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மின்வலு மற்றும் மீள்புத்தாக்க சக்தி அமைச்சு

MINISTRY OF POWER AND RENEWABLE ENERGY

2017 කාර්යසාධනය සහ 2018 සඳහා වැඩසටහන්

2017ம் ஆண்டின் செயலாற்றுகையும்

2018ம் ஆண்டுக்கான நிகழ்ச்சித்திட்டமும்

Performance 2017 and Programmes for 2018

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Ministry of Power and Renewable Energy

Ministry of Power and Renewable Energy

Following subjects and functions have been assigned to the Ministry of Power and Renewable Energy as per the Gazette Notification, No.1933/13/3 dated 21 September 2015

1. Formulation of policies, programmes and projects, monitoring and evaluation in regard to the subjects of power & renewable energy and those subjects that come under the purview of Departments, Statuary Institutions and Public Corporations listed in the said gazette.
2. Formulation of an appropriate power policy for the control, regulation and utilization of power resources
3. Investigation, planning, monitoring and development of activities relating to generation of power from sources, such as water, heat, coal and wind
4. Rural electrification
5. Management of demand to ensure energy efficiency and development of renewable power
6. Development of Renewable Energy
7. Matters relating to all other subjects assigned to Institutions under the purview of the Ministry
8. Supervision of the Institutions under the purview of the Ministry

Vision

" Energy security of the Nation is assured .."

Mission

"Provide Quality, Reliable, Sustainable and affordable energy for economic prosperity of the Nation. "

The Institutions under the Purview of the Ministry

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இலங்கை மின்சார சபை
CEYLON ELECTRICITY BOARD

CEB: Established by Act No.17 of 1969. It is empowered to generate electrical energy, transmit it and distribute same to all categories of consumers and to collect revenue as per the tariff approved by the Public Utilities Commission of Sri Lanka (PUCSL)

LECO

Lanka Electricity Company (Private) Limited (LECO) : A subsidiary of CEB with shareholding of 54.84% , and with minority shareholding of the Treasury 43.56%, Urban Development Authority 0.79% and Local Authority 0.81%

LTL HOLDINGS

LTL: A subsidiary of CEB with shareholding of 63% , with minority shareholding of its employees (37%)

Sri Lanka Sustainable Energy Authority (SLSEA) : Established under the Sustainable Energy Authorty Act , No.35 of 2007

Sri Lanka Atomic Energy Regulatory Council : Established under the Sri Lanka Atomic Energy Act No. 40 of 2014

Sri Lanka Atomic Energy Board : Established under the Sri Lanka Atomic Energy Act, No.40 of 2014

Lanka Coal Company (Pvt). Ltd : A subsidiary of CEB with shareholding of 60% with minority shareholding by the Treasury (20%), Sri Lanka Shipping Corporation (10%) and Sri Lanka Ports Authority (10%)

Sri Lanka Energies (Pvt) Ltd : A subsidiary of CEB with 100 % share holding.

Development Objectives

The Ministry plans to increase generation capacity of the system including increase of share of Renewable Energy sources, diversifying the Energy Mix, reducing total technical and commercial losses of the Transmission and Distribution networks and implementation of Demand Side Management measures fulfilling the following development objectives:

1. Increase Power Generation Capacity of the country from the existing 4,043 MW to 6,900 MW by 2025 with maximum development of Renewable Energy
2. Improve Transmission Network,
   From 601 km of 220 kV to 1,300 km by 2025
   From 2,310 km of 130 kV to 3,000 km by 2025
3. Improve Distribution Network to provide quality service and to maintain 100% Household Electrification level.
4. Increase Renewable Energy capacity from existing 32% in 2016 to achive the status of carbon neutrality by 2050.
5. Reduce Technical and Commercial losses of the System from 10% to 9% by 2025
6. Convert the power system of the country to a Smart Grid by encouraging manufacturing of electrical equipment locally

Power Sector Status and Performance 2017

Sri Lanka's national electrification ratio has grown from 99.3% in 2016 to 99.7% in October 2017, and has already reached 100% electricity accessibility which is commendable by south Asian standards. Sri Lanka is the only country in South Asia that has 100% electricity accessibility with 24 hrs uninterrupted electricity supply.

Electricity Demand

Demand for electricity is growing at a rate of about 6% per year. Maximum reported Peak Demand during 2017 was 2,523 MW on 17th May 2017. Average daily demand was approximately 40 GWh and maximum reported on 26th April 2017, was 44.97 GWh.

9, 681 GWh of electricity has been generated up to the month of August 2017. Forecasted electricity demand for end of 2017 and 2018, according to the Least Cost Long-Term Generation Expansion Plan are respectively 13, 656 GWh and 14, 588 GWh respectively.

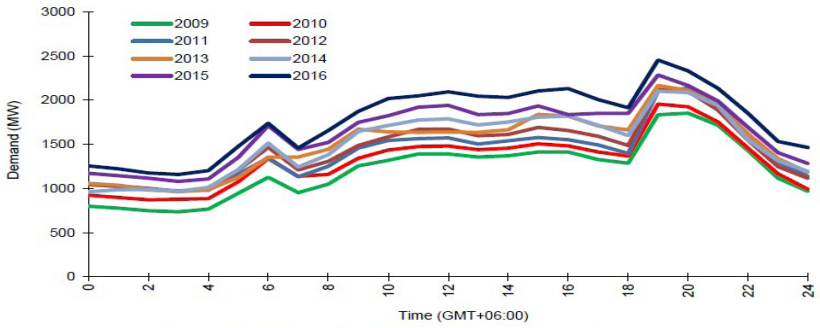


Figure 3.3 - Change in Daily Load Curve Over the Years

Maximum Daily demand in,
25 April 2016 42.34 GWh
26 April 2017 44.97 GWh

Figure 1: Change in Daily Load Curve over the years

There are 6,647,074 electricity consumers in the country, dominated by domestic consumers (87%) according to the tariff category. Electricity demand consists of 34% of Domestic consumers, 29% from Industries and 21% from General Purpose consumers, with the balance 16% coming from Religious organizations, Government institutions, Hotels and Street lighting.

Electricity Consumer base	
Domestic	5,813,077
Religious	39,744
General Purpose	726,271
Industrial	62,437
Government	2,212
Hotel	565
Bulk+S.L.	2,768
Total	**6,647,074**

Figure 2: Number of Electricity consumers in the country 2017

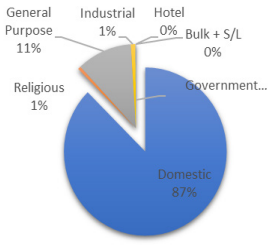


Figure 3: Consumer categories

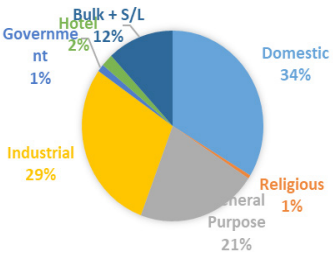
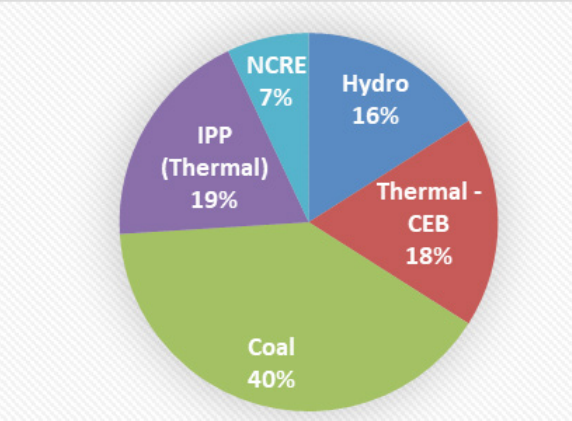


Figure 4: Electricity Demand by sectors

Installed Electricity Generation Capacity 2017

Installed electricity generation capacity of the national power grid is 4,043 MW as at August 2017, which is a 0.6% increase from last year.

During the last eight months of 2017, respective electricity generation shares in total generation were 23% hydropower and other renewables (NCRE) ,40% Coal, and 37% Oil.



Source	Capacity	No. of Power Plant
Major Hydro	1,364 MW	17
Thermal		
Coal	900 MW	1
CEB	604 MW	7
IPP	611 MW	5
Renewable Energy		
Mini Hydro	356 MW	182
Wind	128 MW	15
Solar	51 MW	8
Biomass	29 MW	9
Total Capacity	**4,043 MW**	244

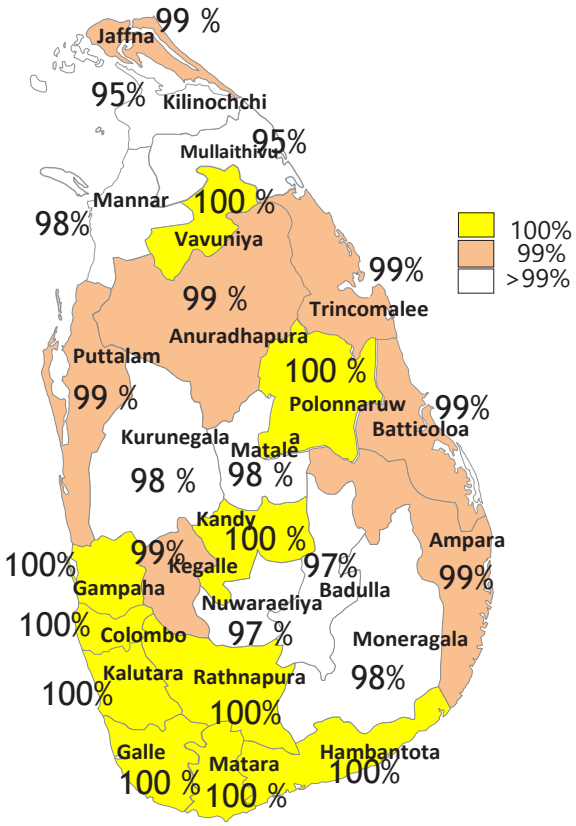
Figure: 6 Generation Mix 2017 (up to August)

1 Enhanced Electricity Accessibility – Electricity Distribution

Electricity distribution network consist of 28, 479 Low Voltage Electricity Distribution substations, 33 kV and 11 kV Medium voltage (MV) lines currently 32,863 km in length and Low voltage distribution lines which are 139,213 km in length including underground cables.

Ministry ensures the rural electrification towards improvement of the quality of life of rural people and balanced economic development of rural areas. Up to August, of this year, 692 km of Medium Voltage distribution lines and 3,239 km of Low Voltage distribution lines and 118 distribution substations were constructed with a cost of 10.6 billion Rupees. In 2017, 129,798 new service connections including 111,200 new household (Domestic) connections were provided.

Electrification level – 99.7%



Following Electricity Distribution projects were carried out in 2017

	Project	Total Estimated cost (Rs. Mn)	Funding Agency	Present status sept-2017.
1	Electricity Supply Reliability Improvement Project • Construction of 116 schemes Power supply to 35,710 households • Construction of Hybrid renewable energy systems in 03 small islands in Northern province, Nainativu, Analitivu, Delft	20,073	Asian Development Bank	Procurement process commenced and on going
2	MV Network Energy Efficiency Improvement • Construction of 33kV tower lines and gantries in Vavuniya,Kebithigollawa, Anuradapura, kahatagasdigiliya Kiribathkumbura,Galaha Akkaraipatthu, Pothivil.	2,100	Asian Development Bank	Constructions 92% completed
3	Efficiency improvement of MV Distribution Network • Construction of 82 km of 33 kV Tower Lines and Five 33 kV Switching Gantries	1,040	Asian Development Bank	48% of Constructions work completed
4	Capacity Improvement of LECO Distribution Network	2,165	CEB	34% of Constructions work completed

National Programme on Energy Demand Side Management, Efficient Energy Use and Energy Conservation – The Presidential Task Force on Demand Side Management

Government has given a high priority to Energy Conversation and Efficient usage of Energy through its manifesto. Energy sector of Sri Lanka is heavily dependent on imported coal and petroleum resources. It is envisaged that an average of 1,000 GWh of electricity can be saved within next 5 years and the following projects are being implemented to achieve this target,

- Replacing inefficient street lamps with efficient LED street lamps by the Ministry of Provincial Councils and Local Government.
  -Bidding process has been commenced.
- Energy Labelling for electric appliances
  -Energy labelling of Fans & LED bulbs has been completed, and energy labeling of Refrigerators is in progress
- Development of a Smart Grid
- Distribution of LED Lamps to the households targeting to reduce 300 MW from the Peak demand. 10 million *LED Bulbs to be distributed among the consumers of less than 90 units per month replacing inefficient incandescent bulbs.*

the cost to be recovered from the cosumer within 24 months, from their saving.

2. Electricity Generation Expansion

According to the draft Energy Policy, our vision is to pave the way to realize Carbon neutrality by 2050. Share of Renewable Energy in the power generation in 2016 was 32%. In a wet year like 2013 this share is 60%. Power generation facilities are planned and implemented in order to cater to the increasing demand according to the Long-Term Generation Expansion Plan of CEB (2018-2037). Main concern is given to the construction of optimal power generating plants with minimum impact to the environment and all plans are prepared to meet international obligations including COP 21.

- **Soorya Bala Sangramaya I**

  1. Solar Roof Top programme

  Target is to generate 1,000 MW from 1,000,000 solar Roof Tops

  100 MW was connected to the national grid by 7,000 consumers within the year.

  2. "Rivi Aruna" programme

  Solar Roof Tops systems were installed at 74 Religious places and connected to the National Grid.

Temples	*66*	*Mosques*	*03*
Kovil	*02*	*Churches*	*03*

  3. Solar Village Programme

  This programme was initiated to develop 5,000 low income households in 10 villages as solar roof top power generators. Following villages have been identified to launch the first phase of the programme, This Programme has already been strated in Yattogoda and Bakamuna.

  Yattogoda Village in Galigamuwa, Kegalle District
  Bakamuna Village in Polonnaruwa district
  Bolgoda village in Kalutara district
  Low income villagers in Ampara
  Vilooya Village in Monaragala district
  Manalembo village in Bingiriya, Kurunagala district

- **Soorya Bala Sangramaya II**

  Construction of Solar Power plants of 150 MW capacity as 1 MWx60 and 1MWX90 has been planned. Developers are selected based on the competitive bidding process which has already been commenced.

- **Soorya Bala Sangramaya III**

  50 MW of Solar Power capacity has been planned as 10MWX5 Solar Power projects.

  Valachchenai 10 MW Solar Power project and Polonnaruwa 10 MW project was initiated and the bidding process is going on.

- **Soorya Bala Sangramaya IV**

  400 MW Solar Power was planned under Soorya Bala Sangramaya Phase IV as follows,
  100 MW of Floating Solar Park in Maduruoya
  100 MWX2 Solar Power Park in Pooneryn
  100 MW Solar Power Park in Monaragala.
  Preliminary work has been commenced for the implementation of Maduruoya and Pooneryn Solar Parks.

- **Hydro Power**

122 MW Uma Oya Hydro Power Project	71% of construction completed upto now. (Completion year is 2019)
35 MW Broadlands Hydro Power Project	40% of construction completed upto now. (Completion year is 2020)
31 MW Moragolla Hydropower project	Project is in the Bidding Stage. (Completion year is 2022.)
Samanala Power Station Rehabilitation Project (Polpitiya)	86% of construction completed upto now. (Completion year is 2018)
20 MW Seethawaka Hydro Power Project	Feasibility Study is going on. (Completion year is 2022.)
25 MW Moragahakanda Hydro Power project	Construction Completed.

- **Wind Power**

100 MW Semi- Dispatchable type Wind Farm along the Southern Coast of Mannar Island	**Project is in the bidding stage (Completion year is 2020)**

- **Mini Hydro**

  27 MW was connected to the National Grid by 16 new Mini Hydro Power Plants in 2017.

- **Biomass**

  8.6 MW was connected to the National Grid in 2017

- **Thermal Power**

300 MW Natural Gas Fired Combined Cycle Power Plant- Kerawalapitiya	**Project is in the bidding stage (Completion year is 2019)**
100 MW Barge Mounted Diesel Power Plant, Galle	Project is in the Bidding stage (Commissioning year is 2018)
24 MW X 4 Furnace Oil Fired Power Plants in Kappalthurai, Monaragala, Horana & Pallekale.	Project is in the Bidding stage (Commissioning year is 2018)
50 MW Mobile Generators	Procument process completed.
100 MW Emergency Power	Bidding process commenced. Operations will be done in 2018

- **Electricity Generation projects under Annual budget 2017**

	Project	Status Sept- 2017
1	Solar Roof Top Power Generation pilot project funded by ADB Installation of Solar rooftop systems at Universities and Private Sector Institutions	Budgetary allocation Rs. Mn. 277 Physical progress 100% Financial progress 60%
2	Promoting Sustainable Biomass Energy Production and Modern Bio-Energy Technologies funded by UNDP	Budgetary allocation Rs.Mn. 123 Physical progress 70% Financial progress 90%
3	Appropriate Mitigation Actions in the Energy Generation and End Use Sectors in Sri Lanka funded by UNDP	Budgetary allocation Rs.Mn. 103 Physical progress 40% Financial progress 60%

	Project	Status - Sep 2017
4	Supporting Electricity Supply Reliability Improvement Project conducted by SEA (Awareness programmes on efficient energy use for households in Nainathiv, Analativ and Delft)	Budgetary allocation Rs Mn 14. Funded by ADB Project is in the Bidding Stage
5	Introduce subsidy to households to convert in to Solar Energy LKR 350,000/- of loan amount is provided on concessionary basis. 50% of the loan interest rate or maximum concessionary loan interest rate of 6% whichever is less will be paid as the concessionary loan interest.	Budgetary allocation Rs Mn 1,000 Cabinet approval has received in March 2017 to proceed the project. Fallowing banks singed agreements with Ministry of Finance and project is being implemented. Peoples'Bank, Bank of Ceylon, Lankaputhra Bank, NSB, RDB, HNB, Commercial Bank, DFCC Bank
6	Convert Public Sector buildings to green energy by introducing Solar Roof top electricity generation provide solar power systems to 125 buildings of public institutes as follows, I. Provision of solar power systems for selected hospitals in each district through disbursement of 75% of these funds. II. Providing of solar panels using balance 25% provision to the public organizations which are capable to share the project cost.	Budgetary allocation Rs Mn 350 Bids called for selection of developers

3 Electricity Transmission Development

The National Transmission Network comprises of 601 km of 220 kV high voltage lines and 2,310 km of 132 kV high voltage lines delivering power to 63 Grid Substations. The entire length of transmission lines and the grid substations with all associated equipment form the transmission system. The transmission system receives power at generating stations, steps up to the transmission voltages of either 132 kV or 220 kV, and delivers to Grid Substations, where the power is stepped down to either 33 kV or 11 kV.

The transmission network has been upgraded by implementation of number of transmission development projects to ensure the reliability and quality of electricity supply and to enable the evacuation of power from new generation facilities. Necessary improvements were done to increase the integration of renewable energy sources into the grid. The progress of all these projects is monitored by the Ministry to ensure the completion of projects on schedule. Transmission and Distribution losses were reported to be 8.7% of net generation during the last 8 months in 2017.

