (LCC), is a fully government owned business undertaking. The Company was incorporated solely for the purpose of import and supply of coal to the Lakvijaya Power Plant (LVPP) at Norochcholai, Which operates under Ceylon Electricity Board (CEB). Our Shareholders consist of following;

- Ceylon Electricity - 60%
- Treasury Department - 20%
- Ceylon Shipping Corporation - 10%
- Sri Lanka Ports Authority - 10%

LCC procuring 2.25 million tons of coal for the Norochcholai power plant for a season as an annual requirement of CEB. Due to the southwest monsoon season on the west coast, coal supply is limited to seven months from the month of September to the month of April next year. However, the power plant is operating throughout the year for continuous supply of coal to the national grid. Therefore, Coal storage to use in off-season is must.

Due to the nature of procurement and operation of the coal supply has always been spread over two calendar years. Accordingly, the procurement and action plan has derived and projected to meet the coal requirement. However, the both of the schedules are highly depend on the annual coal requirement, which is informed by the Power Plant Manager in June or July of each year.

Lanka Coal Company is also responsible for coal unloading / barge operation and coal insurance. Based on the cabinet decision, the coal unloading / barge operation is handling by CSC for the seasons 2023-2024.

In addition, for coal inspection, there is a triparty agreement among Lanka Coal Company, Ceylon electricity Board and the Service Provider. The service provider will be selected by the International Competitive bidding process

2. Performance of LCC 2023

We were able to secure of LVPP's coal requirements until the start of the next coal season on September 15, 2023, despite the difficult effort of managing supplies due to the country's current financial and economic challenges.

Programs for Season 2023 - 2024

a. Coal Supply 2023-2024

The CEB coal requirement of 2.40 MMT $\pm 10\%$ for the season 2023-24 will be supplied by 40 shipments. The Proposal LCC/22/PROP/1 will supply 240,000 MT $\pm 10\%$ by 4 balance shipments, the Spot tender LCC/23-24/ST/30/1 will supply 300,000 MT $\pm 10\%$ by 5 shipments and the proposal LCC/23/PROP/1 will supply balance 31 shipments to totaling 40 shipments. The balance 7 shipment of the Proposal supply will supply in the next season 2024-2025.

Coal Supply Schedule for Season 2022-23

Supply Method	Quantity MT $\pm 10\%$	No of Shipments
Proposal LCC/22/PROP/1/	240,000	04
Spot Tender 1, LCC/23-24/ST/30/1	300,000	05
Proposal LCC/23/PROP/1/	1,860,000	31
Lakvijaya Power Plant requested quantity for 2023-24	2,400,000	40

b. Coal Transportation Up to the LVPP Jetty (freight + Lightering + Insurance)

I. Freight from the port of Loading to the Puttalam Anchorage

LCC has awarded the all three contract by CFR basis which in include Cost of Coal and the freight only and the Insurance will be covered by LCC for the season 2023-2024.

II. Lightering / barge operation from mother vessel to barges and to the Jetty CEB

The contract of Lightering and barge operation which was awarded to Ceylon Shipping cooperation to two seasons 2021-22 and 2022/23 has been extended for the season 2023-2024. Further, CSC has obtain the Cabinet approval for the same.

III. Marine Insurance for Coal Transportation

The insurance coverage for the cargo will be done locally by calling a tender from the companies who are listed under the Insurance Regulatory Commission of Sri Lanka (IRC SL).

c. Coal Payment Mechanism for Season 2023-2024

A particular method of payment has not been finalized for the season 2023 2024. The summary of the fund requirement as is follows;

Summary of fund requirement for season 2023-2024

Supply Method	No of shipments	Fund Requirement	
		USD million	LKR billion
Proposal LCC/22/PROP/1	4	33.00	10.00
Spot Tender 1, LCC/23-24/ST/30/1	5	37.00	12.00
Proposal LCC/23/PROP/1	31	239.00	78.00
Total	40	309.00	100.00

Two companies namely Peoples' Insurance PLC and Fairfirst Insurance Limited were awarded the insurance contact to prove the service for two seasons 2023/24 and 2024/25 by 40 shipment for each company, Since, the both companies have quoted same price. Accordingly, the contacts will end at the end of the season 2024/2025.

IV. The Independent Testing Agency for coal supply at discharge port

For Draft Surveying, Sampling and Analysis of coal at the discharging Port will be done by an independent coal inspection agency who have the fully accreditation. This is a try party agreement in between LCC, CEB and Selected coal inspector. The contract period of the Cotecna Inspection was extended up to 31 December 2023.

A fresh tender has invited by CEB to select independent inspection service provider for the January 2024 to May 2025.

Summary of the Payment Method for Season 2023-2024

Supply Method	Payment Terms
Proposal LCC/22/ PROP/1/ for 4 shipments	Telegraphic Transfer (TT) Terms per MT. The RCI, Russian weekly index price in to 1.123 multiplication factor (MF) will be the final price per each shipment by CFR terms
Spot Tender 1, LCC/23- 24/ST/30/1 for 5 shipments	Letter of Credit (LC) Terms based on Fixed price per MT, which is 128.49 per MT by CFR terms
Proposal LCC/23/ PROP/1/ for 31 shipments	Telegraphic Transfer (TT) Terms based on Composite index (General average of API4, ICI1, ICI2, Taman and Voshtochny) of previous month price index per MT by CFR terms (the MF is 0.926)

Chapter Seven

Sri Lanka Atomic Energy Board



1. Introduction

Sri Lanka Atomic Board (SLAEB) is the Government's premier Nuclear Science and Technology Organization which is operated under the Ministry of Power and Energy. The mandate of the SLAEB flows from the powers vested by the Atomic Energy Act No. 40 of 2014 - for the promotion and encouragement of the use of Nuclear Science and Technology for national development purposes. SLAEB promotes and encourages peaceful applications of nuclear technology through related services, Research and Development (R & D) work and provides radiation protection services to meet regulatory requirements while ensuring safety, security, and quality.

SLAEB receives consolidated funds from the Government for recurrent and capital expenditures. Also, the technical support is received mainly from the International Atomic Energy Agency (IAEA) to develop capacities and capabilities, through its Technical Cooperation (TC) Projects, Regional Cooperation Agreement (RCA) Projects and Coordinating Research Projects (CRPs). SLAEB has assisted relevant stakeholder organizations/institutes in the country to get the benefits of the nuclear science and technology for the socio-economic development of the country.

VISION

Sustainable Development of the Nation through Nuclear Science and Technology

MISSION

Promote and encourage peaceful applications of Nuclear Science and Technology and utilize its benefits for the socioeconomic development of the country while ensuring safety, security, and quality, and Provide radiation protection services to facilitate the protection of workers, the public, and the environment from exposure to unwarranted ionizing radiation.

THE OBJECTIVES of the Sri Lanka Atomic Energy Board

- (a) Promote and encourage the peaceful application of nuclear science and technology and provide services using such technology
- (b) Conduct research on nuclear science and develop peaceful applications of nuclear technology for the purpose of achieving national objectives
- © Promote and support innovations to ensure safety and security systems and quality for the peaceful uses of nuclear science and technology
- (d) Provide radiation protection services to meet regulatory requirements relating to nuclear science and technology applications
- (e) Engage in activities involving ionizing radiation and complementary techniques, for commercial or other purposes

The SLAEB principally consists of several Divisions and two Centers having laboratory facilities for its services and R&D activities. The SLAEB is governed by a Board with a Chairman. The SLAEB has unique capabilities & capacities for utilizing peaceful applications of nuclear technology in the fields of health, agriculture, environment, industry etc.

- **Sri Lanka Gamma Center (SLGC)** operated under the SLAEB, is located in the Export Processing Zone, Biyagama. It is the only Government-owned irradiation facility that has been established to provide the gamma irradiation service for the industry in the country. Currently, it is the facility where the surgical gloves used in all the Government hospitals in Sri Lanka are sterilized. This has stopped the importation of sterilized surgical gloves to Sri Lanka resulting in saving of foreign exchange in significant amounts. This service has been provided since the establishment of the SLGC in 2014. In addition to that, other medical products, food items, packing materials, bio-fertilizers etc. are irradiated in less quantities when compared with surgical gloves.
 - **National Center for Non-Destructive Testing (NCNDT)** provides NDT inspection services and NDT training to technical personnel in the industry with the objective of improving the safety & quality of industrial products/processes in the country. The leading NDT service provider for the power generation plants in Sri Lanka is NCNDT. The staff is ready to attend the inspection in any emergency situation in the power sector. Also, the Welder Qualification Facility at the NCNDT has created opportunities to the young generation to have foreign career opportunities as skilled and certified welders are welcome in most of countries. This has helped to increase the foreign reserves in the country in the current economic crisis.
 - Testing of imported milk food for radioactive contamination is done at the Gamma Spectroscopy Laboratory to fulfill the regulatory requirement in the country. The samples collected by the Ministry of Health-MOH (by the Food Inspector at the harbor)
- from the shipments received to the country are analyzed and the reports will be submitted to the MOH through the Sri Lanka Atomic Energy Regulatory Council (SLAERC). If the radioactivity levels exceed the permissible level of radioactivity in the country (as per SLAERC's regulations), the shipments are returned to the countries of origin.
- The SLAEB provides Radiation Protection Services to meet regulatory requirements for the safety of the general public, radiation workers, and the environment from unwarranted exposure to ionization radiation. Personal monitoring services for the safety of radiation workers in health and industrial sectors and calibration services for radiation measuring instruments in the Secondary Standard Dosimetry Laboratory are obligatory services for the country. In terms of radiation protection and security of the radioactive sources in the country, awareness programmes are being conducted for radiation workers, security officials (Tri-Forces and Police) etc. regularly.
 - The Education Programme on Nuclear Science and Technology (NST) makes secondary school children, university students, etc. aware of NST and its applications through seminars, workshops, presentations etc. throughout the country. Also, the NST has been included in the school curriculum in collaboration with the Ministry of Education. Further, discussions are going on to improve the curriculum in treasury-level education (Universities) including NST.
 - SLAEB is also engaging in R&D work on Nuclear Science and Technology to uplift the current living status of the people, manage natural resources, and protect the environment of the country while achieving national development objectives. The SLAEB consists

of unique and specialized laboratory facilities and competent, qualified, and dedicated nuclear scientists to fulfill the technical requirements for the above-mentioned services and research activities. Under the applications of nuclear technology, the following main programmes are conducted by the SLAEB.

