CONTENT

MINISTRY OF POWER
AND
RENEWABLE ENERGY

1.0 MINISTRY OF POWER & RENEWABLE ENERGY

1.1 Description of the Ministry

In pursuant to the Gazzette Notification of 1933/33 dated 21/09/2015, this Ministry has assigned with the following functions and duties.

1. Formulation of policies, programs and projects, monitoring and evaluation in regard to the subjects of Power and Renewable Energy and those subjects that come under the purview of Departments, Statutory Institutions and Public Corporations.
2. Formulation of an appropriate Power and Energy Policy for the control, regulation and utilization of power resources.
3. Investigation, planning, monitoring and development of activities related to generation of power from sources, such as water, heat, coal and wind.
4. Rural electrification.
5. Management of demand for energy 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.

1.2 Institutions assigned under the Purview of the Ministry

The following institutions have been assigned to the Ministry of Power and Renewable Energy.

1. Ceylon Electricity Board (CEB) established under the Act No.17 of 1969 and its subsidiary companies.
2. Lanka Electricity Company (Private) Limited (LECO) a subsidiary of CEB with a majority shareholding of 54.84% by the CEB, 43.56% by the Treasury and a minority shareholding of 0.79% by the Urban Development Authority and 0.81% by Local Authoritties.
3. LTL Holdings (Pvt.) Ltd. (LTL) a subsidiary of CEB with a majority shareholding of 63 % by the CEB and a minority shareholding of 37 % by its employees.
4. Lanka Coal Company (Pvt.) Ltd. (LCC) a subsidiary of CEB with a majority shareholding of 60 % by the CEB and a minority shareholding of 20 % by the Treasury, 10% by the Sri Lanka Shipping Corporation and 10% by the Sri Lanka Ports Authority.
5. Sri Lanka Sustainable Energy Authority established under the Sri Lanka Sustainable Energy Authority Act, No.35 of 2007
6. Sri Lanka Atomic Energy Board established under the Sri Lanka Atomic Energy Act, of 40 of 2014
7. Sri Lanka Atomic Energy Regulatory Council established under the Sri Lanka Atomic Energy Act, No. 40 2014

1.3 Progress of the Ministry in the year 2015

At the beginning of 2015, then Ministry of Power and Energy and the Ministry of Petroleum Resource Development were amalgamated together and embarked on a new path as the Ministry of Power and Energy. Vision of the newly established Ministry was to make Sri Lanka a nation with self-sufficiency in Energy with the central theme of "**An Energy Empowered Nation**". The Ten year Plan of "**Sri Lanka Energy Sector Development Plan for a Knowledge Based Economy 2015 - 2025**" was prepared and approved by the Cabinet of Ministers to aligned with the country's development drive. This Ten year Plan which was prepared by the Ministry with the assistance and inputs from the institutions and experts representing the energy sector was ceremonially launched with the participation of the Hon. Prime Minister on 31st March 2015.

Whilst vigorously contributing to the economic development of the country, the plan envisages in identifying the strategies needed to minimise the disparities of supply side, giving priority to the indigenous energy sources, ensuring the conservation of the valuable environment and finally providing affordable, reliable, qualitative and continuous supply of energy to all at all times.

The Plan has identified Eight key Thrust areas in order to achieve the above objectives and to make Sri Lanka a self-sufficient nation in meeting its energy demand through indigenous and renewable energy sources.

THRUST AREAS

- Integrated National Energy Policy Formulation
- A cleaner future through Green energy
- Conservation and Efficient use of energy- a national priority
- Customer satisfaction in service and quality
- Timely development of infrastructure
- Efficient Energy sector institutions and Good governance
- Innovative financing for a diverse energy sector
- Investment in R&D for cutting-edge product development

Following is a list of development programs initiated by this Ministry under the above Thrust Areas during the period from October 2014 to October 2015.

1.3.1 Integrated National Energy Policy Formulation

In order to keep the country's energy supply stable, necessary encouragements and assistance were provided for compilazion of policy and implementation of them to strengthen the economy of the country.

- Provision of electricity to rural households through Rural Electrification (RE) schemes were continued. A special ceremony symbolizing the supplying of new electricity connections to rural households was held at the Presidential Secretariat under the patronage of H.E. the President on 08th April 2015.

Special ceremony was conducted at the Presidential Secretariat on 08th April 2015.

- To encourage the use of electric vehicles in the transport sector, steps have been taken to introduce electric vehicle charging centers while an introduction of a special Tariff for electrical vehicle charging is under progress.

Introducing Electricity vehicles charging centers

- An action has been initiated to introduce a more transparent pricing methodology coupled with a periodic revision mechanism thereby ensuring a reasonable and justifiable price for electricity consumers.
- Necessary guidelines were provided to diversify the power generation mix and necessary feasibility studies are now under progress to facilitate new projects utilizing solar, wind, biomass and natural gas as means of Renewable energy sources.

1.3.2 A cleaner future through Green energy

Necessary steps were taken to introduce Green technology for the future by the development of solar wind and mini hydro as well as other Renewable energy sources in Rural electrification while giving due consideration to protecting the environment.

- 60 number of Generation Licenses totaling 100 MW of Renewable energy have been issued to small scale Renewable energy developers on 10th July 2015 with the presence of the then Minister of Power & Energy and the State Minister of Power & Energy enhancing further the contribution of the renewable energy in the power generation.
- Initial plans were prepared to implement large scale wind power generation systems in Mannar and Jaffna.
- **"Carbon Foot Print"** calculation in the power sector was initiated by collecting required data and this was also introduced to the institutions under the purview of the Ministry.
- **Green City** concept was introduced to the country by taking action to implement the first Green City as Sri Jayawardenepura with the assistance of the LECO.

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- Introduction of Smart Meters, Energy efficient street lamps etc. and other activities have been carried out under this program.
- **Green Village** program was initiated by providing necessary facilities to a village in the Kurunegala district with the assistance of the CEB.

1.3.3 Conservation and efficient use of energy- a national priority

Several programs were conducted to encourage the reduction of energy usage by using energy efficient accessories. This was supplemented by introducing an island wide public awareness program in energy conservation targeting school children as the primary focus.

1.3.4 Customer satisfaction in service and quality

Improving customer service through efficient and expeditious service by the utilities were further enhanced by many initiatives such as introduction of alternative methods for bill payments, drafting safety standards, introduction of a Service Quality Manual through the Public Utilities Commission of Sri Lanka (PUCSL) etc.

- Measures have been taken to provide efficient and transparent supply connections and to introduce Smart Meters enabling consumers to make the payments easily.
- Action has been initiated to introduce pre-paid billing systems to electricity consumers.

1.3.5 Timely development of infrastructure

In accordance with the Least Coast Long Term Generation Expansion Plan (LCLTGEP), taking the growth in demand for electricity into consideration necessary steps have been taken to develop and augment in time the infrastructure needed for the generation, transmission and distribution divisions of the electricity sector. This was further enhanced by providing assistance and guidelines to the utilities in order to improve their institutional capacity.

- Action has already been taken to expedite the construction of the proposed Sampoor Coal Power Plant in Trincomalee through the discussions with the Indian counterparts.
- High Voltage Transmission Lines (220kV) from Veyangoda to Habarana & Habarana to Sampoor have been implemented to strengthen the transmission network.
- Development of the distribution network and improvement of the network capacity have been carried out under several distribution projects. 47,527 number of new supply connections have been provided during this period.
- Action has been taken to initiate the construction of new buildings for the following:

  a. Headquarters for LECO

  b. Building complex for Atomic Energy Board

  c. Office of the Distribution division 4 of the CEB

1.3.6 Efficient energy sector institutions and Good Governance

Steps have been taken to make administrative work of all the institutions more efficient. Further action has been taken to make the procurement process of the power sector more transparent.

- An electronic procurement system has been introduced to obtain relevant information easily in regard to any procurement of the Ministry or any institution under its purview using online facility via Ministry Web-site.
- A Balanced Scorecard System has been introduced to align the activities of the institutions under the purview of the Ministry with the vision and strategy of the Ministry and the GOSL.
- Guidelines have been given to follow the 5S concept in order to improve the efficiency and productivity.

1.3.7 Innovative Financing for diverse energy sector

- Improving the financial stability of the energy sector by restructuring the loans obtained for the power sector.
- Encouraging Public-Private partnership in investment.
- Introducing concessionary finance systems for small scale renewable energy projects.

1.3.8 Investment in research and development for cutting-edge product development

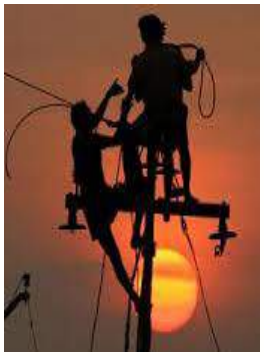
Initial steps have been taken to encourage research and development activities of the energy sector in general and giving priority for the development of energy conservation in particular.

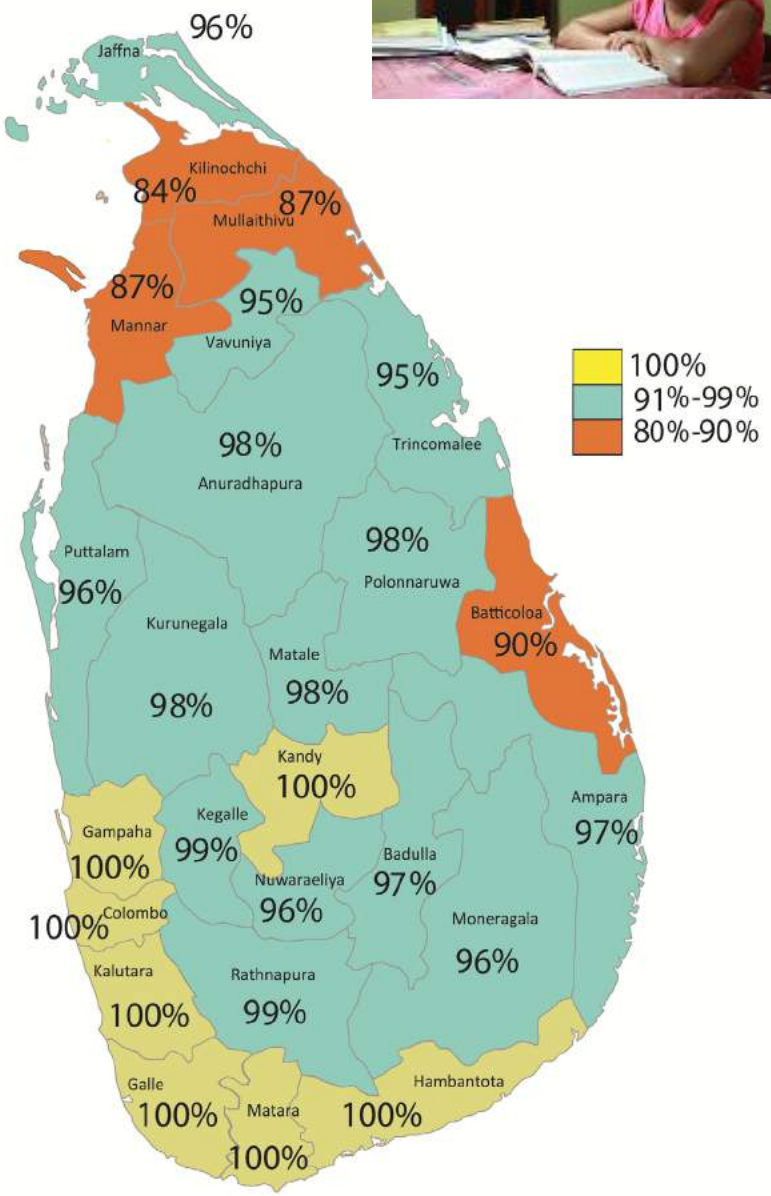
- An International symposium with the theme "**Energy challenges in the knowledge Economy**" organized by the Ministry was successfully concluded during 26, 27 of June 2015 with the participation of H.E. Dr. Abdul Kalam, former President of India who has delivered the Key Note Address. The Energy Symposium was a tremendous success with the participation of many foreign and local participants. The Technical Sessions conducted at the Miloda Institute received 70 number of research papers within 6 identified subject categories.
- Steps have been taken to further develop and commercialize the best 20 research papers as an outcome of this Symposium.
- The CEB and the University of Peradeniya have initiated a joint research project to manufacture and develop Smart meters locally.

1.4 Enhancing the access of electricity of Sri Lanka

As at September 2015, Sri Lanka has reached a National Electrification Level of 98.4% which reflects the expeditious development of the electricity sector during the recent past. To strengthen further the Ministry has launched a program to achieve the 100% electricity access of the total population by the end of 2015. This has been implemented with the funding assistance from international lending agencies and supplemented by the GOSL funds to meet any shortfall. The CEB has established separate Management Units for each of the provinces for effective and efficient implementation of this program.

As at end of September 2015, completion of 277 RE schemes has been achieved with 47,527 new supply connections, 4,420 new electricity line extensions given to the existing network.





Electricity Coverage as at 30 September 2015

Table No. 01 – Percentage of Electricity Coverage of District by 30th September 2015.

District	Electricity Schemes Completed in the Year 2015	Electricity Extensions Completed in the Year 2015	Electricity Coverage
Western Province	2	445	100%
Colombo	-	18	100%
Gampaha	-	244	100%
Kalutara	2	183	100%
Southern Province	-	95	100%
Galle	-	53	100%
Matara	-	21	100%
Hambantota	-	21	100%
Central Province	28	336	98%
Kandy	5	106	100%
Matale	10	100	98%
NuwaraEliya	13	130	96%
Northern Province	62	354	94%
Jaffna	-	186	96%
Kilinochchi	25	37	84%
Mannar	5	69	90%
Vavuniya	8	26	95%
Mulativu	24	36	87%
Eastern Province	43	404	94%
Batticaloa	29	69	90%
Ampara	11	157	97%
Trincomalee	3	178	95%
North Western	47	5	97%
Kurunegala	23	5	98%
Puttlam	24	-	96%
North Central	31	1141	98%
Anuradhapura	28	883	98%
Polonnaruwa	3	258	98%
Uva Province	38	559	97%
Badulla	9	197	97%
Monaragala	29	362	96%
Sabaragamuwa	26	1081	99%
Ratnapura	17	817	99%
Kegalle	9	264	99%

1.4.1 Ratama Eliyai Adura Duralai Jathika Viduli Sathkaraya (රටම එළියයි අඳුර දුරලයි ජාතික විදුලි සත්කාරය)

The main objective of this "**National Electricity Program**" is to provide electricity supply connections within three months to the needy families who have no means to defray the expenses in obtaining an electricity supply connection although the access to electricity is available. A concessionary loan scheme has been introduced based on a survey conducted through the Divisional Secretariats with the assistance of the Ministry of Home Affairs for these families. Under this a loan of up to a maximum limit of Rs. 40,000 is provided for identified families for obtaining electricity supply connections to their dwellings. The loan provided will be payable in 72 monthly installments with the electricity consumption rate is defrayed in equal monthly installments calculated at 7% annual interest rate.

Accordingly opportunity is given to needy families to obtain the electricity supply connections by utilizing Rs. 17,500/00 as the cost for the Switch Board and the rest as the preliminary cost of providing electricity connection services.

The first Phase of this "**Ratama Eliyai – Adura Duralai**" the National electrification program had been already launched and under progress with the able guidance and assistance of Hon. Minister of Power & Renewable Energy and Hon. Deputy Minister of Power & Renewable Energy.

CEYLON ELECTRICITY BOARD (CEB)

2.0 CEYLON ELECTRICITY BOARD (CEB)

2.1 Introduction

The 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 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 CEB is sufficient for all its activities.

2.1.1 Vision

Enrich Life thorough Power

2.1.2 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.

2.1.3 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

During 2013, the CEB revisited and reorganized the above three organizational Strategies and introduced the following three Strategies additionally to serve the future needs of the nation in a more effective way and to be on par with the rest of the corporate world.

- 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 three along with the previously mentioned three, 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.