- **Transmission development Projects carried out in 2017**

	Project	Status
1	Clean Energy & Network Efficiency Improvement Project (Funded by ADB)	
1.1	Construction of Mannar Transmission Infrastructure Augmentation of Vavuniya GS & Construction of Mannar GS. Construction of Transmission lines; New Anuradhapura to Vavuniya 55 km & Vavuniya to Mannar 70 km,	Total Estimated cost Rs Mn. 4,149 Physical progress 82% Financial progress 40%
1.2	Construction 132 kV Transmission infrastructure Construction of Kegalle GS & augmentation of Thulhiriya GS. Installation of Breaker Switched capacitor banks for loss reduction at Biyagama Sapugaskanda, Kolonnawa, New Kolonnawa old GSs Construction of Transmission Lines Thulhiriya - Kegalle 22.5 km, Polpitiya - New Polpitiya 10 km, Athurugiriya - Padukka 10 km, Athurugiriya - Kolonnawa 15 km,	Total Estimated cost Rs Mn. 3,018 Physical progress 84% Financial progress 80%
1.3	Construction of 220 kV Transmission Infrastructure Construction of New Polpitiya & Padukka GSs. Augmentation of Pannipitiya GS. Construction of New Polpitiya - Pannipitiya 58.5 km, Transmission Line through Padukka.	Total Estimated cost Rs Mn. 2,100 Physical progress 92 Financial progress 80%
1.4	Medium Volatge Network Energy Efficiency Improvement Construction of 33 kV tower lines and gantries in Vavuniya, Kebithigollawa, Anuradapura, Kahatagasdigiliya Kiribathkumbura, Galaha, Akkaraipatthu, Pothivil.	Total Estimated cost Rs Mn. 7,985 Physical progress 81%

	Project	Status
2	Green Power Development and Energy Efficiency Improvement Investment (Tranche 1)	
2.1	Construction of Kappalthurai GSs and Augmentation of Kerawalapitiya, Katunayake, Trincomalee GSs Augmentation of New Anuradhapura GS and Construction of Kesbewa,Kaluthara Old Anuradhapura GSs Construction of 132 kV Transmission lines in Kappaithurai, Kalutara, Kesbewa and Old Anuradhapura.	Total Estimated cost Rs Mn. 5,847 Funded by ADB & AFD Physical progress 30% Financial progress 20%
2.2	Efficiency improvement of Medium Volatge Distribution Network Construction of 82 km of 33 kV Tower Lines and Five 33 kV Switching Gantries	Total Estimated cost Rs Mn. 1,040 Funded by ADB Physical progress 48% Financial progress 30%

	Project	Status
3	Green Power Development and Energy Efficiency Improvement Investment (Tranche 2)	
3.1	Construction of Hambantota Grid Substation New Polpitiya-Hambantota, 150 km long transmission line Construction of Nadukuda new GS, Augmentation of Mannar GS Mannar - Nadukuda 30 km long transmission line Padukka - Horana 25 km transmission line Augmentation of Kotugoda, Kolonnawa, Horana, Dehiwala, Madampe Grid Substations and Padukka Switching Station. Construction of Biyagam, GS and Augmentation Medium Volatage network improvement	Preliminary works commenced Completed by 2019. TEC: Rs Bn. 27.5 Funded by ADB
4	Renewable Energy Absorption Transmission Development Project Construction of new Grid Substations at Maliboda, Wewalwatta, Nawalapitiya and Ragala	Project is in the bidding stage TEC: Rs Mn. 6,228 Funded by AFD

	Project	Status
5	Electricity Supply Reliability Improvement Project (Funded by ADB)	
	(Northern, Eastern, North Central and Uva Provinces) Construction of 116 schemes Power supply to 35,710 Construction of Hybrid renewable energy systems in 3 small islands in Northern province, Nainativu, Analitivu, Delft	procurement of material on going TEC: Rs Bn. 20

	Project	Status
6	Colombo City Transmission Development & Loss Reduction Project	Total Estimated cost Rs Mn. 20,105 Funded by JICA Physical progress 64% Financial progress 20%
7	Construction of New Habarana Switching Station and New Habarana Veyangoda Transmission Line	Total Estimated cost Rs Mn. 10,558 Funded by JICA Physical progress 7.8%
8	National Transmission and Distribution Network Development and Efficiency Improvement Project Phase 1	Total Estimated cost Rs Mn. 38,190 Funded by JICA Project is in the bidding process
9	System Control Centre Modernization Project-Sri Jayawardenapura	Total Estimated cost Rs Mn. 2,863 CEB funds Physical progress 86% Financial progress 40%
10	Kiribathkumbura Grid Substation Augmentation	Total Estimated cost Rs Mn. 1,042 CEB funds Physical progress 86% Financial progress 100%

4. Special Achievements

- **Manufacturing of Smart Meters Locally**

A smart meter manufacturing company was established on 30th January 2017 at Bandaragama as ANTE LECO Metering Company (Pvt) Ltd, which is a subsidiary of LECO, where 70% of the shares is owned by LECO and 30% by Ante Meter Company Ltd. of China.

- **Establishment of Electricity Meter Enclosure Factory at Kegalle.**

More than 250,000 meter enclosures required for the CEB and LECO are obtained through competitive bidding and shortages in the market may cause delays in fulfilling consumer demands. Therefore, a factory was established to produce meter enclosures in Galigamuwa Industrial Zone in Kegalle through the Sri Lanka Energies Private Limited owned by CEB. Operations of the factory was commenced on 04 September 2017

- **Competitive bidding process for development of Solar and Wind resources**

Introduction of competitive bidding process for Wind and Solar power projects which reduces purchasing tariff by approximately 50%

In two 10 MW of wind projects tariff reduced from Rs.22.00/KWh to Rs.12.29/KWh (44% reduction)
In one 10 MW solar project tariff reduced from Rs.23.10/KWh to Rs.11.86/kWh (48.7% reduction)

- **Power Sector Post Disaster Need Assessment & Recovery Frame work 2017**

Mainly electricity distribution network in five districts (Rathnapura, Galle , Matara, Hambantota and Kalutara) was damaged by severe floods and landslides in May 2017. Power supply was restored in most of the affected areas within 3 to 10 days depending on the accessibility. The net value of the damage and losses in the power sector was estimated to be LKR 652.45 million. Damages to the infrastructure is estimated to be LKR 474.31 million, the total revenue loss was recorded as LKR 178.15 million across the five disaster affected districts in the country. LKR 2.1 billion was estimated as total recovery and reconstruction need for power sector.

Programme for 2018

Major Projects planned for 2018

1. Electricity Generation projects

	Power Project	Capacity (MW)	Anticipated Investment (USD Million)
Thermal	Furnace oil fired Barge Power Plant at Galle	100	110
	Furnace oil fired Power Plant	4X24 MW	110
	Emergency Power Plant	100	110
renewable	Wind Power Plant Chawakachcheri	2X10 MW	20
	solar Power Plant- Valachchenai	10	14
	solar Power Plant- Polanaruwa	10	14
	1MWX60 Solar Power Plants	60	80
	1MWX90 Solar Power Plants	90	125

2. Electricity Transmission projects

	Project	Investment (USD Million)	Project Duration
1	Port City Development Phase 1	30	2017-2019
2	Construction of Kerawalapitiya Port City 220 kV 2nd Cable	37	2018-2020
3	Construction of Kerawalapitiya 220 kV Switching Station	16	2018-2020
4	Construction of Hambantota-Matara 132 kV Transmission Line	19	2018-2020
5	Development of Vavuniya Grid Substation	16	2018-2020
6	Reconstruction of New Anuradhapura-Trincomalee Transmission Line	22	2018-2020
7	Augmentation of chunnakum 132/33kV Grid Substation	2	2018-2020
8	Construction of Kandy city 132/11 kV Grid Substation	18	2018-2020
9	Construction of Homagama 132/33 kV Grid Substation	8	2018-2020
10	Construction of Rajagiriya Grid Substation	13	2018-2020
11	Construction of Tissamaharama 132/33kV Grid Substation	12	2018-2020
12	Construction of Kalawana 132/33kV Grid Substation	13	2018-2020

3. Electricity Distribution projects

	Project	Investment (USD Million)	Project Duration
1	Conversion of Townships Overhead Distribution Network in to Under Ground Network	75	2018-2019
2	Design and Develop Smart meters for Sri Lankan market	168	2018-2020
3	Development of Medium Voltage network & Remote Metering for Municipal Areas	91	2018-2022

4. Feasibility Studies

	Project	Investment (USD Million)	Project Duration
1	Indo Sri Lanka Interconnection line between Madurai & Anuradhapura	50	2018
2	Victoria Expansion	10	2018
3	Samanalawewa Expansion	10	2018
4	Ginganga Expansion	10	2018

Ceylon Electricity Board

Performance 2017

Introduction

The Ceylon Electricity Board (CEB) is a body corporate established by the Act No. 17 of 1969. It is empowered to generate electrical energy, transmit it and distribute same to all categories of consumers, to collect revenue as per the tariff approved by the Public Utility Commission of Sri Lanka (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 Thorough 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.

Strategies/Strategic Themes

CEB has a set of *'Strategic Themes'* or *'Strategies'* (also referred to as '*Long term objectives'*) formulated in order to realize the organization's long term Vision and Mission. These are as given below:

- To provide Electricity to every Sri Lankan citizen;
- To improve the quality of supply and service to customers and
- To maintain a strong network with external stakeholders
- To become a Low Cost Electricity Supplier;
- To optimise absorption of Green Electricity to the network and
- To establish an efficient facilitation system

The above six long term objectives now form the six Strategic Themes or Strategies of the CEB:

In order to achieve its Vision, Mission and Strategies, the CEB in 2010 adopted the Balanced Score Card (BSC), a world renowned Strategy Management Tool.

1. Overview of Electricity Supply

From a wet year to a dry year, CEB's annual expenditure on generation significantly varies with the amounts of electricity generated from thermal power plants of both CEB and IPPs. The 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. However, the demand for electricity is growing at a rate of about 6% per year which requires the addition of about 100 MW of capacity annually to the existing installed generation capacity. The CEB needs considerable investment for the development of its transmission and distribution network. This requires the expansion of CEB's present electrical network to cater to the increase in demand coming from new customers. Rural Electrification, being directed towards improvement of the quality of life of rural people and economic development of rural areas, the GOSL need to continue to compensate the CEB through investment or operational support, whenever such projects become commercially non-viable.

2. Improved Reliability and Customer Care

With the scheduled conclusion of CEB's drive to electrify whole of Sri Lanka, (by the end of 2017 achieved 99.4%), CEB shifted its focus to improve the quality of services offered by CEB to win the hearts & minds of consumers. To instigate the transformation of CEB to be a more customer friendly organization, a list of novel customer services initiatives was identified. This list included many mobile and Internet based services, aiming at the IT savvy and busy modern day consumer. CEB also launched a major training drive to train CEB's key customer interface staff on Customer Service Excellence by obtaining the services of the renowned inspirational and soft skills trainers.

So far, CEB had achieved or in progress of achieving many deliverables in the aforementioned list such as, facilitation of paying electricity bills of any province at any CEB paying Centre, informing planned supply interruptions via SMS, pre warning consumers of any disconnections (due to delay in bill settling) a day before the scheduled disconnection, establish front offices at all CEB offices for customer convenience etc.

CEB also extended the "*Door Step Service*" to other areas of Colombo City where a prospective consumer can obtain a new electricity connection under this scheme without even visiting a CEB office.

3. Electricity Demand

During the first half of 2017, the demand for electricity was increased by 2.9% while the maximum demand recorded during this period was 2,523.2 MW as against 2,452.9 MW last year. During this 6 months' period 7,120 million Units (GWh) were generated and 6,597 GWh sold.

3.1. Electricity Demand Forecast for 2018

For year 2018 the electricity demand forecast based on CEB Long Term Generation Expansion Plan 2018-2037 is as follows:

Year	Demand		Generation		Peak
	(GWh)	Growth Rate (%)	(GWh)	Growth Rate (%)	(MW)
2018	14588	6.8%	16188	6.8%	2738

It is projected an average growth rate of 5.9% for Electricity Demand up to 2020 and 5.0% average growth rate for the 20 year planning horizon.

4. Electricity Conservation

The main energy conservation program for the period is Demand Side Management (DSM).

CEB engages with utility based Demand-side Management Programmes. CEB presently carries out 3 pilot projects under the green power development and energy efficiency improvement project funded by ADB as given below;

	Project name	Fund	Present status
1	Design, Supply, Installation and commissioning of Smart Metering Pilot Project	1 million	Financial evaluation finalized
2	Design Supply, Installation and commissioning of Smart Building Pilot Project	1 million	The tender was floated
3	Thermal storage pilot project	1.5 million	In the technical evaluation process

In addition to the projects mentioned above, the following projects are in progress

1. Implementation of Street Lighting Pilot Project at Homagama
2. Design and installation of Electric Vehicle Fast charging stations
3. Study of impact of roof top solar installations on national grid.

During the year, DSM Unit conducted "Art and electrical energy saving tips competition on electrical energy conservation and efficient use of electrical energy "among the island wide school children in order to promote the idea of energy efficiency among the school children

Annually DSM unit of CEB conducts awareness programme on energy efficacy and efficient use of energy for industries and commercial entities to educate its employees and also conducts the energy audit on consumer request in order to improve the energy efficiency of bulk consumers.

5. Power generation

The Generation Division of Ceylon Electricity Board is responsible for the operation and maintenance of Thermal and Hydro Power Plants and a Wind Power Plant owned by CEB. Generation Assets consist of 17 large Hydro Power Plants totalling to an installed capacity of 1,383.85 MW, seven large oil-fired Thermal Power Plants with an installed capacity of 604 MW, one 900MW Coal-fired Power Plant and a 3MW Wind Power Plant. CEB also operates few power plants in the isolated networks in surrounding islands of Jaffna Peninsula. Thus the total installed Capacity of CEB-owned Power Plants as at August 2017 were 2,891MW.

Generation details of CEB and Private Power Producers up to 2017/07/31 is given below.

By end of July, the total generation stood at 8,250 GWh, of which 15% has come from major hydro generation. While the share of Coal power generation standing at 40%. Thermal Oil had contributed to 38% of total energy generation (total thermal power standing at 78%). Other renewable sources had a share of 7%. In comparison, by end July 2016, contribution from major hydro was 30%.

Description		Generation (GWh)
CEB	Hydro	1,243
	Thermal - Coal	3,325
	Thermal - Oil	1,533
	NCRE-Wind	1
IPP	Hydro	317
	Thermal	1,588
	NCRE - Wind	171
	NCRE - Other	72
	TOTAL	**8,250**

6. Expansion of Generation Capacity

The implementation of the new Generation Projects is going ahead as envisaged in the CEB's Long Term Generation Expansion Plan (2018 – 2037).

The current status of Generation Expansion Projects is as follows.

6.1. Hydro Power Generation Expansion Projects

6.1.1. Uma Oya Hydro Power Project

Uma Oya Multipurpose Development Project was implemented by the Ministry of Irrigations & Water Management in coordination with the Ministry of power and Energy and CEB.

The estimated capacity of the project is 120MW and the expected annual energy production is 231 GWh. The project consists of two small reservoirs near Puhulpola and Dyraaba and a link tunnel to connect the two reservoirs. A transbasin tunnel that will divert the water from Uma Oya to Kirindi Oya via the underground Power Station located at Randeniya. The power plant will be connected via a 27km 132kV Transmission line to Badulla Grid Substation.

The total cost of the project is 529 million USD and 6 billion LKR. The Government of Iran provides 450 million USD through Export Development Bank of Iran as a loan.

The contract between Ministry of Irrigations & Water Management and Farab Energy and Water Project Company, the nominated contractor from Iran was signed in 28 April 2008 and the contract became effective in March 2010. The expected project completion date is on June 2018.

- Generation Capacity - 120 MW (2 x 60MW)
- Total Project Cost - USD 529 million + LKR 6 billion
- Funding Arrangement - Export Development Bank Iran (EDBI) – US$ 450,000,000
  - Government of Sri Lanka (GOSL) – US$ 79,059,198 +LKR 6 billion
  Project funds are with Ministry of Irrigation & Water Resources Management
- Annual Energy Generation 290 GWh
- Expected date of completion 2018 June

The current progress of the project as at 2017-07-31 is as follows.

Dyraaba Dam 96% completed.

Puhulpola Dam 54% completed

Link tunnel 88% completed

6.1.2. Broadlands Hydropower Project

The Broadlands Hydropower Project is a run-of-the river type Project planned to build on the Kelani River, with the objective of harnessing the downstream hydro potential of the existing Polpitiya Power Station. The Project will have an installed capacity of 35 MW and is expected to generate 126 GWh of electrical energy annually. But it would be slightly reduced due to mini hydro power plant which was proposed to build for safeguarding the white water rafting sport in Kelani River. The main work sites of the Project are located about 90 km north-east of Colombo, near Kithulgala town. The main components of the Project are the Main dam, Diversion Dam, Headrace tunnel, Diversion Tunnel, Surface Power Station, Switch Yard and the Transmission Line.

The total Project cost is US$ 82 million. The main component of funding (85%) is provided by the Industrial & Commercial Bank of China (ICBC) and the balance funding is obtained from the Hatton National Bank of Sri Lanka. The Financial Agreements with the two Banks were signed in 2013.

The Contractor is China National Electric Engineering Co Ltd and The Consultant is Central Engineering and Consultancy Bureau.

The scheduled construction period of the project is four years and the plant is scheduled to complete 92% by end of December 2018.

- Generation Capacity - 35 MW (2 x 17.5 MW)
- Total Project Cost - Rs.9,424 Million (USD 82 million)
- Funding Arrangement - Industrial & Commercial Bank of China (ICBC) – 85%
  Hatton National Bank of Sri Lanka (HNB) – 15%
  The financial Agreements were signed in 2013 with both the Banks
- Annual Energy Generation - 126 GWh
- Expected date of commissioning - In year 2019
- 2017 Budgetary Provisions(Rs) : 4,856 million
- Cumulative expenditure as at 2017 August 01(Rs) : 1,249 million
- Present physical Progress as at 2017 August 01: Construction activities in Progress
- (Civil, Hydro-mechanical and Electro- mechanical). 37.3% completed.
- Planned Programs in 2018 : Planned to complete 92% by end of December 2018.

6.1.3. Moragolla Hydro Power Project

Asian Development Bank provided US$ 113.86 million to this Project under loan no. 3146 (SF)/ 3147 SRI – "Green Power Development and Energy Improvement Investment Program in 2014 (Tranche 1)" for the construction of Moragolla Hydropower Project.

(1) Plant capacity : **30.2 MW**

(2) Estimated project construction cost : **113.86 Million USD + 1,930 Million LKR**

(3) Expected annual energy :**100 GWH**

(4) Expected date of commissioning : December, 2022

(5) Present status:

This project consists of four lots;

- Lot A 1 – Preparatory Civil Works
- Lot A 2 – Main Civil Works
- Lot B – Electrical and Mechanical Facilities
- Lot 3 – Project Management & Supervisory Support

(a) Estimate Budget for each Lot:

Lot A1 - Preparatory Civil Works	:	674.75 MLKR (5.21 MUSD)	- ADB
Lot A2 - Main Civil Works	:	6,970.81 MLKR (53.81 MUSD)	- ADB
Lot B - Mechanical & Electrical Facilities:		5,761.81 MLKR (44.47 MUSD)	- ADB
Lot 3 - Consultancy Services	:	1,021.73 MLKR (7.89 MUSD)	- ADB

(b) Funding Details:

Fund Sources: ADB & GOSL

ADB:	LOT A1: Preparatory Civil Works	5.21 MUSD
	LOT A2: Main Civil Works	53.81 MUSD
	LOT B : Mechanical & Electrical Facilities	44.47 MUSD
	LOT 3 : Project Management & Supervisory Support	10.38 MUSD
	Total	**113.86 MUSD**
GOSL	**Total Allocation**	**1,929 M LKR**

(c) Project Period: 5 years

Commencement Dates

Lot 3 : October 24, 2016

Lot A1: May, 2018 (Expected)

Lot A2: December 2018 (Expected)

Lot B : June 2019 (Expected)

(d)2017 Budgetary Provisions (LKR): 1,815 million

(e) Cumulative expenditure as at 2017 August 01 (LKR):

Lot 3 : - 99.7 MLKR (7.35 %)

GOSL :- 310 MLKR (16.07 %)

(f) Physical Progress up to 2017 August 01:

Lot 3 :- 8 %

(g) Planned Programs in 2018:

Contract	Program
Lot A1	Expect to award the contract by end May 2018
Lot A2	Expect to award the contract by mid December 2018
Lot B	Expect to publish bids by end May 2018

6.1.4. Seethawaka Ganga Hydropower Project

a) Scope:

- Carrying out feasibility study for 20MW Hydropower Plant
- Conducting of Environmental Impact Assessment
- Detail designing and preparation of bidding documents
- Preparation & Implementation of resettlement action plan
- Construction of 20MW power plant including all civil structures
- Construction of 6km 33kV double circuit line up to Maliboda GS for grid connection

b) Estimate Budget for Project: USD 60M

c) Funding Details: To be request on completion of Feasibility Study Report

d) Project Period: 7 years

e) 2017 Budgetary Provisions: Rs. 19.0 million

f) Cumulative expenditure as at 2017 August 01: Rs. 10.53M

g) Physical Progress up to 2017 August 01: Detail feasibility Study 21%

h) Planned Program for 2018:

Completion of Feasibility study report

Completion of Environmental Impact Assessment

Detail designing and preparation of bidding documents

Preparation of Resettlement action plan

Application to National Planning for loan arrangement

6.2 Thermal Power Expansion Projects

6.2.1 Development of a 300 MW HFO/LNG Fired Power Plant at Kerawalapitiya on BOOT Basis

a) Scope:

Development of a build, own, operate and transfer (BOOT) basis combined cycle power plant of net output of 300±10%MWe (270-330MWe), multi fuel (initially diesel fuel or heavy fuel oil and re-gassified liquefied natural gas when available at the site boundary), at the specified location at Kerawalapitiya along with support facilities.

An operational period of twenty years following the commencement of commercial operation of the Facility is provided in the Project Agreements. The Company will at the option of CEB transfer ownership and all rights of the Facility to CEB.

b) Estimated Cost: 350 million USD (IPP)

c) Funding Details: IPP

d) Project Period: 5 years

Commencement Dates

Issue of RFP – November 16, 2016
Submission of Proposal – April 21, 2017
Sign of Project Agreement – 2017
Commercial Operation of Simple Cycle – 2019
Commercial Operation of Combined Cycle - 2020

e) Physical Progress up to 2017 August 01:

Eight bids have been received at the time of closing the bid on April 21, 2017.

Technical Evaluation has been completed and waiting for SCAPC decision.

f) Planned Programs in 2018:

Finalisation of the turnkey contract	**October, 2018**
Construction Notice	October, 2018

6.3 Renewable Energy Development Projects

6.3.1. Renewable Energy -100 MW Semi-Dispatchable Wind Power Project in Mannar Island

a) Scope :

Loan amounting USD 200 million will be provided by ADB for above works and expected to approve the loan by ADB on October, 2017. Construction of 100 MW wind farm in Mannar Island of the Northern Province and Infrastructure development involves construction of Wind Park's infrastructure including internal cabling, access roads and other arrangements and renewable energy dispatch control center established to forecast, control and manage 100 MW wind power generation.

This also includes installation of 100 megavolt-ampere (MVar) reactors at the 220 kilovolt (kV) level at the existing Anuradhapura grid substation in the North Central Province and a 50 MVar reactor at the 220 kV level at Mannar grid substation which is under construction in the Northern Province to manage voltage levels within the acceptable limits and practical operational requirements, and ensure reliable operation of the wind farm.