- Isotope techniques in hydrology are applied to assess the water sources, particularly groundwater in the country to understand the potential status, sustainability, pollution vulnerability, climate change impacts, dynamics etc. in collaboration with water sector institutes/ organizations and universities. Also, the isotope and radiation methods are used to trace the origin and flow paths of leakages and seepages of dams and reservoirs in the country.
- The isotope fingerprinting technique is used to assign a Geographical Index (GI) for Ceylon Tea under the Tri-Party agreement signed with the Tea Board and Tea research Institute. This could help identify adulteration in the tea and provide a value addition for the Ceylon Tea. Similarly, a project is conducted to give an isotope fingerprint to the water sources used in the bottled/packaged water industry in the country. This would control the fake products in the market ensuring the product quality for the safe use of the consumers.
- Also research are being conducted to assess the soil erosion, water use efficiency of agricultural crops, nutrient and contaminant transport in agricultural lands, climate change impacts on eco-systems, material developments, degradation of pharmaceutical waste and plastics, environmentally friendly products for agricultural use, oil absorbent, coating material for preserving cultural heritage artifacts, food irradiation, nuclear instrumentation, method developments in NDT, protect, restore and promote sustainable use of terrestrial and marine ecosystems and reverse land degradation etc.
- Nuclear analytical and other related testing services generate a considerable income for the SLAEB through its well-equipped laboratories with competent staff. Among them, Gamma Spectroscopy for radioactivity measurements, X-ray fluorescence (XRF) for elemental analysis, Isotope Ratio Mass Spectroscopy (IRMS) for stable isotope analysis, Gross Alpha-Beta, Liquid Water Isotope Spectrometry (Laser Mass Spectrometry) for water isotope analysis, Liquid Scintillation Counting for beta measurement in water, Inductively Coupled Plasma Mass Spectrometry (ICPMS) for trace element analysis, Ion Chromatography (IC) for major ion analysis in water, Spectrophotometry for water quality measurements, are commonly used as income generation sources.
- SLAEB is currently working on convincing the Government on the use of nuclear energy for power generation in the country. Under that, a comprehensive report after a pre-feasibility study has been submitted to the Government. For the ongoing Nuclear Power Programme, the IAEA has supported in many different ways by providing expert assistance to conduct workshops nationally (more than 15 workshops were conducted during 2018-2023), to evaluate the Self Evaluation report prepared during the pre-feasibility, to conduct an expert mission (Integrated Nuclear Infrastructure Review- INIR) by a panel of experts and to provide comprehensive overseas training for all the stakeholders.

- The SLAEB also has the legal obligation to continue its functions as the Focal Point in Sri Lanka to the International Atomic Energy Agency (IAEA). Hence the SLAEB is able to facilitate other national institutes where nuclear and related applications are utilized, in order to develop their technical capabilities through IAEA Technical Cooperation programs.
- The newly started “Cyclotron Project” is prime important to generate radio-pharmaceuticals that are needed for PET machines for cancer diagnosis purposes. The discussions are going on with health sector officials, relevant

ministries, private sector organizations/institutes, IAEA etc. to lay a foundation for the establishment of a Cyclotron facility in Sri Lanka. When the project is completed, a significant amount of foreign reserves could be saved by stopping the importation of radio-pharmaceuticals for Positron Emission Tomography (PET) machines. In addition, more patients could use PET facilities at relatively low cost in private sector hospitals. Also, the long queues for cancer diagnosis done in Government hospitals could be reduced.

2. Challenges faced and strategies adopted to address such challenges during the period

	Challenge	Strategy adopted
1	Employee turnover due to seeking better opportunities (local or overseas) to survive in the economic crisis in the country.	As a government institute, gov. circulars & guild lines have to be followed to recruit new staff. But it is difficult and delayed under the current economic crisis. -NAITA and undergraduate trainees have been recruited to cover the day today operational needs. -In addition, acting arrangements have been done for the vacant positions
2	Technical failure in instruments/plants and difficulties faced due to lack of spare items, accessories, support of service providers. etc.	Obtaining technical support & assistant from international donor institutes such as IAEA to purchase new instruments, spare parts and expert assistance.
3	Budgetary limitations imposed by the government	New income generating services such as Welder Qualification Facility, new nuclear analytical techniques (eg: gem analysis) have been established.
4	Increase of operational cost (electricity, telephone, contractual services, transport etc.	Guiding Staff with internal circulars to manage available resources effectively
5	Less demand for routine analytical services (Beyond the institutional control)	The quality of services has been maintained through laboratory accreditation, quality assurance etc.

3. Progress of the Development Projects and activities -January to August 2023

(a) Pilot Project on “Geochemical Approach on Verification of the Origin of ‘Ceylon Tea’”

This pilot project has been in progress since January 2022, operating under a trilateral agreement involving the Sri Lanka Atomic Energy Board (SLAEB), the Sri Lanka Tea Board (SLTB), and the Tea Research Institute (TRI) of Sri Lanka. The project involved the collection of tea samples from various tea factories in different tea-growing regions in Sri Lanka (Nuwaraeliya, Dimbula, Uva, Uda Pussellawa, Kandy, Ruhuna, Sabaragamuwa). Additionally, foreign tea samples were collected from regions in North India, South India, China, Vietnam, and Kenya with the support of the Tea Board. The project is almost completed. Tea samples collected locally and internationally were analyzed for stable isotopes and trace elements to cover the entire objective of the project. Statistical evaluation of the results and report submission are being done to fulfill the requirement of application for the Book of Specification (BoS) for Geographical Indication (GI) by the Sri Lanka Tea Board. The project will be completed by the end of 2023 and this project will benefit the country through better recognition of Ceylon Tea in the international market.

(b) Cyclotron Project

The Establishment of Cyclotron-Based Radiopharmaceutical Production Facility in Sri Lanka is a collaborative effort between the Sri Lanka Atomic Energy Board (SLAEB) and the International Atomic Energy Agency (IAEA). The project aims to establish a cyclotron-based radiopharmaceutical production facility to produce high-quality radiopharmaceuticals for use in medical diagnostics and treatment (to produce radiopharmaceuticals needed for PET scanners in government/private hospitals). It is planned to run the facility through a private-public partnership.

The approval of the Attorney General’s Department was taken for the proposed agreement to be signed with a private partner. Also, the documents related to calling Request For Proposals (RFP) have been developed by the Cabinet Approved Negotiation Committee (CANC) appointed for this project.

(c) Expansion of the Welder Qualification Facility at the NCNDT

The Welder Performance Qualification (WPQ) service established at the NCNDT has been recognized as a nationally important service that supports the strengthening of foreign reserves in the country through qualifying welders for the foreign job market. There is good recognition within the country for the WPQ service at the NCNDT in terms of the quality of the welders. Hence, a growing demand is there to certify more and more welders at the WQF to cater to the international job market. To expand the WPQ services to the entire country, an agreement has been signed between the Tertiary and Vocational Education Commission (TVEC) and the SLAEB on the “Process of Recognition Prior Learning (RPL) applications for awarding NVQ for welding technicians in May 2023. In addition to that, an agreement has been signed with a private investor (Kolex Tec (Pvt) Ltd) to expand the facility with new welding plants to establish a Gap Filling and Examination Centre at the NCNDT to cater the demand in the foreign job market for certified welding technicians. Under the above two agreements, the Welder Qualification Facility has been functioning well. Nearly 300 welders have been certified from January to August 2023.

(d) Nuclear Power Study and Planning Program for Electricity Generation

Nuclear Power Study and Planning Program for Electricity Generation is being implemented with the direction of the Ministry of Power and Energy. The objective of this project is to provide the

technical inputs and necessary background data to policymakers to understand the technical, financial, environmental, and social aspects of making a firm policy decision on nuclear energy development in Sri Lanka. Under the purview of the Ministry of Power, many Government Institutions and Departments including the Ceylon Electricity Board (CEB), SLAEB, SLAERC, CEA, Geological Survey and Mines Bureau (GSMB), Public Utilities Commission of Sri Lanka (PUCSL), Ministry of Finance and Planning, Foreign Ministry, Ministry of Defense (Armed Forces, Sri Lanka Police, Special Task Force), Faculties of Engineering under the State Universities are contributed to the way forward the project. Under this project, Cabinet Ministers have given the approval in February 2023 to bind two nuclear liability conventions. SLAEB is currently working with the Ministry of P & E, the IAEA, the Ministry of Foreign Affairs, and Sri Lanka Atomic Energy Regulatory Council in connection with ratifying the above two conventions. In addition to that, the Integrated Work Plan and the Road Map for the nuclear power program have been drafted and discussions are being conducted with the line ministry and the stakeholder organizations to improve the above two plans. Also, several meetings and discussions were held with national stakeholder organizations, nuclear power vendor countries, and the IAEA were conducted regarding the way forward with the project.

(f) Routine Services on income generation

The following services/programs/activities have been conducted as routine services of the SLAEB with the main objective of income generation.

- (i) Gamma irradiation service to sterilize the total quantity of surgical gloves needed for government hospitals
- (ii) Radioactivity measurements in all the imported milk powder consignments
- (iii) Personal monitoring service for the protection of radiation workers in health and industrial sectors

- (iv) Non-Destructive Testing inspection services for industrial needs
- (v) Other nuclear analytical services

(g) R & D Projects

Research and development programs/projects are conducted with the support of the IAEA in the fields of environment management/assessments, food and agriculture, industrial improvements/process enhancement, material development, instrument development/fabrication, radiation safety, and nuclear security etc.

(h) Other Programs

The education programs are conducted to make school children, university students, and the general public aware of nuclear science and technology and its applications. Ministry of Education, state universities, schools etc. are directly coordinated/contacted for the above programs.

4. Programs and projects for 2024

As the budgetary provisions are limited in 2024, the new projects and programs have not been planned and scheduled in 2024. However, the ongoing income generation projects/programs will be continued and expanded with the objective of self-sustainment of the institute.