2.2 Overview of Electricity Supply

From a wet year (2013) to a dry year (2014), CEB's annual expenditure on generation significantly varies with the amounts of electricity generated from thermal power plants of both CEB and Independent Power Producers (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 4.5 % 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.

2.2.1 Improved Reliability and Customer Care

With the scheduled conclusion of CEB's drive to electrify whole of Sri Lanka, (by the end of 2014 achieved 98.4%), 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.

2.2.2 Electricity Demand

During the first half of 2015, the demand for electricity was increased by 4.7%, while the maximum demand recorded during this period was 2,253.4 MW as against 2,151.7 MW last year. During this 6 month period 6,401 GWh Units were generated and 5,715 GWh Units were sold to consumers.

By end of August, the total generation stood at 8,718 GWh Units, of which 34% has come from major hydro generation while the share of Coal power generation standing at 38%. Thermal Oil had contributed to 18% of total energy generation (total thermal power standing at 56%). Other renewable sources had a share of 10%. In comparison, by end August 2014, contribution from major hydro was 22%.

2.3 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 1,377 MW, six large oil-fired Thermal Power Plants with an installed capacity of 544 MW, one 900 MW Coal-fired Power Plant and a 3 MW Wind Power Plant. CEB also operates few power plants in the isolated networks in surrounding islands off Jaffna Peninsula. Thus the total installed Capacity of CEB-owned Power Plants by the end of August 2015 was 2,824 MW.

Generation details of CEB and Private Power Producers up to 2015/08/31 is given below.

Description		Generation (GWh)
CEB	Hydro	2,921
	Thermal - Coal	3,336
	Thermal - Oil	1462
	NCRE-Wind	1
PPP	Hydro	604
	Thermal	862
	NCRE (except Small hydro)	294
TOTAL		**8,718**

2.4 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 (2011 – 2025). The current status of those Projects is as follows.

2.4.1 Hydro Power Generation Expansion Projects

2.4.1.1 Upper Kotmale Hydropower Project

The Upper Kotmale Hydro Power Plant of 150 MW capacity constructed with Japan International Corporation Agency (JICA) concessionary financing was commissioned in 2012. Since then up to end August 2015, it has generated 1426 GWh Units of electricity.

2.4.1.2 Uma Oya Hydro Power Project

The Uma Oya Multi-Purpose Development Project is being implemented by the Ministry of Irrigation and Water Resources Management in association with the Ministry of Power and Energy . The estimated capacity of the power plant is 120 MW and the expected annual energy production is 290 GWh. This power plant will connect to the national grid through Badulla Grid Substation.

This Project once completed will provide for water transfer, hydro power generation and irrigation in the south-eastern part of the central highlands of Sri Lanka. The main part of the scheme is situated in the south-western part of Badulla district in the Uva Province.

The Project in the long term will transfer annually an average of 145 million cubic meters (MCM) of water for irrigation purposes and will develop a 722 meter head for the production of electricity by a 120 MW power plant and the expected annual energy output is 290 GWh.

This Project consists of two small reservoirs built near Puhulpola and Dyrabaa, and a link tunnel approximately 4.0 km long that connects the two reservoirs together , and a headrace tunnel of around 15.6 km length that will divert water from Uma Oya to KirindiOya via an underground power station located at Randeniya in Wellawaya. The power plant will connect to the national grid through the Badulla Grid Substation.

The cost of the Project is US$ 529 million and 85% of this total cost is to be borne by the Government of Iran as a loan through its Export and Development Bank. The GOSL is also providing LKR 6 billion in addition.

The Contract between the Ministry of Irrigation and Water Resources Management and FARAB Energy and Water Project Company, the Nominated Contractor from Iran was signed on 28th April 2008 and the Contract came in to effect in March 2010. The Project is expected to be completed in end of 2017.

- 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 — At the end of year 2017
- Present Status (as at 01.07.2015)

  All works temporary suspended in February due to Iran sanctions and public protests.
  - Dyraaba dam Hydro mechanical works are in progress.
  - Headrace tunnel 5000 m completed.
  - Power House excavation was stopped.

  - Puhulpola dam works to be started.
  - Trailrace tunnel is finished.
  - Pressure Shaft pilot drilling was started.

Power House Excavation Work Tailrace Tunneling (Uma Oya H.P.)

2.4.1.3 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. 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 Cabinet approval for the implementation of the Project on a Design and Build Basis was granted in 2006 by securing funds arranged by the successful bidder. After the successful evaluation of the bids China National Electric Equipment Corporation (CNEEC) was selected as the successful bidder and a Contract Agreement was signed with them towards the end of 2010.

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

- Generation Capacity 35 MW
- Total Project Cost 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 2013with both the Banks
- Annual Energy Generation 126 GWh
- Expected date of completion In year 2017
- Present Status(as at 31.08.2015)
  - Construction works of the main Dam site is in Progress.
  - The works at the power station site is yet to be commenced.
  - Under the resettlement program 48 families were identified for relocation and they have been successfully resettled after compensating.

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Works –in-progress; Broadlands Hydropower Project

Works –in-progress; Broadlands Hydropower Project

Works –in-progress; Broadlands Hydropower Project

2.4.1.4 Moragolla Hydro Power Project

The Asian Development Bank (ADB) provided US$ 125 million under its Loan No. 3146 (SF)/ 3147 SRI – "Green Power Development and Energy Improvement Investment Program in 2014 (Tranch 1)" as funding for this Project, the details of which are given below:

(i)Plant capacity	: 30.5 MW (2 x 15.1 MW + 0.39 MW)
(ii)Total Project Cost	- Foreign Funds USD 113.86 million + Local Funds LKR 1466 million
(iii)Expected Annual Energy Output	: 100GWh
(iv)Expected date of completion	December 2019

A Project Management Unit has already been established with a view to commence the construction work of the Project.

The Detailed Engineering Design and the preparation of tender documents have been already completed. The Environment Impact Assessment (EIA) approval has been granted in 2012 by the PAA, Mahaweli Authority Sri Lanka. The ADB has granted social as well as environmental clearance.

According to the studies made, this Hydropower Project would have more than 18% of EIRR and 9.5% of FIRR based on 2012 energy sales.

It is expected to commence the preparatory work of the Project in December 2015. The Project is expected to take 5 years for completion. If the Project progresses as scheduled, it will be completed and commissioned by December 2019.

- Present Status
  - Activities Completed
    - Financial proposal of the RFP for the Construction Supervision Consultancy Service was finalized by the CACPC and submission was sent to ADB for concurrence.
    - Lot 1 Bidding document was approved by the SCAPC and ADB.
    - Surveying work under the section 2 direction of the Land Acquisition process was completed Section 38 order day received for part of Land
  - Ongoing Activities
    - Reviewing the draft bidding document of Lot 2 (Mechanical & Electrical works)
    - Possession of some sections of lands to be taken over and advance tracing of survey plan

is pending for the balance lands.
- Surveying works under section 2 direction to be commenced for acquisition of the LRC land for resettlemen

2.4.2 Thermal Generation Expansion Projects

2.4.2.1 Uthuru Janani Thermal Power Plant 24 MW

This 24 MW, CEB-owned thermal Power Plant in Jaffna commissioned on February 12, 2013 was completed in a record time. The commissioning of this Plant enabled the CEB to discontinue its high cost emergency Power Plants which it operated in the Jaffna peninsula.

2.4.2.2 Puttalam Coal Power Project 900 MW

The Phases I, II & III of the 900 MW Puttalam Coal Power Project has been successfully completed. The 300 MW Phase I Lakvijaya Plant commissioned in 2011 and stages II & III of the Project consisting of setting up of two 300 MW Coal Power Plants and laying of a 100 km long 220 kV transmission line were completed and commissioned in September 2014. This power plant has generated 1,404 GWh Units in 2012, 1,469 GWh Units in 2013, 3,202 GWh Units in 2014 and 3,328 GWh Units by end of August 2015.

From its commencement of commercial operation up to the end of August 2015, this Power Plant has delivered a total of 10,325 GWh Units to the National Grid. On average it has supplied 187.7 GWh Units per month during last two years. This Power Plant now meets approximately 33% to 50% of the average daily electricity demand of the country. The generation details of the plant during the last 3 years are as follows:

Year	2011	2012	2013	2014	2015							
Month	Feb-Dec	Jan-Dec	Jan-Dec	Jan - Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Generation (GWh)	922	1,404	1,469	3,202	391	387	527	484	493	378	374	294

2.4.2.3 Trincomalee Coal Power Project 500 MW

Power Plant Project Features & Status

The CEB and NTPC Ltd. of India have incorporated a Joint Venture Company in September 2011 in the name of Trincomalee Power Company Limited (TPCL) for setting up of a 500 MW coal based Power Plant in Trincomalee on a Build, Own and Operate (BOO) basis .The Joint Venture Company TPCL on October 7, 2013 has entered into several principal agreements with relevant parties.

As per the Memorandum of Association (MOA), the TPCL has on March 13, 2014 entered in to a Consultancy Agreement with NTPC Ltd. India identified as the Owner's Engineer, for the preparation of the tender documents, the evaluation of tenders and the supervision of construction of the facility.

The TPCL submitted the final Environmental Impact Assessment (EIA) report in February,2015. The Central Environmental Authority opened this report to the public. TPCL is now awaiting for the EIA approval.

It is expected to finalise the tender documents related to the Main Plant EPC (Engineering Procurement & Construction) package after receiving the EIA approval. On completion of the document, Bids will be invited under international Competitive Bidding to select the EPC Contractor.

Phase I – 220 kV Veyangoda – Habarana Transmission Line Project

This Transmission Line Project is financed by Japan International Corporation Agency (JICA) and its details are as follows:

- Loan Amount :JPY 9,573 million
- Interest rate :Civil works & equipment - 0.3%
  Consultancy - 0.01%
- Repayment Period :40 years including a 10 year grace period

Expected date of commissioning:
Substations (Lot A) - November 2018
Transmission Lines (Lot B) - February 2018.

i. Land from the Forest Department has been allocated for the new Habarana Grid Substation. The Commissioner General of Land has granted his approved for the lease of this land to CEB. Land acquisition for the augmentation work at the Veyangoda Grid Substation is in progress.

ii. Counting of trees and valuation for compensation are in progress. However, the related surveys are being carried out again in respect of the 35 km stretch from Pallewela to Narammala which will be affected when the construction work of the Northern Express Way commences. The name has now changed to Central Express Way Project and approval of the RDA has been received with conditions.

iii. The consultancy work of the Habarana -Veyangoda transmission Line Project has been awarded to the Joint Venture of Nippon Koei & TEPSCO, Japan.

iv. Tendering (International Competitive Bidding) is in progress in order to select Contractors for Lot A (Substations) & for Lot B (Transmission Lines).

Lot A – Pre Qualification of bidders has been completed. It has become necessary to revise the bid documents to be in line with the Two Envelope method as per the instructions received from JICA. The Bids were invited on February 2015. However due to stringent qualification criteria for the transformer, the Pre-Qualification procedure has to be recommenced from the beginning and New PQ document was issued on 26th October 2015. Closing date on 6th January 2015.

Lot B – Pre Qualification of bidders has been completed. Approval for bidding documents were received. Bidding documents were issued and Bids closed on December 11, 2013. However Bids were cancelled due to ambiguities which were corrected and re-tendered. Bids are closing on 2nd December, 2015.

Phase II - 400 kV Habarana-Sampoor Transmission Line Project

Funding amounting to JPY 15.3 Billion for the above transmission line Including the Kappalthurai Line is expected from JICA 46th Loan Package. Work scope includes a 95km 400kV constructed 220kV operated transmission line (4xZebra equivalent low loss conductor, double circuit) from New Habarana to Sampoor along with a 220 kV Sampoor grid substation. Further 38km, 220kV transmission line from Sampoor to Kappalthurai Grid Substation is to be constructed.

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

Project management Unit was set up for a proposed 100 MW semi-dispatchable wind farm project in Mannar Island to be built and operated by the CEB. The project includes construction of a 100 MW wind farm including power evacuation system and a Control Centre with System Control and Data Acquisition (SCADA) facilities. The operation of the plant is on semi-dispatchable basis. The project is expected to complete and commissioned in 2018. It is expected average annual energy generation of 324 GWh Units over a 20 year operational life span of the wind farm.

2.4.4 Feasibility Studies

2.4.4.1 Prefeasibility Study for 1200MW High Efficiency Eco-friendly Coal Fired Power Plant in Sri Lanka

- Site Selection Study for the implementation of the third coal power plant was initiated in June 2013 and completed in March 2014 with the assistance of experts dispatched by the New Energy & Industrial Technology Development Organization (NEDO), Japan. This study was conducted with grant funds provided by NEDO as the result of the agreement between the Governments.
- After evaluating seven sites identified at Akurala, Galle Port, Mawella, Hambantota Port, Trincomalee (Sampur), Trincomalee (Clappenburg), Trincomalee (Snug Cove), following three sites were selected as most suitable sites;
    - Hambantota Port
    - Trincomalee (Sampur)
    - Mawella

Of the three sites, Trincomalee (Sampur) site was selected by the Government to conduct the feasibility study with the assistance of NEDO.

2.4.4.2 Feasibility Study for 1200MW High Efficiency Eco-friendly Coal Fired Power Plant at Sampur, Trincomalee

In 2014, the Feasibility Study for High Efficient and Eco Friendly Coal Fired Thermal Power Plant in Sri Lanka commenced under the same program and the study was conducted for the site in Sampur area in Trincomalee. Basic thermal plant design has been prepared for 1200MW (4 x 300MW) development considering technical, geological and environmental considerations. High Efficient and Eco Friendly Coal fired thermal power plant equipped with several emission control technologies to reduce emission levels significantly was studied.

Environmental Impact Assessment (EIA) Process

- The Environmental Impact Assessment process for the project was initiated at the Central Environmental Authority (CEA) with the participation of officials from CEB, CEA, Forest Department, Board of Investment, Mahaweli Authority of Sri Lanka, Archeology Department, National Aquatic Resources Research and Development Agency, Irrigation Department, Marine Environment Protection Authority, Urban Development Authority and J-Power on 18th November 2014.
- The Terms of Reference was received from the CEA to conduct the EIA study on 6th January 2015.
- As per the approval of the Ministry Consultancy Procurement Committee, the Request for Expression of Interest (EOI) was published on 28th May 2015, for Procurement of Consultancy Services for carrying out the Environmental Impact Assessment for Sampoor Coal Power Project. Nine proposals were received for the EOI and Evaluation of the proposals has been done.The Environmental Impact Assessment of the proposed project is expected to conduct as the next step.

2.4.4.3 Feasibility Study For 375 MW Semi-Dispatchable Wind Power Plant in Mannar Island

A feasibility Study of the 375 MW Wind Power Project is being carried out by CEB and necessary infrastructure is planned to be developed through Phase 1 – 100MW Wind Power Park along southern coast of Mannar Island.

2.4.4.4 Seethawaka Ganga Hydro Power Project

Provisional Approval for a setting up of a 20 MW hydro power plant by CEB was received from SLSEA. The feasibility study along with the Environmental Impact Assessment is expected to be commenced in the year 2015.

Environmental Impact Assessment (EIA) Process

- The Environmental Impact Assessment process for the project was initiated at the Central Environmental Authority (CEA) with the participation of stake holders on 18th November 2014.
- The Terms of Reference was received from the CEA to conduct the EIA study on February 2015.
  The Environmental Impact Assessment of the proposed project is expected to conduct as the next step.

Sri Lanka Sustainable Energy authority has issued the Provisional Approval on June 2015. CPCM was appointed for selecting a consultancy team to carryout the Feasibility Study for the Project. Discussions are going on CEB to form a consultancy team for the Feasibility Study.

2.4.4.5 Gin Ganga Hydro Power Project

A feasibility Study of the Gin –Nilwala Diversion Hydro Power Project is being carried out by the Ministry of Irrigation and Water Resources Management. Once this study is completed, the prefeasibility study of the Project conducted by CEB will be revised towards identifying the hydro power potential remaining in the downstream of Gin Ganga basin.