Also Expert consultancy services will be procured to strengthen CEB capacity in project engineering design review and supervision. These advisory consultancy services will assist CEB in ensuring engineering oversight of wind turbine installation, commissioning and testing activities, and technical certification of contractor's activities throughout construction period.

b) Estimate Budget :

No	Description	USD Million
1	Cost of Construction of Wind Farm 100MW and related works	**196.80**
2	Cost of Installation of reactors as mentioned above	**19.10**
3	Expert Consultancy during implementation	**1.0**
4	Contingencies and other financial charges	**39.80**
	Total	**256.70**

c) Funding Details:

a. ADB - USD 200.0 M
b. CEB - USD 56.7

d) **Project Period :**2015 to 2021

e) 2017 Budgetary Provisions(Rs): 200 M (CEB ICG)

f) Cumulative expenditure as at 2017 August 01(Rs):

a) Up to Dec 2016 - Rs.169.8 M
b) Up to Aug 01st 2017 - Rs. 50.09 M
c) Cumulative Total - Rs. 219.89 M

g) Physical Progress up to 2017 August 01: 30%

h) Planned Programs in 2018:

Scheduled date of tender opening -20/09/2017
Scheduled date of awarding the contract -05/01/2018
Mobilization of the contractor to the site -05/02/2018

6.4. Renewable Resource Development by Power Producers

The electricity generated from new sources of renewable energy (Non Conventional Renewable Energy (NCRE)) such as small hydro, wind, solar, biomass etc., is absorbed in to the grid through Standardized Power Purchase Agreements. The details of these NCRE projects are given below:

6.4.1. Performance of the NCRE Sector (up to 01/08/2017):

Commissioned NCRE Power Projects

Project Type	No. of Projects	Capacity (MW)
Mini Hydro Power	181	**357.134**
Wind Power	15	**128.45**
Biomass-Agri. & Industrial Waste Power	4	**13.080**
Biomass – Dendro Power	5	**11.02**
Solar Power	8	**51.36**
Total	**213**	**561.044**

6.4.2 Programs for NCRE Sector 2017

SPPA Signed NCRE Projects which are expected to be commissioned in year 2018

Project Type	No. of Projects	Capacity (MW)
Mini Hydro Power	12	**15**
Biomass – Dendro Power	02	**4**
Solar Power	0	**0**
Total	**14**	**19**

6.5. Other Hydro Power Expansion Projects

6.5.1 Moragahakanda Hydro Power Project

- Total Capacity - 25 MW
- Expected Average Annual Energy Generation - 103 GWh (Approximate)
- Expected Year of commissioning - 2018
- Developed by - Ministry of Irrigation & Water Resource Management

6.5.2 Thalapitigala Hydro Power Project

- Total Capacity 15 MW
- Expected Average Annual Energy Generation - 52.4 GWh (Approximate)
- Expected Year of commissioning - 2020
- Developed by - Ministry of Irrigation & Water Resource Management

6.5.3 Gin Ganaga Hydro Power Project

- Total Capacity - 20 MW
- Expected Average Annual Energy Generation - 66 GWh (Approximate)
- Expected Year of commissioning - 2022
- Developed by - Ministry of Irrigation & Water Resource Management

6.6. Generation Rehabilitation Projects

The Generation Division of the CEB is implementing several rehabilitation projects through which several selected hydro and thermal power plants are to be refurbished. This will minimize their maintenance/repair costs and improve the efficiency and reliability of the machines. Obsolete equipment will be replaced with their modern counterparts using new technologies and this will enable to address issues arising from the non-availability of spares for old equipment and ensure their efficient performance in the years to come.

6.6.1 Rehabilitation of Polpitiya (Samanala) Power Station

The objective of this Project is to Increase the capacity of the power station by 15MW (2x7.5MW) and improve the weighted average efficiency by 3%. The reliability of the Power Station will be improved when major Electro-Mechanical equipment at the end of their service life are replaced with new equipment. The MIV, the generator and the turbine will also be replaced.

The 1st stage of this Project has been completed successfully where Unit 1 machine has been replaced with a new Turbine, Generator & MIV and commissioned in August 2017. Rehabilitation of Unit 2 is expected to be commenced in year 2018 and completed within 4 months. Total expected cost for this project is LKR 4,000 Million.

6.6.2. Rehabilitation of Udawalawe Power Station

Concept paper for the rehabilitation of Udawalawe power station has been submitted and the project is expected to commence in year 2018.

6.6.3. Victoria Generator Stator Replacement

Approval of the SCAPC was obtained for the replacement of the Stator of the Victoria Unit 03 Generator. The formal Contract between CEB and Voith Hydro GmbH Co. KG of Germany was signed. Final design was completed after reviewing of the basic design. Equipment was manufactured accordingly and shipped to site. Assembly of Stator at Erection bay by CEB staff under the supervision of the Contractor, Voith Hydro GmbH & Co KG of Germany is in progress. Installation of the Stator to the Unit is expected to commence in mid November and the replacement is planned to be completed by January 2018. The total cost of the Project is LKR 600 Million.

6.6.4. Rehabilitation of Inginiyagala Power Station

Refurbishment of Unit 1 & 2 of Inginiyagala Power Station has been recommended by the Task Team appointed by AGM(G). Preparation of Concept Paper and Bidding Document is in progress. This work is expected to be completed in year 2021

6.6.5.Refurbishment of Frame V Gas Turbines

Preliminary work pertaining to the rehabilitation of Frame V Gas Turbines 1, 2, 4 & 5 is in progress. Awaiting Board Approval for appointment of Project Management Unit. This work is expected to be completed in December 2018. Expected cost of this work is LKR 850 million.

In addition to rehabilitation projects, the Generation Division of CEB implements other projects which include Construction of a Monument and enhancing of the Handling Capacity of the Coal Yard at Lakvijaya Power Plant.

6.6.6. Construction of a Monument

Approval of the Board has been obtained to construct a Monument at Generation Headquarters Premises to display the first Generator/Turbine installed in CEB along with a bust of Eng. D.G. Wimalasurendra. Piling work is completed and substructure work is in progress. This project is expected to be completed by 4thquarter of the year 2017.

6.6.7. Enhancing Handling Capacity of Coal Yard Lakvijaya Power Plant

The design capacity of the existing Coal Yard of Lakvijaya Power Station is 742,421 tons and it is sufficient to meet the coal requirement of three months for 3x300 MW plant. Subsequent studies proved that coal unloading is not possible for six months of the year during South West monsoon period from middle of April to middle of September. Therefore, it is required to increase the capacity of the Coal Yard up to 1.21 million tons to fulfil the 6 months coal requirement of the plant.

Ground works (civil works) required for increasing the storage up to 1.21 million tons has already been completed in 2016 and it is required to enhance the handling capacity and integrate with the existing system.

The scope mainly consists of supply and erection of an additional Stacker Reclaimer, construction of 2 Nos. Transfer Towers, 2 Nos. new Coal Conveyors, Extension to existing Conveyors, Conveyor Corridor and Trestles, Mobile Coal Moving Equipment, Dust Suspension System, Bulldozer Garage and other necessary infrastructure facilities.

The scope includes all required electrical and instrument control, mechanical installations, testing and commissioning too. Expected cost for this work is LKR 5650 million. This project is expected to be completed by January 2020.

Bid documents are being issued for this procurement process. Contract is expected to be awarded in January 2018.

Works carried out in 2017 and planned for 2018 are as given below.

Station	Description and Activity dates	Capacity	Progress
Polpitiya (Samanala)	Tunnel Inspection (23.122016 to 25.03.2017) Unit 01 – Rehabilitation completed. Unit 02 - Rehabilitation (from 25.04.2018 & require 133 days)	2 x 45.3 MW	Tunnel outage to be rescheduled. Outage dates to be finalized.
Castlereigh Dam	Installation of Self-Regulated radial Gates. (2016 to 2017)	Capacity Enhancement 11.12 GWh per filling and flood controlling	Tender awarded. Contract agreement to be singed.
Castlereigh Dam	Castlereigh Dam Bottom out let Needle value repair. (2016 to 2017)	Smooth controlling of floods	Teder awarded by DSWRP
Maussakelle Dam	Repairing activity of the Dam and remedial action for water seepage under the earth fill dam. (2006 – 2018)	Reliability improvement	Tender has already been awarded and tenderer has mobilized in the site on 23rd Aug 2017.

Old Laxapana Stage II	Rehabilitation of Old Laxapana Stage II. (2017 – 2020)	2 x12.5 MW	Concept Paper to be finalized.
New Laxapana	Construction of New Switchyard (2017 – 2020)	Reliability improvement	Concept Paper to be finalized.
Udawalawe Power Station	Refurbishment of Generator and Turbine. Unit 01, 02 & 03	3 x 2 MW	Project concept paper has been submitted.
Victoria Power Station	Replacement of Stator of Unit 03 (June 2016 to January 2019).	70MW (80.75 MW rated)	Assembly of Stator at Erection bay is in progress.
Inginiyagala Power Station	Rehabilitation of Inginiyagala Power Station.	2x2.75 MW	Preparation of documents in progress.
Kelanitissa Power Station	Refurbishment of Frame V GTs.	Reliability improvement	Preliminary work pertaining to the rehabilitation of Frame V GT 1,2,4&5 is in progress.
Kelanitissa Power Station Premises	Construction of a Monument.	Historical value	Piling work is completed and substructure work is in progress.
Lakvijaya Power Plant	Enhancing Coal Handling Capacity of Coal Yard.	1.2 Mn. Tons	Bid documents are being issued.

7. Transmission of Electricity

CEB Transmission Division plans, develops, operates and maintains the whole of the transmission assets of the CEB, while providing services to other Divisions of CEB in certain areas of activities.

The transmission division operates 220kV and 132kV grids, embracing all power stations and dispatches all electricity supplied to the grid through its System Control Centre. The System Control Centre plans and carries out the operation of generation and transmission system in order to achieve reliability, quality and operational economy. Archiving the generation and transmission data and the preparation of regular management information is also carried out by the Division

The operational objectives of the Division are to:

- Develop and maintain an efficient, coordinated, reliable and economical transmission system.
- Procure and sell electricity in bulk to distribution licensees so as to ensure a secure, reliable and economical supply of electricity to consumers.
- Ensure that there is sufficient capacity from generation plants to meet reasonable forecast demand for electricity.
- Maintain transmission voltage variations within ±10 % for 132 kV &220 kV and frequency within ±1 % of 50Hz of the system.

CEB Transmission system development projects at 220kV, 132 kV levels including all the Transmission Lines and Grid Substations in the country are carried out by specially formed Project Management Units which comprise of experienced groups of engineers. Brief description of the transmission development projects being carried out in 2015 and are expected to be continued in to the year 2016 is given below:

7.1. Transmission Network Development Activities

7.1.1 Clean Energy & Network Efficiency Improvement Project - Package 1 (Mannar Transmission Infrastructure)

a) Scope:

Lot A :- Construction of 220/33kV Mannar Grid Substation

Scope Change

Enhanced the scope of construction of Mannar Grid Substation from 132/33kV 31.5MVA to 220/33kV 45MVA

Lot B :- Construction of New Anuradhapura to Vavuniya 55km, double circuit, two Zebra 132kV transmission line and Vavuniya to Mannar 70km, double circuit, single Zebra 132kV transmission line (Designed for 220kV operation)

b) Contract Price:

Lot A :- 1254.00 MLKR (8.08 MUSD) ; Exchange Rate1 US$=155.20LKR

Lot B :- 3166.67 MLKR (21.90 MUSD) ; Exchange Rate1 US$=155.20LKR

c) Funding Details: Asian Development Bank (ADB)

d) Project Period: 2 years

Lot A :- 2 years from April 22, 2015 to 2017 April 21 and with the scope change, amendment to the contract has been signed on 2017 June 12 and new completion date as per the amendment is April 11, 2019

Lot B : - 2 years from May 05, 2015 to May 04, 2017 and with the approved time extension, new completion date is February 28, 2018

e) 2017 Budgetary Provisions: 3000 MLKR

f) Cumulative expenditure as at August 01, 2017:

Lot A :- 102.74 MLKR (9.10%)

Lot B :- 1601.06 MLKR (61.44%)

g) Physical Progress up to August 01, 2017:

Lot A :- 7%

Lot B :- 80%

h) Planned Programs in 2018:

Contract	Planned Progress in 2018	Completion Date
Lot A	60%	2019 April 11
Lot B	100%	2018 February 28

7.1.2 Clean Energy & Network Efficiency Improvement Project - Package 2, 132kV Transmission Infrastructure Project (CENEIP-P2)

a) Lot A

Capacity - Construction of Kegalle GS and Augmentation of 132/33 kV at Thulhiriya GS

Funding Agency - Asian Development Bank
Cost: - 833.70 MLKR
Contract Commencement - January 2015
Date of Completion - 31st July 2017
Present Position- GSS construction is completed and ready to energised, but couldn't energised in absence of 132 kV Transmission line
Overall Physical Progress: - 99%
Overall Financial Progress: - 80%

b) Lot B

Capacity -Installation of breaker switch at 7 GSSs
Funding Agency - Asian Development Bank
Cost: - 1222.20 MLKR
Contract Commencement - April 2015
Expected Date of Completion - December 2017
Present Position;

Horana, Pannala & Bolawaththa commissioned and test run completed, but couldn't commence commercial operation since the SAS couldn't commissioned. Old Kolonnawa, New Kolonnawa and Sapugaskanda civil works are in progress and scheduled to complete byu end of October 2017,

Overall Physical Progress: - 81%
Overall Financial Progress: - 70%

c) Lot C

Capacity -
Construction of 132kV, 22.5km, Double Circuit Tr. line from Thulhiriya to Kegalle, 2X132kV, 10km, D/C Tr. line from Polpitiya to New Polpitiya, 2X132kV, 10km, D/C Tr. line from Athurugiriya to Padukka.

Funding Agency - Asian Development Bank
Cost: - 1082.60 MLKR
Contract Commencement - April 2015
Expected Date of Completion - March 2018
Present Position -Tower Foundation and Erection in progress.
Overall Physical Progress: - 66%
Overall Financial Progress: - 45%

7.1.3. Green Power Development & Energy Efficiency Improvement Investment Program (Tranche 2): Package 1 & Package 2

a) Scope :

ADB Funding

Package 1: Lot A	Hambanthota Grid Substation 220 kV Development
Package 1: Lot B	New Polpitiya – Hambanthota 220 kV,150 km Transmission Line
Package 2: Lot A	Construction of Nadukuda 220/33 kV Grid Substation and Augmentation at Mannar 220/33 kV Grid Substation
Package 2: Lot B1	Mannar-Nadukuda 220 kV,30km Transmission Line

AFD Funding

Package 2: Lot B2	Padukka-Horana 132 kV,25km Transmission Line and 2nd circuit stringing of Habarana-Valachchenai 132 kV Transmission Line

b) Budget for each package:

ADB

	Estimate (MLKR)	Actual (MLKR)
Package 1: Lot A	2,066	*Contract to be finalised.*
Package 1: Lot B	7,642	*Contract to be finalised.*
Package 2: Lot A	3,086	2,698
Package 2: Lot B1	1,834	1,380

AFD

Package 2: Lot B2	**1,015.5**	***Contract to be finalised.***

c) Funding Details:

Fund Sources: (AFD co finance through ADB)

Package 1: Lot A	**15.2 MUSD**
Package 1: Lot B	55.3 MUSD
Package 2: Lot A	22.9 MUSD
Package 2: Lot B1	13.3 MUSD
Package 2: Lot B2	7.4 MUSD

d) Project Period:

	Project Duration (Months)	Present Status
Package 1: Lot A	24	Awaiting SCAPC approval for the Technical Bid Evaluation.
Package 1: Lot B	30	Financial proposal is schedule to be opened on 30th August 2017.
Package 2: Lot A	24	Awaiting cabinet approval to award the Contract.
Package 2: Lot B1	22	Contract awarded and tentatively commence on 15th September 2017.
Package 2: Lot B2	24	Tender is to be published.

e) 2017 Budgetary Provisions (Rs): 1,704 MLKR

f) Cumulative expenditure as at 2017 August 01(Rs): N/A

g) Physical Progress up to 2017 August 01: N/A

h) Planned Programs in 2018:

	Program 2018
Package 1: Lot A	Awarding the contract and commence the project works
Package 1: Lot B	Awarding the contract and commence the project works.
Package 2: Lot A	Installation of Outdoor and Indoor equipment including civil works.
Package 2: Lot B1	Erection of towers including foundations.
Package 2: Lot B2	Awarding the contract and commence the project works.

7.1.4. Green Power Development & Energy Efficiency Improvement Investment Program (Tranche 2): Package 3 Lot A1 & Lot A2

a) Scope:

AFD co finance through ADB

Package 3: Lot A1	Construction of Colombo B GSS, Single In & Out connection from Colombo C-Kolonnawa 132kV 800sqmm Cable & Augmentation of Colombo C & Kolonnawa GSS
Package 3: Lot A2	Augmentation of Kotugoda, Kolonnawa, Padukka, Horana, Dehiwala & Madampe GSS

b) Budget for each package:

	Estimate (MLKR)	Actual (MLKR)
Package 3: Lot A 1	1,425.80	*Contract to be finalised.*
Package 3: Lot A2	1663.00	*Contract to be finalised.*

c) Funding Details

Fund Sources: (AFD co finance through ADB)

Package 3: Lot A1	**10.7 MUSD**
Package 3: Lot A2	12.5 MUSD

d) Project Period:

	Project Duration (Months)	Present Status
Package 3: Lot A1	24	Technical proposal evaluation is in progress.
Package 3: Lot A2	24	Awaiting SCAPC approval for the Technical Bid Evaluation.

e) 2017 Budgetary Provisions(Rs): 308.88 MLKR

f) Planned Programs in 2018:

	Program 2018
Package 3: Lot A1	Awarding the contract and commence the project works
Package 3: Lot A2	Awarding the contract and commence the project works.

7.1.5 Green Power Development & Energy Efficiency Improvement Investment Program (Tranche2): Package 3 Lot B & Supporting Electricity Supply Reliability Improvement Project Package 7

a) Scope: ADB funded project

GPD& EEIIP-TR2	**Package 3: Lot B**	**Construction of Biyagama GSS and Augmentation of Biyagama Grid Substation**
SESRIP-Package 7	Package 7: Lot A1	Installation of 100 Mvar BSC at Pannipitiya Grid Substation
	Package 7: Lot A2	Installation of +100/-50 Mvar SVC at Biyagama Grid Substation

b) Budget for each package:

		Estimate (MLKR)	Actual (MLKR)
GPD& EEIIP-TR2	Package 3: Lot B	1,883.00	*Contract to be finalised.*
SESRIP-Package 7	Package 7: Lot A1	576.4	*Contract to be finalised.*
	Package 7: Lot A2	2,371.6	*Contract to be finalised.*

c) Funding Details: Fund Sources: (ADB)

GPD& EEIIP-TR2	**Package 3: Lot B**	**14.1 MUSD**
SESRIP-Package 7	Package 7: Lot A1	3.8 MUSD
	Package 7: Lot A2	15.83 MUSD

d) Project Period:

		Duration (Months)	Present Status
GPD& EEIIP-TR2	Package 3: Lot B	24	Technical proposal evaluation is in progress.
SESRIP-Package 7	Package 7: Lot A1	18	Technical proposal evaluation is in progress.
	Package 7: Lot A2	24	Pre-Bidding stage.

e) 2017 Budgetary Provisions(Rs) : **N/A**

f) Cumulative expenditure as at 2017 August 01(Rs) : N/A

g) Physical Progress up to 2017 August 01 : N/A

h) Planned Programs in 2018:

		Program 2018
GPD& EEIIP-TR2	Package 3: Lot B	Awarding the contract and commence the project works
SESRIP-Package 7	Package 7: Lot A1	Awarding the contract and commence the project works
	Package 7: Lot A2	Awarding the contract and commence the project works.

7.1.6 Green Power Development & Energy Efficiency Improvement Investment Program (Tranche 1): Part 2 (GPDEEIIP1-2)

a) Scope:

ADB Funding

Lot A :- 220kV and 132kV Transmission Grid Substation

Construction of 220kV (132kV)/33kV Kappalthurai Grid Substation and Augmentation of 220kV/33kV Kerawalapitiya Grid Substation, 132kV/33kV Katunayaka & Trincomalee Grid Substations

Changer Order 1

Enhance the Transformer capacity at Kerawalapitiya GSS from 2 X 45 MVA to 2 X 63 MVA

AFD Funding

Lot B1:- Construction of 132kV/33kV Kaluthara & Kesbewa Grid Substations and Augmentation of 132kV/33kV Old Anuradhapura & New Anuradhapura Grid Substations.