Particularly, the Cyclotron project and the Nuclear Power project will be taken in to a realistic position with the direction of the Ministry of Power and Energy in 2024.

Chapter Eight

Sri Lanka Atomic Energy Regulatory Council



1. Introduction

1.1 Establishment of Sri Lanka Atomic Energy Regulatory Council

Sri Lanka Atomic Energy Regulatory Council (Council) was established on the 1st of January 2015 under the Sri Lanka Atomic Energy Act No. 40 of 2014 (Act). Council presently functions under the Ministry of Power and Energy. As per the provisions of the Act, the Sri Lanka Atomic Energy Regulatory Council is mandated for;

- (a) Regulation of practices and sources involving ionizing radiation by implementing licensing, inspection and import & export control programmes for protection of public, radiation workers, patients and the environment
- (b) Ensuring the safety & security of radiation sources
- (c) Taking enforcement actions for violations of provisions of the Act and licensing conditions
- (d) Taking actions to fulfil the obligations of Sri Lanka on agreements signed by Sri Lanka on safety, security and safeguards related to nuclear applications

1.2 Objectives of the Council

The main objectives of the Council are;

- (a) Protection of persons and the environment against risks associated with exposure to ionizing radiation and for the safety and security of the sources and facilities
- (b) Ensuring the physical protection of radiation sources, nuclear materials and other radioactive material and ensuring the security of facilities that use such material

- (c) Ensuring compliance with international standards and obligations in the field of nuclear energy, in accordance with international agreements that Sri Lanka has entered into

1.3 Key functions of the Council

- (a) Licencing of the practices involving the use of ionizing radiation and renew, modify, suspend or revoke the same.
- (b) Conducting inspections to ensure compliance with the requirements imposed under the Act and conditions specified in the licences issued.
- (c) Taking appropriate measures to ensure due compliance with the provisions of the Act and proper enforcement of noncompliance.
- (d) Maintenance of a national register containing information on all radiation sources used in Sri Lanka.
- (e) Formulation of national policies and strategies on protection against ionizing radiation, on the safety and security of sources and nuclear and other radioactive material and on radioactive waste management.
- (f) Formulation of regulation, rules, codes, standards and procedures relating to radiation protection and the application of ionizing radiation, which reflects best practices enunciated by the International Atomic Energy Agency and any other similar International Organizations.

- (g) Taking necessary steps to fulfil the obligations of Sri Lanka under the international treaties, conventions, relevant protocols and agreements relating to safety & security of sources to which Sri Lanka is a party.
- (h) Conducting public awareness programmes in relation to nuclear science and technology and training of radiation workers on radiation safety and security aspects.
- (i) Supervision of radioactive waste management and transport of radioactive materials.
- (j) Granting approvals for the plans of the buildings for the construction of radiation facilities.
- (k) Approvals for import/export of radioactive materials and irradiating apparatus
- (l) Taking actions for arrangements for preparedness and response to nuclear or radiological emergencies

2. Challenges faced and strategies adopted to address such challenges during the period

It was a challenge for the Council due to lack of a sufficient number of Scientific Officers & Administration staff to execute planned activities and in a timely manner and to attend to some of the requested inspections within a reasonable timeframe. The resignations & retirements of several employees, coupled with government restrictions on recruitment, are the reason for this staff shortage. Despite having 45 approved cadre positions, currently only 28 employees are available at the Council.

However, the Council has taken its maximum effort to improve regulatory and administrative work of the Council meeting international standards amidst the above constraints due to dedication, commitment and unwavering support of the staff in implementing the operational activities of the Council.

3) Progress of the Development Projects and activities of the institution (01 January 2023 – 31 August 2023)
3.1. Regulatory activities

No	Activity	Target for 2023	Target till 31 st August	Progress till 31 st August	Progress Percentage	Constrains/ Remarks
01.	Issuing new & renewal licences (which also include processing of application, issuing of modification and extensions to the existing licence)	415	50	154	308%	Renewal licences will be mainly issued from October to December each year and annual target can be achieved
	Extensions for interim licenses	70	70	48	----	Interim licences are issued when a licence cannot be issued in the respective year due to non-payment of licence fee. Most of the licence fee have been paid before 31 st December of the respective year (2022).
02.	Issuing regulatory certificates for food samples tested for radioactive contamination	800	530	915	172.6%	Issuing certificates are depending on number of samples tested which also depend on the number of imports of milk food consignments
03.	Regulatory Inspection of radiation facilities	220	160	203	126.8%	Inspections should be done for new facilities mandatory
04.	Import / export approvals for radioactive materials and irradiating apparatus	480	320	409	127.8%	Import/Export approvals depend on the request
05.	Approval of plans of irradiation facilities	80	54	65	120.4%	Approval of plans depend on the request.

No	Activity	Target for 2023	Target till 31 st August	Progress till 31 st August	Progress Percentage	Constrains/ Remarks
06	National Training Courses on Radiation Protection to train licenced workers (Radiation Protection Officers & Operators of the machines) and Training Courses under Nuclear of Radiological Emergency Management Program					
(a)	Conducting National Training Courses on subject specific areas on Radiation Protection in accordance with established training manual to train licenced workers (for operators of the machines and Radiation Protection Officers)	Conducting 06 training Course with the approvals from the Board Training of 150 persons (Radiation Protection Officers and Operators)	Conducting 04 training Course with the approvals from the Board Training of 100 persons	04 training courses were conducted with the approval from the Board 84	100% 84%	- Attending of applicants were varied from Courses
(b)	National Training Course on “National action plan for training and exercise manual, and standard training syllabuses for conducting national training and exercises on nuclear or radiological emergency”, in collaboration with the IAEA under IAEA TC Project: SRL/09/013	Training of 30 participants from 27 February- 3rd March 2023	Training of 30 participants from 27 February- 3rd March 2023	Conducted training course for 29 participants	100%	Target Achieved
(c)	National Training Course on Emergency Preparedness and Response for Stakeholders in collaboration with the WHO	Training of 20 participants From 22-23 August 2023	Training of 20 participants From 22-23 August 2023	Conducted training course for 50 participants	100%	Target Achieved
07.	Approvals for transport of high activity radioactive material on request and Supervision of transport of high activity radioactive sources	Supervision of 02 Transport of high activity sources	Supervision of 01 transport	01 transport was supervised from Colombo port to Biyagama Export Processing Zone	100%	Task completed

No	Activity	Target for 2023	Target till 31 st August	Progress till 31 st August	Progress Percentage	Constrains/ Remarks
08	Preparation of Regulations, Rules, Procedures and Codes					
(a)	Finalization of Regulations on Ionizing Radiation Protection and Safety of Radiation Sources incorporating IAEA ORPAS recommendations and radioactive waste discharge levels	Preparation of final draft incorporating the recommendations made by the IAEA ORPAS mission, waste discharge levels and requirements for decommissioning of irradiation facilities. Submission to the Board for approval. 3. Submission to the Ministry for distribution to stakeholders for comments.	Preparation of final draft incorporating the recommendations made by the IAEA ORPAS mission, waste discharge levels and requirements for decommissioning of irradiation facilities	Final draft was prepared. Prepared draft to be reviewed by the Committee of Senior Scientific Staff of the Council	75%	Further review is required to complete the draft incorporating the proposed liquid radioactive waste discharge levels and requirements for existing exposure situation and emergency situation
(b)	Obtaining approval of Cabinet of Ministers for the draft regulations on Security of Radioactive Sources which was submitted to the Legal Draftsman's Department	1. Gazetting the regulations 2. Submitted to the Cabinet for approval 3. Obtaining approval of the Parliament	Submission to the Cabinet for approval	400 copies of gazettes have been printed by the Government Printing Department to submit the Cabinet approval / Parliament & other institutes	100%	Printed the Gazette. (Gazette No. 2339/10 dated 2023 July 04)
(c)	Radioactive Waste Management Policy	1. Preparation of final draft after received comments from the stakeholders 2. Submitted to the Ministry 3. Submission for the Cabinet of Ministers for approval 4. Implementation	Preparation of final draft incorporated with the comments of the Stakeholders & submission to the Ministry	Final draft was prepared incorporated with the comments of the Stakeholders & submitted to the Ministry	100%	Submitted for the comments of Ministry of Foreign Affairs & Ministry of Justice also as per the instructions of the Secretary of Ministry of Power & Energy.
(d)	Implementation of inspection procedure by Authorized Inspectors	1. Training of the Inspectors for use of the procedure. 2. Implementation	Implementation	Implementation	100%	Ongoing Activity

No	Activity	Target for 2023	Target till 31 st August	Progress till 31 st August	Progress Percentage	Constrains/ Remarks
08	Preparation of Regulations, Rules, Procedures and Codes					
(e)	Implementation of the Nuclear or Radiological Emergency Management Plan	1. Training of SLAERC Emergency Response groups 2. Arrangement for obtaining feedback from stakeholders on improvement of training and Emergency plan	Training of SLAERC Emergency Response groups	04 training courses have been conducted to train the SLAERC Emergency Response groups	100%	Task completed & Ongoing activity
09	Maintenance of the national seal source registry	Entering of data and keep update the registry	Entering of data and keep update the registry	Entered the relevant data to the source registry & updated	100%	Task completed & Ongoing activity
10	Maintenance of a registry of sources in the Regulatory Authority Information System (RAIS)	Keep updating authority information to the RAIS	Keep updating Authority information to the RAIS	Entered the relevant data to the RAIS and official web	100%	Task completed & Ongoing activity
11	Introduction of online licensing and approval system	1. Preparation, installations and training of staff of the Council for implementation. 2. Obtaining applications and documents for approval through online system	Obtaining applications and documents for approval through online system	Uploaded the necessary documents application forms & assessments forms to the system	75%	Some procedures of the process was delayed due to arise of technical matters /failures
12	Training of scientific and other staff through local, foreign trainings and trainings under IAEA TC projects	On the Job Training	On the Job Training	On the Job Training	100%	Task completed & on the job training
13	Publication of licence information and services in the official Web for information to the stakeholders and public	Keep updating the licence information and services in the official Web	Keep updating the licence information and services in the official Web	Entered the relevant licence information to the Official Web	100%	Task completed & ongoing activity
14	Inspection on transport, on request inspections and radiation protection services etc.	06	04	06	150%	Task completed

3.2 Ongoing bi-lateral programme

The Council is engaged with the Global Material Security (GMS) programme of the Department of Energy of the United States of America (USDOE) to provide security for high activity radioactive sources used in the Country and with the technical assistance of the GMS Programme, the Council is coordinating with stakeholders for installation and implementation of physical security systems at facilities which use high radioactivity sources in order to ensure security of these sources. The USDOE approved a maintenance contract for maintenance of physical security systems at 12 facilities where high activity radioactive sources are used and connection of all security system at 12 high activity radioactive source sites to Central Monitoring Station located at STF training college, Katukurunda.