2.4.4.6 Development Planning on Optimal Power Generation for Peak Power Demand in Sri Lanka

- Under a JICA funded grant, a study was conducted to ascertain the optimum generation solution for peak power demand in Sri Lanka. The study commenced in March 2013 with JPower as the consultant. A Joint Coordination Committee (JCC) has been set up comprising members from the Ministry of Power & Energy and CEB to guide and coordinate the study.
- Many generation options, available for meeting the peak demand were studied to select the optimum peak power generation solution. Consequently Pump storage Hydro Power Plant was selected as optimal solution from technical, environmental and economic aspects.
- From the eleven short-listed sites, following three most promising sites were selected

Name	HalgranOya	LoggalOya	MahaOya
District	NuwaraEliya	Badulla	Kandy and Kegalle

- After a detailed study MahaOya Location was selected as the most promising site for the development of Pump Storage Power Plant. Final report of the study was made available in February 2015.
- The feasibility study along with the Environmental Impact Assessment is expected to be commenced in the year 2016.

2.4.5 Renewable Resource Studies

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 (SPPA). The details of these NCRE projects are given below:

Present Status of Non-Conventional Renewable Energy Sector as at 30.06.2015

No	Description	Project Type	No. of Projects	Capacity (MW)
1.	**Commissioned Projects**	Mini Hydro Power	146	301.819
		Wind Power	15	123.850
		Biomass-Agricultural & Industrial Waste Power	3	13.000
		Biomass – Dendro Power	3	10.500
		Solar Power	4	1.378
		Total- Commissioned	**171**	**450.547**
2.	**Standardized Power Purchase Agreements (SPPA) Signed Projects**	Mini Hydro Power	71	123.203
		Wind Power	1	1.1
		Biomass-Agricultural & Industrial Waste Power	1	2.000
		Biomass – Dendro Power	10	35.780
		Solar Power	4	40.000
		Solar Thermal Power	1	10.000
		Biomass-Municipal Waste	1	10.000
		Total – SPPA Signed	**89**	**223.083**
3.	**Letter of Intent (LOI) Issued Projects**	Mini Hydro Power	96	95.750
		Biomass-Agricultural & Industrial Waste Power	10	62.800
		Solar Power	7	62.000
		Total – LOI Issued	**113**	**220.550**

Under the Clean Energy and Access Improvement Project, funded by the ADB and the GOSL, several new 132/33 kV grid substations are to be set up and few existing grid substations are to be augmented, to improve grid access to the electricity generated through renewable energy sources.

2.4.6 Generation Rehabilitation Projects

The Generation Division of the CEB is implementing several rehabilitation projects through which several selected hydro 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.

2.4.6.1 Rehabilitation of Wimalasurendra and New Laxapana Power Stations

The rehabilitation of the New Laxapana Units 1 & 2 and the Wimalasurendra Power Station (WPS) Units 1 & 2 was completed in the year 2012. Under this project, the Control system, cabling, turbine and generators of the New Laxapana Units were replaced. The refurbishment resulted in an increase of more than 5MW in the capacity of New Laxapana with a 90% efficiency. At WPS all systems except turbines were replaced.

2.4.6.2 Rehabilitation of Old Laxapana Power Station

The Project for the rehabilitation of Old Laxapana Power Plants (3 units of 8.33 MW each) commenced in 2009 and was completed in early 2013. Under this project the MIV controls, cabling, turbines and the generators of the power plants were replaced. The plant capacity was increased from 8.33MW to 9.5MW with the efficiency increasing from 78% to 95%.

2.4.6.3 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 is replaced with new equipment. The MIV, the generator and the turbine will also be replaced. The approval of the Cabinet has been obtained and the project was commenced on 28 th February 2015.The plant capacity will be increased up to 45.3 MW and the project is expected to be completed by September 2017.

2.4.6.4 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 sculpture of Eng. D.G Wimalasurendara. This project is expected to be completed by September 2016.

2.4.6.5 Rehabilitation of Udawalawe Power Station

Concept paper for the rehabilitation of Udawalawe power station is being prepared and the project is expected to commence in year 2016.

2.4.6.6 Victoria Generator Stator Replacement

Approval of the SCAPC is to be obtained for the replacement of the stator of the Victoria unit 03 generator and the replacement is planned to be completed by July 2017.

Major works carried out in 2015 and planned for 2016 under generation division are as given below.

Power Station	Description	MW
Old Laxapana Stage II	Replacement of Penstock Guard Valve & Painting of Penstocks (14.01.2015 to 31.03.2015)	2x12.5
Canyon	Unit 02 - Major Overhaul (15.01.2015 to 20.04.2015)	30
Kukuleganga	U-2 Generator of Kukule Ganga Power Station Full Repair work (a catastrophic failure occurred on 8th June 2013 due to a detachment of a metal block fixed to the rotor)	35

Samanalawewa	Unit 2 Generator Major Overhaul and Inspection SCADA (Supervisory Control and Data Acquisition) system rehabilitation	60
Inginiyagala	Governor Refurbishment for Unit 01 &02 Generators Control Rehabilitation for Unit 02,03,04- Generators	2x2.475 2x3.15
Polpitiya (Samanala)	Unit 02 - Annual Maintenance (15.12.2014 to 15.01.2015)	37.5
	Tunnel Inspection (15.12.2015 to 15.03.2016)	2x45.3
	Unit 01 - Rehabilitation (from 15.12.2015& require 130 days) Unit 02 - Rehabilitation (from 25.04.2017& require 130 days)	2 x 45.3
Udawalawe Power Station	Refurbishment of Generator and Turbine Unit01, 02 & 03	3 x 2
Victoria Power Station	Replacement of Stator of Unit 03	70 (80.75rated)

2.5 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.

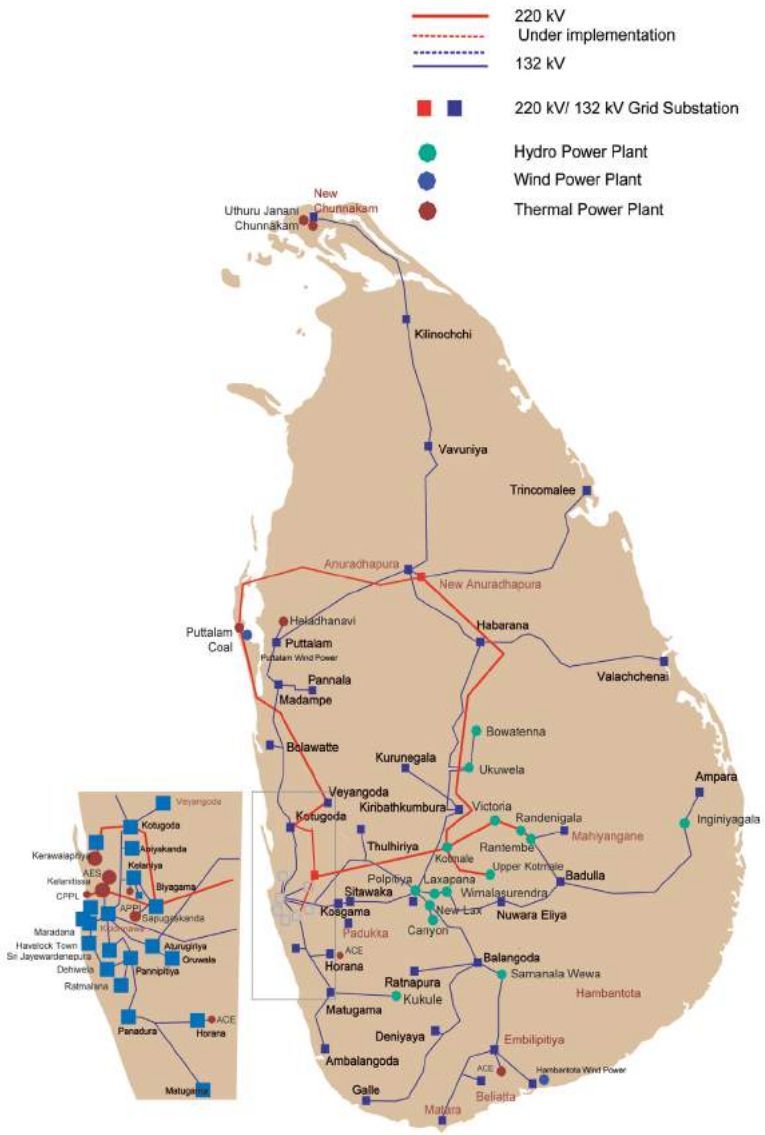
The Transmission Division operates 220 kV and 132 kV grids, embracing all power stations and dispatches all electricity supplied to the grid through its System Control Centre. The System Control Centre plans and carries out the operation of generation and transmission system in order to achieve reliability, 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 220 kV, 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:

CEB Transmission Network



Transmission Network Development Activities

2.5.1 Funding from Asian Development Bank

A) With the funds secured from Asian Development Bank the following works were completed during the year 2015.

2.5.1.1 Clean Energy and Access Improvement Project

Under the 'Clean Energy and Access Improvement Project' the Augmentation of following Grid substations were completed and commissioned.

- 132/33 kV Maho Grid Substation

- 132/33 kV Naula Grid Substation
- 132/33 kV Kurunagala Grid Substion
- 220/132/33 kV Veyangoda Grid Substion
- 132/33 kV Horana Grid Subsation

Also under the same project Augmentation of 132kV Puttalm - Maho Transmission line was completed and commissioned.

With the savings from the funds received for above project the Augmentation of Kelaniya Grid Sabstation was commenced during year 2015 and would continue during the year 2016.

With the funds received under above project the Construction of National System Control Centre(NSCC) and Installation of Supervisory Control and Data Acquisition (SCADA)/ Energy Management System (EMS) was continued during the year 2015 and expected to be completed during the year 2016.

2.5.1.2 Sustainable Power Sector Support Project

1. Under the 'Sustainable Power Sector Support Project' the Construction of following Grid substations were completed and commissioned.
   - 132/33kV Grid Substation at Polonnaruwa(31.5 MVA)
   - 132/33kV Grid Substation at Monaragala(31.5MVA)
   - 132/33kV Grid Substation at Vavunativu (2x31.5 MVA)
   - 132/33kV Grid Substation at Galle called Galle-New grid Substation
2. Installation of Capacitor Banks at Aniyakanda, Ambalangod and Katunayake Grid Substations
3. Also Under the same project the Construction of following Transmission Lines were completed and commissioned.
   - 132 kV Ambalangoda - New Galle Transmission Line
   - 132 kV Mahiyangana - Ampara - Vavunativu Transmission Line of route length 129 km
   - 13 2kV Medagama - Monaragala Transmission Line of route length 16 km
4. With the savings from the funds received for above project the Reconstruction of 132/33 kV Kiribathkubura Grid Sabstation, 132kV Bolawatta - New Chilaw and Badulla - Madagama Transmission Lines were commenced during year 2015 and would continue during the year 2016.

B) With the funds secured from Asian Development Bank the following works were commenced during the year 2015 and would continue during the year 2016.

2.5.1.3 Clean Energy & Network Efficiency Improvement Project

1. Under the 'Clean Energy & Network Efficiency Improvement Project' the Construction of following Grid substations were commenced.
   - 220/132/33kV New Polpitiya Grid Substation
   - 220/132/33kV Padukka Grid Substation
   - 132/33kV Kegalle Grid Substation
   - 132/33kV Mannar Grid Substation
2. Installation of Capacitor Banks at Kolonnawa, New Kolonnawa, Sapugaskanda, Bolawatta, Pannala, Biyagama and Horana Grid Substations
3. Also Under the same project the Construction of following Transmission Lines were commenced.
   - 220kV New Anuradhapura - Vauniya - Mannar 125 km Transmission Line
   - 220kV New Polpitiya - Padukka - Pannipitiya 58.5 km Transmission Line
   - 132kV Thulhiriya - Kegalle 22.5 km Transmission Line
   - 132kV Polpitiya - New Polpitiya 1.5 km Transmission Line
   - 132kV Athurugiriya - Padukka 10 km Transmission Line
4. Refurbishment of 132kV Athurugiriya - Kolonnawa 15 km Transmission Line.

2.5.1.4 Green Power Development and Energy Efficiency Improvement Project (Tranche 1) - Part 02

1. In addition to ADB funding for this project ADF of France would also partly provide funds for this project. Under the 'Green Power Development and Energy Efficiency Improvement Project (Tranche 1) - Part 02' the Construction of following Grid substations were commenced.
   - 220/132/33kV Kappalturai Grid Substation
   - 220/33kV Kerawalapitiy Grid Substation (Augmentation)
   - 132/33kV Kalutara Grid Substation
   - 132/33kV Kesbawa Grid Substation
   - 132/33kV Old Anuradhapura Grid Substation (Reconstruction)
   - 220/132/33kV New Anuradhapura Grid Substation (Augmentation)
   - 132/33kV Katunayeka Grid Substation (Augmentation)
2. Under the same project several interconnection Transmission lines would be constructed to connect the new substation to the existing transmission network.

2.5.2 Funding from Japan International Cooperation Agency (JICA)

With the funds secured from JICA the following works were commenced /continued during the year 2015 and would continue during the year 2016.

2.5.2.1 Greater Colombo Transmission and Distribution Loss Reduction Project

1. Under the 'Greater Colombo Transmission and Distribution Loss Reduction Project' the Construction of following Grid substations were commenced/continued.
   - 220/132/11 kV Colombo Port (Sub L) Grid Substation
   - 132/11 kV Colombo Sub M Grid Substation
   - 132/33 kV Colombo Sub N Grid Substation
2. Under the same project the Construction of laying of following Underground Transmission Cables were commenced /continued.
   - 220 kV Kerawalapitiy - Sub L - Kelanitissa Underground Transmission Cable
   - 132 kV Sub L - Sub M - Sub E Underground Transmission Cable
   - 132 kV Sub L - Sub F - Sub N - Kolonnawa Underground Transmission Cable
3. Also under the same Project necessary Augmentations at 220kV Kerawalapitiy Grid Substation, 220kV Kelanitissa Grid Substation and 132kV Kolonnawa Grid Substation would also commenced /continued.

2.5.2.2 Vavuniya Kilinochchi Transmission Project

With the savings from the funds received for Vavuniya Kilinochchi Transmission Project, further Augmentation works of Kilinochchi Grid Substation was commenced during year 2015 and would continue during the year 2016.

2.5.2.3 Transmission network development under Trincomalee Coal Power Station Project

1. Under the 'Trincomalee Coal Power Station Project' the Construction of following Grid substations were commenced/continued.
   - 220/132 kV New Habarana Grid Substation
   - Augmentation of 220/132/33 kV Veyangoda Grid Substation
   - 220kV Sampur Grid Substation
   - Under the same Project the Construction of following Transmission Lines were started/continued,
   - 220kV New Habarana - Veyangoda Transmission Line
   - 400kV (220kV Operated) Sampur - Habarana Transmission Line
   - 220kV Sampur - Kappalturei Transmission Line

2.5.3 Funding from KfW of Germany

With the funds secured from KfW of Germany, 220kV Protection Panel Replacement Works under **'Rehabilitation Electricity Supply Jaffna Region Transmission Line Project'** was Completed and Commissioned during the year 2015.

2.5.4 Transmission Construction Projects

Details of Grid Substation construction Projects carried out during the year are given in table 1 to table 4 as follows.