Change Order 01

Construction of two 132kV line bays at New Anuradhapura GS to accommodate Habarana 132kV lines

Lot B2:-132kV Double Circuit, Three phase transmission line with one Optical Fiber Ground Wire (OPGW) & one Galvanized Steel Wire;

- Construction of Puttalam-New Anuradhapura transmission line & Construction of New Anuradhapura-Proposed Augmented Old Anuradhapura 132kV transmission line - 2km, Single Zebra
- Single in & out connection from Pannipitiya-Matugama 132kV transmission line to Kaluthara GS - 6km, Single Zebra
- Single in & out connection from Pannipitiya-Matugama 132kV transmission line to Kesbewa GS - 1km, Single Zebra
- Single in & out connection from New Anuradhapura-Trincomalee 132kV transmission line to Kappalthurai GS- 1km, Single Zebra

b) Estimate Budget for each package:

Lot A (Transmission Grid Substations): 2,500.92 MLKR (18.58 MUSD) -ADB AFD
Lot B1 (Transmission Grid Substations): 2,663.68 MLKR (19.77 MUSD) -
Lot B2 (Transmission Lines) :682.16 MLKR (5.07 MUSD) -

c) Funding Details:

Fund Sources: (AFD co finance through ADB)
ADB – 23.24 MUSD - Lot A
AFD – 22 MEURO - Lot B1 & Lot B2

d) Project Period: 2 years

Commencement Dates
Lot A :- 2016 March 15
Lot B1 : - 2016 November 04
Lot B2 : - 2016 November 10

e) 2017 Budgetary Provisions(Rs): 2,877 million

f) Cumulative expenditure as at 2017 August 01(Rs):

Lot A : - 366.67 MLKR (14.66 %)
Lot B1 :- 843.93 MLKR (31.68 %)
Lot B2 : - 88.05 MLKR (12.91 %)

g) Physical Progress up to 2017 August 01:

Lot A :- 32%
Lot B1:- 22%
Lot B2 :- 22%

h) Planned Programs in 2018:

Contract	Completion
Lot A	2018 March 15
Lot B1	2018 November 04
Lot B2	2018 November 10

7.1.7 Habarana Veyangoda Transmission Line Project

a) Scope:

JICA Funded SL P106

Lot A :- Contract No PD/TCO/FST/8/12, 220kV and 132kV Transmission Grid Substation Construction of 220kV (132kV)/33kV New Habarana Grid Substation and Augmentation of 220kV/33kV Veyangoda Grid Substation,
Protection and communication relay changes at adjoining substations

Lot B:- Three phase Double Circuit transmission line with one Optical Fiber Ground Wire (OPGW) & one earth Wire;

- Construction of 220kV TCSR Low loss conductor 148km transmission line from Veyangoda to New Habarana
- Double in & out connection of Kotmale Anuradhapura 220kV transmission line to New Habarana.
- 132kV 4 circuit line 4km from New Habarana GSS to old Habarana GSS
- 132kV line diversions at Old Habarana GSS

Consultancy: Nippon Koei & TEPSCO

b) Estimate Budget for each package: actual budget

Lot A (Transmission Grid Substations)	:	USD 17,239,054.52 LKR 796,529,460.17 Provisional Sums USD 300,000.00 + 20,000,000.00 Contingencies 10%
Lot B (Transmission Lines)	:	JPY 1,782,642,302 USD 23,003,560.61 LKR 1,764,039,419.27 Also provision for provisional sums of JPY 100 Million + LKR 100 Million & 10% Contingency
Consultancy	:	**J.Yen296,480,358 + LKR 92,039,200**

c) Funding Details: Fund Sources: JICA Loan SLP 106
9,573 million Yen Loan Closing date July 23, 2019

d) Project Period: Lot A: 2 years (Contract signing to be done pending JICA concurrence)
Lot B: 30 months (Commencement date 2nd May, 2017
Consultancy: extended till June, 2019

e) 2017 Budgetary Provisions(Rs): 4,500 million foreign
57 million ICG

f) Cumulative expenditure as at 2017 August 01(Rs):
Lot A : - 0%
Lot B1 :- 722.4 MLKR (10 %)
Consultancy: -98.6M JPY 62MLKR (%)

g) Physical Progress up to 2017 August 01:
Lot A :- 0%
Lot B :- 7.8%
Consultancy: - 54%

h) Planned Programs in 2018:

Contract	Completion
Lot A	90%Completion of Civil works, 70% of equipment
Lot B	Tower Erection & Stringing 71% complete
Consultancy	2019 July 31

i) Expected Completion of Projects:

Contract	Completion
Lot A	2019 October
Lot B	2019 November 02
Consultancy	2019 July 31

7.1.8. Renewable Energy Absorption Transmission Development Project (REATDP)

a) Scope:

- Construction of 4 Nos of 132/33kV Grid Substations at Maliboda, Ragala, Wewalwatta, Nawalapitiya
- Construction of 17.5km, 132kV Zebra , double circuit transmission line from Maliboda Grid Substation to Polpitiya Grid Substation
- Construction of 21 km , 132kV, Zebra , double circuit transmission line from Ragala Grid Substation to Ukuwela – Pallekelle 132kV transmission line as a single in and out connection.
- Construction of 0.5km , 132kV Zebra, double circuit transmission line from Wewalwatta Grid Substation to Rathnapura – Balangoda 132kV transmission line as a single in and out connection.
- Construction of 0.5km , 132kV , Zebra double circuit transmission line from Nawalapitiya Grid Substation to Polpitiya – Kiribathkumbura 132 kV transmission line as a single in and out connection.

b) Estimate Budget for each package : Grid Substations

Package No.	Description of Goods/ Works including related Services	Cost estimate (LKR equivalent)
Package 1	Goods Procurement of Outdoor Switchgears, Communication Equipment, Power cable, LVAC & DC Systems, Transformers, 36kV GIS	1961 million
Package 2	Goods Procurement of Protection , control Metering SAS, Busbars Connectors Insulators, Steel Structures & Gantries	625 million
Package 3	Works Civil Works, Installation, Commissioning and supply & installation of; control & LVAC cables , Earth Shielding Materials, cable lugs, cable trays, tags,ferrules, copper conductors, earth rods, connectors, clamps etc.	932 million

Transmission Lines

Package No.	Description of Goods/ Works including related Services	Cost estimate (LKR equivalent)
Package 1	Goods Procurement of Towers, Stubs, Tower Earthing Materials including foundation design	458 Million
Package 2	Goods Procurement of Conductors, Earth Wires, OPGW, OPGW Accessories , Insulator Sets, Conductor & Earth Wire, Accessories	343 Million
Package 3A	Works Civil Works and Other Services	545 Million
Package 3 B	Installation Works	143 Million

c) Funding Details:

Fund Sources:
Foreign (AFD) : Euro 30 Mn (LKR 4898.6 Mn)
CEB (ICG) : LKR 1329.1 Mn

d) Project Period: 4 years (Pre – Construction 2016 – 2017 , Construction 2018 – 2019)

e) 2017 Budgetary Provisions(Rs): AFD : 375 Mn
CEB (ICG) : 225 Mn

f) Cumulative expenditure as at 2017 August 01 (Rs): USD 189,946.70 & LKR 1,101,620.10

g) Physical Progress up to 2017 August 01: Overall project Progress – 20.34%

h) Planned Programs in 2018:

- Delivery of tower materials to sites
- Starting Transmission line construction
- Starting of Grid Substation construction

7.1.9 Sustainable Power Sector Support Project:

Scope : Augmentation of Existing 132/33kV Grid Substation at Kiribathkumbura

a) Estimate Budget for each package : LKR - 181,516,795.78 + USD - 6,752,678.08

b) Funding Details:

ADB Funds - US$ 8.1 Million
CEB Funds - LKR 300 Million

c) Project Period:

2 years
Commencement Date - 2015 May 07

d) 2017 Budgetary Provisions(Rs) : 150 million

e) Cumulative expenditure as at 2017 August 01(Rs) :

ADB Loan : - 978.5 MLKR (100 %)
CEB Funds :- 54.9 MLKR (18.3 %)

g) Physical Progress up to 2017 August 01 : 81.0 %

h) Planned Programs in 2018 : Project will be completed in March 2018.

7.2. Transmission Line Construction Projects

7.2.1. : Table 1

Name of the Project	Reconstruction of New Chillaw - Bolawatte 132kV Transmission Line and Badulla - Madagama 132kV Transmission Line
Funded by	Asian Development Bank (ADB) and CEB
ADB Loan No	2733 SRI for material purchasing only.
Estimated Cost	LKR Mn 1350.6 (Foreign 785.5 + Local 565.1)
Present Status	* Profile Survey, Profile design. Tower Spotting, Soil testing of both lines completed. * Delivery of materials completed. * Existing transmission line from New Chillaw to Pannala removed. * Foundation works from New Chillaw to Pannala in progress. * Bidding for Foundation works from Badulla to Madagama in progress.
Expected date of commissioning	New Chillaw to Pannala – February 2018 Bolawatte to Pannala – February 2019 Badulla to Madagama – December 2019

7.2.2. : Table 2

Name of the Project	**Shifting of Embiliitiya – Matara 132kV transmission line at Thihagoda to facilitate Extension of Southen Highway Project – Section 1 - Matara - Beliatta**
Funded by	Road Development Authority (RDA)
Estimated Cost	LKR Mn 89
Present Status	Completed as at July 31, 2017

7.2.3. : Table 3

Name of the Project	**Shifting of Embiliitiya – Hambanthota 132kV transmission line at Sooriyawewa to facilitate Extension of Southen Highway Project – Section 3 - Wetiya - Andarawewa**
Funded by	Road Development Authority (RDA)
Cost	LKR Mn 169
Present Status	Foundation works - in progress.
Expected date of commissioning	March 2018

7.2.4. : Table 4

Name of the Project	**Solution to landslide issue at Bulathkohupitiya for Biyagama – Kothmale 220kV Twin Zebra Transmission Line**
Funded by	CEB
Cost	LKR Mn 32
Present Status	Bidding for Foundation works - in progress.
Expected date of commissioning	February 2018

7.2.5 : Table 5

Name of the Project	**Implementation of 2nd 220/132 kV Interbus Transformer at Rantambe**
Funded By	CEB/ICG
Capacity	1. 1x220kV Transformer Bay 2. 1x132 kV Transformer Bay 3. Installation of 220/132kV 105 MVA Transformer
Cost	LKR 690 M
Present Statues	* Construction is in progress
Expected Date of Commissioning	February 2018

7.30 National Transmission & Distribution Network Development and Efficiency Improvement Investment Project

a) Scope:

Consultancy Services : Consultancy Service for Package 4 and 400kV Transmission Line Package 1

Package 1 : Construction of Transmission Lines:

400kV (from Kirindiwela- Padukka)220kV (from Kirindiwela SWS - Veyangoda GSS, Kirindiwela SWS-Biyagama/Kothmale) 132kV (from Kirindiwela SWS- Kirindiwela GSS, Kirindiwela GSS-Kosgama GSS,Thulhiriya GSS- Veyangoda GSS, Kolonnawa SS-Pannipitiya GSS, Pannipitiys GSS- Ratmalana GSS)

Package 2: Construction of Grid Substations:
new 220/132kV GS/S at Kirindiwela, 132/33kV GSS at Kirindiwela & Battaramulla,Augmentation of GS/S (Pannipitiya, Rathmalana, Kosgama, Seethawaka, Kothmale, Padukka, Veyangoda,) CT replacement of GS/S (Polpitiya, Naula & Ukuwela)

Package 3: Construction of Transmission Lines :
220kV (from Kotmale GSS – New Polpitiya GSS)
132kV (from Polpitiya GSS - new Habarana GSS)

Package 4: Construction of 11kV underground system with Primary Substations, 11kVCables with SCADA/ DAS in Dehiwala Mt. Lavaina & Battaramulla.

b) Estimate Budget for each package:

Consultancy Contract : 477 Million LKR
Package 1 : 7,272 Million LKR
Package 2 : 7,945 Million LKR
Package 3 : 8,083 Million LKR
Package 4 : 4,562 Million LKR

c) Funding Details:

Funding Source: JICA
Foreign funds: 24.93 Billion JYen

d) Project Period: 2 years (From January 2018 to December 2020)

e) 2017 Budgetary Provisions (Rs) : 5,328 Million

f) Cumulative expenditure as at 2017 August 01 (Rs) : EURO 812,461.70 (for the Consultancy Contract)

g) Physical Progress up to 2017 August 01: Project is in Bidding Process

Package 1 : Line route survey works are in progress. Awaiting for JICA concurrence for bidding document.

Package 2 : Invited bids from Pre-Qualified applicants. Bid closing date will be 2017-09-06.

Package 3 : Awaiting for JICA concurrence for bidding document.

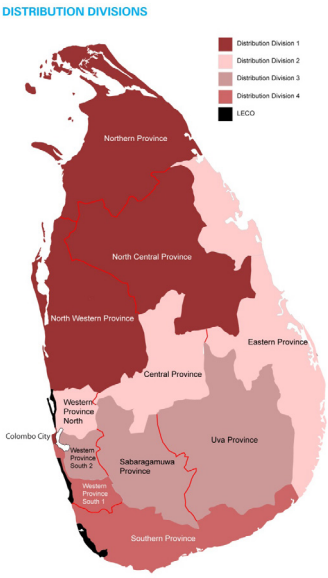
Package 4 : Awaiting for the JICA concurrence on PQ evaluation report.

f) Planned Programs in 2018:

- To award contracts for all 4 packages & commencement of work.

8. Distribution of Electricity

The CEB is responsible for over 88% of electricity distribution in the country while the rest is taken care by Lanka Electricity Company Ltd. (LECO), a subsidiary of the CEB. The electrification level in the country is calculated as 99.4 % as at end of June 2017.



Distribution System of CEB consists of four Divisions. The main objectives of the formation of four divisions are to achieve benchmark competition to improve efficiency and quality of supply to the customers.

The Distribution Network System consists of 33kV and 11kV Medium Voltage (MV) lines and 400V Low Voltage (LV) lines absorbing power from 132kV and 220kV Transmission System via Grid Substations (GSS).

Each Division is headed by an Additional General Manager who is directly reporting to the General Manager. Four Divisions are formed with the following Provinces:

Division 1: Colombo City, North Western Province, North Central Province and Northern Province.

Division 2: Western Province North, Central Province and Eastern Province

Division 3: Western Province South II, Uva and Sabaragamuwa

Division 4: Western Province South I and Southern Province

Operational Structure

The Distribution Divisions are divided into provinces and each Province is headed by a Deputy General Manager. The Province is sub-divided into several Areas, which are managed by Area Electrical Engineers. The Area is further subdivided into several Consumer Service Centres (CSC) headed by an Electrical Superintendent.

In addition to the Provincial Deputy General Managers, there are three Deputy General Managers to look after Projects and Heavy Maintenance, Planning and Development and Commercial and Corporate functions of the Division. Division 1 has special Branch for Rural Electrification (RE) and Projects which is headed by a Deputy General Manager.

Distribution Infrastructure as at 01/01/2017

Description	Units	DD1	DD2	DD3	DD4	Total
33kV Distribution Lines	km	10,341	8,855	7,040	4,376	30,611
11kV Distribution Lines	km	1,258	623	45	314	2,240
11kV Underground Cables	km	627	121	5	22	957
No. of 33/11kV Primary Substations	No	32	43	12	41	128
LV Distribution Lines	km	44,425	38,071	31,095	24,924	138,514
LV Underground Cables	km	618	71	6	45	699
No. of LV Distribution Substations	No	9,432	8,755	5,515	4,777	28,479

Operational Statistics for 2017

Description	Unit	Distribution Division 1	Distribution Division 2	Distribution Division 3	Distribution Division 4
Units sold within the Division for the 6 months period ending 30th June 2017	GWh	1,823	2,026	1,099	862
Revenue earned from electricity sold during the period ending 30th June 2017	Rs. Million	32,831	30,956	16,898	13,976
Average Selling Price	LKR/kWh	18.00	15.28	15.38	16.21
No of new connections provided during the period	Numbers	52,508	50,438	23,626	13,549
No of Bulk Supply Consumers at the end of June 2017	Numbers	3,964	3,064	1,856	1,532
No of Retail Consumers at the end of June 2017	Numbers	1,750,334	2,092,436	1,235,892	1,015,247

According to above statistics, the CEB 's distribution system comprises of more than 28,000 Substations fed by a network of around 30,600 km of medium voltage lines. By end 2016 there were 212 Customer Service Centres and 64 Point of Sale (POS) counters for collection of bill payments.

The transmission and distribution losses have been brought down to 9.63% by the end of 2016.

Development of Electricity Distribution Network

8.1.Electricity distribution network improvements carried out are listed below.

Division	Province	HV (km)	LV (km)	Distribution Substation (No)	LV line conversion (km)	Cost (MLKR)
DD1	Northern	125.35	971.20	86	0.25	2070
	North Western	46.00	593.00	129	137.00	1404
	North Central	13.26	24.22	65	66.19	259
	Colombo City	19.89	202.60	18	-	1,055
DD2	Western North	41.50	70.00	180	2,065	662
	Central	59.00	48.00	66	11	551
	Eastern	132.00	484.00	94	33	1389
DD3	Sabaragamuwa	19.16	108.70	27	7.48	297
	Uva	67.44	430.340	49	13.41	989
	Western South II	5.70	27.20	14	36.86	90
DD4	Western South I	25.40	81.90	65	25.70	531
	Southern	137.54	198.08	118	43.26	1,313

8.2. Work planned for 2018

8.2.1. Distribution Division 1

No	Item	Unit	2018	Cost (Mn. Rs.)
1	New Tower lines Lynx D/C	km	191	3429
2	Lynx/ELM pole lines S/C & D/C	km	143	988
3	New Under Ground Cables (33kV & 11kV)	km	18	860
6	Relaying of 11 kV underground cables	km	7	255
7	New Gantries (Tower/Pole)	Nos	14	393
8	Re-conductoring of Lines/ Line Conversion (Weasel to Racoon & Racoon to Lynx/ELM)	km	113	310
9	New Primary Substations	Nos	01	23
10	Primary Sub Augmentation	Nos	02	22
11	Conversion of 33 kV Pin Insulator to Polymer Insulator	km	62	27
12	Installation of Auto Reclosers	No	11	25
13	Installation of LBS/Sectionalizer649s	No	29	48
	Total MV Development cost			**6491**

8.2.2. Distribution Division 2

Medium term and long term proposals are categorized for the year 2018 as follows.

Category	Approx. Cost (LKR Millions)
1. **Installation of Auto-Reclosers**	120
2. **Installation of Load Break Switches**	352
3. **Installation of Sectionalizes**	141
4. **Construction of MV Lines**	1090
5. **Laying of 11kV UG Cables**	100
6. **11kV Ring Substations**	20
7. **Construction of Gantries**	1072
8. **New / Augmentation of Primary Substations**	40
9. **MV Line Conversions**	1300
Total	4235

8.2.3 Distribution Division 3

Planned work for 2018

Name of the Project/ Funding	HT (KM)	LT (Km)	No. of Substations	Disbursement (Rs. Mn)
RE/CEB	50	200	24	500
System Augmentations				100
Construction of Medium Voltage Lines and gantries				500
Total				1,100 **

8.2.4 Distribution Division 4

Project work planned for 2018

Project Name	High Tension Line (km)	Low Tension Line (km)	Number of Substations	Approximate Disbursement (m.Rs.)
Vidulamu Sri Lanka	4	50	6	24
System Augmentation	19	353	41	486
Bulk Supply	7	25	10	100
Land & apartment				
MV system developments	57	-	1	200
LSSEP	18	-		104
Total				810

8 .4 Greater Colombo Transmission and Distribution Loss Reduction Project.

The Greater Colombo Transmission and Distribution Loss Reduction Project is planned to strengthen the transmission and Distribution network in Greater Colombo area in order to improve the reliability, reduce system losses and cater growing electricity demand due to mega development activities planned in the Colombo City. Under the project scope, capacity of the Greater Colombo power network will be doubled through new 220kV underground Transmission cable network. Further, project would improve the existing power network by construction of three new grid substations, augmentation, modification and extension of existing grid substations, laying of underground transmission cables, laying of underground distribution cables and installation of new 11kV distribution panels. In addition to that, project will supply specialized vehicles required for maintenance work of distribution networks.

The estimated project cost is approximately 21 billion LKR while the Japan International Corporation Agency (JICA) has provided financial assistance through a loan facility amounting to Japan Yen 15.941 billion. The consultancy service of the above project has already been awarded to Joint venture of M/s Tokyo Electric Power Services Company Limited (TEPSCO), M/s Nippon Koei Company Limited and M/s Electric Power Development Company Limited (J-Power) of Japan and consultants has commenced their work in February 2014.
Project construction work commenced in April 2016 and expected to be completed by September 2018.

1. Scope of the Project (In brief):

JICA Funding

- Package 01 (Lot 1) – Construction of Grid Substations
  Construction of new 220kV (132kV)/11kV Colombo L Grid Substation
  Construction of new 132/11kV Colombo M Grid Substation
  Construction of new 132/11kV Colombo N Grid Substation
  Construction of new 33kV GIS Substation at Kelanitissa
  Augmentation of 132/11kV Colombo A & I Grid Substations
  Modification of 132kV/11kV Colombo E & F Grid Substations.

- Package 01 (Lot 2) – Construction of Grid Substations by OEM (Consortium of Siemens AG Germany & Siemens Limited)
  Extension of 220kV Kerawalapitiya Grid Substation
  Extension/Augmentation of the Distribution SCADA System for the new & existing grid substation and necessary modifications at the existing CCCC.
- Package 01 (Lot 3) – Construction of Grid Substations by OEM (ABB, Germany)
  Augmentation of 132/11kV Colombo A & I Grid Substations
  Extension of 220kV Kelanitissa Grid Substation and 132kV Kolonnawa Grid Substation
  Modification of 132kV/11kV Colombo E & F Grid Substations.
- Package 02 – Construction of Transmission & Distribution Cables
  Construction of 220kV & 132 kV Transmission Cables
  Construction of 11kV Distribution Cables
  Installation of 12kV Gas Insulated Switchgear in new 11kV Distribution Substation
- Package 03 – Supply of Specialized Vehicles for Distribution Works
  Supply of 05 Units of Insulated Bucket Truck, 04 Units of Pole Installation Trucks, 01 Unit of Digger and 05 Units of Cargo Cranes

2. Project Period: 790 Days

Package 01 (Lot 1)	:	From April 18, 2016 to June 16, 2018
Package 01 (Lot 2)	:	From November 08, 2016 to August 29, 2018
Package 01 (Lot 3)	:	From October 06, 2016 to September 25, 2018
Package 02	:	From April 18, 2016 to June 16, 2018
Package 03	:	From March 07, 2017 to December 06, 2017

3. 2017 Budgetary Provisions(Rs): 11,028 Million

8.4.2. Physical and Financial Progress

Actual physical progress of each package of the project as at 01/09/2016 is given below.