(b) The Council is participating International Atomic Energy Agency Technical Cooperation project “Strengthening of preparedness and response to nuclear or radiological emergencies. Under this project the Council has taken steps to train scientific staff, obtaining necessary instruments for emergency response and preparedness and expert missions to prepare necessary emergency preparedness and response documents.

3.3. Trainings / Meetings /seminars attended till 31st August 2023

(a) Overseas workshop/training/meeting were participated by 06 officers

3.4 Specific activities performed

- Attended a meeting at Defence Ministry for establishing a committee for the preparation of national policy on importation of chemical, biological, nuclear and radioactive materials into the country by air/sea modes on 09th January.

- Attended a virtual meeting of INSTA on 18th January.
- Attended a meeting of Codevus online system on 02nd February.
- Participated a follow-up inspection at Alchemy Heavy Metals (Pvt.) Ltd, Dambulla on 15th February.
- Attended a meeting at Ministry of Environment for Establishing a National Waste Management Policy on 25th February.
- Attended a meeting held at Ministry of Power & Energy to discuss about constrains of the institutes under the Ministry on 28th February.
- Attended IAEA expert mission on National workshop on the Legal and Regulatory Framework for a nuclear power programme on 06th-10th February.
- Submission of fellowship/SV applications under SRC 9013 project.
- Attended a meeting on Nuclear Power Program with the Hon. Minister, Chairman, Director General (Cover-up) and other senior officers on 09th March.
- Attended a meeting on Nuclear Power Program with SLAEB representatives, Chairman, Director General (Cover-up) and other senior officers on 13th March.
- Conducted awareness training to Navy CBRN on 15th March.
- Conducted awareness training to SL Army CBRN on 17th March.
- Conducted Gunnery specialization course for SL Navy, Trincomalee on 27th March.
- Attended a meeting with USDOE/ Navy regarding memorandum of understanding (MOU) sign by Navy with USDOE on 03rd April.
- Attended the progress review meeting with Hon. Deputy Minister at the Ministry on 18th April.
- Attended a workshop on Emergency plans by Disaster Preparedness and Response Division (MOH) as a resource person on 25th April.

- Attended a workshop with Disaster Preparedness Unit, Ministry of Health on 02nd May.
- Attended a meeting with National Budget Department on 10th May.
- Conducted an awareness programme on “Safe & secure transport of radioactive materials” on 11th May.
- Attended a radiation protection inspection at Lanka Mineral Sand Ltd, Pulmudai on 18th & 19th May 2023.
- Attended a training on Emergency Risk Assessment on 16th -18th May with WHO/MOH.
- Attended a meeting with Additional Secretary of the Ministry of Power & Energy to discuss the agreement with ROSATOM, Sri Lanka regarding the nuclear power program on 23rd June.
- Attended National Emergency operation plan workshop on 25th June organized by DMC.
- Arrangements of work under SRL 9/013 project.
- Initial work of arranging stakeholder meeting of Emergency Management Plan on July/August.
- Attended a meeting at Ministry of Environment to discuss Policy on waste management on 05th July.
- Attended a meeting at Prime Minister’s office to discuss integrated food control related approvals on 17th July.
- Conducted a preliminary meeting with all board members to discuss how to conduct Annual Performance Review Meeting (APRM) on 26th July.
- Conducted emergency table top exercise at Disaster preparedness unit of Ministry of Health on 05th July.
- Development of Safety policy and enforcement policy.
- Conducted IHR/2005-joint external evaluation pre planning works.

4. Programmes & Projects for 2024

4.1. Regulatory activities

Programme	Activities to be performed for 2024
1. Preparation of regulations, rules, policies & procedures	1.1 Obtaining approval of the Legal Draftsman Department for the draft Regulations on Ionizing Radiation Protection and Safety of Radiation Sources and translation to Sinhala and Tamil languages and publication in the Government Gazette. 1.2 Submission of the Regulations on Security of Radioactive Sources to the Parliament for its approval and implementation of the requirements 1.3 Obtain approvals for Rule on the criteria for the qualifications of radiation workers from the Legal Draftsman Department and translation in to Sinhala and Tamil. 1.4 Implementation of inspection procedure by Authorized Inspectors 1.5 Submission of finalized National Policy on Radioactive Waste Management to the Ministry for obtaining the approval of Cabinet of Ministers. 1.6 Preparation of Regulations on Safe Transport of Radioactive Materials, Safety & Security Policies, Emergency Rule & Enforcement Procedure in accordance with International Guidelines as per the requirements given in the Sri Lanka Atomic Energy Act No.40 of 2014

Programme	Activities to be performed for 2024
2. Licencing & inspections of radiation sources and irradiation facilities	2.1 No. of licences planned to be issued (new & renewal) - 350 2.2 No. of extensions for interim licences - 100 2.3 No of inspections planned to be conducted - 220
3. National training course on radiation protection	3.1 Conducting national training courses for operators and radiation protection officers of the licenced facilities in medical and industrial fields (Radiation Protection Officers and operators of the machines) 3.2 Conducting trainings for response teams & committees appointed as per the requirements of National Nuclear or Radiological Emergency Management Plan
4. Granting approvals & issuing certificates	4.1 Granting approvals of import/export of radioactive materials & irradiating apparatus. No. of approvals estimated to be given - 480 4.2 Issuing certificates for food testing No. of certificates estimated to be issued - 800 4.3 Granting approvals for the irradiation facility plans. No. of approvals estimated to be given - 80
5. Online licencing & approval system	Establishment of online licencing & approval System and use it for licensing for selected facilities and impot and export approvals.
6. Maintenance of database & Source registry	6.1 Maintenance of database of licencees, inspections and other relevant information. 6.2 Maintenance of National Registry of Radiation Sources
7. Publication of information of licenced facilities in the WEB	Up to date information of all licenced facilities in the Council's WEB for public information to identify suitable places for obtaining services.
8. Approval and supervision of transport of high activity radioactive materials	Granting approvals for transport of high activity radioactive materials on request & supervision of transportations

4.2. Implementation of IAEA TC Project activities

IAEA Technical Corporation Project SRL9013 "Strengthening of preparedness and response to nuclear or radiological emergencies" was conducted for 2022-2023 project cycle. Since some activities could not be completed during the project cycle, following outcomes will be extended through this project in 2024

- a. Training of several officers from the Council, first responding organizations and technical organizations through fellowships, Scientific Visits
- b. Acquire necessary equipment to conduct emergency exercises and to respond real emergencies. Measuring equipment, training equipment and decontamination equipment will be received through this project.
- c. Establishment of New Early Warning Detector System. This system will be compatible with International Radiation Monitoring Information System (IRMIS) data sharing platform and will help to receive early warning during nuclear disaster.

Chapter Nine

Sri Lanka Energies (Pvt) Ltd



help to receive early warning during nuclear disaster.

1. Introduction

Sri Lanka Energies (Pvt) Ltd is a company incorporated in 1st quarter 2011 and operates as a 100% owned subsidiary of Ceylon Electricity Board.

SLE is with a vision of Development of Renewable Energy, among the other objectives of Associated Transmission Asset Development, Manpower Resource Provision and Procurement.

2. Challenges faced and strategies adopted to address such Challenges during the period.

- a) Many projects or activities require compliance with numerous laws, regulations, and permits, which can be a complex and time-consuming process such as obtain approvals from Environmental authority and other local regulatory authorities.

Eg:- Seethawaka Hydro Power Plant approval pending for The National Aquatic Resources Research and Development Agency (NARA).

- b) Local zoning laws and land use regulations can be complex and may require variances or changes to accommodate a specific projects, making the approval process challenging.

- Eg:- Seethawaka Hydro Power Plant

- c) Fund arrangements are highly challenging due to high interest rates and not available the concessionary rates for the loans.
- d) A Lengthy Review Processes for Some approval processes involve multiple stages of review, which can be time-consuming and expensive.

• Strategies Adopted

- I. To overcome these challenges, it is often necessary to work closely with relevant authorities therefore appointed the committees to accomplish the discussions.
- II. Scoping the committee meetings led in effective communication and public relations efforts to build support to proceed the project or activity .
- III. Arranged the Green Bond discussions with the respective parties

3. Performance 2023 and Programs for 2024

• Kumbalgamuwa Mini Hydro Power Plant



Using the leakage water more than 20 years from Samanalawewa Reservoir Sri Lanka Energies (Pvt) Ltd has constructed **Kumbalgamuwa Mini Hydro Power Plant**.

The Commissioning of 1.2MW Francis Turbine in Kumbalgamuwa Mini Hydro Power Plant was completed on 2016 February 19 and connected to the national grid.

Plant Summary (January –August 2023)		
Installed Capacity	1.3	MW
Cumulative energy Generated (Jan-Aug) 2023	4.16	GWH
Cum Income (Jan-Aug) 2023	76.39	Mn LKR
Capital Investment by CEB	115	Mn LKR
Period of operation	7.6 (7Yrs and 6Months)	Yrs

Daduruoya Mini Hydro Power Plant

Successfully commissioned the 1.3MW power plant in January 2021 at the irrigation release of Daduruoya reservoir at Katuwannawa Area. The Generator with Kaplan Turbine is expected to deliver an annual energy, worth Rs. 90 mn LKR.



Also implemented a rooftop Solar for Daduru oya Mini Hydro power plant.

Managing the Manpower Required by CEB

The Company provides the services of 126 skill and unskilled human services to CEB as



requested by the mother company. At the beginning the company handled nearly 3000 number of manpower services to CEB.

Meter Enclosure Manufacturing Plant.