2.5.4.1: Table 1

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	* Primary and secondary design completed. * Procurement of 03 Nos. of 220/132kV 105 MVA Transformer is in progress * Testing and commission of 132kV Line bay 01 and 02 is in progress * Preparation of bidding documents of Circuit Breakers, Disconnectors, Current Transformer, Voltage Transformer and Surge Arresters for Transformer Bay have been completed. * Secondary equipment procurement for transformer bay is in progress
Expected Date of Commissioning	2018

2.5.4.2: Table 2

Name of the Project	Augmentation of Hambantota Grid Substation
Funded By	CEB/ICG
Capacity	03x31.5MVA (94.5 MVA), 132/33kV Grid Substation
Cost	LKR 553.4 M
Present Statues	* Civil Electrical designs are completed. * 90% of the procurement is completed. Balance procurement is on going * 80% of the civil works completed. Balance civil work is on going. * 33kV GIS insulation completed. * Installation of 02 new transformers was completed. One transformer was already energized. * 33kV cable laying was completed. * Errection works are ongoing. * Extension of the earth mesh was completed. * Interfacing design was completed.
Expected Date of Commissioning	May 2016

2.5.4.3: Table 3

Name of the Project	Augmentation of Sri Jayawardhanapura Grid Substaiton
Funded By	CEB/ICG
Capacity	01x31.5 MVA , 04 Nos. 33kV Feeders 132/33kV Grid Substation
Cost	LKR 365.4 M
Present Statues	* All major equipments orders are placed. 33kV & 145kV Gas insulated switchgear will be delivered to site in end of August 2015. Substation Automation System will be delivered to site in end of September. * 90% of civil and Electrical design works are completed.
Expected Date of Commissioning	January 2016

2.5.4.4: Table4

Name of the Project	Construction of Suriyawewa Grid Substation
Funded By	CEB/ICG
Capacity	02x31.5 MVA Grid Substation and 9Km,132kV,Zebra,Double Circuit connection from Embilipitiya - Hambantota 132kV Transmission Line
Cost	LKR 1,274.5 M
Present Statues	* Imported some of the primary equipments such as Circuits Breakers, Surge Arrestors & Disconnectors. * Temporary hold the construction by management of the CEB

2.5.5 Transmission Line Construction Projects

2.5.6

Name of the Project	Installation of 40MVAr Breaker Switched Capacitor Banks at Katunayake, Aniyakanda & Ambalangoda GSS
Funded by	Asian Development Bank (ADB)
ADB Loan No	2733 SRI
Capacity	40MVAr (Katunayake – 20 MVAr, Aniyakanda – 10 MVAr, Ambalangoda – 10 MVAr)
Cost	LKR Mn 315.3 (LKR Mn 250.6 – by ADB)
Present Status	* Equipment Installation, Connections with down droppers, clamps & connectors completed. * Laying of control cables in progress.
Expected date of commissioning	November 2015

New Naula Grid Substation

2.6 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 98.4 % as at end of 2014.

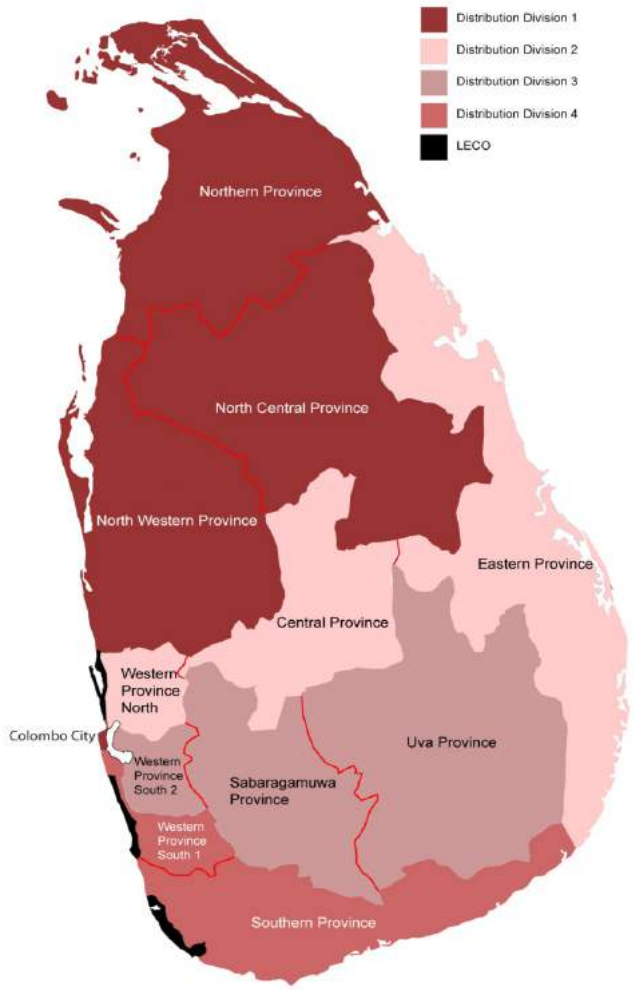
Distribution System of CEB consists of four Divisions. The main objectives of the formation of four divisions are to achieve benchmark competition to improve efficiency and quality of supply to the customers.

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

DISTRIBUTION DIVISIONS



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

Description	Units	DD1	DD2	DD3	DD4	Total
33kV Distribution Lines	km	9,846	8,656	6,654	4,146	29,304
11kV Distribution Lines	km	802	536	40	280	1,658
11kV Underground Cables	km	629	120	4	22	775
No. of 33/11kV Primary Substations	No	33	45	11	37	126
LV Distribution Lines	km	38,744	35,881	28,284	23,617	126,526

LV Underground Cables	km	601	66	6	5	678
No. of LV Distribution Substations	No	8,645	8,500	5,236	4,445	26,826

Operational Statistics for 2015

Description	Unit	Distribution Division 1	Distribution Division 2	Distribution Division 3	Distribution Division 4
Units sold within the Division for the 8 months period ending 31 August 2015	GWh	1,845	2,366	1,295	1,023
Revenue earned from electricity sold during the period ending 31 August 2015	Rs.Million	37,135	35,498	19,559	15,987
Average Selling Price	LKR/kWh	17.70	15.01	15.10	15.63
No of new connections provided during the period	Numbers	50,739	44,644	35,275	20,425
No of employees in the permanent cadre as at the end of August 2014	Numbers	2,724	3,796	2,263	1,970
No of Bulk Supply Consumers at the end of August 2015	Numbers	3,649	2,912	1,714	1,417
No of Retail Consumers at the end of August 2015	Numbers	1,551,560	1,914,568	1,164,370	953,088
Average Revenue per consumer per month	LKR/ month/ Consumer	2,943	2,314	2,152	2,114

According to above statistics, the CEB's distribution system comprises of more than 26,800 Substations fed by a network of around 29,000 km of medium voltage lines. By end 2014 there were 210 Customer Service Centres and 53 Point of Sale (POS) counters for bill payments.

The transmission and distribution losses have been brought down to 10.47% by the end of 2014.

2.6.1 Development of Electricity Distribution Network

2.6.1.1 Distribution Division 1

Work Carried out Under Different Funding Sources as at 31-08-2015

Name of the Project / Funding		High Tension (km)	Low Tension (km)*	Substations (Nos)	Disbursement (Rs millions)
100% electrification (GOSL)	Northern	80	870	56	1633
	North Central	25	385	33	716
	North Western	53	1008	42	-
	Total	**158**	**2,263**	**131**	**2,349**

2.6.1.2 Distribution Division 2

Work Carried out Under Different Funding Sources/Projects as at 31-08-2015

No	Name of Project/Funding	HT (km)	LT (km)	No of Substations	Disbursement	Notes
1	Sustainable Power Sector Support Project - Expansion of Rural Electrification and Distribution System Improvement	164.3	692	67	Foreign - USD Mn. 12.9 GOSL - US $ Mn. 8.96	
2	Green Power Development & Energy Efficiency Improvement Investment Program-Medium Volatage Network Efficiency Improvement	-	-	-	-	Total Line length of 87 km & 04 Gantries will be constructed.
3	Clean Energy and Network Efficiency Improvement Project – Package 04 : Medium Voltage/ Distribution Sub Projects	-	-	-	USD 1.85 M	Total Line length of 130 km & 5 Gantries will be constructed.
4	Gender Inclusive Access to Clean & Renewable Energy in Nepal,Bhutan& Sri Lanka	-	-	-	USD 0.4 M	3100 Nos of Service connections has been provided in Ampara District.

2.6.1.3 Distribution Division 3

Work Carried out Under Different Funding Sources as at 31-08-2015 in the provinces of Sabaragamuwa, Uva and Western Province South II of DD3

Project/Funding Source	High Tension (km)	Low Tension (km)	No.of Substations	Approximate Disbursement (Rs millions)
Rural Electrification Project-8 (Iran & CEB)	16.6	232.4	10	348.6
Bulk Supply	7.13	2.3	86	222.6
Cost Paid Jobs	4.23	28.5	6	105.7
System Augmentation	36	244	39	308.9
De-centralized Budget & Provincial Council Budget	-	4.31	-	5.2
CEB Funds	7.09	119.612	2	223.6
Uva Udanaya	63.01	569.04	34	1016.1
Lighting Kegalle Distribution Development (LKDD)	2.9	0.41	-	4.06
Uva-ADB Funds	3.28	-	-	21.04
Mini Hydro Power Project	5.50	-	-	28.78

2.6.1.4 Distribution Division 4

Work Carried out Under Different Funding Sources as at 31-08-2015

Table 1 : **Project Work Completed in 2015**

Project Name	High Tension Line (km)	Low Tension Line (km)	Number of Substations	Approximate Disbursement (M.Rs.)
Vidulamu Sri Lanka	4.20	49.10	1.00	88.60
System Augmentation	45.11	61.44	15.00	201.24
Bulk Supply	11.00	0.38	44.00	129.39
Land & apartment *	0.63	21.77	5.00	52.03
MV system developments	4.00	-	-	178.00
Rural Electrification -8 (58 Extensions)	-	17.44	-	27.14
Lighting Sri Lanka Kalutara Project (42 Extensions)	-	9.34	-	11.27

Table 2: **Project Work expected to be completed (in-progress) in 2015**

Project Name	High Tension Line (km)	Low Tension Line (km)	Number of Substations	Approximate Disbursement (m.Rs.)
Vidulamu Sri Lanka	6.00	44.50	3.00	110.70
System Augmentation	63.14	245.56	33.00	572.04
Bulk Supply	9.70	0.38	38.00	121.08
Land & apartment	3.17	28.50	13.00	72.30
MV system developments	3.00	-	2.00	133.00
Rural Electrification 8 (58 Extensions)	-	5.00	-	7.00
Lighting Sri Lanka Kalutara Project (42 Extensions)	-	15.00	-	23.00

2.6.2 Summary of work planned for 2016

2.6.2.1 Distribution Division 1

No	Item	Unit	Amount	Estimated Cost (Mn.Rs.)
1	GSS Augmentation (done under transmission)	No	2	
2	Construction of 33 kV Overhead lines (Tower) Lynx Double Circuit	km	68	1224
3	Construction of Racoon pole lines Single Circuit	km	23.3	70
4	240mm^2 radial cables	km	0.2	8
5	Re-conductoring Lines to Racoon (Pole lines)	km	90.6	181
6	Primary substation Augmentations	No	1	565

2.6.2.2 Distribution Division 2

According to MV plan 2015-2024, 2016 planned works are given below and in addition to them the pending work on 2015 (mentioned in MV plan 2015-2024) also will be done in 2016.

No	Item	Unit	Amount	Estimated Cost (Mn.Rs.)
1	Construction of new Gantries/Modification of existing Gantries	No	15	360
2	Construction of 33 kV Overhead lines (Tower) Lynx Double Circuit	km	100.7	1879
3	Construction of 33 kV S/C Pole Lynx lines Single Circuit	km	2	6
4	MV Line Conversions	km	143.1	322.2
5	Laying of 11 kV underground cables	km	3.4	68
6	Primary substation Augmentations	No	1	40

2.6.2.3 Distribution Division 3

Planned work for 2016

No	Item	Unit	Amount
1	Construction of new MV pole lines. (76km) - All Provinces	km	76
2	Construction of new LV pole lines. (59km) - All Provinces	km	59
3	Installation of remotely operated LBSs (12 Nos.) - All Provinces	Nos	12
4	Installation of remotely operated Auto reclosures (17 Nos.) - All Provinces	Nos	17
5	Installation of fault detectors. (20 Nos.) - (Uva Province)	Nos	20
6	Augmentation of Gantries (1 No.) - (Western Province South II)	No	1
	Installation of ABSs. (3Nos.)- (Western Province South II)	No	3
	MV pole line maintenance & rehabilitation (1710 km) - All Provinces	km	1710

2.6.2.4 Distribution Division 4

Project work planned for 2016

Project Name	High Tension Line (km)	Low Tension Line (km)	Number of Substations	Approximate Disbursement (m.Rs.)
Vidulamu Sri Lanka	16.00	96.00	14	243.10
System Augmentation	127.39	357.00	104	701.94
Bulk Supply	20.71	1.30	60	195.00
Land & apartment	3.60	37.10	14	110.00
MV system developments	12.00	-	3	406.80
RE Extensions	-	50.00	-	70.00

2.7 Financial Review 2015 Based on Projected Operating Results

Complying with the long term vision of CEB, a considerable change has been made in the power generation mix for the last few years. In light of those changes, the year 2015 is likely to be a financially favourable year for the CEB. However, the financial performance and financial viability of the CEB is predominantly driven by the hardly predictable weather conditions of the country and it will be the decision maker of the power generation mix.

For the year 2015, it has been estimated a financial profit of Rs.12,208 million before tax based on the first seven months performance (Profit of Rs.18,492 million was reported in the draft accounts as at 31.07.2015) against the previous year's loss of (2014) Rs.14,605million. This will be a significant upward movement of 184 % in the financial performance. This is a positive deviation against the budgeted loss of Rs.2,156 million before tax for the year 2015.

The estimated annual generation composition shows a contribution by hydro generation to be confined to 31% when compared to 29% in the previous year (2014). The oil thermal (IPP and CEB) component is estimated at 20% (2014 – 35%) whereas the coal thermal would contribute to 38% (2014 – 26%) of the total generation. The NCRE would contribute to the balance 11% (2014 – 10%) of the generation.

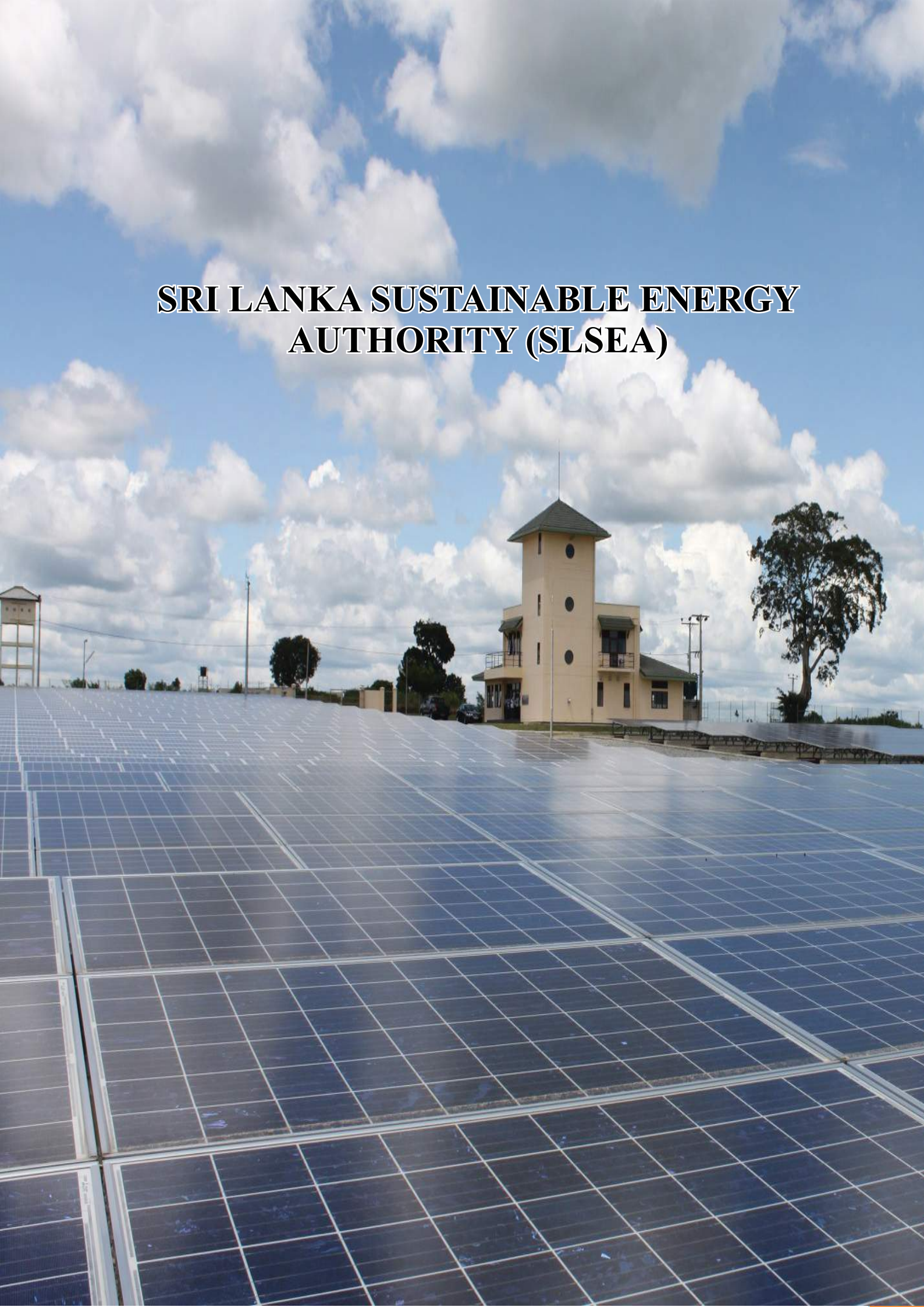
Low cost generation mix has directly contributed to reduce the borrowing requirements to meet the funding gap along with the reduced interest cost advantage offered by the Peoples Bank. Accordingly CEB was able to reduce its financial cost from the estimated figure of Rs 5,334 million to Rs. 2,833 million during the first seven months of the year 2015. This figure is expected to be around Rs. 3,800 million at the end of the year thus saving of approximately Rs.1,534 million for the year.