	Estimated Budget	Cumulative Financial Expenditure as at 01/08/2017in MLKR	Physical Progress up to 01st August 2017:
Package 01			
Lot 01	7,814 MLKR	1,021	52.4%
Lot 02	790 MLKR	79	28.2%
Lot 03	1,663 MLKR	166	36.6%
Package 02	9,951 MLKR	1,852	53.9%
Package 03	285 MLKR	28	60%

8.4.3. Planned Programs in 2018:

Package 01 (Lot 1)	**Completion of installation of GIS & Transformers, Completion of cable terminations and all other electrical installation works. Lot 1 to be completed in June 16, 2018.**
Package 01 (Lot 2)	Completion of bay extension of 220kV Kerawalapitiya Grid Substation, Completion of extension/augmentation of the distribution SCADA system. Lot 2 to be completed in August 29, 2018.

Package 01 (Lot 3)	Completion of bay extension of 132kV Kolonnawa Grid Substation, Completion of augmentation of 132/11kV Colombo A & I Grid Substations, Completion of modification of 132kV/11kV Colombo E & F Grid Substations. Lot 3 to be completed in September 25, 2018.
Package 02	Completion of pulling of 220kV, 132kV & 11kV cables, Completion of cable jointing & termination works, Completion of installation of 12kV Gas Insulated Switchgear. Package 2 to be completed in June 16, 2018.
Package 03	Package 03 to be completed in December 06, 2017

9. Financial Review 2017 Based on Projected Operating Results

It is observed that, a power crisis, inevitably lead to a financial crisis when analyzing the history of financial performance of the CEB. Consequently, CEB is incurring losses from the beginning of the year 2017 on continual basis with dry weather conditions which has brought down the reservoir levels significantly.

Hence the financial loss expected as at the end of year 2017, is predicted to exceed the forecasted loss of Rs.35Billion in the Approved Budget. When considering the actual performance for the first 07 months and the revised dispatch for the latter part of the year (last 05 months), it is expected to incur a loss of Rs.52 Billion approximately, in spite of the government grant of Rs.6 billion which was received to, relax the financial burden to a certain extent.

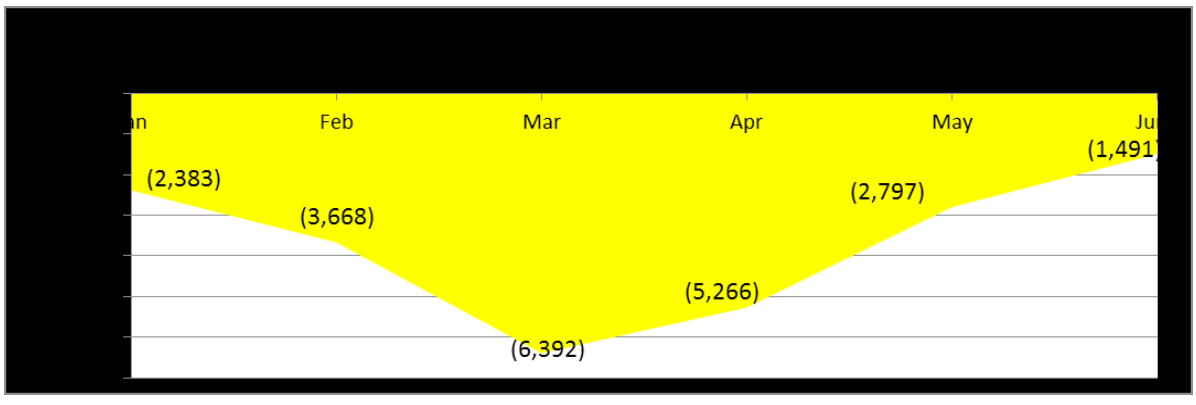
Financial Performance for the year 2017

CEB has recorded a financial loss of Rs.21,996 Million for the period ending 30th June 2017.

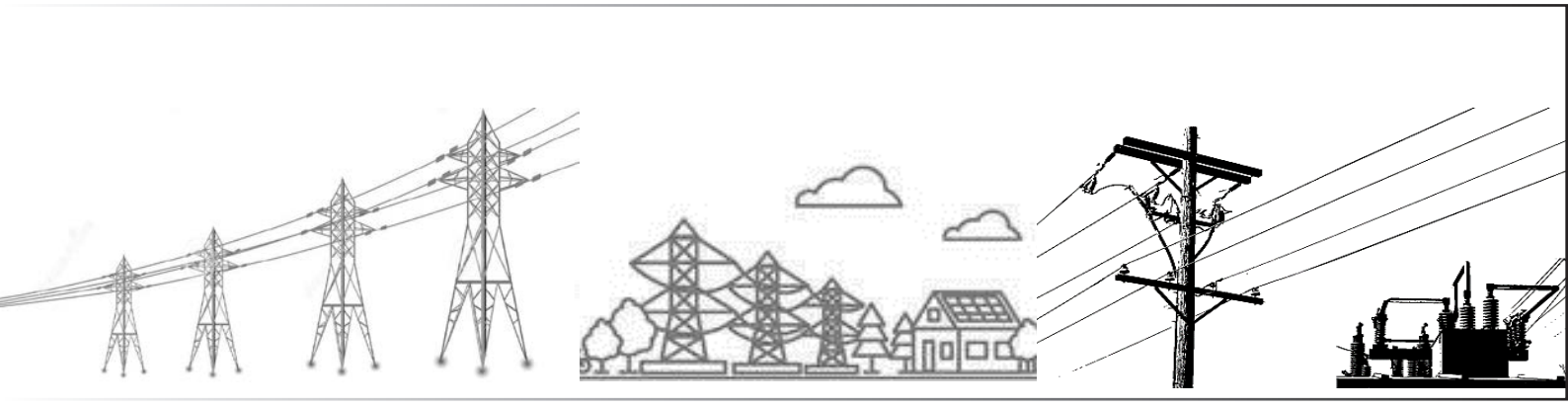
The bottom line was burdened with high direct generation cost which was increased compared to the last year, to stay beside the rising energy demand.

The increase in demand, was met with high cost thermal oil generation which resulted in increased total cost per unit by Rs.3.38/kWh compared to corresponding value of year 2016.

Cumulative June 2017		**Cumulative June 2016**	
Revenue (Rs.Mn)	**109,817**	Revenue (Rs.Mn)	104,455
Total Cost (Rs. Mn)	**131,813**	Total Cost (Rs. Mn)	104,216
Loss (Rs.Mn)	**(21,996)**	**Profit (Rs.Mn)**	**239**
Sales (GWh)	**6,596**	Sales (GWh)	6,277
Cost per unit (Rs./kWh)	**19.98**	Cost per unit (Rs./kWh)	16.60
Avg. Selling price (Rs./kWh)	**16.17**	Avg. Selling price (Rs./kWh)	16.20



Lanka Electricity Company (Pvt.) Ltd.



LECO was incorporated in 1983 under the Companies Act no. 17 of 1982 and the Companies Act No 07of 2007 with the primary objective to carry out the business of maintenance, improvement, supply, distribution and sale of electrical energy in LECO franchise area laid along the coastal belt of the Western Province and part of the Southern Province.

Our Vision

Enjoy being the light for lives of people through innovative eco-friendly business.

Our Mission

To provide the best energy solution to the society through continuous innovations.

Company Core Values

- Be eco-friendly
- To amaze our customers through innovative services, driven by continuous curiosity to improve distribution services within ecologically sustainable and environmentally geared towards optimizing productivity and assuring profitability.

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Company's Long Term Goals

- With new opportunities for growth LECO recognizes opportunities for optimizing efficiency and exploring avenues to increase productivity, sustainability and Profit.
- Transform LECO from a distributor of electricity to energy related diversified business.
- Develop innovative products by strengthening research and development in all activities of LECO.
- LECO aims to ensure and adequate source supply capacity.
- Reinvent LECO as a customer inclusive utility Company.
- Take steps to promote renewable energy sources.
- To facilitate embedded generation from renewable energy sources.
- Implement programs through DSM (Demand Side Management) So that in long term country will benefit.
- Integrating the ERP and Billing System.
- Smart meters to be installed by the year 2017. Some areas Smart meter has been already installed.
- Convert our Distribution system to a smart system capable of integrating upward and downward.

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

					Upto June	2018
	2013	2014	2015	2016	2017	Forecast
Consumers	520,997	523,734	526,119	539,829	545,877	565,014
Sales GWh	1,221	1,272	1,356	1,466	745	1,579
Revenue Rs Mn	21,660	23,781	26,775	28,792	14,722	30,295
Distribution Losses (11 Kv) %	4.69	4.02	3.76	3.48	3.25	3.97
Consumers /Employee Ratio	347	351	359	346	350	
Reliability of performance measurement Indices(SAIDI) (Hrs/ Consumer /year)	22.49	22.17	20.73	34.96	37.30	

Record of Distribution of Asset as at June 2017

Asset Category	Units	Beginning 2017	Target For 2017	Actual Performance Upto Jun 2017	Balance to be completed
11KV UG	km	62.830	9.850	0.853	8.997
11KVOH+ LV	km	12.254	74.200	0.020	74.180
Dist Sub 11 kv	Nos	2350	139	16	55
Bulk Sub 11kv	Nos	1669	116	51	65
Switching LBS and LBC	Nos	929	190	118	72
LV Dist Sys	km	71.870	84.200	0.629	83.571
Consumer Service Lines	Nos	553561	13,937	6416	7521
11kv Auto Reclosures	Nos	15	23	2	21
11 Kv Sectionalisers	Nos	8	15	-	15

Projects and Progress

Operations

- Expansion and rehabilitation work in LECO is based on the geographical demand. It is a continuous process handled by each Branch.
- LECO provides a better and reliable supply to customers through an efficient distribution system.
- Quality improvement programs are continuously being introduced to provide an improved service. Quality management system as per the ISO 9001:2008 standard is in progress.
- Green zone area which is already established is in operation.
- LECO Meter readers are all equipped with hand-held meters.
- Granted facilities for LECO Consumers and employees to obtain loans to install solar panels at a subsidized interest rate.

Development

- The New ERP system (PRONTO) has been implemented.
- A new project is being implemented to modernize the Distribution Control Center.
- New scheme of recruitment has been implemented .
- Pilot Project is being carried out to set up Micro Grids to generates 300 kWh of Electricity, this is done with the grant facilities by ADB. (Asian Development Bank)
- In order to monitor the quality of power supply of distribution network IOT (Internet of Things) based monitoring mechanism is being implemented.
- Prepaid electricity pilot project is to be implemented.

Sri Lanka Sustainable Energy Authority

Performance of Sri Lanka Sustainable Energy Authority

National Energy Policy and Strategies of Sri Lanka place a strong emphasis on energy security from both national and individual perspectives. The policy envisions a situation wherein reliable, affordable and clean energy will be made available to all the citizens at all times.

Sri Lanka Sustainable Energy Authority (SLSEA) is the focal government entity that promotes the increased adoption and sustainable use of all forms of renewable energy in the country. The power sector of Sri Lanka is presently facing many challenges, especially in relation to supply of uninterrupted electricity for the entire country at affordable prices, and the severe adverse effect on the economy due to heavily depending on imported fossil fuel for thermal power generation. In order to arrest this situation the Government has set following targets;

- 20% grid electricity generation using New Renewable Energy sources by 2020 as an alternative to imported fossil fuel.
- 10% reduction in total energy consumption by 2020 through implementation of energy conservation measures.

The programmes being implemented are under 4 thematic areas as per mentioned below.

- Renewable Energy Development – The objective is to directly involve in the realization of national renewable energy targets

(Specific theme: REACT – Renewable Energy Actions)

- Energy Conservation & Management – The objective is to directly involve in the realization national energy conservation targets

(Specific theme: EnMaP – Energy Management Plan)

- Knowledge Management – The objective is to implement energy education programmes towards an energy conscious nation

(Specific theme: SEEK – Sustainable Energy through Energy Knowledge)

- Strategy – The objective is to develop policy interventions, R&D interventions, technological dialogues, etc. to support long-term sustainable energy establishment in the country

(Specific theme: SAFE – Sustainability Approach for Future Energy)

PERFORMANCE 2017 – ENERGY MANAGEMENT

In the area of energy management, programmes have been implemented focusing Commercial, Industrial and Domestic sectors under following three categories.

- Regulatory interventions
- Strengthening the energy efficiency services
- Training and awareness.

Programmes implemented in the year 2017 shown in the following sections.

b. Energy Efficiency Improvement (Under EnMAP)

The following overall energy savings could be achieved in 2017 through implementing energy management activities;

Source	Total Saving
Electricity	38 GWh
Diesel	11.04 Mn. litres
Furnace Oil	14 Mn. litres
LPG	35 tons
Firewood	27.2 kilo tons

Establishment of Energy Management Systems

SLSEA facilitates the energy conservation in commercial, industrial and domestic sectors through introducing the ISO50001 Energy Management Systems.

- ✓ Altogether 205 Energy Managers in private sector and 16 Energy Auditors were accredited. About 150 Energy Management officers in government sector were appointed as per the circular issued by presidential secretariatSP/PCMD/6/2015.

Introducing Standards and Regulations

Different activities are being carried out by SLSEA to formulate proper regulatory interventions along with creating awareness to manage energy efficiency improvement in industrial, domestic and commercial sectors.

Description	Progress
CFLs	Draft Regulation for the revised Standard was prepared.
Air conditioners	Draft Energy Labelling Standard was prepared and sent to Sri Lanka Standards Institution (SLSI) for further proceedings.
Refrigerators	Testing of refrigerators in progress to revise the existing energy consumption benchmarks. Altogether 24 refrigerators of various brands and models have been tested so far.
LED Lamps	Voluntary energy label was developed and available for LED lamps.
Computers	Draft Energy Labelling Standard was prepared and sent to Sri Lanka Standards Institution (SLSI) for further proceedings.
Ceiling Fans	Procurement procedure for a testing lab was completed. Test lab will be established by the end of 2017.

- ✓ Revised the "Building Code of Sri Lanka - 2008". To be published by the end of this year.
- ✓ Developed the "Guideline for Sustainable Energy Residencies in Sri Lanka". To be published & to be made available in three languages by the end of 2017.

Advisory and Counselling Services

SEA assists industries, commercial and state sector institutes to solve their energy related issues by providing consulting services by answering queries, awareness programs upon request, attending ISO 50001 audits etc. A well maintained instrument bank is available for hiring to use in energy auditing activities.

- ✓ Conducted ISO50001 audits at 4 organizations.
- ✓ 44 ESCOs were registered under the categories EEI, EES and TP, and the updated ESCO list is published in the web.
- ✓ Conducted an Extensive walk Through Energy Audit at SLIDA.
- ✓ Conducted a Walk Through Energy Audit at STF Training School , Kalutara
- ✓ Detail Energy Audit at ITN is in Progress
- ✓ Detail Energy Audit at UCSC (Colombo University) is in Progress.
- ✓ Provided Consultancy Service, Training and Technical Assistance to conduct detail energy audit at Defence School Colombo.
- ✓ Provided Consultancy Service and Technical Assistance for Pelawtta & Sevenagala Sugar Factories.
- ✓ 4 ESCOs to be selected for auditing 10 government institutions in Central Province.
- ✓ Site visits were completed for auditing 15 hospitals in North Western Province. Tender procedure to be initiated for selecting ESCOs to award the job.
- ✓ Procurement process has been started to purchase 15 Nos of power data loggers to the instrument bank by the end of 2017.
- ✓ Number of Instrument hiring days is 700.

Rewarding of Achievements

SLSEA involves in national level promotional activities through conducting the 'Vidulka' Energy Exhibition with the objective of Introduction of newer technologies and dissemination of knowledge. It will provide unique opportunity for energy sector organizations, equipment suppliers, manufacturers, innovators and academia to promote products and services related to energy conservation.

The Energy Exhibition is proposed to be held at BMICH from 18th to 20th November 2017 consisting more than 60 commercial and institutional stalls of Renewable Energy Technologies, energy management, Inventions and giving a wide coverage on energy information, technologies, products, services...etc.

Sector Specific Energy Management Programmes

SEA assists to develop and implement energy management programmes at provincial level.

- ✓ Completed the "Tea sector" energy management programme in Southern Province for 30 Factory Managers &Factory Officers and prepared the assessment report. Programme was conducted by a selected Training institute (SLEMA).
- ✓ Completed the "Tea sector" energy management training programme in Central Province for 30 Factory Managers &Factory Officers and data collection from factories is in progress.

Public Awareness and Training

- ✓ The first phase of the energy and environment course for journalists was completed and seventeen journalists were awarded for successfully completing. The second phase of the programme was launched at BMICH, on 3rd May 2017.
- ✓ Article series on Energy Conservation has been published in 'Navaliya' Newspaper.
- ✓ Article series on Solar Energy has been published in 'Vidusara' Newspaper.

Carrying out Research and Development

Initiatives are taken for exploring the potential of adopting new and innovative technologies for the development of energy management practices in Sri Lanka.

- ✓ Designed a prototype of a standard tea withering trough including modified duct, radiators, process control and spreading mechanism with the assistance of Tea Research Institute (TRI), which would help in accurately evaluating the energy performance. MOU has been prepared to be signed with TRI.

Establishment of Pilot Projects

Tri-generation or Combined Cooling Heat and Power (CCHP) refers to simultaneous generation of electricity and useful heating and cooling from one source of energy, which is the best method available for maximum utilization of energy and it can achieve efficiencies over 80%. In this context, SLSEA has decided to explore the possibilities of introducing tri-generation for sectors such as Hotels, Garments, and industrial Zones etc.

- ✓ TOR is finalized by the Technical Evaluation Committee for conducting feasibility study for implementing Tri-Generation system in Industrial Zones.

Operation Demand Side Management (ODSM) Program

Recent study which concentrated on the electricity sector indicate that focusing on few thrust areas can annually save 1895 GWh (worth 28 LKRB) on an investment of 135 LKR billion over a five year period. This concept, which provided the basis for the demand side management (DSM) case of the long term generation plan 2014-2039 of Ceylon Electricity Board, was found to be the least cost option for implementation. As per this option, a Presidential Task Force and a National Steering committee have been appointed for the implementation of major DSM thrust areas under commercial, residential and industrial sectors and the SLSEA is implemeting the programme under the guidence of them.