The construction of the Plastic Single Phase Meter enclosure Manufacturing factory was started on 05th of September 2016 in order to fulfill the requirement of Plastic



Meter Enclosures of Ceylon Electricity Board and Lanka Electricity Company (Pvt) Ltd.

Completing the construction and machine installation, the factory was declared opened on 05th of September 2017. An annual requirement of 250,000 meter enclosures will be manufactured and supplied to the Ceylon Electricity Board and Lanka Electricity Company (Pvt) Ltd by this factory. The factory is running its capacity to fulfill the entire Meter Enclosure requirement of CEB and LECO by now and from January to August 2023 has dispatched 130,035 units of Meter Enclosures.

Plant Summary (January –August 2023)		
Installed Capacity	1.3	MW
Cumulative energy Generated (January-August 2023)	2.71	GWH
Cum Income	48.13	mn LKR
Period of operation	2.8 (2 Years and 8 Months)	Yrs

Solar Project (Roof Top)

SLE is in the process of having discussions with the local authorities

Implementation of Solar panels on roof tops in island wide as a project in 2023 onwards.



With the result of these discussions, SLE started a rooftop Solar scheme as a pilot project at Galgamuwa Pradeshiya Sabhawa.

4. Programs and projects for 2024

- **Upper Samanalawewa Mini Hydro Power Plant**

According to the study done by SLE there is a water head from the point of leakage to the existing Kumbalgamuwa weir at 28m height. a 600kw plant with 4.8GWh annual energy plant can be constructed from this water head.

This energy is wasted for more than 21 years without utilizing any productive use.

SLE did a detailed feasibility study in constructing a power plant as stated above without doing any disturbance to the existing leakage point or the surrounding area with Civil Engineering experts.

Project Summary		
Plant Capacity	700	kW
Expected Energy per Year	4.8	GWH
Exp Annual Income	86	mn LKR

- **Seethawaka Hydro Power Plant**

Seethawaka hydro project is going to be constructed as two cascaded Mini Hydro Plants with the capacity of 7MW each. The expected annual energy is about 40GWH.

Provisional approvals have been issued for two plants by SEA, Electro mechanical equipment have been tendered and it is expected to use Green Bonds as the capital investment. It is expected to commission both the plants end of 2024.

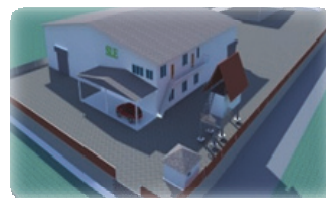


- **Scrap Aluminum Recycling Project**

The factory construction has been started and the procurement of machineries being done. All Aluminum scrap Conductors (AAC) removed from CEB are going to be recycled in this factory in order to manufacture Aluminum Rods which can be later used for manufacturing of Aerial Bundle Cables (ABC). The processed Aluminum Rods will be sent back to CEB at a negotiated price.

In the present context this recycling project offers a very high value to the environment and saves more than 4mn US \$ annually. Also as per the calculations done the output of this project serves one third of the annual Aluminum requirement of Ceylon Electricity Board. The proposed manufacturing plant is under planning and proposed to develop it on land at Galgamuwa .

At present collection of Scrap Aluminum from CEB depot has been started and stored Galgamuwa Factory premises.



Chapter Ten

Ceylon Petroleum Corporation



1 Introduction

The Ceylon Petroleum Corporation was established to carry out business activities related to the import, export, refining, sale, supply or distribution of petroleum products, and the legal provisions were given through the Ceylon Petroleum Corporation Act no 28 of 1961 to perform functions thereof.

Vision

To be a sustainable entity in the petroleum and related industries; pioneer new opportunities and deliver value to our stakeholders.

Mission

Competitiveness	- Strive to be a market leader by procuring and supplying petroleum and related products at competitive prices
Sustainability	- Be a financially, socially, and environmentally sustainable business that places emphasis in long run gains
Continuous Improvement	- Drive growth through continuous improvement of process and people. Always monitor the Corporation's growth for potential areas of improvement

Integrity	- Act in a reliable manner ensuring the Corporation's best interest at all times
Public Focus	- Aim to support the growth of the country

2 Progress of work done during the year 2023

Ceylon Petroleum Corporation imported and supplied all types of petroleum products required locally and the progress of those activities is depicted through this chapter.

2.1 Import of petroleum products by Ceylon Petroleum Corporation

Ceylon Petroleum Corporation is the main domestic importer of petroleum products and imports and distributes about 90% of the total demand. Furthermore, the import, refining and supply of crude oil has been carried out under the sole ownership of the corporation since 1969, which refines and supplies about 25% of the total domestic petroleum demand. Although, the economic crisis faced in 2022 continued till 2023 adversely affected the oil imports of the Ceylon Petroleum Corporation, maximum contribution was made to meet the domestic oil requirement. Accordingly, the progress of importing and supplying petroleum products by the corporation is presented in Table No. 10.1.

Table 10.1
Ceylon Petroleum Corporation's imports of Petroleum Products
01.01.2020 – 31.08.2023

Products	Quantity MT ('000)			
	2020	2021	2022	As at 31.08.2023
Auto Diesel	951	1,254	1,267	457.7
Super Diesel	56	68	128	11.5
Petrol- 92 Octane	837	893	888	552.1
Petrol- 95 Octane	91	103	46	18.9
Jet A-1	101	178	269	73.2
Low Sulphur Fuel Oil (180 CST)	206	245	124	61.4
High Sulphur Fuel Oil (180 CST)	146	31	-	-
Amount of imports of refined products	2,388	2,772	2,723	1,174.8
Crude Oil	1,666	1,130	743	1,006
Total import quantity	4,054	3,902	3,465	2,181

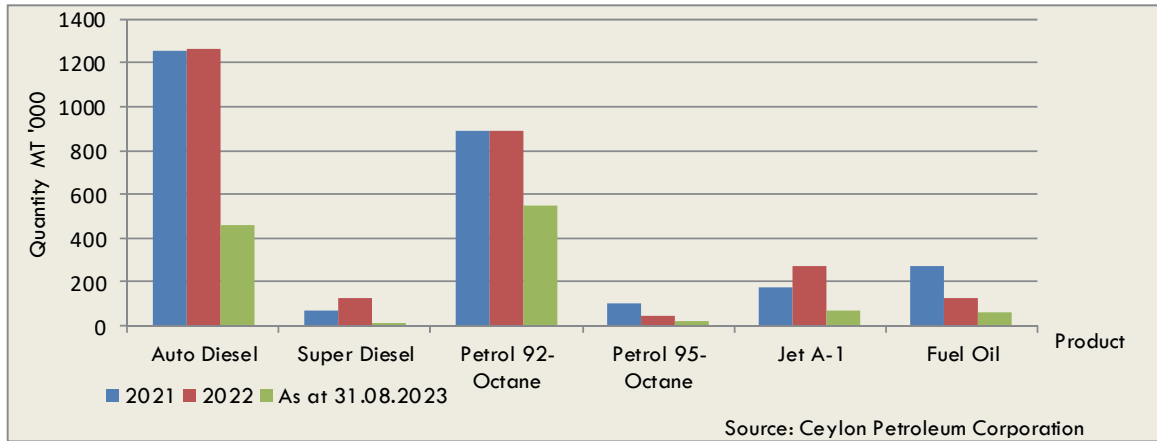
Source: Ceylon Petroleum Corporation

When considering the refined petroleum products imported by the Ceylon Petroleum Corporation from the year 2020 to 31st August 2023, 2,388,000 metric tons had been imported in the year 2020 and quantity has risen up to 2,772,000 and 2,723,000 metric tons during the years 2021 and 2022 respectively.

However, the imported quantity of refined petroleum products has showed a huge drop down to 1,174,800 metric tons within the first eight month of the year 2023. The effect of the petroleum demand control measures in the country and the Sapugaskanda refinery operating at full capacity contributed to the decline in imports of refined petroleum products in 2023.

Moreover, When taking into consideration the import of crude oil during the past years, a quantity of 1,666,000 metric tons of crude oil had been imported during the year 2020 and in the year 2021 this quantity has gradually come down to 743,000 metric tons. The low demand that prevailed for fuel locally in the year 2021 and the stoppage of refinery operations for maintenance purposes as well as the economic crisis in the year 2022 affected the limitation of crude oil import. However, when taking into consideration the first 08 months of the year 2023, around 1,006,000 metric tons of crude oil had been imported. This amount is higher than the previous year.

Figure 10.1
Imports of Refined Petroleum Products within the Past Three Years by CPC
(01.01.2021 – 31.08.2023)

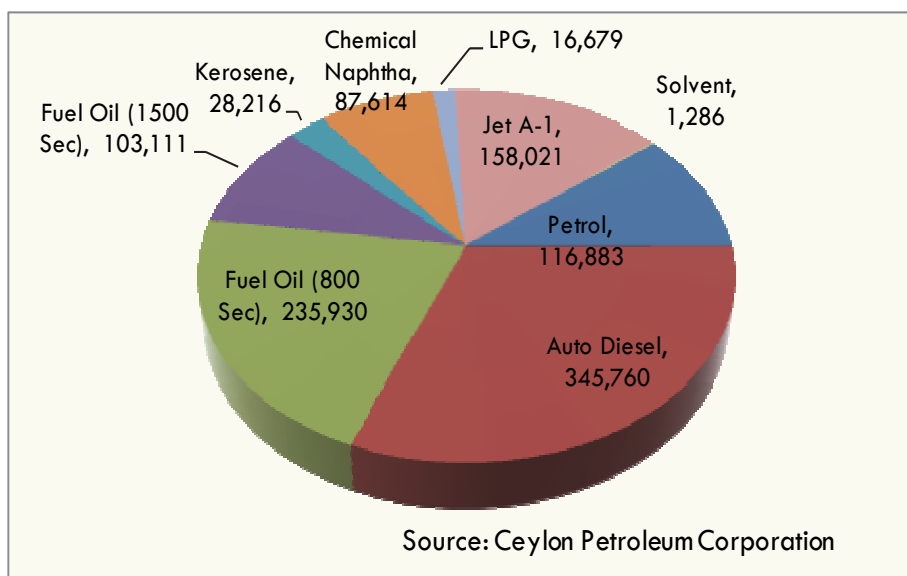


2.2 Contribution of the Sapugaskanda Oil Refinery

The Sapugaskanda Refinery, which was started in August 1969, continues to operate until now and contributes to the refining and supply of domestic petroleum needs in this country. Accordingly, a

total amount of 1,093,500 metric tons of petroleum associated products had been produced by refining 1,145,392 metric tons of crude oil during the first 09 months of the year 2023 and that amount is nearly 48% of the domestic petroleum supply. The composition of petroleum products refined by Sapugaskanda Refinery is shown in figure 10.2.