With the Tariff reduction made in the latter part of the year 2014 in order to extend the cost relief to consumers which was gained by the operation of low cost Lakvijaya coal power plant, the average Tariff expected for the entire year 2015 is approximately Rs. 15.50/ kWh.

The estimated total sales in the year 2015 is 11,535 GWh Units whereas in the year 2014 it was 11,063 GWh Units, which indicates a 4% growth rate in sales. The correspondent Rupee value for the sales was recorded as Rs.179,223 Million for the year 2015 which shows a reduction of Rs.23,422 Million or a 12% decrease compared to the year 2014. This is mainly attributed to the implementation of Tariff reduction.

The cost per kWh sales unit is expected to be Rs.14.89 including depreciation (amounting to Rs.22 Billion for the year 2015). Therefore the profit per unit for the year 2015 is expected to be Rs.1.06 per kWh.

SRI LANKA SUSTAINABLE ENERGY AUTHORITY (SLSEA)



3.0 SRI LANKA SUSTAINABLE ENERGY AUTHORITY (SLSEA)

3.1 Introduction

3.1.1 Vision

An Energy Secure Sri Lanka

3.1.2 Mission

To create a Sustainable Energy future for Sri Lanka

3.1.3 Goal

To guide the nation in all its efforts to develop indigenous energy resources and conserve energy resources through exploration, facilitation, research & development and knowledge management

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.

It has been able to surpass the limit of 10% New Renewable Energy (NRE) addition in the total electricity generation by the end of 2014, which shows a satisfactory landmark in the journey of realizing 20% electricity generation using NRE by 2020.

In the area of energy conservation, programmes have been implemented focusing regulatory interventions and strengthening the energy efficiency services sector. Under the programme implemented in the year 2014, an energy saving of 97 GWh could be realized.
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 of 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)

3.2 Performance - 2015

Programmes implemented in the year 2015 and the Action Plan for 2016 are shown in the following section

3.2.1 Renewable Energy Development (under REACT)

SLSEA undertakes the issuing of Energy Permits (EP) & Provisional Approvals (PA) for on-grid renewable energy projects, to accelerate the development of indigenous RE resources in to commercial scale projects. A summary of the approvals granted and the status of project commissioned in 2015 is given below.

- ✓ **Issued Provisional Approvals (PA)**
  Hydro - 4 Nos. (23.50 MW)
  Wind - 1 Nos. (100.00 MW)
- ✓ **Issued Energy Permits (EP)**
  Hydro - 11 Nos. (15.23 MW)
  Biomass - 3 Nos. (16.49 MW)
  Solar - 2 Nos. (20.00 MW)
- ✓ **Commissioned Projects**
  Hydro - 7 Nos. (11.40 MW)
  Biomass - 1 Nos. (0.02 MW)
  Wind - 1 Nos. (10 .00MW)

Total electricity generation using renewable energy in 2015 is 607 GWh (Up to July 2015);
1,343,769 kWh of Solar electricity and 149,480 kWh of Hydroelectricity was generated by the power plants operated by SLSEA.

3.2.1.1 Resource Allocation and Development Activities

3.2.1.2 Progress Monitoring

The main objective of this programme is to assist the developers in order to progress their projects without any delay.

- ✓ Progress of all the PA and EP issued projects are monitored quarterly and assist them in solving the problems associated with the commissioning of the project.

In addition to that performances of the grid connected projects are test under this programme.

- ✓ Data of three identified projects were collected and evaluated. Technical assistance was given to those plants to harness the energy in optimum manner.
- ✓

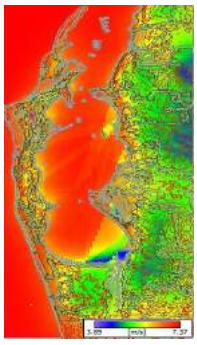
3.2.1.3 Technology Development & Research

SLSEA is undertaking Technology Development and Research activities, with the focus of mapping the renewable energy resource potential of in Sri Lanka. Studies on solar, wind, small hydro, biomass and also on wave energy, agricultural waste, municipal solid waste are being done, with the intention of giving inputs for the Development of road map for renewable energy (thermal and electricity). Furthermore, resource technology assessments are being done for the emerging technologies like thermal storage systems. Some of the activities completed in this regard are

- ✓ Compilation of renewable energy resource development plan for electricity and thermal energy sources have been completed
- ✓ Wind resource map of Puttalam and Kalpitiya areas has been completed. Detailed wind resource mapping of northern province is in progress under ADB funded "Quantum Leap" project
- ✓ Major Maintenance of Mullipurama wind met-mast was completed, and new equipment installation was completed.

Pooneyn Wind Measuring station Tower Installation

Mullipurama Wind Met-Mast after Major Maintenance



Pooneyrn Wind Measuring Station Tower Installatio

Kokilai Wind Measuring Station – Tower Installation

- ✓ Addressing the technological issues related to absorption of solar power based electricity to the national grid, studies will be carried out on micro-grid technologies and other related technological improvements in collaboration with Department of Electrical & Electronics Engineering, University of Peradeniya

- ✓ Municipal solid waste composition analysis along with thermochemical parameters has been completed in the western province in collaboration with Colombo Municipal Council, Kaduwela Municipal Council and Open University of Sri Lanka.

- ✓ Agriculture waste resource assessment for agricultural residues, woody residues, and animal Waste and Municipal Solid Waste (MSW) completed in North Central Province. GIS mapping and identify the energy potential, surplus energy factor in the province. Further, total energy within the country shall be predicted by the secondary data.

Segregation of Municipal Solid Waste Meethotamulla

Agricultural Residue Assessment in at North Central Province

3.2.1.4 Renewable Energy Services

In order to uplift the delivery of energy services to the rural community, households, SME and Agriculture sectors, SLSEA intervenes through the following projects.

I. Electrification of Non Accessibility Area to the National Grid with Off-grid Solutions (Sunithyaloka)
II. RE Solutions for SME sector and Rural Industry
III. Net Metering Solutions in collaboration with CEB & LECO
IV. Assessment of existing technologies and introducing RE solutions for basic energy needs (Provincial Biogas Programme)

Activities that were completed in 2015 include

- ✓ Electrified 25 houses in Baduludena Village, Haputale by Micro hydro projet Join with Uva PC.
- ✓ A survey of 200 village hydro power plants has been completed
- ✓ Pre-feasibility for electrifying the Baththalangunduwa Island in Kalpitiya has been completed expecting grant assistance from Japan to electrify 650 nos. of projects.
- ✓ A study has been completed for electrifying the Uchamunei, Roddapadu, Dutch Bay Island in Kalpitiya.
- ✓ Under SME development programme, a biomass hot water boiler was installed at Kurunegala Teaching Hospital.
- ✓ A study has been completed for development of an "Ecologically Sustainable Energy Model Farm" for a cattle Orphanage in Monaragala.

- ✓ More than 50 bio gas units have been commissioned and 20 masons were trained in North Western province under the "Provincial Biogas Programme".
- ✓ Four general awareness programmes on biogas were conducted and trained 515 trainees.
- ✓

Survey on Village Hydro

Uchchimunai Island

Mason Training for Biogas

Mason Training for Biogas

3.2.1.5 Donor Funded Projects

Two major RE development projects funded by Asian Development Bank (ADB) had been initiated by SLSEA, and are currently in progress. These two projects are,

1. Solar Rooftop Power Generation Project
2. Estate Micro Hydro Rehabilitation and Repowering Project

Solar Rooftop Power Generation Project

Under this Project SLSEA will implement Solar PV Pilot projects at public and private sector institutions with a view to catalyze and popularize photovoltaic based power generation in Sri Lanka. The public sector component will primarily focus on Engineering Faculties of the leading technical Universities. Following shows the activities completed under this project. .

- ✓ Selection of private sector institutions to install solar rooftop systems was completed which were verified through site visits.
- ✓ Notice to Proceed was sent to MAS Holdings, Brandix Apparel Solutions, Cacoon Villa Hotel and City Hotel to initiate the project.
- ✓ Procurement process for the selection of Solar PV power generating plants for technical universities is underway
- ✓ Necessary clearance and approvals for implementing the Subsidiary Loan schemes with banks are being done.
- ✓

Roof Preparation For Installing Solar System At Brandix Apperal Solutions, Koggala

Estate Micro Hydro Rehabilitation and Repowering Project
Purpose of this Project is to rehabilitate and connect 19 abandoned micro-hydro power projects to the grid providing 1.3 MW. Activities completed in 2015 are

- ✓ Finalize all feasibility repots
- ✓ Reports were submitted to NDB for following their loan procedures.
- ✓ NDB is in the process of evaluating the developers to disburse the loan

Present Situation of Micro Hydro Projects at Tea Estates

Furthermore, UNDP/GEF/FAO funded projects titled "Promoting Sustainable Biomass Energy Production and Modern Bio-Energy Technologies""Appropriate Mitigation Action in the Energy Generation and End-Use Sectors in Sri Lanka" are in implementation, and SLSEA is an implementing partner for the project. Following activities had been completed.

- ✓ Training/Workshops/seminars on sustainable biomass applications and sustainable supply chain have been conducted.
- ✓ A comprehensive assessment and mapping of biomass consumption has been prepared and going to publish as the Volume 1 of National Biomass Atlas.

Participants for the workshop on "Biomass Energy in Industrial Applications" at MAS Fabric Park, Thulhiriya

The workshop on "Biomass Energy: Present Status and Future Trends" at Biyagama EPZ.

Nationally Appropriate Mitigation Actions (NAMA) Project under UNDP Assistance

In this project, setting baseline for energy generation and end-use sector, prioritizing mitigation options for the implementation, implementing above identified mitigation options, and establishment of MRV system and national registry for mitigation actions is expected. The project is set around installation of 200 units of Solar-Net metering systems with battery, installation of 1,300 High efficient Motors in the tea sector, implementation of 1000 biogas units.

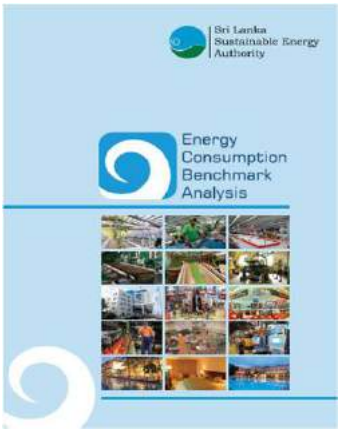
The following overall energy savings could be achieved in 2015 through implementing energy management activities;

Action	Saving	
	Type	Value
Active Energy Managers in 60 organizations	Electricity	10 GWh
SLNEEA Award Scheme	Electricity	9 GWh
	Diesel	35,663 litres
	Furnace Oil	2 Mn. Litres
	Firewood	9 Mn. Kg

3.2.1.6 Establishment of Energy Management Systems

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

- ✓ Appointed 197 Energy Managers.
- ✓ Registered 2 Training Institutions for Energy Auditors and 1Training Institution for Energy Managers.
- ✓ Energy Consumption Baselines for 5 industrial sectors.
- ✓ Conducted Energy Managers Forum and 3 short lectures for Energy Managers.



Energy Consumption Benchmark booklet

3.2.1.7 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.

- ✓ CFL energy labeling program operates successfully. The benchmark on star rating is being revised.
- ✓ Refrigerator Tests are being carried out at the NERD Centre in order to determine benchmarks on star rating for refrigerators.
- ✓ Establishment of a ceiling fan testing laboratory and a lamp testing laboratory was initiated
- ✓ Regulations for the Tubular Fluorescent Lamps and Fluorescent Lamp Ballasts are being developed
- ✓ Conducted a Stakeholder Forum to introduce Minimum Energy Performance Standards (MEPS) for LED lamps. Preparation of MEPS for LED Lamps in progress.
  Energy Labelling Standards for Room Air Conditioners and Computers are being prepared.
- ✓ Revision of the "Code of Practice for Energy Efficient Buildings in Sri Lanka – 2008" is under process.
- ✓ Development of the "Guideline for Sustainable Energy Residencies in Sri Lanka" is under process.
- ✓ A guidebook for Motor Rewinders is being developed.
- ✓ Conducted ISO50001 audits at 6 organizations.

3.2.1.8 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

- ✓ 15 energy audits were completed for government institutions.
- ✓ 31 ESCO companies were registered for 2015 under the categories EEI, EES and TP, and the updated ESCO list is published in the web.
- ✓ A training program on good practices in motor rewinding was held on 25th March 2015, and a similar programme has been scheduled for October 2015.

Training program on good practices in motor rewinding

3.2.1.9 Rewarding of Achievements

SLSEA encourages energy management practices in industrial and commercial sector through conducting the Sri Lanka National Energy Efficiency Award(SLNEEA) Scheme
SLNEEA Ceremony has been scheduled for 30th October 2015 at BMICH. National Energy Efficiency Award (NEEA), Best Energy Services Company (ESCO) Award and Outstanding Energy Manager of the Year Award will be presented to the winners for their remarkable achievements in energy saving.

3.2.1.10Sector Specific Energy Management Programmes

SEA assist to develop and implement sound energy management programmes in provincial wise focusing industrial and state sectors, with the co-operation & commitment from relevant stakeholders in order to improve energy utilization efficiency.

- ✓ Conducted the first phase of "Tea sector" energy management programme in Southern Province (29th, 30th April and 15th May 2015), with the participation of 30 Nos tea Factory managers & factory officers. Programme was conducted by a selected Training institute (SLEMA)
- ✓ Conducted the second phase of "Tea Sector" energy management programme in Central Province (1st, 2nd, and 20th October 2015) with the participation of 30 Nos tea Factory managers & factory officers.
- ✓ Two stakeholder workshops were conducted in Killinochchi and Jaffna to implement energy management programmes in state sector institutions in Northern Province.
- ✓ Conducted awareness programmes for 4 state sector institutions (Sri Lanka Ports Authority, Central Environmental Authority, Sri Lanka Telecom, District Secretariat-Padukka) in western province.
- ✓ Energy Management Action Plans were prepared for North Western, Central and Uva Province

Preparation of Energy Management Action Plans for North Western, Central and Uva Provinces

3.2.1.11National Energy Conservation Programme

- ✓ Conducted Education Zone Art Competition on energy efficiency in 5 schools.

Conducted workshop for scouts on 26th to 30th August 2015 at Dehiwala

.