Thrust Area	Work Carried Out
Efficient Air Conditioning	✓ Circular issued for efficient use of A/C through the ministry of power and renewable energy ✓ Programme was conducted to make awareness among the energy management officers in government sector on the circulars (23/05/2017) ✓ Letters were sent to the government organizations to submit energy consumption data ✓ Received energy consumption data being analysed with the help of SLSEA
Efficient Refrigerators	✓ Meeting was conducted to the vendors (15/02/2017) ✓ Meeting was conducted to the bankers (23/02/2017) ✓ Workshop was conducted with the participation of all the stake holders (23/03/2017) ✓ Proposed financing scheme for the project is being developed.
Efficient Chillers	✓ Meeting was conducted for the ESCOs (31/03/2017) ✓ Details on chillers in industrial and commercial institutions being collected for the study
Efficient Motors	✓ Potential industries are filtered-in in LECO area ✓ Survey on motor usage has been planned to start on October 2017

MINISTRY
CEB
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Eliminating Incandescent Lamps	✓ LED Lamps distribution scheme named "LED there be light" has been developed. Target group of this scheme is domestic customers with average monthly electricity consumption less than 90 kWh in year 2016. It is proposed to distribute 10 million of LEDs for eligible consumers through CEB, LECO meter readers. Cost of bulbs will be recovered in 24 months installments basis, without interest. ✓ Technical Evaluation Committee (TEC) has been appointed by Ministry of Power and Renewable Energy for selecting a suitable supplier of LEDs through competitive bidding process. ✓ Details of participated account holders, returned Incandescent bulbs and distributed LEDs need to be gathered for monitoring, saving calculations, LED failure replacement and post evaluation. An android application has been developed through LECO for this purpose. ✓ Leaflet including a consent form has been developed in Sinhalaand Tamil language for collection and dissemination of information. ✓ Letter has been drafted to be sent through Ministry of Power and Renewable Energy to Ministry of Public Administration and Management to obtain the services of Grama Niladaris and development officers to get the consent of consumers to purchase lamps under this scheme.
Green Building	✓ Cabinet paper was drafted and sent to ministry of power and energy for installing solar systems for government buildings
Smart Home	✓ Cabinet paper was drafted and sent to ministry of power and energy for issuing loans at concessionary loans for solar systems for homes ✓ Guideline for Sustainable Energy Residences in all three languages Sinhala, Tamil and English has been developed targeting house designers.
Other (1) (School Art Competition)	✓ Awareness/ information gathering programme for provincial science/art educational directors was conducted on 29th March ✓ Letters has been sent to school principals and school energy clubs to get increased participation (by 5 th May 2017) ✓ Evaluation has been completed and the winners has been selected ✓ Exhibition and award ceremony fixed on 21 st September 2017
Other (2) (Development of Energy Demand Side Curriculum for Universities)	✓ programme for university lecturers has been scheduled to be held on 08/09/2017

Present Status	Project Type	No of Projects	Capacity (MW)
Grid Connected	Mini Hydro	182.00	355.61
	Wind	15.00	128.45
	Solar	8.00	51.36
	Biomass-Dendro	5.00	15.54
	Agri. Waste	3.00	13.00
	Biogas	1.00	0.08
	Solid waste	0.00	0.00
	Total	**214.00**	**564.04**

Under Construction	Mini Hydro	77.00	140.25
	Wind	2.00	101.10
	Solar	2.00	20.00
	Biomass- Dendro	9.00	39.24
	Solid waste	3.00	23.40
	Agri.Waste	0.00	0.00
	Biogas	1.00	0.13
	Total	**94.00**	**324.12**
Provisional Approval (PA) issued	Mini Hydro	83.00	117.95
	Solar	2.00	20.00
	Wind	2.00	20.00
	Biomass- Dendro	4.00	20.96
	Solid waste	5.00	34.40
	Agri.Waste	1.00	10.00
	Bio gas	0.00	0.00
	Total	**97.00**	**224.81**
Grand Total		**405.00**	**1,112.97**

RENEWABLE ENERGY DEVELOPMENT

Resource Allocation & development	**Given below is a summary of the progress.** **Assistance has been given as per the request made** **Hosting on GIS web**
Technology development & Research	**Data collection is in progress from the wind masts in Balangoda, Setha Eliya, Kalametiya, Mullipurama, Silawathura, Nadukuda, Ponnalei, Pooneryn and Kokilai beach.** **Resource mapping is in progress. Roughness maps were prepared for Seetha Eliya, Puttalam, Sooriya kanda, Jaffna and Pooneryn.** **Tenders have been called for the maintenance of wind measuring masts.**
Soorya Bala Sangramaya	74 solar systems were installed in religious places under the "Rivi Aruna". 22 more religious places have been identified. Two technical workshops and a workshop for service providers were conducted.
Private Sector Project Implementation (Clean Energy network eff. Prj.)	Completed the Remote Monitoring System Installation. (Clean Energy network eff. Prj.) Completed 21 installations at Private Sector institutions. (Clean Energy network eff. Prj.)
Selection of a consultancy firm (Supporting Elect. Supply Reliability Imp. Project)	Called EOIs from eligible firms for selecting a consultancy firm (Supporting Elect. Supply Reliability Imp. Project)

Establishment of the Inter-Ministerial Officials Committee on Renewable Energy (ICRE) **Establishment of biomass energy terminals and satellite supply systems (Sustainable Biomass Prj.)**	Establishment of three fuelwood depots in Homagama, Mawathagama, and Monaragala is in place. Completion of 24 biomass energy technologies in large scale industries and SMEs. Completion of the artwork of Fuel Wood Growing Handbook Signing the LoA with the Coconut Cultivation Board to grow 600 ha of fuelwood.
Full-scale implementations of HEMs, Solar PV net-metering & accelerate biogas implementation programme **Mid Term Review of the Project (NAMA Prj.)**	Developed a MAC Curve for the Energy Sector. Implemented 40 bio digesters. Procurement of VFDs for tea factories – in progress.
Operation of Hambanthota RE site	Bidding docs finalized for replacing defective inverters in the plant. Maintenance (quarter panel) was completed
Operation of Indurana site	Bids were called in September and the closing date is in October.
Punarin Wind Farm	Title plans and preliminary plans for land were collected. 1:10000 maps were obtained from the Survey Department.

STRATEGY

Formulation and publishing energy data	**Compiling the Sri Lanka Energy Balance publications and upgrading the web.**
Island-wide petrol shed survey	The survey plan for the island wide petrol shed survey is being planned with the Dept of Census and Statistics
Research and Development	Submitted the first year end report for the research on Security of supply with the large scale deployment of PV in Sri Lanka & disburse the payment
National Energy Symposium	The National Energy Symposium - 2017 has been scheduled November 18, 2017. 21 full papers have been received.

Programme 2018

Renewable Energy Development

The SEA has planned to increase the renewable energy capacity of the country mainly using solar and wind resources. In this programme several 100 MW solar PV projects will be established in Poonarin, Siyambalanduwa and few other locations (to be identified). Similarly, wind energy resources available in the Poonarin sector will be developed adding 170 MW capacity. The resource assessment in these locations will be continued and accuracy of ground measurement will be further enhanced. The survey and physical demarcation of the energy development areas declared for this purpose, which commenced to in mid 2017, will be completed in 2018.

In addition to these major developments, several locations were identified for smaller projects of capacities 10MW each. The bidding processes related to these sites will be continued in 2018. Further second round of bidding for 1MW small blocks of solar PV will be continued where SEA playing a role of facilitator.

The development of small renewable energy projects, especially hydro power and biomass will be accelerated upon resolution of the regulatory issues faced by the industry. Through this, the SEA expects to add 40 MW of capacity. The developers will be continuously supported by intervening in land acquisition matters. Renewable energy development will be further supported in areas such as enhanced GIS services, and sensitisation of media personal on the renewable energy cause of the country.

The solar roof top programme implemented with renewed vigour under the Sooryabala Sangramaya will be continued to realise 100 MW of capacity. This will be mainly driven through the soft finances realised from the Asian Development Bank (ADB). This USD 50 million facility will be channelled through the local financial institutes.

The SEA will facilitate the installation of solar roof top systems, targeting the state sector building and also innovative pilot project involving the United Nations Development Programmes (UNDP). The pilot renewable energy projects (Hambantota Solar PV, Indurana Micro Hydro) will be continuously operated making public aware, and earning valuable revenue for furthering the renewable energy development effort undertaken by the SEA. Using the both UNDP projects (NAMA and Biomass), the scope of biomass as an energy resource will be further expanded. These projects will establish six supply chains to link biomass resources available in the rural sector with the demand centres in the Western province which are mainly industrial thermal energy uses. 100 biogas units will be established in four provinces as an element of the UNDP NAMA Project.

Further, steps have been taken to initiate 30MW solar power project funded by the Korean EXIM bank with battery storage for constant power delivery during evening peak period, jointly with Mahawali Authority. Mean time, pilot scale sea wave energy project have been started in year 2017 and will continue in 2018. Another 8 MW solar project, using small scale solar thermal technology will be initiated in 2018 as a pilot project under a Korean grant assistance project.

Energy Management

In the area of energy management, programmes have been implemented focusing Commercial, Industrial and Domestic sectors under Regulatory interventions, Strengthening the energy efficiency services and Training and awareness. Further, Energy Management programme of the country will be implemented as a focussed programme involving nine thrust areas under the Operation DSM programme. A Presidential Task Force on Energy Demand Management which was established in 2016, is providing the leadership to this programme. Under this programme, low usage residential customer who continues to use incandescent filament lamps will be approached through a lamp replacement programme, realising the elimination of Incandescent filament Lamp in the country. Ten million LED lamps will be thus distributed among the residential customer at a lower cost and through a 24 months instalment plan. It is expected that this bulk procurement initiative will result in large scale reduction of price of LED lamps in the country making it the preferred light source among Sri Lankans.

MINISTRY

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Another programme, targeting the aging refrigerator population in this residential sector will be launched to provide customers with new and efficient refrigerators replacing the obsolete stock from the national grid. This programme implemented with the support of the refrigerator vendors and commercial banks is expected to cater to 100,000 customers per annum. Other than these two programmes seven thrust areas are being developed under this programme.

Energy labeling of appliances will be continued with Minimum Energy Standards (MEPS) for computers, LED lamps and refrigerators during 2018. A fully functional ceiling fan test facility will be by early 2017and with this all the ceiling fans import or manufacture will be regulated through energy labelling according to their energy performance during 2018. A project to establish test laboratories for room air conditioners and computers will be carried out. With the full functionality of this facility ceiling fans will attain full compliance of the labeling programme and this will also introduce for MEPS for room air conditioners.

Given the great strides made in refrigerator technology a need has arisen to revise the refrigerator Standards of 2003. A new Standard will be introduced with the revised bench marks based on tested refrigerators widely available in the market.

The Energy Efficiency Building Code (EEBC) of 2008, which was based on prescriptive approach, will be replaced with a new Building Code based on the performance approach. This mandatory code will place responsibility of constructing energy efficient buildings on Architects, Building Services Engineers and investors through a structured approval process. This code is meant for commercial buildings, and will be supplemented by a guideline on construction of sustainable energy residencies during 2018.

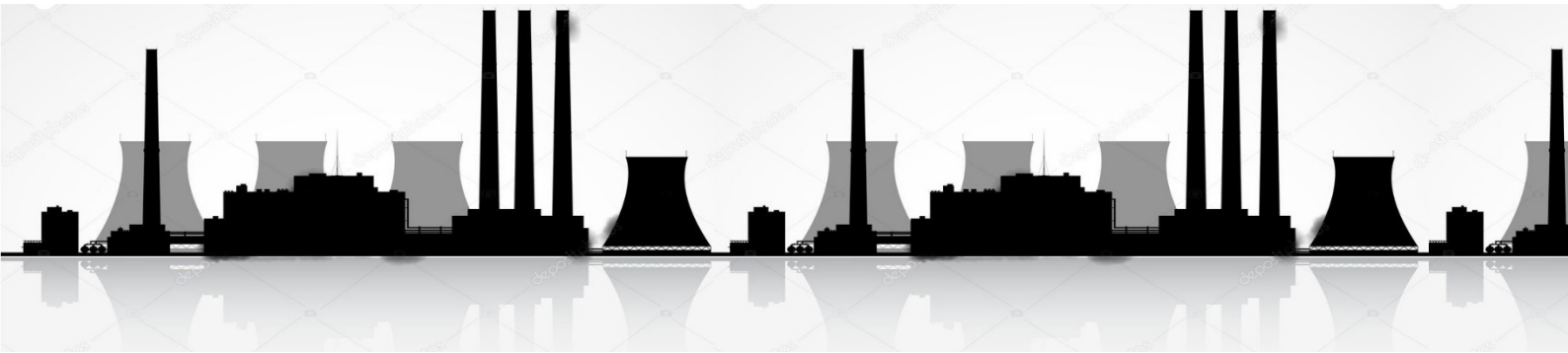
Other activities in the energy efficient improvement sphere will be continued providing advisory counseling and consulting services, to energy users. Sector specific programmes, research & development projects and pilot projects will be carried out to further encourage the users. The Sri Lanka National Energy Efficiency Award (SLNEEA) will be carried out biennially now. The award ceremony will be carried out in 2018 to recognise the energy users who have excelled in energy sector and conservation projects.

Sri Lanka Energy Balance will be published with a shorter lead time in 2018, in consultation with energy sector entities that provide data and information for same. Planning activities for gathering more accurate information on the informal energy sector will be carried out in 2018, in anticipation of a national energy survey in 2019.

Giving due consideration to the proliferation of the solar PV installation in the country, the SEA will establish a fully fledged Solar R&D centre in the same premises where the solar PV pilot projects are established. This facility will initially cater to perform quality assurance tasks related to solar PV panels and inverters. Later the facility will be expanded to undertake the study of aging and temperature of PV panels.

The wealth of data and information available to the SEA on wind resources and biomass resources will be consolidated and resource atlases for wind resources and biomass resources will be compiled.

Atomic Energy Board



Introduction

SLAEB was established under Sri Lanka Atomic Energy Act No.40 of 2014 which came into effect on 01st January, 2015 repealing the previous Atomic Energy Authority Act No.19 of 1969, under which the previous Atomic Energy Authority (AEA) was established. The new Act established two separate institutions namely Sri Lanka Atomic Energy Board (SLAEB) and Sri Lanka Atomic Energy Regulatory Council (SLAERC). SLAEB has been assigned the responsibilities of promoting and facilitating the peaceful applications of Nuclear Science and Technology for socio-economic development efforts while SLAERC is assigned for regulatory functions. The SLAEB has been fulfilling its functions in order to accomplish its objectives while gradually acquiring the distinctive technical competences required.

Vision and Mission of Sri Lanka Atomic Energy Board

Vision:

Sustainable Development of the Nation through Nuclear Science and Technology

Mission:

Promote and encourage peaceful applications of nuclear technology and utilize its benefits for socio-economic development of the country while protecting radiation workers, the general public and the environment from harmful effects of ionizing radiation.

Corporate Objectives

The Corporate Objectives which cover a range of trust areas were set for the organization, encompassing the above policy considerations and forming the basis for the Corporate Strategies, Goals, divisional and functional objectives, Programmes and Action Plans are stated below in order to focus on the desired performance and the result of the SLAEB:

I. To promote and facilitate peaceful applications of Nuclear Science and Technology for National Development in a sustainable manner.

II. To further expand capacity and capabilities for potential application of Nuclear Technology for National Development.

III. To provide radiation protection services to ensure the protection of human health and the environment against unwarranted exposure to ionizing radiation.

IV. To be a financially self-reliance and sustainable organization.

Progress Summery of SLAEB (Jan- Oct 2017)

In line with above corporate objectives, the SLAEB has established its main laboratory facilities at its premises in Orugodawatte and two other centers, namely National Center for Non Destructive testing (NCNDT) at Bulugaha Junction in Kandy road and Sri Lanka Gamma Center (SLGC) in FTZ Biyagama. The NCNDT is a dedicated center established for Non Destructive Testing (NDT) which is a wide group of testing technique used in Science and Industry to evaluate properties of materials (both metallic and metallic) or structures without causing any damage to the same. In addition, NCNDT is conducting training courses, workshops, seminars, lectures, industrial training, internship training etc., for qualification and personnel certification. Training Unit of NCNDT annually conducts certification training courses as per IAEA TECDOC 628. The main function of the SLGC is to provide irradiation services to its customers, and currently the center is in commercial operations sterilizing surgical gloves needed by the hospitals in Sri Lanka. Apart from that SLGC is providing support services through irradiation process to small scale industries and R&D work. The other laboratories are involved in providing services to private and public sector organizations while generating an income to the organization. Further, SLAEB is prepared to respond to any radiological emergency situation and is continuously monitoring the environmental radioactivity levels in and around the country. Raising awareness among the public, school and university students on the peaceful uses of nuclear science and technology is another task of SLAEB. Following is the summarized progress in 2017 (Up to Oct)

1. SLAEB has provided nuclear analytical services for more than 100 customers from import and export sector, local industries and R&D institutes. More than 3500 samples have been tested including milk products submitted by various importers for possible radioactivity contamination. More than 390 export samples including tea, desiccated coconut and spices from exporters and approximately 100 of specific items from the industrial sector and R&D activities have been tested using nuclear and related techniques. The income generated through these analytical services during the above period in 2017 is over Rs. 17.0 million.
2. SLAEB has provided personal dosimetry service to xxxx number of radiation workers to ensure their safety against harmful effects of ionizing radiation. This service is mainly given for government and private hospitals.
3. SLAEB is the only institute which provides a calibration service for radiation measurement instruments in the county and xx number of such services have been provided in 2017
4. SLAEB has established the baseline radioactivity database for Sri Lanka. An early warning system has been installed throughout the country for responding to nuclear/ radiation emergencies. These activities are being continued and maintained regularly.
5. Based on the research activity carried out during last 3-4 years on the groundwater dynamics and its connection with CKDu is now published in a peer reviewed journal; “Isotopes in Environmental and Health Studies” (published in August 2017).
6. Malwathu Oya basin is being studied using isotope techniques to understand the flood impact on groundwater system, in collaboration with Department of Agriculture.
7. SLAEB is currently applying isotopic techniques to investigate the leakage of headrace tunnel in Uma Oya project. An interim report is being prepared on the groundwater recharge and their linkages between leakage water in the tunnel for future remedial measures
8. SLAEB has contributed to assess soil erosion in different land uses in the area covered by the soil conservation act in Sri Lanka by using isotopic techniques. This activity was implemented in collaboration with the Natural Resources Management Centre of the Department of Agriculture.

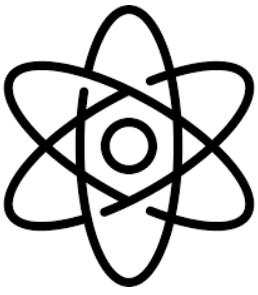
9. The Air Quality Monitoring Program in Kandy city was continued in collaboration with the Central Environmental Authority and IAEA. Findings have been published under the tittle "Identification of Sources of Fine Particulate Matter in Kandy, Sri Lanka" Aerosol and Air Quality Research, 17: 476–484, 2017". The findings are useful to the related research work and policy makers.

Planned Activities for 2018.

1. Completion of infrastructure facilities of the laboratories in the new building coming up under Phsae-I of the construction project by June 2018 and commencement of the construction work of the Phase II of the new building project by March 2018.
2. Continuation of all the services provided by SLAEB ensuring the safety of the general public, radiation workers and the environment with respect to the harmful exposures to ionization radiation.
3. Ncndt-2018

1. To carryout feasibility study on the proposed project on the establishment of Cyclotron based radiopharmaceutical production facility for medical uses in Sri Lanka and to initiate the implementation of the project activities provided that necessary funds are allocated by the government.
2. Enhance the capacity of Sri Lanka Gamma Center (SLGC) and to extend the irradiation service to sterilize more medical products (Syringes etc,.) and to make the SLGC self-sustained
3. To establish first ever Isotope Ratio-Mass spectrometry (IRMS) laboratory in Sri Lanka with the technical support of IAEA by June 2018 and to commence analytical services in food authentication and testing of food to minimize fraudulent practices prevailed in food industry.
4. Use of nuclear techniques (mainly isotope hydrology techniques) to identify most suitable drinking water resources available in CKDu prevailing areas in the country
5. RP AND AGRI

Atomic Energy Regulatory Council



1.0 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 and functions under the Ministry of Power and Renewable Energy. As per the provisions of the Act, the Sri Lanka Atomic Energy Regulatory Council has the responsibility for;

- Regulation of practices involving ionizing radiation & ensuring the safety & security of radiation sources and
- Taking actions to fulfil the obligations of Sri Lanka 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;

1. 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
2. Ensuring the physical protection of radiation sources, nuclear materials and other radioactive material and ensuring the security of facilities that use such material
3. 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

1. Licencing of the practices involving the use of ionizing radiation and renew, modify. suspend or revoke the same.
2. Conducting inspections to ensure compliance with the requirements imposed under the Act and conditions specified in the licences issued.
3. Taking appropriate measures to ensure due compliance with the provisions of the Act and proper enforcement of noncompliance.
4. Maintenance of a national register containing information on all radiation sources used within Sri Lanka.
5. 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.
6. Formulation of regulation, rules, codes and standards 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.
7. Taking necessary steps to fulfill 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.
8. Conducting public awareness programmes in relation to nuclear science and technology and training of radiation workers on radiation safety and security aspects.

9. Supervision of radioactive waste management and transport of radioactive materials.
10. Granting approvals for the plans of the buildings for the construction of radiation facilities.
11. Authorization of import/export of radioactive materials

1.4 Ongoing Project

With the technical assistance under the Global Material Security(GMS) programme of the United State Department of Energy (USDOE), the Council is engaged in establishing security systems to provide physical protection for high activity radiation sources used in Sri Lanka.