Figure 10.2
Oil Production by Ceylon Petroleum Corporation’s Refinery (MT)
January – 31st August 2023



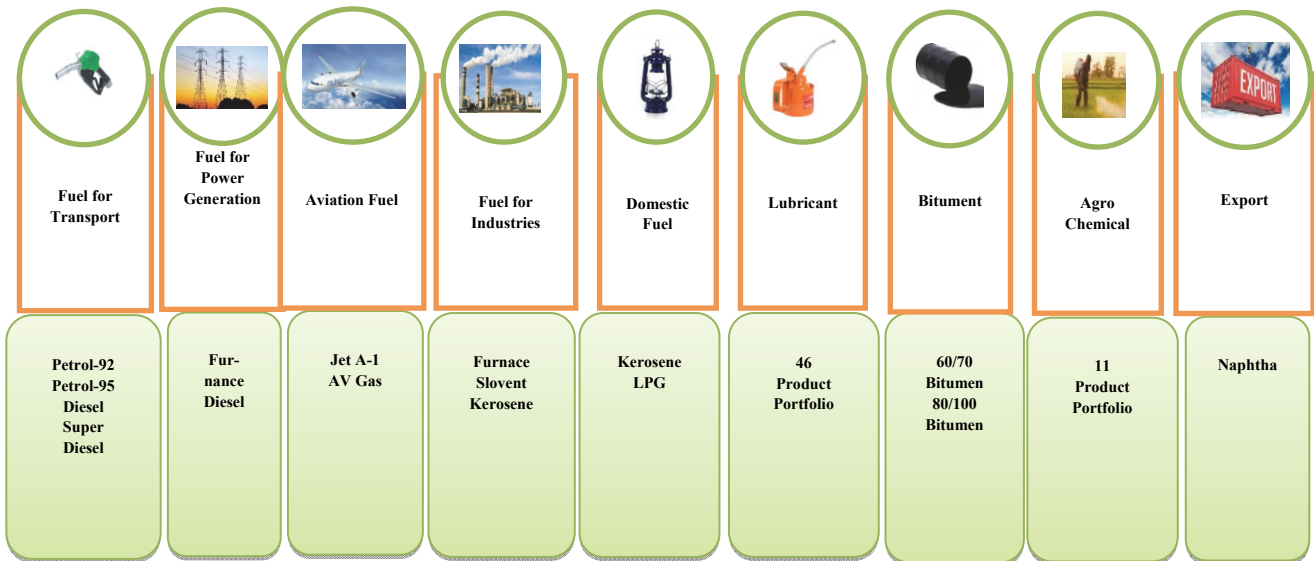
10.2.3 Sale of overall petroleum products of the Ceylon Petroleum Corporation

In accordance with escalating needs along with the increase of the population, the consumption of fuel have gone up not only in the domestic and commercial sectors, but also in the sectors of

power generation, transport, industries and agriculture. Accordingly, in order to meet the existing demand for petroleum products, the Ceylon Petroleum Corporation is engaged in sales activities in all the sectors and that sales mix is shown in Note 10.1.

Note 10.1

Petroleum products sales mix of Ceylon Petroleum Corporation



Details about the overall fuel sales of the Ceylon Petroleum Corporation from the year 2021 to 31st August 2023 are shown in table 10.2. When that information taken into consideration, total sales of 4,776,334.80 metric tons of fuel in 2021 and a total sales of 3,310,619.55 metric tons of fuel had been

recorded and a sale of 2,399,294.22 metric tons had been recorded during the period up to 31st August 2023. A gradual drop in the sale of fuel had been caused mainly by the contraction of demand due to the recession of fuel sales and the increase of fuel prices as shown during the years of 2021 to 2023.

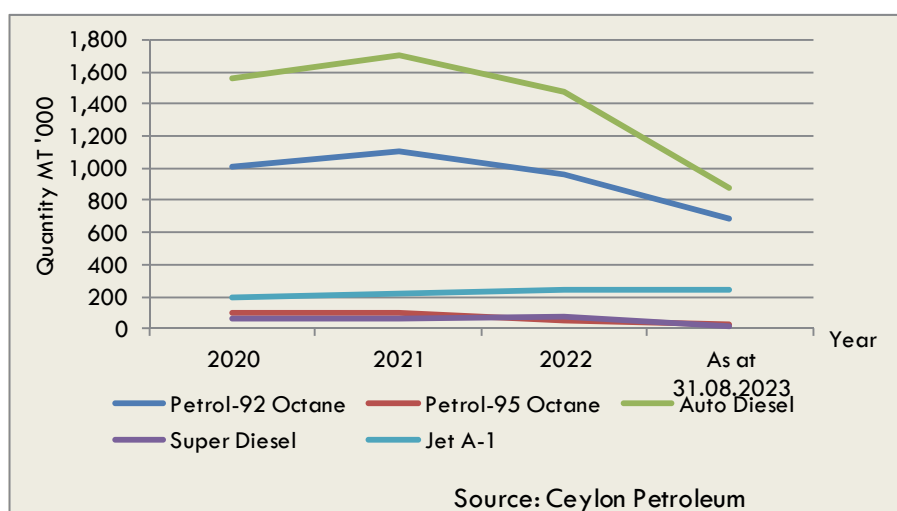
Table 10.2
CPC Island-wide Sales from 2021 – 31st August 2023

Types of Products	Total Sales (MT)		
	2021	2022	As at 31 st August 2023
Lanka Petrol -92 Octane	1,102,551.70	964,844.219	681,731.72
Lanka Petrol -95 Octane	102,809.50	55,697.245	20,633.79
Lanka Auto Diesel	1,706,041.80	1,475,577.154	876,531.77
Lanka Super Diesel	65,721.50	72,474.383	20,244.42
Lanka Kerosene	185,312.60	98,367.966	47,046.95
Lanka Industrial Kerosene	2,903.30	5,647.035	1,097.88

Types of Products	Total Sales (MT)		
	2021	2022	As at 31 st August 2023
Lanka Chemical Naphtha	333,459.20	32,262.861	96,187.47
Lanka Fuel Oil 800 Sec.	99,321.80	0.00	0.00
Lanka Fuel Oil 1500 Sec (High Sulphur)	340,198.00	198,891.936	136,361.02
Lanka Fuel Oil 1500 Sec (Low Sulphur)	407,868.40	103,379.876	204,027.68
Lanka Fuel Oil Super	203,994.20	54,978.319	76,702.73
Jet A-1	223,666.30	245,796.923	237,671.57
Lanka Solvents (SBP)	2,486.50	2,701.635	1,057.22
Total	4,776,355.20	3,310,619.55	2,399,294.22

Source: Ceylon Petroleum Corporation

Figure 10.3
Sales of Petrol, Diesel and Jet A-1 2020 Jan – 31st August 2023 (MT'000)



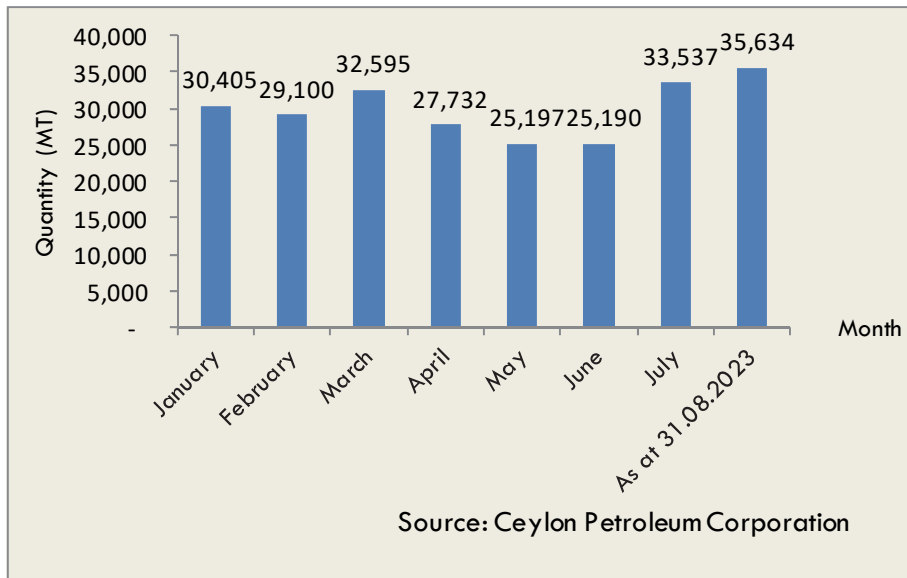
2.4 Sales of fuel to the power sector

Table 10.3
Sale of Fuels to Power Sector by CPC (Vol. Ltr '000) 2016 – 31st August 2023

Year	Lanka Auto Diesel	Naphtha	Fuel Oil	Lanka Super Diesel	Grand Total
2016	364,974	174,270	415,611	-	954,855
2017	397,330	201,989	701,983	-	1,301,302
2018	206,485	100,568	559,173	-	866,226
2019	400,085	180,665	673,547	-	1,254,296
2020	188,762	-	780,080	-	968,842
2021	120,041	15,407	474,341	-	609,789
2022	201,974	46,781	304,472	17,825	571,051
As at 31.08.2023	99,347	139,472	400,413	-	639,232

Source: Ceylon Petroleum Corporation

Figure 10.4
Sales of Lubricants in 2023 (MT)



3 Progress of infrastructure development projects

3.1 Development of Trincomalee Oil Tank Complex

Under the “Modalities for the Possession, development and use of the China bay Oil Tank Farm” agreement signed on January 2022 and CPC has been received 24 Nos. of Steel Storage tanks in

the China Bay upper tank farm for the development. Accordingly, CPC has planned stage-wise development for these tanks for the purpose of domestic distribution. As the first stage 12 Nos. of tanks will be refurbished. The approval for the proposed development on a BOT basis, was obtained from the Department of National Planning.