- ✓ Commenced a training programme series for journalists on 29th September 2015 on energy conservation and renewable energy.
- ✓ Commenced a radio programme series "Balashakthi Nanashakthi" on 19th September 2015 at Sri Lanka Broadcasting Cooperation for scouts.
- ✓ Conducted an awareness programme for pre-school teachers on 4th October 2015 at Gampola.
- ✓ Launched two songs on energy conservation and management at 'Ape Gama", Sri Jayawardenapura on 10th October 2015.
- ✓ Conducted awareness programmes for the defence sector (police officers, army officers, security forces at the Office of the Chief of Defence Staff)
- ✓ Preliminary Training and Demonstration on Energy Auditing and Management was conducted for Air Force technical officers at Katunayaka Air Base.
- ✓ Awareness of school students, university students, hospital staffs on energy management.
- ✓ Awareness of District Secretaries about the "Energy Management Circular" issued for government institutions.
- ✓ Energy Management and Conservation programme was conducted at Panagoda Army camp for the army officers.

3.2.1.12Carrying out Research and Development

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

- ✓ A driving cycle was developed for the Colombo Metropolitan area.
- ✓ Preliminary arrangements to conduct an international seminar on E³ST (Energy Efficient & Environmentally Sustainable Transport) were made, and the programme has been scheduled for 3rd, 4th and 5th December 2015.
- ✓ Awareness programmes were conducted for bowser owners, bus drivers, three wheel associations on energy management and efficiency improvement in transport sector.
- ✓ Leaflets on Energy Saving were circulated among vehicles at filling stations.

3.2.1.13 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.
Key focus of activities includes followings:

1. Feasibility Study for Implementing Tri- Generation Systems for Hotel Industry in SL.
2. Feasibility Study for Implementing Tri- Generation Systems for Industrial Zones in SL Seminar in Tri-generation

Completed and reviewed " Feasibility Study for Implementing Tri-generation System for Hotels in Sri Lanka "by LJ Energy Lanka (Pvt) Ltd. by May 2015

- ✓ Conducted "**Seminar on Tri-generation**" on 7th May 2015 at Committee Room D BMICH .Main target participants were Hoteliers, Industrialists, Energy Managers, ESCOs, and Researchers etc. Number of participants were around 120.
- ✓ Initiated the preparation of TOR for Feasibility Study for Implementing Tri- generation System for Industrial Zones in Sri Lanka

Seminar on Tri generation

Knowledge Management Programmes (under SEEK)

School Curriculum Development

The key objective of this is to add energy related knowledge and activities to primary and secondary level school syllabus, to create a self-driven system for energy education.

- ✓ Energy related knowledge and activities have been introduced to the science subject module in Grade 10 and Grade 6 and it has already been implemented in Government schools under new syllabus and Energy related knowledge and activities have been introduced to the science subject module in Grade 11 and Grade 7 and it will be implemented in 2016
- ✓ Introducing energy activities for other Grades (8 and 9) is being continued

Development of an Energy Education Program

A comprehensive program including school energy clubs, energy day celebration and 'Energy Star' contest is being developed to engage teacher-student community to manage energy and utilization of RE in their day-to-day life.

- ✓ Energy Education Programme was officially introduced to the education system on 30th April 2015 after issuing the Education Circular 06/2015 by the secretary of the Ministry of Education. Accordingly, School Energy Clubs Programme has been extended to all Government school which have Grade 6 and above. Therefore 7000 Government schools will be qualified to the programme from 2015.
- ✓ Distributed the Circular among the 7000 schools
- ✓ Received 600 applications from schools and 400 Energy Clubs had been registered out of this. Further registrations are being carried out
- ✓ Developed provincial level implementation plan in collaboration with the Ministry of Education
- ✓ Developed training programme to train Trainers of Science Teachers in collaboration with the Ministry of Education and National Engineering Research & Development Centre with the objectives of create 450 Knowledge Transfer Experts and Science Teacher Trainers on Sustainable Energy in island wide.
- ✓ A Media Programme is being developed with the assistance of ITN and National Rupavahini

Issuing of Circular ED/01/14/06/2015 and entering into the MoU

Workshop for the Development of Provincial Level Implementation Plan

Sustainable Energy Zone (SEZ)- Kotte

A pilot project for SEZs is implemented at the Kotte area to introduce and practice circular economy concepts and crate Energy Conscious Community.

- ✓ Entered in to an MoU with Municipal Council of Kotte and facilitated the establishment of SEZ
- ✓ An Energy Awareness Programme was launched in the zone and 10 Energy Clubs were established
- ✓ Awareness Programme was held for Grama Niladhari
- ✓ Communication officers for all Gov. Institutions have been appointed and energy audits for Gov. Institutions have been carried out.
- ✓ Pilot survey was conducted to identify the pattern of utilization of energy of the residence of the Green Zone at Kotte Pilot Survey and further it will be implemented with the experience gained on pilot survey
- ✓

Pilot Survey on Utilization of Energy

Energy Awareness Program for schools in Kotte zone

Conducting Promotional Programs and Image Building Activities

SLSEA was the main partner of National Energy Conservation Programme conducted by the Ministry of Power and Energy, and following school awareness programme were carried out by the by the Knowledge Management Division

- ✓ Organized Pro. Abdul Kalam's lecture for 1000 school children at BMICH
- ✓ Organized National Energy Oath at Mahanama Collage, Colombo 03.
- ✓ Presented stalls at the 'Environment Day' exhibition for promoting renewable energy and energy management, and distributed 5000 leaflets among the public who participated for the exhibition.
- ✓ Conducted 10 awareness programme for school Children as a part of the National Energy Conservation Programme.
- ✓ Presented an exhibition stall exhibition organized by the Central Province.

Coordinated all major events conducted by SLSEA according to the standard event management guideline, as means of image building for the Authority

3.2.2 Strategic Interventions Programmes (Under SAFE)

3.2.2.1 Sustainable Energy Technology Archives & Energy Information Analysis

This is an initiative to establish a sound knowledge base on sustainable energy within SLSEA, industry, universities and research institutes

- ✓ Four research papers were presented at Asia Clean Energy Forum - 2015
  - 100% RE Plan of Sri Lanka
  - Assessment of Renewable Energy Technologies
  - Industrial cooking solutions
  - Energy management initiatives in production facility
- ✓ Initiated to conduct three advanced research projects related to technical interventions in large-scale solar power development, in collaboration with the Faculties of Engineering in the national universities
  - Energy efficient utilization of PV through dc micro-grids
  - Identifying the grid connection issues and improving the performance of solar power plants in the country
  - Enhance electricity supply security with the large-scale deployment of solar PV
- ✓ Revamping SLSEA website is in progress
- ✓ National Energy Symposium – 2015
  - 30 abstracts were received and 18 were selected for present at the National Energy Symposium - 2015 on 29th October 2015 at BMICH.

Revamped SLSEA website

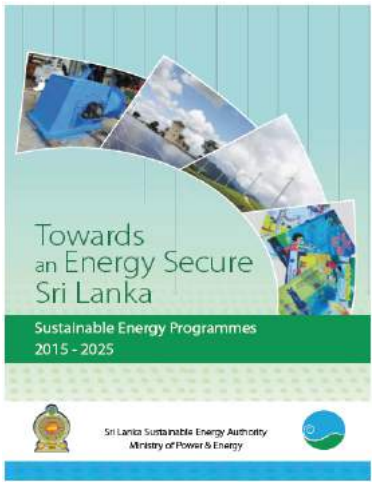
3.2.2.2 Policy Interventions & institutional frameworks

✓ Completed the Sustainable energy development programmes for realizing an energy secure Sri Lanka 2015 – 2025

Programme Concepts for Realizing Energy Secure Sri Lanka

- Distributed solar electricity generation
- Mapping of Renewable energy resource in Sri Lanka
- Energy labelling of Electrical Appliances
- Energy Conservation Initiatives in Building Construction
- Making Fuelwood a Sustainable Commercial Fuel
- Energy Efficient and Environmentally Sustainable Transport Sector
- Enhancement of Rural Energy Services
- Waste Management and Resource Recovery – MSW
- Energy Efficiency Services
- Energy Management Systems
- Research & Development and Model Projects
- Enhancement of Energy Consciousness in the Society

✓ Strategic coordination of Provincial Energy Programmes (PEnMAP) (Uva, Central and North Western provinces are in progress)



Sustainable Energy Development Programmes for Realizing Energy Secure Sri Lanka 2015 – 2025

3.2.2.3 Energy Information Analysis

✓ Sri Lanka National Energy Balance 2014
- Data collection initiated and compilation is in progress for the preparation of EB 2014

✓ End-user Energy Consumption Assessments
- Conducted the preparation survey as an initiation for the petrol shed survey
- Submitted the Inception report of the agriculture survey and the second stage is in progress
- Obtained load profiles for selected appliances as a part of a domestic energy consumption survey and data collection is in progress (Refrigerator, Washing machine, Television, E- Vehicle)

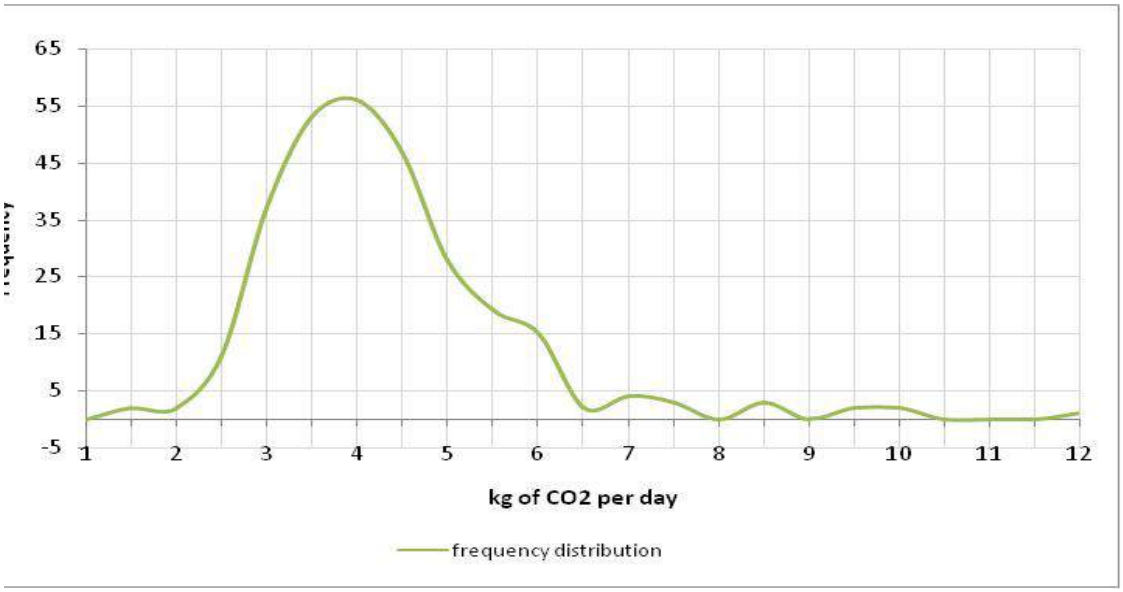
✓ Carbon footprint as a sustainability analysis tool
- Carbon footprint calculation tool for institutions
- Carbon footprint calculation tool for school children
- 287 students – via newspapers and by writing to schools
- Calculated Carbon Footprint for SLSEA

✓ A tool for sizing plant capacity for solar net-metering
User-friendly configurators (tools) developed to identify the 'right size' for a solar net-metering solution
- Solar net-metering tools are available at
- http://www.energy.gov.lk/sub_pgs/energy_renewable_solar net_meterings.html

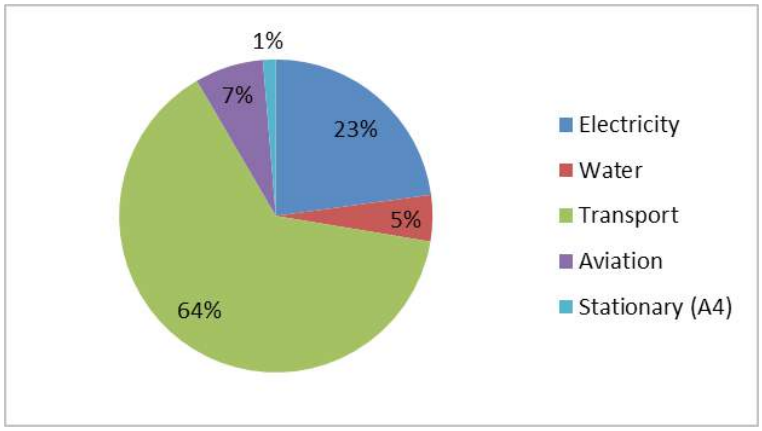
✓ A tool for understanding solar irradiation level

✓

- Developed a tool to decipher the Global Horizontal Irradiation (GHI) level at the GN level, available at http://www.energy.gov.lk/sub_pgs/energy_renewable_solar_atlas.html



Analyzed Data of Carbon Footprint of School Children



Carbon Footprint of SLSEA

3.3 Programs for 2016

	Renewable Energy Development (under REACT)
Resource Allocation & Development	- Issue Energy Permits for 20 RE projects with the capacity of 80MW. - Publish an Extraordinary Gazettes declaring "Energy Development Areas" to enable the developers to grab all the resources available within Sri Lanka.
Progress Monitoring	- Continuation of progress monitoring of all PA and EP issued projects. - Check the performance of five commissioned projects and assist them to harness the maximum energy in an economical manner.