2.0 Performance - 2017(up to 01-08-2017)

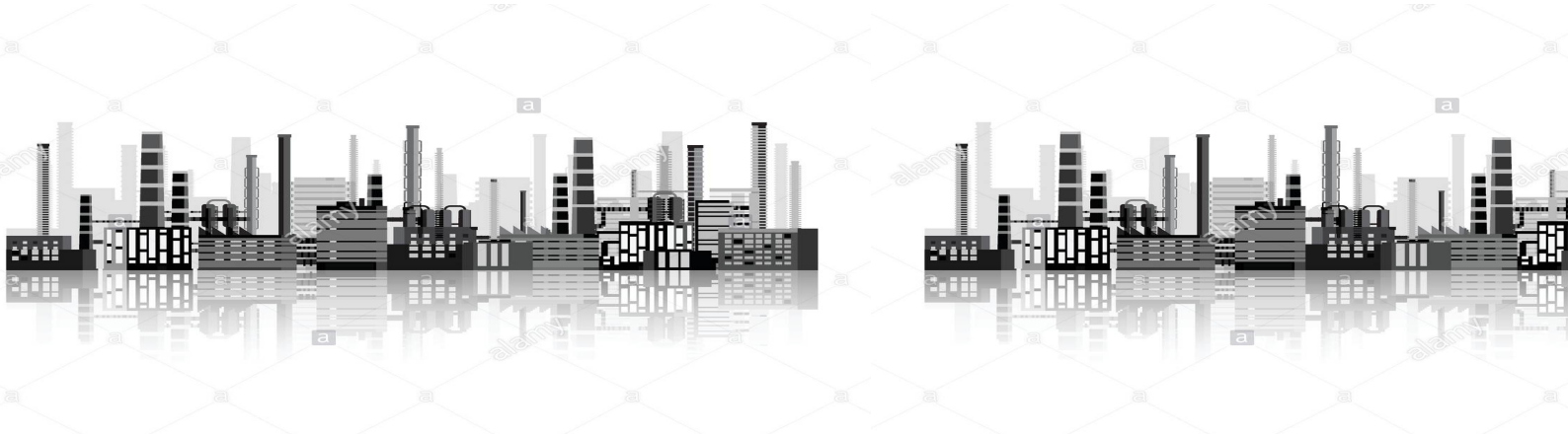
Activity	Performance up to 1st August, 2017
1. Issuance of licence for the use/possession of ionizing radiation facilities	1.1 No. of licences issued -132 1.2 No. of Modifications issued for existing licences -16
2. Issuance of certificates for food testing	No. of certificates issued - 592.
3. Conducting regulatory & on request inspections of facilities involving ionizing radiation	3.1 No. of regulatory inspections conducted – 122 3.2 No. of on request inspections conducted-12
4. Issuing authorizations for import/export of radioactive materials	No. of authorizations issued - 285
5. Approval of building plans of radiation facilities on radiation safety aspect	No. of approvals given – 71
6. Preparation of radiation safety regulations	1st draft of radiation safety regulations has been completed
7. Preparation of rules for establishment of concentration levels of radioactivity in food and other radioactive materials used by general public	Drafting of the rule is being done
8. Designation of the High Court of Republic of Sri Lanka Holden in Judicial Zone of Colombo as the High Court for all prosecution in respect of offences under the Sri Lanka Atomic Energy ActNo.40 of 2014 committed in any Judicial Zone in Sri Lanka	Regulation was gazetted on 27th March 2017. Due to an error found in the regulation, it has to be redrafted and re gazetted
9. Maintenance of registry for radiation sources	Updating of the Registry has been completed
10. Preparation of National Radiological Theft Response Code(NRTRC)	Code has been drafted

11. Conducting training courses	11.1	Conducting of half a day awareness programme on nuclear security in January for 25 police officers in police training school in Galle
	11.2	Conducting of 3 days training programme in January for 30 persons of Special Weapons and Tactics (SWAT) team of STF training school, Katukurunda
	11.3	Conducting of Awareness programme in January for CBRN group of Sri Lanka Army in Jaffna
	11.4	Operational training was conducted in collaboration with the US DOE Global Material Security Programme during 27 February-02 March 2017, for the scientific staff of the Council
	11.5	Workshop conducted in collaboration with the USDOE Global Material Security Programme during 6-8 March 2017 to prepare a Code for National Radiological Theft Response for 20 participants from relevant stakeholders
	11.6	International Safeguards workshop on Additional Protocol was conducted in Colombo during 25th -27th April 2017 for 26 participants from different stakeholders
	11.7	Training course on Nuclear Security was conducted on 20th June 2017 for the 40 staff of Ministerial Security Division, Colombo (VIP Course)
	11.8	Training course on Nuclear Security was conducted on 21st June 2017 for the 38 Navy officers at Training School, Kalutara
12. Supevision of transport of high activity radioactive material	12.1	Supervision of transport of high activity radioactive source to Ansell Lanka, Free Trade Zone, Biyagama on 18-01-2017
	1.2	Supervision of transport of high activity radioactive source to Sri Lanka Gamma Centre, Free Trade Zone, Biyagama on 22-04-2017

3.0 Programmes for 2018

Programme	Activities to be performed for 2018
1. Preparation of regulations, rules & procedures	1.1 Review of draft safety regulations with stakeholders and with IAEA experts 1.2 Review of draft security regulations with stakeholders and with IAEA experts 1.3 Review of draft rule on criteria for the qualifications of radiation workers 1.4 Drafting procedures for licencing of sources and facilities 1.5 Drafting procedures for safety and security inspections
2. Licencing & inspections	2.1 No. of licences to be issued -250 2.2 No of inspections planned - 175
3. Trainings on radiation safety & nuclear security	3.1 Training of newly recruited scientific officers on licencing of facilities & conducting safety & security inspections 3.2 National training course for quality assurance in diagnostic radiology for government radiographers and physicists 3.3 Training of security officers on radiation safety & security of sources
4. Granting approvals & issuing certificates	1.1 Granting approvals of import/export of radioactive materials & irradiating apparatus No. of approvals to be given -220 1.2 Issuing certificates for food testing No. of certificates to be issued -1000 1.3 Granting approvals for the irradiation facility plans. No. of approvals to be given- 60
5. Emergency response plan	Finalization of drafting of radiological emergency response plan and submit it to the National Disaster Management Center for review
6. Maintenance of database & source registry	1.1 Maintenance of database of licencees, inspections and other relevant information 1.2 Maintenance of registry of sources
7. Approval and supervision of transport of high activity radioactive materials	Granting approvals for transport of high activity Radioactive materials on request & supervision of transportations

LTL Holdings (Pvt.) Ltd.



Introduction:

LTL Holdings (PVT) Ltd, having its registered office at 67 Park Street, Colombo 02, is in its corporate journey over the past three and half decades and had achieved robust, healthy and steady growth to become a leading Engineering Company in the Power Sector in Sri Lanka. The Company, over the years, had diversified its business into various aspects, such as Power Generation, Electricity Infrastructure Development, Power Distribution Transformers and Hot Dip Galvanizing thus covering the entire value chain of the power sector in Sri Lanka and successful in investing in Power Plants and completing Engineering, Procurement and Construction (EPC) contracts in Sri Lanka and Overseas, such as Bangladesh, Tanzania, Uganda, Kenya, Ethiopia, Ghana, Oman, India, Nepal, Jordan, Myanmar, Maldive Islands and Australia.

The Company's initial business of manufacturing of transformers in the year 1980 has now grown significantly and to-day we manufacture and supply Sri Lanka's entire distribution transformer requirements whilst exporting 50% of the production to many countries in the world.

LTL Holdings is the largest independent power producer in Sri Lanka, providing over 300MW of power to the national grid. LTL's fully automated Galvanizing Plant provides Hot Dipped Galvanizing for transmission towers and other industries and capable of producing an output of 6.2 metric tonne per hour to the highest international standards.

The Senior Management Team and its team of well-trained, disciplined and dedicated employees are now inspired to take the next leap forward of the LTL Group with their tenacity, drive and energy coupled with the leveraging our resources, ceaseless innovation and application of advanced technology to achieve our corporate goals. The continuous and well knitted team support extended by our board of Directors and Line Managers contribute immensely to maximize the growth in core business activities and to explore key opportunities for potential diversification locally and internationally.

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 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.

Dividend Payments:

LTL Holdings (PVT) Limited for the last three & half decades (35 years), since its operations in the year 1980, has made tremendous contribution to the cash flow of CEB, having made a cumulative dividend payments of over Rs.11 Billion. The Company has also enhanced it's growth and recorded a net asset worth over Rs.30 Billion. The decision taken by the Company in 2001 to make the employees as its shareholders, by leveraging and the buyout of shares previously owned by the foreign investor in 2005 has further augmented the profitability of the company.

In this year, the CEB has floated a Tender for the Construction of 300MW LNG fired Power Plant Project of which Lakdhanavi Limited, fully owned subsidiary & Power Plants Operations wing of the company was one of the successful participants. The Bid submitted by Lakdhanavi is now considered to be the lowest. Securing this Project would be a "Win-Win" situation for the CEB and Lakdhanavi in the light of the fact that the CEB owns 63% of the shareholding of LTL Holdings (PVT) Ltd. Award of this project to Lakdhanavi as a Sri Lankan Company will ensure that:

1. Expatriation of funds will not occur, all procurement, except for machinery & equipment, will be within the resources available in the Country.
2. Lakdhanavi will make use of its team of well trained & experienced engineers, skilled workers and other staff for the project implementation.
3. Employment opportunities are made available to young passed out engineers to ease the unemployment problem in the country as done hitherto in the past.
4. The CEB would be benefitted with dividends earned by LTL Holdings (PVT) Ltd.

Overseas Assignments:

Although the company has been successful in securing overseas tenders for Hydro & Thermal Power Plant operations, the restrictions enforced by the Department of Exchange Control of Sri Lanka, have somewhat hindered the progress of the projects especially in Bangladesh and Nepal.

An Indian Switch Gear Manufacturing Company, Asiatic Electrical & Switchgear Company (PTE) Ltd acquired by the Company two (2) years ago, enhanced its performance under the wield of an experienced CEO, appointed by the Company. It is great advantage for the Company to acquire Asiatic Electrical & Switchgear as it continues to meet the demand of the power sector development works of the company successfully.

Dividend Income from Foreign Subsidiaries:

The dividend income earned in the sum of USD.1,972,973.00 from the foreign investments through the successful operation of the subsidiaries of the company, are as tabulated below:

1.	Asiatic Electrical & Switchgear (PTE) Ltd, India	.. USD. 319,399.00.
2.	Lakdhanavi Bangla Power Ltd, Bangladesh	.. USD.1,026,452.00.
3.	Raj Lanka Power Ltd, Bangladesh	.. USD. 597,122.00.
4.	Bright International Power PTE Ltd, Singapore	.. USD. 30,000.00.
	Total	**USD.1,972,973.00.**

LTL continued to diversify its business in many segments for proper management of each of these businesses to operate under dedicated separate subsidiaries in order to harness all potentials available for business opportunities within the country and overseas.

PERFORMANCE FOR 2017 AND PROGRAMMES FOR 2018

Performance of LTL Holdings Group of Companies during the Financial Year including Financial Highlights for 2017

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

PERIOD	F/Year 2016/2017	F/Year 2015/2016	F/Year 2014/2015
TURN OVER	**(Rs.Million)**	**(Rs.Million)**	**(Rs. Million)**
Manufacturing Misc. Services	7,138.00	5,466.00	5,292.00
Power Generation	9,195.00	10,451.00	7,753.00
Construction Services	1,362.00	353.00	174.00
TOTAL	**17,695.00**	**16,270.00**	**13,219.00**
GROSS PROFIT			
Manufacturing Misc. Services	2,927.00	2,383.00	3,010.00
Power Generation	2,353.00	2,136.00	1,598.00
Construction Services	312.00	86.00	(41.00)
TOTAL	**5,592.00**	**4,605.00**	**4,567.00**

The overall consolidated Turn Over and Gross Profit of the Company recorded for the period under review has been improved by 8.76% and 21.43% respectively in comparison to the corresponding period last year.

A significant improvement in the turnover under "Manufacturing Misc. Services" has been recorded with an increase of 30.59% over last year. The profit earned too shows an increase of 22.83% during the corresponding period last year. Although the turnover achieved under "Power Generation" declined as against last year by 12.02%, the gross profit achieved increased over last year by 10.16%.

The Company, upon expiration of PPA, had to sell out 22.5MW Lakdhanavi & 100MW Heladhanavi Power Plant as several requests made for renewal of the PPAs with CEB had not been considered by CEB in order to alleviate the financial burden on the maintenance, rental fees, electricity bills, salaries/ wages to staff and workers at site including security arrangements.

Although the company had encountered considerable impact on the turnover and profit under "Power Generation" due to the closure of the 22.5MW Lakdhanavi & 100MW Heladhanavi Power plants followed by termination of the PPA with CEB couple of years ago, the income from outstanding operation of the 300MW Combined Cycle Power Plant at Kerawalapitiya has absorbed the inevitable losses by making the availability over 90% during the year under review.

Performance for 2017 and Programme for 2018

1.0 Operations and Maintenance of Power Plants

1.1 Yugadhanavi Power Plant at Kerawalapitiya

Installation	**Yugadanavi Power Plant, Kerawalapitiya, Sri Lanka**
Total Plant Capacity	300 MW
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 sale for the year 2016/2017 is 912.95 GWh and achieved availability 94.00 %. The annual availability target for the year 2017/2018 has been based at 70%.

Lakdhanavi Ltd, being the Operation & Maintenance contractor of the Yugadanavi 300MW

Combined Cycle Power Plant, through innovative maneuver has developed to a high degree of excellence in the maintenance and operation of the plant. Lakdhanavi, thereby has become very instrumental in making Yugadhanavi Power Plant a showpiece among the power plants operated, particularly in the South Asia and also in the world in general.

1.2. Raj Lanka Power Plant,Natore, Bangladesh

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

Annual Energy sale for the year 2016/2017 is 201.46 GWh and achieved availability 92.00 %. The annual availability target for the year 2017/2018 has been based at above 90%. This Thermal Power Plant is the first Sri Lanka owned plant outside Sri Lanka.

1.3 Lakdhanavi Bangla Power Plant, Comilla, Bangladesh

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

Annual Energy sale for the year 2016/2017 is 139.26 GWh and achieved availability 88%. The annual availability target for the year 2017/2018 has been based at above 90%.

1.4 Pawandhanavi Wind Power Plant, Norochcholai

Installation	Pawandhanavi Wind Power Plant, Ilanthadiya,Norochchole
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

Annual Energy sale for the year 2016/2017 is 25.37 GWh and achieved Plant Factor is 29.56%. The annual availability target for the year 2017/2018 has been based at 50.00%. This plant was subject to the periodical maintenance service, during the year under review.

2.0 Mini Hydro Power Generation

2.1 BelihulOya Mini hydro Power Plant

Installation	BelilhulOya 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

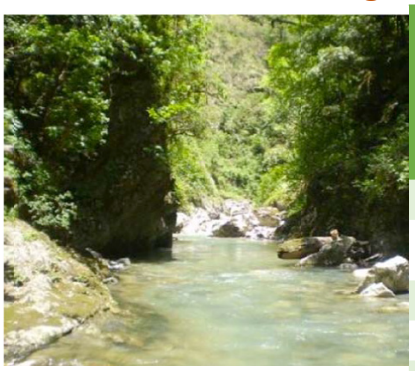
Annual Energy sale for the year 2016/2017 is 3.55 GWh and achieved Plant Factor is 18.55 % The annual availability target for the year 2017/2018 has been based at 53.20%. The penstock and Penstock Trail of the plant were subject to flood damage and had to undergo extensive repairs, which somewhat hampered the power generation.

2.2 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

Annual Energy sale for the year 2016/2017 is 4.62 GWh and achieved Plant Factor is 13.28 % The annual availability target for the year 2017/2018 has been based at 50.70%. This Plant too suffered severe flood damage owing to the landslide, causing penstock trail/pipeline etc., and had to undergo extensive repairs on rehabilitation.

2.3 - 10MW Makarigad Hydro Power (PVT) Ltd, Nepal



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

Although LTL Energy (PVT) Ltd, which is a subsidiary of LTL Holdings (PVT) Ltd, has acquired 54% of the stakehold of Makarigad Hydro Power PVT Ltd, negotiations are being carried out to increase the stakehold upto 95% by end December 2017, upon completion of the regularization of the project finance either through Joint Venture Partnership or Bank Loan facilities.

3.0 Manufacturing and Marketing of Transformers

Main Machinery, Equipment and Facility at Angulana Transformer Plant

LTL Transformers (PVT) Ltd, the transformer manufacturing wing of the company has secured the Engineering Excellence Award for 2015 for Manufacturing Large Category Transformers.

a) The production recorded for the year under review (2015/16 to 2016/17) is as follows:

		2016/17	2015/16
a)	No. of Transformers supplied to CEB/LECO	2,036 Nos.	1,876 Nos.
b)	No. of Transformers supplied Other Local customers	199 Nos.	79 Nos.
d)	No. of Transformers exported to other countries	776 Nos.	2,409 Nos.
	Total Production	**3,011 Nos.**	**4,364 Nos.**

The annual production of transformers for 2016/17 recorded a deficit of 1,353 Nos. of Transformers mainly due to a shortfall in the export market. Nevertheless export orders are being received from the following countries for the year 2017/2018, which are being processed and the export of transformers is in progress, as detailed in the schedule below:

Country of Export	Utility Department	No. of Transformers	Total Value in USD
Ethiopia	Ethiopia Electric Power	775 Nos.	3,785,700.00.
Jordan	Irbid Dist. Electricity Company	132 Nos	1,114,941.20
Jordan	Irbid Dist. Electricity Company	16 Nos.	162,906.70
Jordan	Irbid Dist. Electricity Company	45 Nos.	368,695.90
Jordan	Irbid Dist. Electricity Company	18 Nos.	185,546.90
Kenya	Rural Electrification Authority	500 Nos.	1,369,577.20
Mauritius	Central Electricity Board	8 Nos.	50,688.00
Pakistan	Lahore Electric Supply Compy	1000 Nos.	4,035,000.00
Uganda	Rural Electricity Authority	374 Nos.	510,260.00
	TOTAL	**2,868 Nos.**	**11,583,315.90**

Type - 5 MVA Power Transformer

The Transformer Manufacturing Facility at Angulana, Moratuwa is equipped with sophisticated machinery with automated computerized equipment to keep in line with the demand of the modern global technology in order to compete with the International Markets and to augment the customer base in East African, Middle Eastern & South Asian countries.

The new machinery & equipment comprises of:

Automatic winding machines controlled by an Industrial PC, increase the production capacity and immensely help in timely execution of large contracts while ensuring economical usage of raw material.

1. High speed and automatic core cutting line that saves valuable time. This can precisely cut step lap stacked transformer cores, which result in transformers with lower No-load losses, No - load Current and low Noise level.
2. LV Winding Machines capable of winding Copper and Aluminum foils to round, oval or rectangular windings. The feature of controlling of foil tension permits to obtain quality windings and very strong transformer against short circuit condition of power system.
3. HV Winding Machines CNC capable of doing winding up to 5 MVA and come out with accurate and proper windings of better quality.
4. The newly installed MG Set upgraded the well-equipped and modified Testing Department with the capability of testing transformers up to 5 MVA capacity. This help to increase the quantitative and qualitative aspects of the testing process.
5. Vacuum chamber is used to create an air free surrounding for transformers during oil filling process. This eliminates the risk of any air bubbles being trapped inside the transformer and any remaining moisture, which can be very injurious to the transformer during operation and reduce the life time.

A new stores buidling with properly planned space with requsiite racking system for storage and handling materilas, in conformity with the ERP System to facilitate efficient and accurate stores operations.

4.0 Galvanizing & Fabrication Plants at Sapugaskande

Sapugaskande Galvanizing Facility

New Building to house 2 Nos. New CNC Machines

Fully Automated CNC Plate shearing Machine

Fully Automated CNC Angle punching Machine

a) Production Breakdown – Galvanizing & Fabrication Plant (2016/2017)

The Galvanizing Facility of the Company has made a steady progress in overall production levels during the year under review, surpassed the records of the previous year by 5,642 MT. The company has made huge investments in buying most advanced technologically improved equipment to form various flexible and efficient lines. The production process is wholly computer controlled. The equipment includes automatic CNC line for angle steel, CNC plate cutting machine, CNC Profile cutter, Semi automated channel shearing machine, CNC Plate punching and drilling machine etc. The company has been optimizing the production resources according to the Management systems, to ensure the efficient operations, timely completion of production tasks as well as superior quality. LTL Galvanizers has contributed positively to increase the profitability of the company.

b) Production Analysis – (Galvanizing Plant)

Description	Revenue – Rs.	Production (M/Tonne)		Variance (+)/(-) (M/T)
		2016/2017	2015/2016	
CEB	97,691,810.74	2,239	2,690	451 (-)
2nd Party	29,084,457.44	624	489	135 (+)
3rd Party	493,330,312.11	6,221	4,813	1,408 (+)
F&G	136,729,056.50	5,169	584	4,585 (+)
Substation Packages	23,197,730.00	31	112	81 (-)
Factory Works	55,433,047.68	121	75	46 (+)
TOTAL	**835,466,4134.47**	**14,405**	**8,763**	**5,642 (+)**

Although the CEB has been our prime customer over the last one decade, the business with CEB has been dwindled considerably due to lack of New Power Sector projects consequent upon achieving almost 98% of electrification in the Country. However, production levels have been increased successfully by securing business with new customers and production for the year under review exceeded the previous year's records by 5,642 M/T. as disclosed in the schedule above. A sizeable revenue has been generated having exploited the favourable market conditions.

c) Production Analysis – Fabrication Plant

Description	Revenue – Rs.	Production (M/Tonne)		Variance (+)/(-) (M/T)
		2016/2017	2015/2016	
F&G – (3rd Party)	344,613,871.06	5,084	1,417	3,667 (+)
TOTAL	**344,613,871.06**	**5,084**	**1,417**	**3,667 (+)**

The Fabrication Plant, which operates in unison with the Galvanizing Plant, too has earned considerable revenue during the year under review, in comparison to the previous year. The production too has exceeded by 3,667 M/T as against the previous year.

5.0 Asiatic Electrical & Switchgear (PVT) Ltd, India

LTL Holdings (PVT) Ltd has successfully acquired 99.06% of the stake of Asiatic Electrical & Switchgear (PVT) Ltd, a well reputed Indian Company in early 2017, which manufactures and supplies Electrical Switchgear and related power sector equipment after having made successful negotiations. This facility was much needed for company to strengthen and enhance its power sector engineering works globally.

ASIATIC
ELECTRICAL & SWITCHGEAR PVT. LTD

Asiatic Electrical & Switchgear PVT Ltd, a subsidiary of the Company has made steady progress during the last eight months and the dividend income of USD 319,399.00 has been received thus far. As the registered office of the company is operated in a rented out premises, the Company is now exploring the possibility of purchasing a suitable land/building in close proximity to New Delhi to move its business to the new location with the view to expand the customer base in South Asian and Middle Eastern countries.

6.0 Restructuring of the Ownership of LTL Holdings (PVT) Ltd

The Cabinet Committee on Economic Management (CCEM) has made an indepth study of the proposals and directed to a dilution of CEB shares below 50% by issuing new shares to LTL ESOT Ltd and CEB employees with the objective of giving LTL Holdings (PVT) Ltd a better operational flexibility and in order to maximize the profitability.

In accordance with the directive received from the Secretary, Ministry of Power and Renewable Energy, the Chairman, CEB has requested the Government Valuation Department to effect the valuation of the LTL Holdings (PVT) Group of Companies in order to determine the value of a share of LTLH. The Department of Valuation has concluded recently and final discussion is scheduled with the Finance Manager of the CEB.