3.2 Development of Jet A-1 Fuel Hydrant System at Katunayaka Airport

Expansion of Jet A-1 fuel storage capacity at Katunayake Bandaranayaka International Airport, increasing fuel efficiency and this project was initiated by the Ceylon Petroleum Corporation in conjunction with the Phase II 2nd stage Development Project of the Bandaranayaka International Airport to ensure fuel supply as per international standards.

The contract was awarded for the development of the project at a tax-free amount of 51.5 USD million and the project financing was covered by a self financing facility supported by the Chinese National Chemical Engineering Construction of the contract value of 85% of the contract value. The remaining 15% will be covered by a credit facility from People's Bank. As at 31.08.2023, the physical progress of the project is 82.6% and the financial progress is 76.35%. The development of the project is planned to be completed on 31.03.2024.



Future plans of Ceylon Petroleum Corporation

- Re-initiate the Jet A-1 Pipeline & Tank farm project in Muthurajawela.
- Research possible business development opportunities for CPC to enter in the future, considering the present threats to the organization.
- Study and Capacity Building on alternative energy/fuel technologies such as Green Hydrogen, Green Ammonia, Bio-Fuels, Solar etc. which can replace fossil fuel in future to achieve Net-zero targets.

Chapter Eleven

Ceylon Petroleum Storage Terminals Limited



1 Introduction

With the entry of competitors in to the petroleum market, the "Ceylon Petroleum Storage Terminal Limited" under the Companies Act was established as a common facilitator related to the storage and distribution of fuel in both the Ceylon Petroleum Corporation and the Ceylon Indian Oil Company, distinguishing the storage and distribution activities under the Ceylon Petroleum Corporation. Ceylon Petroleum Corporation owns 2/3rd of its shares, and the remaining 1/3rd belongs to Ceylon Indian Oil Company.

Vision

"To be the most efficient Petroleum Terminal Operator in South Asia"

Mission

" To remain as the most efficient terminal operator in the island, meeting stakeholders expectations and committed to make perceivable and continual improvement in the level of customer satisfaction, while preserving the quality and ensuring the exact quantity of the petroleum products being delivered to the terminal facility users/customers, honoring the health, environmental and safety standards in force through dedicated participation of a loyal, contended and well trained workforce, guided by the feedback of the customers and the general public"

2 Progress of work done during the year 2023

Storage and distribution of products is very important to ensure uninterrupted supply while maintaining the high quality of fuel, where Ceylon Petroleum Storage Terminal Limited plays a good role. This chapter presents the progress of fuel storage and distribution activities at Ceylon Petroleum Storage Terminal Limited.

2.1 Storage of Fuel

Ceylon Petroleum Storage Terminal Limited maintains fuel storage facilities at Kolonnawa Terminal with a capacity of 252,012 MT, Muthurajawela Terminal with a capacity of 205,649 MT, and 11 regional warehouses with a capacity of 20,794 MT. Accordingly, Ceylon Petroleum Storage Terminals Limited maintains a total fuel storage capacity of 478,455 metric tons in the country. The two major terminals operated by Ceylon Petroleum Storage Terminal Limited and eleven regional terminals made an active contribution to fuel storage during the year 2023. The storage capacity of the two main terminals is shown in Table 11.1.

Table 11.1
Fuel Storage Capacity of CPSTL as on 2023.09.30

Type of Fuel	Kolonnawa (Capacity metric tons)	Muthurajawela (Capacity metric tons)	Total	Days of Storage Capacity
Naptha	10,100	-	10,100	-
Octane 95 Petrol	27,769	-	27,769	137
Octane 92 Petrol	58,941	68,746	127,687	31
Kerosene	9,813	-	9,813	39
Aviation Fuel	47,493	-	47,493	-
Auto Diesel	31,910	117,403	149,313	26
Super Diesel	17,680	-	17,680	82
Furnace Oil	44,582	19,500	64,082	-
Lanka Solvents	1,938	-	1,938	148
Lanka Industrial Kerosene	1,786	-	1,786	148
Total	252,012	205,649	457,661	

Source: Ceylon Petroleum Storage Terminals Limited

2.2 Distribution of Fuel

The distribution of fuel throughout the island is carried out by the Distribution Division of Ceylon Petroleum Storage Terminals Limited as per the fuel requirements of Ceylon Petroleum Corporation and Ceylon Indian Oil Company. As soon as Sinopec entered the domestic fuel market, the Ceylon Petroleum Storage Terminals Company started distributing fuel stocks on behalf of the company. Fuel distribution activities will be carried out properly using Kolonnawa Finish, Muthurajawela Terminal, and regional terminals across the country. Railways, pipelines, and fuel tankers will be used for the distribution of fuel. The quantities of products distributed by Ceylon Petroleum Storage Terminals Limited to each

entity from January 1, 2023, to September 30, 2023, are given below in Tables 11.2, 11.3, and 11.4.

Accordingly, the total quantity of deliveries recorded in the first nine months of 2023 is 2,415,442 metric ton, and the distribution consists of 2,282,058 metric ton of fuel from Ceylon Petroleum Corporation, 120,766 metric ton of fuel from Ceylon Indian Oil Company, and 12,618 metric ton of fuel from Sinopec Company. Accordingly, 94% of the total fuel distribution of Ceylon Petroleum Storage Terminals Limited is owned by Ceylon Petroleum Corporation, and the remaining 6% is owned by Ceylon Indian Oil Company and Sinopec Company.

Table 11.2
Progress of fuel distribution to Ceylon Petroleum Corporation in the year 2023 (MT)

Month	Octane 92 Petrol	Octane 95 Petrol	Lanka Auto Diesel	Lanka Super Diesel	Jet A1	LSK	Furnace Oil	Naptha	Total
January	66,234	2,022	80,150	1,857	29,667	4,588	16,613	13,193	214,324
February	60,262	1,519	78,553	1,747	27,710	4,544	23,717	2,910	200,961
March	70,640	1,661	91,554	1,549	31,232	5,247	42,402	10,737	255,022
April	74,659	2,930	91,852	1,714	26,517	4,872	44,783	7,509	254,837
May	70,258	3,175	89,088	3,274	24,474	4,232	26,149	11,053	231,703
June	77,572	2,818	98,108	3,472	24,492	6,136	41,305	17,273	271,176
July	74,966	3,316	99,314	3,530	32,917	5,590	39,467	11,727	270,827
August	77,700	2,623	130,932	2,838	35,113	6,341	51,990	19,045	326,583
September	69,910	2,100	87,584	3,097	32,726	6,299	34,629	20,279	256,625
Total	64,202	22,164	847,136	23,078	264,849	47,849	321,055	113,726	2,282,058

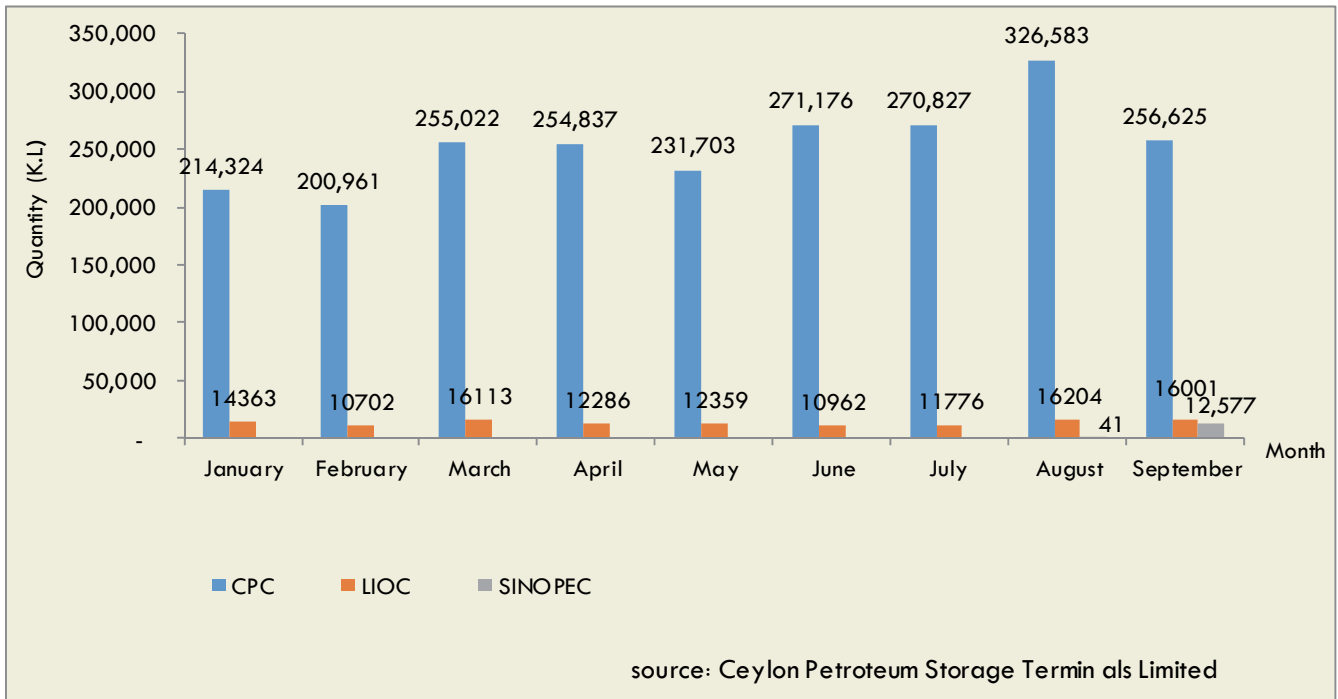
Table 11.3
Progress of fuel distribution to Lanka Indian Oil Company in the year 2023 (MT)

Month	Octane 92 Petrol	Octane 95 Petrol	Lanka Auto Diesel	Lanka Super Diesel	Total
January	9,605	669	3,995	94	14,363
February	3,328	513	6,701	160	10,702
March	7,155	313	8,502	143	16,113
April	6,006	615	5,450	215	12,286
May	7,087	918	4,051	303	12,359
June	5,710	342	4,596	314	10,962
July	5,588	694	5,235	259	11,776
August	5,273	1,314	9,258	358	16,204
September	5,079	1,079	9,484	358	16,001
Total	54,831	6,457	57,274	2,204	120,766

Table 11.4
Progress of fuel distribution to M/S Sinopec Fuel Oil Lanka Pvt. Ltd. in the year 2023 (MT)

Month	Octane 92 Petrol	Octane 95 Petrol	Lanka Auto Diesel	Lanka Super Diesel	Total
August	19	5	17	0	41
September	5,843	269	6,118	347	12,577
Total	5,862	274	6,135	347	12,618

Figure 11.1
Progress of fuel distribution of CPC in the year 2023



3 Progress of other programs implemented during the year 2023

3.1 Entering in to an Agreement with M/s Sinopec Energy Lanka Pvt Limited

Ceylon Petroleum Storage Terminals Limited entered into an agreement with Sinopec Energy Lanka on August 11, 2023, to manufacture, store, and distribute petroleum. In September 2023, delivery to Sinopec's fuel stations began.