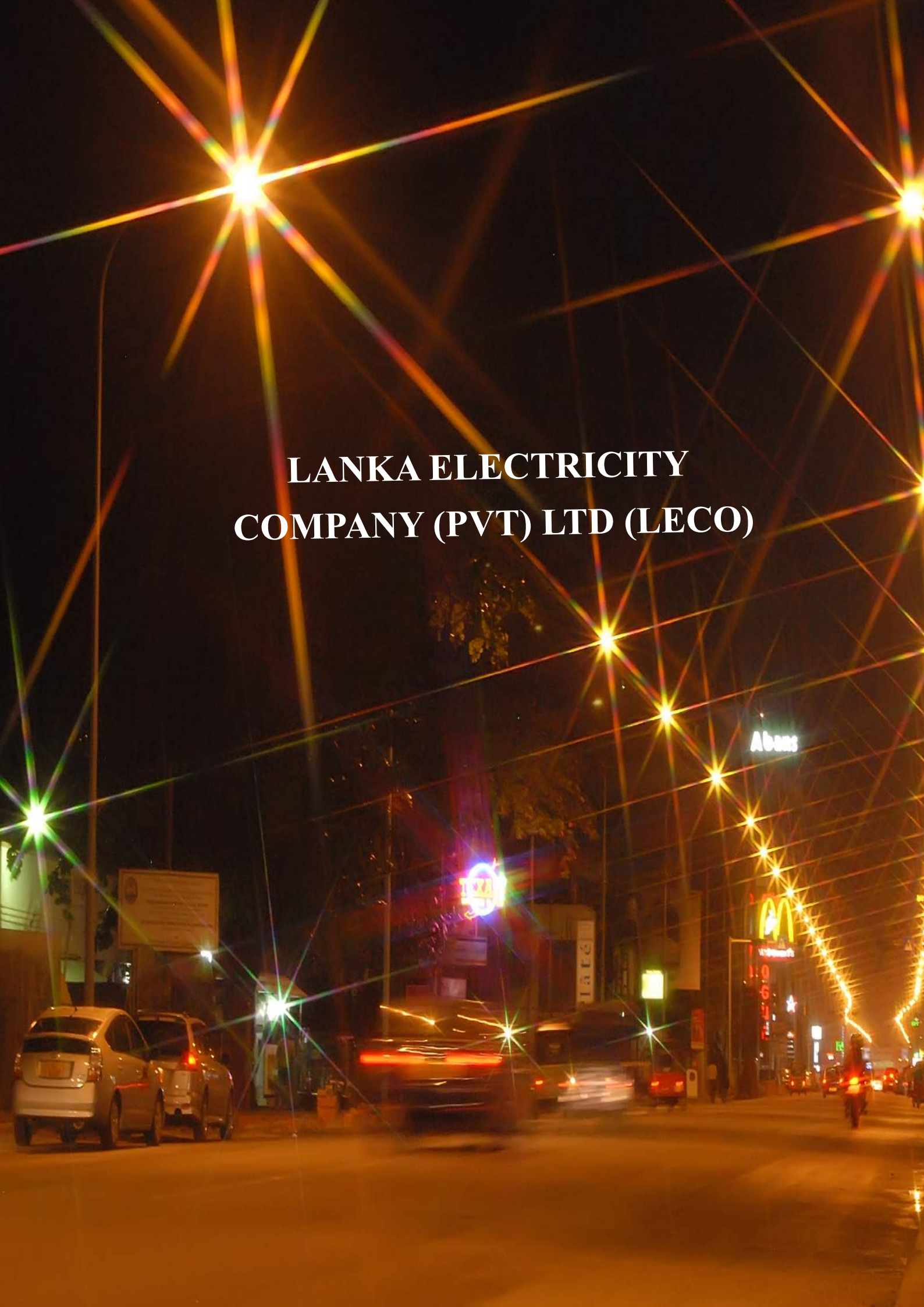
Technology Development and Research	- Development of comprehensive spatial data base on energy consumption and publish in SLSEA web. - Mapping of Wind Resource in the northern province [This is a continuation of last years' work] - Implementing a pilot Project on Solar PV system with battery storage for low and medium consumer (domestic) category - Carrying out a feasibility study for the introduction of medium scale wind power generation for the tea sector, and initial development of the project. - Carryout prefeasibility studies on waste (MSW and agricultural waste) in Colombo and surrounded Municipalities and North Central Province. - Assessment of renewable energy resource utilization in the electricity and thermal energy generation.
Renewable Energy Services	- Electrification of households away from the national grid including isolated islands off Kalpitiya and Jaffna peninsula using off-grid solutions under 'Sunithyalokaya' program and maintaining such systems through introducing a financing scheme, capacity building of project beneficiaries this is a continuation of the last year project. - Providing renewable energy solutions for SME sector and rural industries, providing technical support for biomass/solar dryers, hot water generators and other RE based technologies (Continuation) - Assisting to install net-metering solutions for the general public and provide training for government sector and service providers. - Introduce RE solutions for basic energy needs through Provincial Biogas Program
Donor Funded Projects	- UNDP Biomass to Energy Project: o Establishment of three sustainable fuelwood supply chains which include fuelwood centres and formulation of a monitoring mechanism. o Introducing a pricing mechanism for biomass based on quality and processing areas. o Conducting a survey on biomass supply chain and producers. o Establishment of a comprehensive database on biomass suppliers, consumers, manufacturers of biomass related equipment and machinery - Appropriate Mitigation Actions in the Energy Generation and End-Use Sectors in Sri Lanka: support the appropriate climate change mitigation actions in the energy generation and end-use sectors as part of the initiative to achieve the voluntary GHG mitigation targets of Sri Lanka o Conduct training sessions on data management of energy generation and end use sectors in local government and provincial levels. o Identify and establish a team for data collection. o Establish energy generation and end use baselines for four provinces. o Establish a mechanism for sharing data in between Sri Lanka Sustainable Energy Authority and Climate Change Secretariat. o Upgrade EnerGIS software and update energy generation and endues data. o Implement, monitor and review pilot projects nationally and provincial level. Solar Rooftop Power Generation Project o Complete the installation of Solar Systems at Private Sector Institutions adding a cumulating capacity of 2 MW to the national Grid. o Complete the installation of Solar systems at Engineering Faculties of Sri Lanka (200 kW). o Estate Micro Hydro Rehabilitation and Repowering Project o Finalize the rehabilitation at 12 micro hydro projects

	Energy Management Programmes (under EnMaP)

Establishment of Energy Management Cells	- Appointing Accredited Energy Managers - Training Energy Auditors - Establishment of Bench marks for 6 sectors (Hotels, Tea, Garments, Buildings, Other major industries and SME industries) - Conducting 2 comprehensive energy manager training programs and 7 evening lectures - Recognizing and registering at least 3 training institutions for energy managers and energy auditors - Training scout leaders on the concepts on energy conservation and thereby implementing energy management activities, especially in households and small business establishments - Creating energy awareness in pre-school teachers and students through art competitions, essay competitions, workshops, etc Conducting an energy awareness program for journalists
Introducing Standards & Regulations	- Enforcing the code of practice for energy efficient buildings and households, and conducting an international seminar on 'Green Building' - Developing Minimum Energy Performance Standards LED Lamps and Energy Labelling standards for room air conditioners and computers. - Establishment of energy consumption benchmarks for refrigerators - Energy labelling of Magnetic Ballasts and Linear Fluorescent Lamps - Purchasing a spectrophotometer for testing of lamps Conducting training for motor re-winders
Advisory and Counselling Services	- Building up a comprehensive bank of instruments for energy auditing activities and make these equipment available for Energy Services Companies (ESCOs) at concessionary hiring rates - Register and publish database of ESCOs Developing a comprehensive program to conduct energy audits in state sector establishments and producing proposals for implementations
Rewarding of Achievements	- Recognizing energy consumers, energy service providers and energy managers who have made significant attempts in efficient utilization, conservation and management of energy and achieved substantial energy savings through Sri Lanka National Energy Efficiency Awards (SLNEEA) scheme
Sector Specific Energy Management Programs	- Improvement of energy utilization efficiency in tea sector and hotel sector - Implementing energy management practices in garment industries, fishery & agricultural sector and state sector - Monitoring the effect of implemented energy saving measures and identify the further potential for energy saving - Implement the activities in sustainable energy plan developed for central province
Carrying out Research & Development	- Develop a methodology for implementation of fuel economy in transport sector - Hosting international conference in transport energy - Preparation of guideline for use of vehicles in the government sector - Preparing a study report on tax incentives and disincentives for motor vehicles based on energy efficiency - Increasing awareness on energy efficient use of transportation among drivers and passengers
Establishment of Pilot Projects	- Analyzing the possibilities of implementing tri-generation systems and conducting feasibility studies in industrial sectors - - - - - - - - - - - - - - -

	Knowledge Management Programme (under SEEK)
Energy Education Program (EEP)	- Introducing energy subject in to the school curriculum(grades 7and11) - Conducting 09 training programs to train 450 Science Teacher Trainers in collaboration with NERDC. - Registering school energy clubs for 2015 (up to 15th Nov. 2015) - Conducting awareness programme on EEP for Zonal Directors - Developing a dedicated website for the Energy Education Program for knowledge dissemination, updating activities and monitoring - Developing a media campaign to popularize the EEP among the teacher-student community - Developing Activity Guide for School Energy Clubs - Conducting zonal, provincial and national level evaluation in 2016 - Organizing provincial level Energy School Exhibition. - Conducting National level Awards ceremony and National Energy Day Programme on 07th Of October 2016.
Communication Program	- Developing and implementing promotion program for the Energy Education program - Developing and updating reading material to disseminate Sustainable Energy Knowledge - Participating exhibitions and promotion programmes organized by other government organizations -

	Strategic Interventions Programme (under SAFE)
Formulation and Publishing Energy Data and Information	- Updating the Sri Lanka Energy Balance database (web and MS excel) with 2015 data - Printing the publications of Sri Lanka Energy Balance 2015 and the Statistical Digest 2015
Island-wide Petrol Shed Survey	- Compiling a report on the petroleum consumption pattern in Sri Lanka
Research and Development	- Developing a long –term master plan for sustainable energy research and policy interventions
End Use Energy Survey	- Assess Energy Efficiency and Renewable Energy Potential in the Food Value Chain - Compiling a tool on domestic power consumption patterns
IEA Workshop On Energy Statistics	- Conduct IEA workshop on energy statistics
White Paper on Energy Sustainability	- Developing a white paper on energy sustainability



LANKA ELECTRICITY COMPANY (PVT) LTD (LECO)

4.0 LANKA ELECTRICITY COMPANY (PVT) LTD (LECO)

4.1 Introduction

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

4.1.1 Our Vision

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

4.1.2 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.

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.

	2011	2012	2013	2014	**Upto** Sep-2015	**2016** Forecast
Consumers	491,042	500,783	520,997	523,734	532,000	543,222
Sales GWh	1183.77	1216	1221	1272	987.5	1332
Revenue Rs Mn	18,423	18,941	21,660	23,781	18,985	25,297
Distribution Losses (11 kV) %	5.4	4.56	4.69	4.02	3.9	4.5
Consumers /Employee Ratio	338.42	342	347	351	356	
Reliability of performance measurement Indices(SAIDI) (Hrs/Consumer /year)	20.93	21.68	22.49	22.17	16.605	

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

Record of Distribution of Asset as at July 2015

Asset Category	Units	Beginning 2015	Target For 2015	Actual Performance Jul-15	Balance to be completed
11KV UG	km	65.436	3.61	0.411	3.20
11KVOH+ LV	km	991.487	22.91	2.567	20.34
Dist Sub 11 kv	Nos	2285	66	20	46.00
Bulk Sub 11kv	Nos	1180	76	30	46.00
Switching LBS and LBC	Nos	429	99	74	25.00
LV Dist Sys	km	4869.503	67.20	32.16	35.04
Consumer Service Lines	Nos	527870	15336	7279	8057
11kv Auto Reclosures	Nos	17		0	0
11 Kv Sectionalisers	Nos	11		0	0

4.2 Projects and Progress

4.2.1 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.
- We have established a green zone area in Kotte and planning to implement similar green zones in other areas as well.
- Our goal is focused on the country's economic growth.

4.2.2 Development

- The execution of proposed Clean Energy and Access Improvement Project for implementing 5 Primary substations in LECO franchise area is commissioned.
- The efficiency improvement of street lighting project has been completed.
- User friendly Billing system has been developed in house in 2015 and will be functioning in early 2016 so as to improve in the Information technology infrastructure to increase efficiency and improve customer satisfaction.
  - We have upgraded the existing ERP system (PRONTO) with the new version and this will be operated from early 2016.
- A new project is being implemented to modernize the Distribution Control Center.
- It is planned to construct 08 primary substations in the LECO franchise areas to strengthen the source supply to LECO
- New scheme of recruitment and promotion is being developed and plan to implement in the year 2016
- Corporate plan has been prepared for a period 2016-2020 and plan to implement with effect from 2016

SRI LANKA ATOMIC ENERGY BOARD (SLAEB)

5.1 Introduction

Sri Lanka Atomic Energy Board (SLAEB), a Statutory Body, which was established by the Sri Lanka Atomic Energy Act, No.40 of 2014, came into operation with effect from 01st January 2015 and it is now functioning under the purview of Ministry of Power and Renewable Energy. SLAEB has the sole authority for promotion of peaceful utilization of nuclear technology for the socio economic development of the country and the SLAEB permits the beneficial and peaceful applications of nuclear science and technology in health, industry, environment and agriculture, for national development within Sri Lanka.

The SLAEB is the successor of the ATOMIC ENERGY AUTHORITY (AEA) which was established by the Sri Lanka Atomic Energy Authority Act, No. 69 of 1969. Once the Sri Lanka Atomic Energy Act, No.40 of 2014 has come into operation from 01st January 2015, the Atomic Energy Authority Act, No. 69 of 1969 was repealed and the new Act established two separate institutions namely Sri Lanka Atomic Energy Board to promote nuclear science and technology and Sri Lanka Atomic Energy Regulatory Council for regulatory functions.

The SLAEB is engaged in activities connected with the mandate of the above Act. It also functions as the Sri Lankan Focal Point of the International Atomic Energy Agency (IAEA) and other sources of external resources for the peaceful uses of nuclear technology. As the Focal Point to the IAEA, SLAEB coordinates implementation of International Technical Cooperation Programs in order to provide technical assistance to respective National Institutions so as to utilize nuclear technology for socio-economic benefits.

The SLAEB at present (2015) has two separate arms; Sri Lanka Gamma Center which is situated in the Free Trade Zone in Biayagama and National Center for Non Destructive Testing (NCNDT) which is situated in Kelaniya and these centers are headed by Directors of SLAEB. These two centers are functioning as Divisions as SLAEB and will be developed as separate centers of SALEB. SLAEB also has another three functional divisions namely Scientific Division, International Cooperation Division and Administration & Finance Division.

5.2 Main objectives of SLAEB

1. Promote and encourage the peaceful application of nuclear technology and provide services using such technology.
2. Conduct research on nuclear science and on developing peaceful application of nuclear technology, for the purpose of achieving national objectives.
3. Promote and support innovations to ensure safety and security systems and quality in the peaceful uses of technology.
4. Provide radiation protection services to meet regulatory requirements relating to nuclear applications.
5. Engage in activities involving ionizing radiation and complimentary techniques, for commercial or other purposes.

5.3 Functions of SLAEB

1. Utilize radioactive materials and ionizing radiation whether along with complementary techniques or otherwise, for medical, environmental, agricultural, industrial and other peaceful purposes and for scientific and technological advancement as may be required for national development.
2. Carry out research relating to the application of ionizing radiation, whether along with complementary techniques or otherwise.
3. Ensure that adequate facilities and arrangements are made available for the appropriate training of the staff of the Board of the officers of any other relevant institutions.
4. Provide on request and where it considers it appropriate, to relevant government institution or any non-governmental institution whether national or international, and to the general public, information relating to the utilization of nuclear technology or other radioactive matirials, where available.
5. Promote the establishment of professional organizations and societies to assist in the application of ionizing radiation, whether along with complementary methods or otherwise and provide where available any connected services.
6. Construct and operate research centres, laboratories and pilot plants in the field of nuclear technology, radiological applications and other related areas.
7. Build and operate institutions or facilities for the production and distribution of radioisotopes and for the management and disposal of radioactive wastes.
8. Assist in the sustainable development of the peaceful application of nuclear technology.
9. Explore the availability of radioactive material resources within Sri Lanka.
10. Establish, maintain and develop scientific and technical cooperation with such local or international institutions or organizations as the Board deems conductive, for the attainment of its objectives.

11. Enter into commercial and other ventures involving ionizing radiation or other complimentary techniques.
12. Furnish the Minister with information relating to the performance and discharge of its duties and functions.
13. Perform and discharge such other duties and functions as in the opinion of the Board, are necessary in achieving the objectives of the Board.