An independent legal firm, Messsrs F J De Saram's, is in the process of preparing a report on the required changes to be effected to the Articles of Association of LTLH, which will be made available to the CEB in due course.

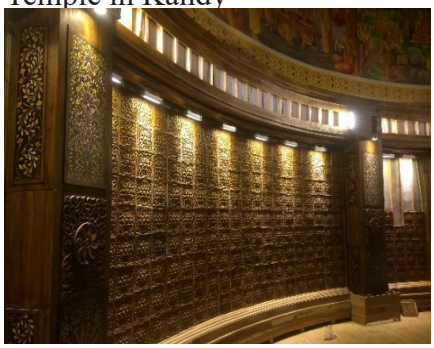
It has become paramount importance at this juncture for the CEB to take necessary steps to approve the recommendations as expeditiously as possible to effect the ownership structure of LTLH, as 11 months have since been elapsed since the Cabinet Decision made in September 2016.

7.0 Performance under Social Responsibilities

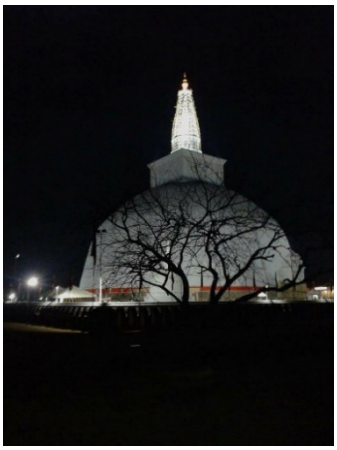
LTL, as done hitherto in past, has always shared its goodwill by shouldering the voluntary services towards the Social Responsibility and carried the following works during the season under review.

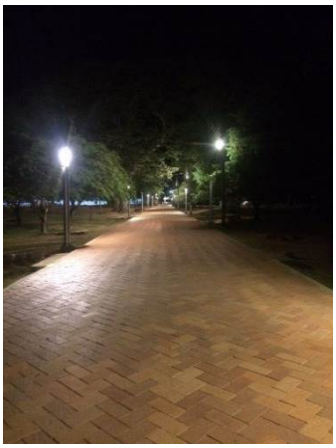
- Providing job oriented industrial training facilities to around 75 (seventy five) University undergraduates in the Engineering Fields, comprising, Electrical, Mechanical and Civil and offering job opportunities to trainees upon successful completion of the training.
- Lighting Projects Provided for Buddhist Temples in Kandy, Anuradhapura and Kegalle, amounting to a sum of Rs.12.7 Million.

1. Asgiriya Historical Buddhist Temple in Kandy

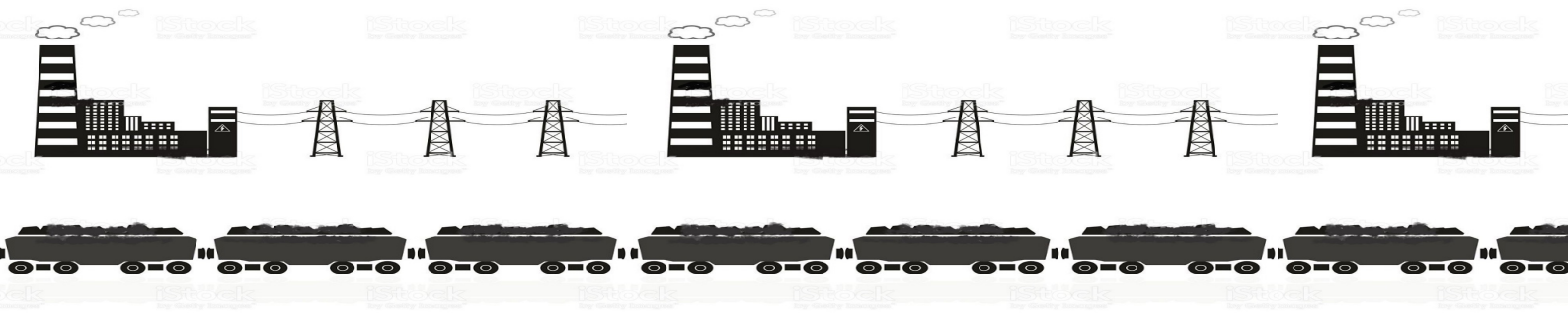

2. Ruwanwalisaya Historical Buddhist Temple





3. Wattarama Historical Buddhist Temple in Kegalle


Lanka Coal Company (Pvt.) Ltd.



FORMATION

Lanka Coal Company (Pvt.) Limited (LCC) was established in the year 2008 as per a decision taken by the Cabinet of Ministers and registered under the Companies act, No.7 of 2007.

SHAREHOLDERS

The paid up capital of LCC as at 31 December 2015 is Rs. 20 Million. The shareholders have contributed to the paid up capital in the following manner.

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

VISION

Procurement of the right quality & right quantity of coal efficiently, actively and at the minimum cost for the coal fired power plants to ensure uninterrupted power supply to Sri Lanka.

MISSION

Procurement of coal of right quality at minimum price for the coal fired thermal power stations in Sri Lanka. Implementation of environmental friendly waste management system by introducing innovative product bases of coal ash. Introduction of coal to industrialists as an alternative source of energy to strengthen their economy as well as the economy of the country.

OBJECTIVES

1) To carry on within Sri Lanka and outside Sri Lanka the Business of contracting, procurement, sale and distribution of coal, coal-by products, petroleum coke or any other petroleum coke by products, liquid natural gas, Syngas (synthetic gas) or any other form of energy or energy generation raw materials or semi-finished or finished products.
2) To own or build, have, construct, secure, and / or otherwise obtain necessary facilities, infrastructure, and other requirements for the reception, tradesmen, focusing, packaging, storage, transportation and delivery of coal, coal by-products, petroleum coke or any other petroleum coke by products, liquid natural gas, Syn gas (synthetic gas) or any other form of energy generation raw materials or semi-finished or finished products.
3) To build, construct, own, operate contract or otherwise acquire energy generating power plants of what so ever kind or description including but not limited to thermal and coal power plants, and to undertake and / or enter into contract for the operation and maintenance of all such plants.
4) To build, contract, maintain, operate and manage the necessary work, including but not limited to transmission lines and sub stations, for the inter-connection of generating stations and substations for the transmission and distribution of electricity in bulk or otherwise from generating stations and substations to such places as may be necessary from time to time.
5) To produce power and energy independently and transmit some to feed the national grid.
6) To purchase, manufacture, lease, deal, hire, exchange, own or otherwise acquire ships and other ocean going vessels for the transport of coal, coal by-products, petroleum coke or any other petroleum coke by-product, liquid natural gas, Bio gas or any other form of energy generating raw material or semi-finished or finished product.
7) To carry on, undertake, and execute road and bridge construction work and development and maintenance work of all description for the Road Development Authority, Municipality, Pradeshiya Sabha or any other authority, board, organization, company, firm or individual in collaboration or otherwise.
8) To carry on the business of hydraulic and water supply engineers and to sink wells and shafts and to make water works, cisterns, wells, culverts, filter beds main and other pipes, and appliances and to execute and to do all other works and things necessary or convenient for the purpose of obtaining storing, selling, delivering, measuring and distributing water to supply persons, organization, village, towns, cities, province, states or any other country.

9) To carry on the business of and to undertake civil, structural mechanical, electronical, hydraulic maintenance and any other form of engineering works and of construction contractors.

10) To carry on any one or all of the above mentioned business and any other business or businesses which are ancillary or incidental or connected to the main objectives of the company within Sri Lanka and outside Sri Lanka.

PRESENT ACTIVITIES

a. Procurement and Supply of coal to the Power plant at Norochcholai as per its annual requirement of 2.25 Million Metric Tons. This quantity has to be supplied within 180 days commencing from the month of September in each year up to April in the following year.

b. Registration of Coal suppliers

c. Planning and supervision of coal loading operation, discharging operation and lightering operation with proper coordination between Ceylon Electricity Board and Ceylon Shipping Corporation.

d. Opening of letters of credit for coal shipments and arranging all the payments pertaining to the coal shipments.

e. Arranging the laboratory testing of samples of coal shipments at discharging port.

f. Arranging the insurance coverage for coal shipments.

g. Not a present activity making bricks using bottom ash of the plant as an environment friendly project.

PERFORMANCE

The coal requirement of the plant for the season for 2016-2017 was 2.2 Million MT. This quantity had to be supplied during the non-monsoon period commencing from September 2016 to April 2017. During the monsoon period the sea at Norochcholai is normally very rough, waves are very high and experiences strong winds. Therefore, it is not possible to carry out discharging operation, barging operation and the crane operation at the jetty.

However, LCC has achieved this target and supplied 2,212,318 MT to the plant during this season.

COAL SUPPLY DETAILS – (Sep. 2015 – Apr. 2017)

Season	Demand MT.	Supplied MT.	Percentage (%)
2015-2016	2,200,000	2,212,318	100.55%
2016-2017	2,200,000	2,201,066	100.05%

A. THE SUPPLY OF COAL FOR THE SEASON 2016-2017

As per the decisions taken by the Cabinet of Ministers on 23/07/2015 and 14/10/2015, coal tenders were called during this season using two types of tender methods. i.e. Long term tender and spot tender.

M/s Adani Global Pte. Ltd has supplied 1,274,713 MT of coal by 04 spot tenders.

M/s Swiss Singapore Overseas Company has supplied 935,270 MT of coal under Long term tender.

Accordingly, Swiss Singapore has supplied 16 shipments and Adani has supplied 21 shipments, total of 37 shipments, during the season.

All the coal shipments have been supplied to the plant in accordance with the specifications approved by the Special and Standing Cabinet Approved Procurement Committee (SSCAPC & SCAPC). The test report at both loading and discharging ports confirm compatibility of supplies by LCC with the specifications given in the agreement for compliance.

SUMMARY OF COAL SUPPLY DURING - SEASON Sep. 2016- Apr. 2017

Tender	Supplier	Req. Qty. MT	Sup. Qty. MT	Awarded Price MT / USD	Quality adjusted price
Spot 5	Adani	330,000	362,149	64.77	63.77
Spot 6	Adani	300,000	303,168	78.90	77.04
Spot 7	Adani	300,000	307,371	90.60	89.42
Spot 8	Adani	300,000	302,025	87.90	86.39
Term Tender	Swiss Singapore	1,125,000	935,270	*58.00	**90.75
Total			2,209,983		

Note: * Base price at the time of awarding
** Actual price adjusted as per the applicable API4 Index

Hence total of 2,209,983 MT of coal has been supplied to the plant and the value was USD 184,901,464.00

B. SUMMARY OF PROCUREMENT

Tender	Quantity MT	Cost USD	Average Price USD/MT
Spot Tenders	1,274,713	100,025,620	78.47
Main Tender	935,270	84,875,844	90.75
Total	**2,209,983**	**184,901,464**	**83.67**

C. REGISTRATION OF COAL SUPPLIERS

Registration of coal suppliers are handled by LCC as per a decision taken by the Cabinet of Ministers. Accordingly, LCC has prepared the bid document according to the approval given by the SSCAPC & SCAPC indicating the eligibility criteria of prospective bidders.

Only the eligible coal suppliers have been registered at LCC and there are 24 registered coal suppliers up to now.

D. OTHER ACTIVITIES.

a. Supply of Coal to the Private Sector

There are few industrialist in Sri Lanka who use Thermal Coal in their furnaces/ Boilers. They need very small quantities and the specifications also differ. Therefore, it is difficult to bring one coal shipment to satisfy all the industrialists. However, LCC is negotiating with them to bring down a small coal shipment, initially, to the port of Trincomalee once all the conditions are satisfied.

b. Making Bricks Using Bottom Ash of the Plant as an Environment friendly project

The daily coal consumption of the plant is about 7,500 MT. Approximately 10 % of the burned coal is emitted from the plant as residual ash. The above ash emission in considered as an environment hazard.

In this respect LCC had several discussions with the officials of National Building Research Organization (NBRO). At these discussions it was revealed that the bottom ash can be used to manufacture bricks for housing industry and as a paving materials for the roads. Further, it was revealed that this brick is environmental friendly.

Accordingly it was decided to go for a pilot project for a period of two years with private sector participation as LCC does not have capital to invest in this project. In this regard, LCC/CEB will charge a nominal fee per brick from the manufacturer as a management fee.

CEB has agreed to allocate a land of one acre with close proximity to the plant for this project and present position is that LCC is waiting for the approval of the Central Environmental Authority.

E. HUMAN RESOURCES

Total number of employees at the end of 2016 was 18. There are 17 employees at present.

F. ACCOUNTS

The Auditor General has carried out the audit of financial statements of 2015. The report for 2015 has been signed by both Directors and the Auditor General. Even the 2016 Audit was carried out by the Auditor General's Department and finalization of the report is currently in progress.

G. HIGHLIGHTS OF THE SEASON 2016 - 2017

a. Reduction of Discharge Port Demurrages

Due to proper coordination and efficient operations among CEB, CSC and LCC there was a reduction of demurrages to Rs. 03 million at port of Puttalam. The comparison of demurrages with the previous seasons is given below. It is evident that there has been a remarkable improvement in this sphere which is also a proof of efficiency of the operations.

2014-2015 Demurrages Rs. 607.11 million
2015- 2016 Demurrages Rs. 115.07 million
2016- 2017 Demurrages Rs. 03.00 million (as at date).

b. Reduction of Base Freight

The base freight in 2014-2015 was USD 17.00/MT, it was brought down to USD 11.50 /MT in 2015-2016 season and remained even in 2016-2017 Season as well. All these augur well for the cost efficiency which would ultimately contribute towards the reduction in cost of generation.

c. Reduction of Discharge Port Lightering Charges

Coal is discharged to barges from the ship at the anchorage of Port of Puttalam and transported to the jetty. Originally lightering (barging) rate was USD 4.75/MT this rate has been reduced to USD 3.00/MT at present.

SCHEDULED PROGRAM FOR SEASON 2017 – 2019

PROGRAMS FOR SEASON 2017- 2018

A. Coal Procurement Schedule

According to the latest intimation by Lakvijaya Power Station (CEB) by their latest letter dated 29.08.2017 LCC has been informed that the annual requirement for the season 2017 – 2018 would be 2.1 Million MT.

The proposed coal supply schedule for the season 2017-2018 is tabulated below.

TENDER	NO. OF SHIPMENTS	QUANTITY ± 10% MT
01 Term Tender	18	1,080,000
04 Spot Tenders	17	1,020,000
Total	**35**	**2,100,000**

There would be 18 shipments from Term Tender and 17 shipments from Spot Tenders. Total quantity required is 2,100,000 MT as of date. In order to achieve the above quantity the shipment schedule for the season 2017/2018 has been discussed and prepared by Lanka Coal Company (Pvt.) Ltd, Ceylon Shipping Corporation Ltd and Lakvijaya Power Station - Norochcholai.

a. **Reduction of Base Freight**

The base freight in 2016-2017 was USD 11.50/MT, it was brought down to USD 11.25 /MT in 2017-2018 season.

b. **Reduction of Discharge Port Lightering Charges**

Season 2016 – 2017 lightering (barging) rate was USD 3.00/MT this rate has been reduced to USD 2.22/MT at present.

B. Supply of Coal to the Private Sector

We continue to perceive this option as in the past with the objective of making LCC a viable going concern. A Board Paper was tabled at the last Board Meeting held on 29/09/2017 to apprise the Board and to receive necessary approval. We will embark on this initiative very soon.

C. Making Bricks Using Bottom Ash of the Plant as Environment Friendly Project.

This project will also be taken forward once we receive the approvals from the Environmental Authority this is mainly view from a Social Responsibility perspective. But will eventually accrue some commercial benefits which may not be significant.

D. Analyze and restructure the Organizational Goals and Objectives to fulfil the future aspirations of the company.

LCC will undertake a excise to align its goals and objectives more in line with the aspirations of its stakeholders. In this context company tabled the Scheme of Recruitments at the last Board meeting held on 29/9/2017 to fill critical positions in staff cadre. Primary among restructure objectives is to make LCC a viable going concern and to make sourcing coals further cost efficient.

PROGRAM FOR SEASON 2018-2019

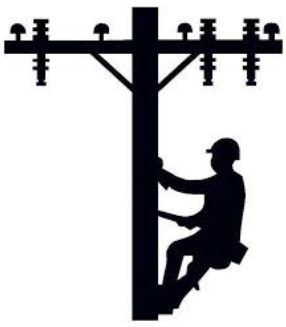
The proposed coal supply schedule for the season 2018-2019 is tabulated below.

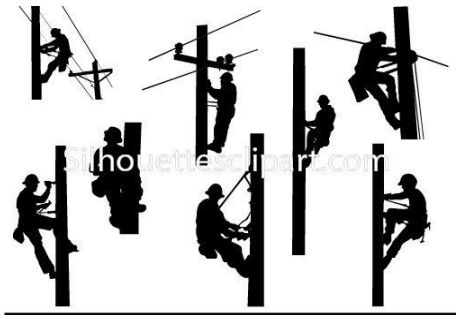
Tender	No. of Shipments	Quantity ± 10% MT
01 Term Tender	18	1,080,000
04 Spot Tenders	18	1,080,000

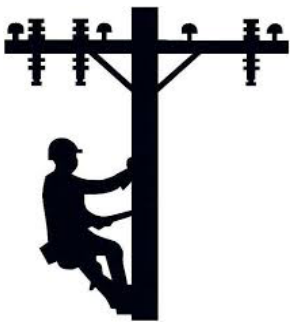
A. Term Tender - from **P**revious Season remaining Balance 50%

B. Spot Tender - Quantity will be decided According to the LVPS Requirement for the season 2018 - 2019

Sri Lanka Energies (Pvt.) Ltd







Introduction

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

Currently the company is operated at 11th floor, Stage II, Sethsiripaya , Battaramulla.

The main objective of this company is **Renewable Energy development** among other objectives of **associated transmission asset development**, **manpower resource provision** and **procurement**.

Performance 2017 and Programs for 2018

a. 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 commercial operation was started. Plant being operated since 2016 February 19 and provided 9.5 GWh energy to the national grid during the last 20 months of operation.

Forebay Area

Construction

Power House

Turbine and Generator

b. Managing the Manpower Required by CEB

The Company managed 2800 manpower force that required to cater the CEB man power requirement from April 2016 and at present a residue of less than 50 are there after absorbing them to CEB permanent carder.

c. Galigamuwa Meter Enclosure Manufacturing Project.

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 declare 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.

3 Injection Machine Unit

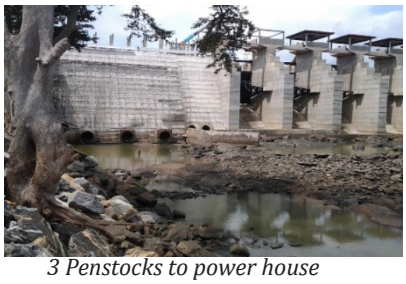
Planning Construction

Opening Ceremony

Factory Front View

a. Development of Daduruoya Mini Hydro Power Plant,

Under the directions given by the Secretary MOP , Sri Lanka Energies has started the construction of a 1.5 MW Mini Hydro Plant at Daduruoya Dam. This Dam was newly constructed by Dept of Irrigation and the entire Dam Project has been designed as a multipurpose project including power generation. The Provisional Approval for this project has been issued to Dept of Irrigation by SEA and Dept of Irrigation has transferred the site and the relevant approvals obtained so far to the name of SLE.



3 Penstocks to power house

Further detail studies about the project feasibility were done by Sri Lanka Energies. After the signing of a SPPA WITH Ceylon Electricity Board, preliminary construction of the project was started on 15th of September 2016 and the plant is expected to be commissioned within 2018.

Dewatering

Coffer Dam Construction

Tailrace Section Construction

b. Wagantale Mini Hydro Power Plant

The approvals for construction of Wagantale Mini Hydro Power Plant , 4.6 MW, is been processed. The Provisional Approval for SEA has been received and the TOR from Central Environmental Authority has been issued.

SLE conducted several meetings with affected villagers and the administrators of this area and able to convince all those stakeholders.

Land survey for Wagantale Mini Hydro Power Plant has been finalized and by now SLE is in the process of acquiring the lands for this project

Wagantale Power House Location

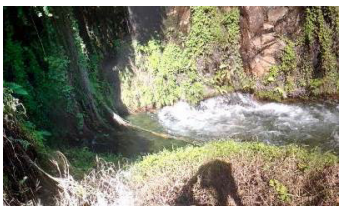
c. Upper Samanalawewa Mini Hydro Power Plant

SLE has planned to construct mini hydro power plant with a capacity of 600 kW by using Samanalawewa Leak. Pre-Feasibility studies and Preliminary design works were done.

Proposed Intake Position for Power Plant

Draft TOR was issued by Central Environmental Authority and they requested consent of Ceylon Electricity Board for the project.

The project is expected to be completed within 2019.



d. Broadland Mini Hydro Power Plant

SLE has planned to construct mini hydro power plant with 1.5 MW at Broadland to utilize the water released by Broadland Power Plant.
Environmental approval FROM Environmental Authority and supplementary EIA for Mini Hydro is pending and the project is expected to be finished by 2019 .

e. Development of Solar Power by SLE

SLE has planned to develop 5 solar power project with 2 MW capacity for each near to Siyambalnduwa in Monaragala District.
Land was identified and 5 applications have been forwarded to SLSEA.

Study for solar at Siyambalanduwa