3.2 Introduction of the GSP system for the bowser fleet owned by Ceylon Petroleum Storage Terminals Limited

Ceylon Petroleum Storage Terminals operates its own 133 bowsers (in running condition) to distribute fuel to regional terminals and filling stations. Installation of a network-based distribution management and monitoring system was initiated in October 2022 and successfully completed in April 2023. Monitoring the performance of the GSP system is carried out by

the Internal Audit Bureau, and based on the analysis of the monthly fuel consumption, it was found that after the installation of the TJ system in April 2023, the fuel consumption of KJ Bowser vehicles was reduced by 100,000 liters (Rs. 30 million) per month.

3.3 Renovation of a 14-inch-diameter pipeline from Colombo Port to Kolonnawa

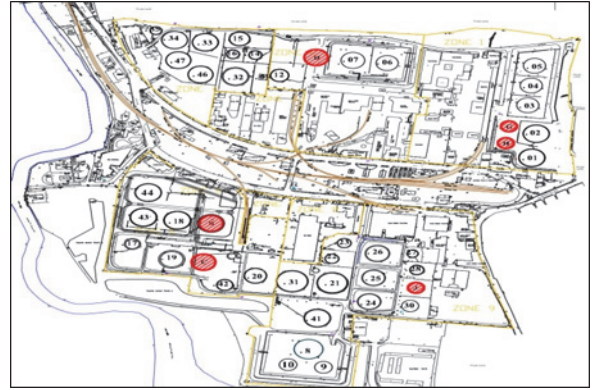
The existing pipeline system for transporting fuel is very old and in a dilapidated condition. Therefore, the renovation of the 5,750-meter-long pipeline, which is 14 inches in diameter, from the Port of Colombo to Kolonnawa was started in 2021. An estimated amount of Rs. 133 million was allocated by Ceylon Petroleum storage Terminals Limited for this project, which achieved 85% physical progress by September 31, 2023. The remaining work on the project is planned to be completed by 2023.

4 Projects proposed to be implemented in the year 2024

- Construction of an 18-inch-diameter pipeline from Colombo Port to Kolonnawa Terminal to improve fuel transport efficiency.



- Resumption of the project of construction of six fuel storage tanks with a total capacity of 64,000 cubic meters at Kolonnawa Terminal, which was stopped midway to increase fuel storage capacity.



Chapter Twelve

Petroleum Development Authority of Sri Lanka



1 Introduction

The Petroleum Development Authority of Sri Lanka, under the Ministry of Power and Energy, has been established as an independent legal authority by enforcing the Petroleum Resources Act No. 21 of 2021 and is the authorized body for the regulation and management of all petroleum and natural gas exploration, development, and production operations in Sri Lanka. In carrying out these activities, the Sri Lanka Petroleum Development Authority is responsible for ensuring that exploration of petroleum resources is carried out in accordance with good health protection and environmental practices in the field.

Vision

To ensure that all Sri Lankans benefit from the petroleum resource of the country, by managing the industry in an equitable, safe and environmentally sustainable manner.

Mission

Design and monitor fiscal regimes that meet the country's evolving economic needs, matching them with a stable, efficient regulatory framework that attracts investment and encourages knowledge transfers, until the last economic reserves are produced.

Objectives

Primary goal of Petroleum Development Authority is to explore domestic petroleum & natural gas and thereby contribute to socio-economic development as well as national energy security. To achieve this, it is necessary to achieve the following objectives in a timely manner:

- Increase upstream (exploration and production) petroleum activities.
- Increase the data volume and enhance the data quality of the national petroleum data repository
- Regularize upstream petroleum activities.
- Increase national socio-economic benefits at successive stages of the petroleum operations-in-progress.
- Prevent environmental pollution and mitigate Health, Safety and Environmental (HSE) risks, when conducting petroleum operations.

2 Activities carried out during the year 2023

Due to the recent foreign exchange crisis in the country, the importation of petroleum products was a very challenging issue, so under the policy guidance of the Ministry Petroleum and Gas Resources, which was confirmed to be available locally, Petroleum Development Authority took genuine steps for utilization. In 2023, the Petroleum Development Authority has taken a new approach to make offshore petroleum exploration and production to driver the national economy for a sustainable growth in collaboration with other alternative energy projects in Sri Lanka. In order to achieve these objectives, activities were continued to maintain the sustainable functioning of the Petroleum Development Authority of Sri Lanka by creating an attractive and conducive investment environment under an efficient administrative and legal program with a maximum capacity of minimum staff.

2.1 Draft/Publish Upstream Regulations

In order to carry out the objectives of the new Act, steps were taken to formulate regulations to establish the procedures in areas pronounced in the Act. The following two regulations were draft by Petroleum Development Authority of Sri Lanka.

- Petroleum Resources (Joint Study Agreements) Regulations No. 01 of 2023
- Petroleum Resources (Service Provider Licensing) Regulations No. 2 of 2023

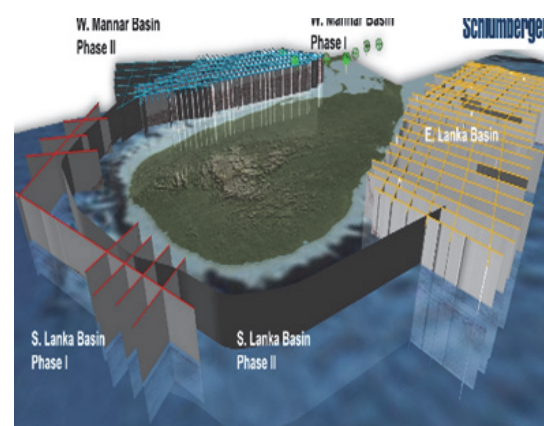
In addition to the above published regulations, essential regulations on data generation, petroleum data viewing, licensing and grant of rights for use for hydrocarbon exploration activities are being drafted and adopted soon.

2.2 Explore offshore acreage through Joint Study programs

The Sri Lanka Petroleum Development Authority continues discussions with investors who have shown interest to explore offshore blocks through joint study programmes. In the meantime, Cabinet approval has been received on July 31, 2023 to call for “Expression of interest” for joint studies in the three basins of Mannar, Kaveri and Lanka under offshore petroleum exploration activities on open acreage basis. Accordingly, Petroleum Development Authority together with the Ministry of Power and Energy is making necessary arrangements to call “Request for proposals” to carry out joint studies in all three basins.

2.3 Multi-client data acquisition, processing/reprocessing, marketing and licensing programs

Schlumberger and Bell Geospace companies continued with multi-client data processing/reprocessing, marketing and data licensing programs. These companies have launched Sri Lanka multi-client data promotions at several international conferences.



2.4 Feasibility study and pilot projects being carried out by Greenstat Hydrogen (Pvt.) Limited

According to the Memorandum of Understanding between the Petroleum Development Authority and Greenstat Institute, the feasibility study is being carried out on the use of domestic hydrogen, and Greenstat has published a road map highlighting Sri Lanka’s national hydrogen implementation strategy up until 2048 under four time bound phases in early September 2023. Preparatory work is being carried out to host a national Energy Conference in Colombo in November. Discussions are in process with US Embassy to formulate an offshore energy investor framework. Discussions with key stakeholders and industry players are in process for the implementation of feasibility studies and green hydrogen pilot projects.

3 Summary of actions proposed for 2024

- It is expected to enter into several Joint Study Agreements and possibly commence exploration activities in agreed blocks within 2024.
- Appraise and strategically develop the existing gas discoveries, particularly the Dorado reservoir, targeting early production and any other additional hydrocarbon prospects combined with viable downstream gas utilization options.
- Execute new data acquisition, processing, mapping and re-processing programs on a multi-client basis with reputable service providers using the latest advanced as well as alternative technologies.
- Recruit new technical staff to PDASL and carry out more in-house data interpretation and basin analysis related work with the assistance of international experts in order to add more quality data to the NPDR.
- Review and upgrade petroleum data management solutions that would best support data storage, back up, transfer, cataloguing, pricing & data viewing & licensing and related software/hardware development.
- Formulate a national policy for upstream petroleum industry with the assistance of industry experts.
- Review and implement an effective local content development strategy based on new regulations to develop and maximize local participation in upstream petroleum operations, which includes developing a skilled workforce, procuring optimal supplies and services domestically, improving the livelihood of needy communities and enhancing Sri Lankan professional capabilities and competencies.
- Continue with cabinet mandated Green H2 project with Greenstat and ensure feasibility studies and pilot projects as planned by Greenstat.

විදුලිබල අංශය

අංක 437, ගාලු පාර, කොළඹ 03.
இல. 437, காலி வீதி, கொழும்பு 03.
No. 437 Galle Rd, Colombo 03.
Tel. - 0112 57 49 22
Web - www.powermin.gov.lk
Fax - 0112 57 47 41

බලශක්ති අංශය

අංක 80, ශ්‍රීමත් අර්නස්ට් ද සිල්වා මාවත, කොළඹ 07.
இல. 80, சேர் ஏர்னஸ்ட் டி சில்வா மாவத்தை, கொழும்பு 07.
No. 80, Sir Ernest de Silva Mw, Colombo 07.
Tel. - 0112 37 00 32/33
Web - www.energymin.gov.lk
Fax - 0112 37 21 15