5.4 Performance 2015

5.4.1 Financial: (up to 01.09.2015)

Values in Rs. mn

	Name of the Centre	Capital Grant	Recurrent Grant	Generated Income	Recurrent Expenses
1	Sri Lanka Atomic Energy Board (SLAEB)	**120**(30%)	**33**(67%)	**33**(80%)	**65**(74%)
2	Sri Lanka Gamma Centre (SLGC)	--	--	**30**(57%)	**20**(50%)
3	National Centre for Non-Destructive Testing (NCNDT)	--	--	**12** (70%)	**23**(62%)
	Total	**120**	**33**	**74**	**108**

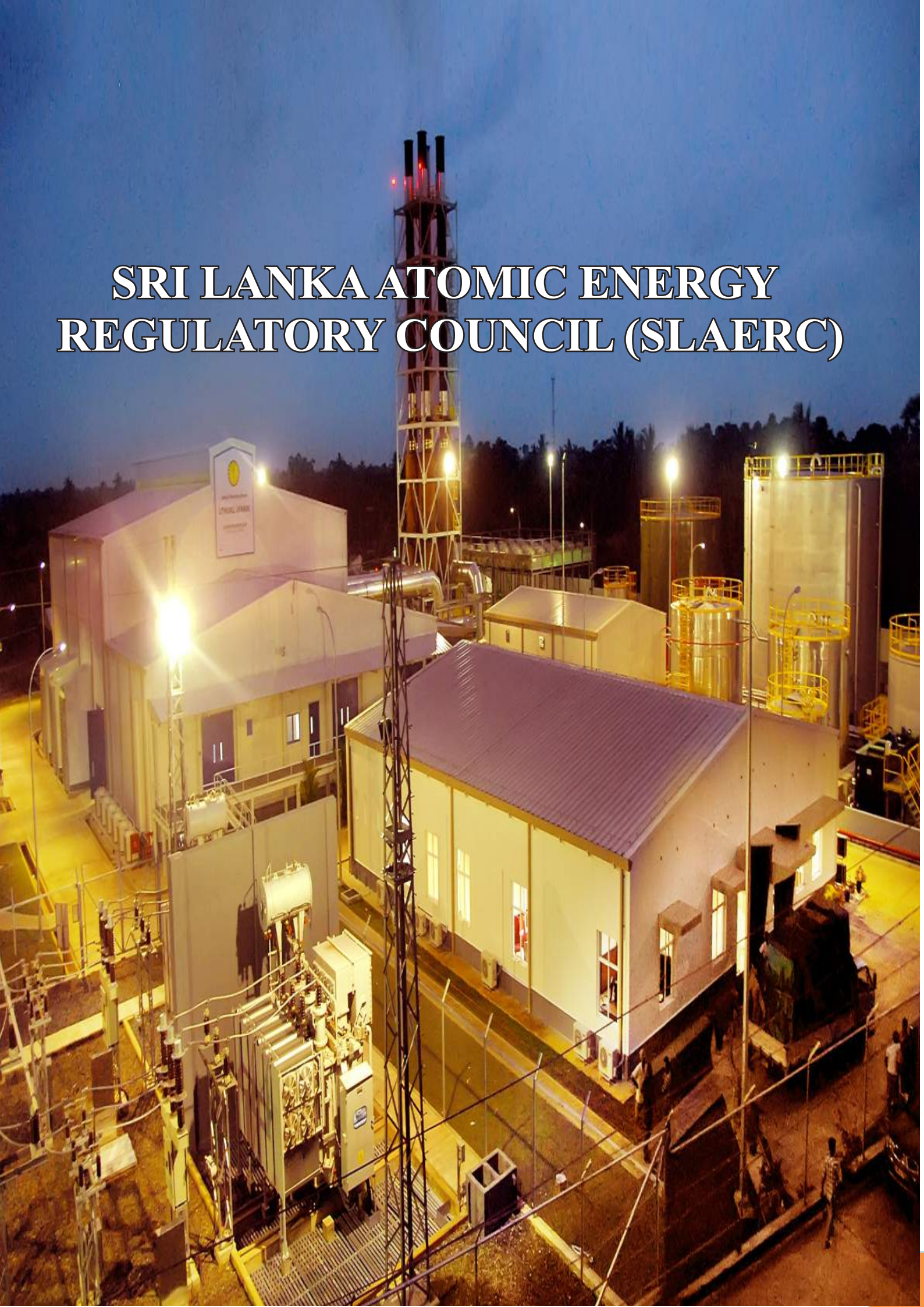
5.4.2 Physical Performance up to 01.09.2015

Division/Activity	Unit of measurement/ KPI	Target	Actuals
Sri Lanka Gamma Centre:			
Irradiation Service	Surgical Gloves' M^3	3,580	2,097
Life Sciences Division			
Testing of milk foods for radioactivity	No. of samples	2,666	2,624
Testing of imported Fish/Canned Fish for possible radioactivity	Do	933	1,058
Testing of export food products for radioactivity	Do	1,280	641
Testing of samples other than food	Do	40	9
National Centre for Non-Destructive Testing (NCNDT) - Training	No of programmes	13	8
NDT Inspections	No. of inspections	93	133
General Scientific Division			
Preventive maintenance/Repair of Nuclear Equipment	No. of items repaired	80	115
Secondary Standard Dosimetry Calibrations	No. of equipment calibrated	46	43
Personal Monitoring for measurement of occupational exposures of radiation workers in the country		560	874
Isotope Hydrology Section			
CKD Study – Sample Collection	No of samples	217	90
Ground water study	Do	76	60
Nuclear Agriculture Section			
Accessible Technologies for the Verification of Origin of Dairy Products as an Example Control System to Enhance Global Trade and Food Safety	Sample collection and analysis	96	106
Radiation Processing Section- R & D activities.			
1. Development of Plant growth promoter/elicitor for Agriculture Applications using Oligo-Chitosan Derivatives (naturally occurring chitin, extracted from crustaceans shells - Shrimp).	1. Commercializing of the product		
2. Developed Super Water Absorbent (SWA) based on cassava starch as a base polymer and acrylic acid as grafting monomer. (use to retaining water in soil-. Useful for dry-zone and urban agriculture)	2. Lab scale production of SWA and testing of performance of the product out with Agriculture Research Stations in Gannoruwa and Mahailluppalama.		

5.5 Main Programs of SLAEB in the Year 2016

1. Personal Monitoring Program for measurement of Occupational Exposure measurements of Radiation workers in the country
2. Maintenance of National Secondary Standards Dosimetry and Calibration of Radiation Monitors used in Radiation laboratories/workplaces in the country to facilitate radiation safety of workers, public and environment. Hence these activities facilitate to implement radiation protection and safety program in the country.
3. Nuclear Instrumentation Program to make use of valuable nuclear instruments effectively for R & D activities and other services for the purpose of national objectives.
4. Environmental Radiation Monitoring Program for protection of environment and public from trans-boundary radioactive dispersion
5. Nuclear Analytical services for monitoring of radioactive contamination of milk food items and other radioactivity measurements for radiation protection purposes.
6. Nuclear Agriculture Program to promote Nuclear Techniques for enhancement of agricultural productivity, Food Safety & Security.
7. Isotope Hydrology Program for providing technical support to the Water Sector and Dam owner institutes /organizations for management of water resources & Dam safety
8. Radiation Processing / R & D activities to enhance productivity of agricultural products
9. NDT services to industries: Provide Nuclear Technology to solve industrial problem, Quality, Safety, productivity.
10. Sri Lanka Gamma Centre for catering mainly the healthcare sector (for sterilization medical products) and food processing sector (for value addition) of the country.
11. Radiation Protection, Safety and Nuclear Security programs and dissemination of knowledge in this area
12. Public Awareness Programs on peaceful application of nuclear technology.
13. Technical cooperation (TC) programs of the International Atomic Energy Agency (IAEA) to assist National Institutions to develop the nuclear technology for the benefit of the country.
    (Annually Sri Lanka receives approximately 200 million worth of technical assistance in the form of fellowship, Scientific Visits, expert missions equipment etc. from IAEA under TC and other programs.

SRI LANKA ATOMIC ENERGY REGULATORY COUNCIL (SLAERC)



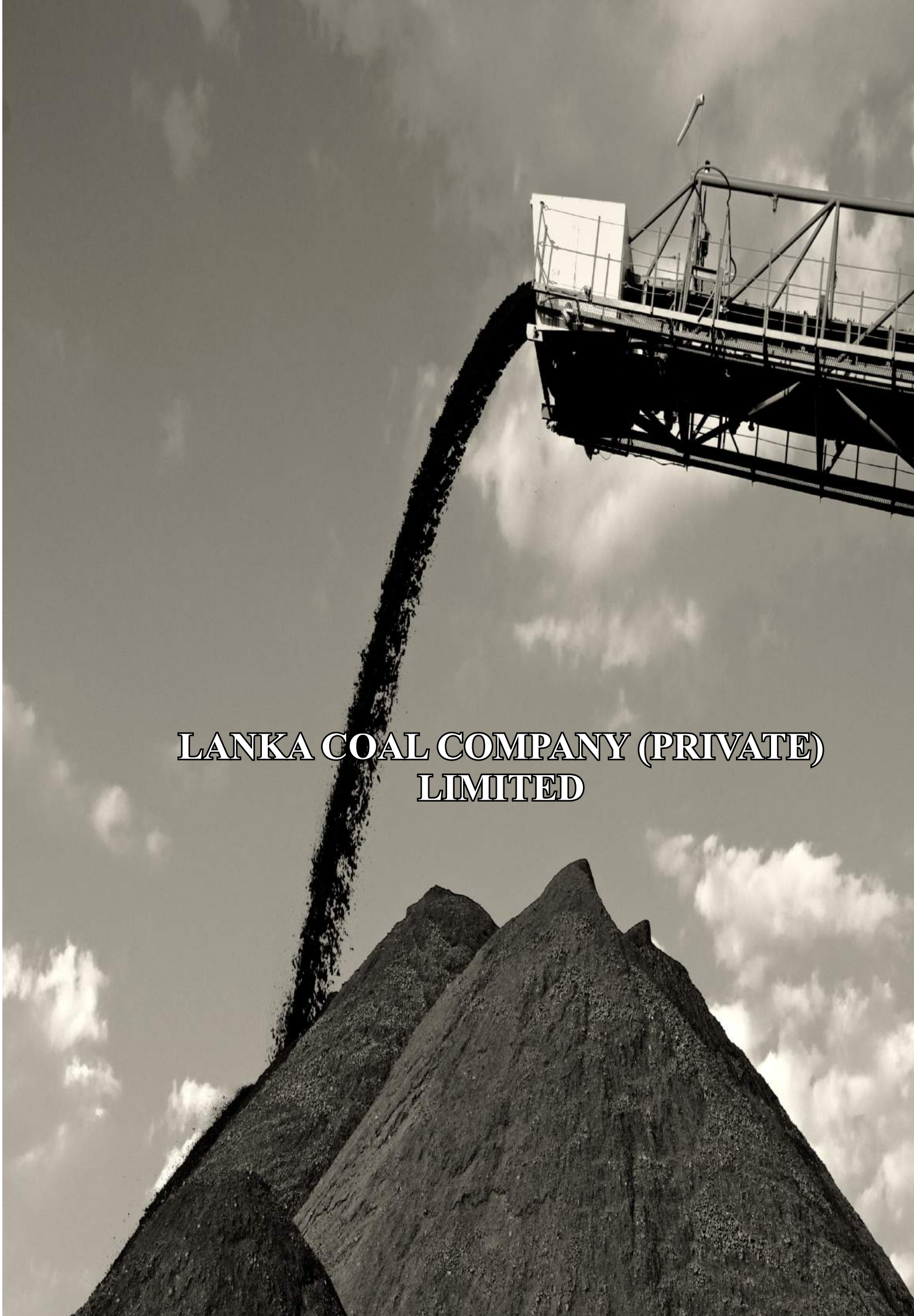
6.0 SRI LANKA ATOMIC ENERGY REGULATORY COUNCIL (SLAERC)

The Atomic Energy Regulatory Council (SLAERC) of Sri Lanka is a Statutory Body functioning under the Ministry of Power and Energy which was established by the Sri Lanka Atomic Energy Act No. 40 of 2014. It has the responsibility of ensuring safety in the use of nuclear technology for medical, industrial, agricultural and research purposes.

Following activities have been carried out by the SLAERC for implementation of radiation safety regulations of SLAERC.

1. No. of facility licences issued for the use/possess of radiation sources : 280
2. No. of radiation source import/export authorizations issued : 342
3. No. of radioactive materials transport authorizations issued : 05
4. No. of radiation facility plan approvals given : 71
5. No. of safety & security inspections conducted : 50
6. No. of approvals granted for imported milk food tested for radioactivity to release to the local market : 1629
7. Preparation of new licence application forms :10
8. Preparation of new licence assessment forms for issuing new licences :10
9. No. of new licence applications assessed : 45
10. Prepared new licencing procedures & distributed among the licence holders.
11. Following Rules and Orders have been prepared in all three languages & sent to the Govt. Printer to publish in the Gazette Extraordinary.
    - 11.1 Atomic Energy (Licence) Rule, No.01 of 2015
    - 11.2 Atomic Energy (Notification of intention to conduct a practice) Rule, No.01of 2015
    - 11.3 Order under section 19 of the Atomic Energy Act No .40 of 2014 , Exempt the practices of sources within a practice as specified
12. Pre- conditioning of disused radioactive sources have been done with the assistance of the International Atomic Energy Agency for safe storage and for export them to manufacturing companies avoiding malicious use of these sources.
13. Following Training Programs & workshops have been conducted;
    - Training course for regulatory inspectors on security of radiation sources under United State's Global Material Security(GMS) program
    - Workshop for senior regulators of the SLAERC on drafting safety & security regulations with the assistance of the United State's Department of Energy.
    - National training course on " Safe use of Radiation Sources in Industry & Research
14. Following Awareness programs have been conducted for licence holders & Safety officers
    - Half a day awareness program for licence holders of radiation facilities on the implementation of the provisions of the new Act
    - Half a day Awareness program for Radiation Protection Officers of licensed facilities on the implementation of the provisions of the new Act
15 Awareness programs conducted for the Special Task Force officers in Kalutara Camp & Police Officers in Police Training College in Galle for source security & radiological emergency response

16 Obtained Management Service Department's (MSD) approvals for new Carder & SOR of the SLAERC
17 Launched the new website for SLAERC
18 Shifting of SLAERC to a new location and actions have been taken for infrastructure development of the at the new location
19 Purchased office equipment ,furniture & scientific equipment to the SLAERC to function its powers and duties in the new location



LANKA COAL COMPANY (PRIVATE) LIMITED

7.0 LANKA COAL COMPANY (PRIVATE) LIMITED

7.1 Introduction

Lanka Coal Company (Private) Limited (LCC) was incorporated on 23rd January 2008 under the Companies Act, No. 7 of 2007 subsequent to a Cabinet Decision to establish an organization for procurement of Coal for Coal fired thermal power plants in Sri Lanka. The share holders of the Company and their contribution towards the paid up capital is as follows.

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

The paid up capital as at 30th September 2015 is Rs.20,000,000.00

7.2 Performance in the Year – 2014

7.2.1 Procurement of Coal

LCC has supplied 4,583,670 MT of thermal coal and 64,569 MT of Deaf Coal to Lakvijaya Power Plant in the following manner up to 01-09-2015.

Thermal Coal (MT)	Deaf Coal (MT)
2010 – 68,000	19,892
2011 – 455,580	
2012 – 739,948	34,665
2013 - 1,088,265	
2014 - 1,495,392	
2015 - 736,485	10,012
Total – 4,583,670	**64,569**

7.2.2 Activities to be completed within the year 2015

Supply of another nineteen (20) ship loads of thermal coal totaling approximate quantity of 1,100,000 metric tons.

7.2.3 Other activities

7.2.3.1 Arrangements are being made to procure 2,400,000 MT of coal that would be required to run Lakvijaya Power Plant during the period of October 2015 to September 2016.

7.2.3.2 A project has been launched to produce cement blocks (bricks) using bottom ash with technical collaboration of National Building Research Organization (NBRO). A MOU has been signed among LCC, NBRO, CIDA and Lafarge Cement for this purpose. This project will be a solution for the problem of bottom ash disposal at Lakvijaya Power Plant in environmental friendly manner as haphazard disposal is a health hazard.

7.2.3.3 Action has been taken to produce 1,000 Bottom Ash Bricks for testing purposes to ascertain the strength, environmental friendliness and economical viability before starting of commercial production.

7.2.3.4 Negotiations are being made with the CGR and Sri Lanka Ports Authority to establish alternative coal supply route to Lakvijaya Power Plant via Trincomalee Port using existing railway line to ensure uninterrupted coal supply throughout the year.

7.2.3.5 Action is being taken to supply coal to Ceylon Steel Corporation as the first step towards coal supply

program to private sector for other purposes than generation of electricity

7.2.3.6 Construction of a Jetty for coal delivering to proposed Sampur Coal Power Plant has been assigned to LCC. Discussions with the respective authorities are being done at present.

7.3 Programme for year 2016

Continuous and uninterrupted supply of coal to Lakvijaya Power Plant

- It is expected to supply 2,400,000MT of coal during the year for the 900 MW Lakvijaya Power Plant.
- Continuation of new projects mentioned under other activities above.
- Observation of coal market price fluctuations for future price

LTL HOLDING COMPANY (PVT) LTD.

8.0 LTL HOLDING COMPANY (PVT) LTD

9.0 Introduction.

Having founded in 1982 in partnership with Ceylon Electricity Board, Lanka Transformers Ltd, presently known as "LTL Holdings PVT Ltd" and having its headquarters at 67 Park Street, Colombo 02, Sri Lanka commenced activities to manufacture the Power Distribution Transformers to meet the requirement of CEB to curtail the heavy financial drain out encountered by Ceylon Electricity Board (CEB) on imports and after sale maintenance of Transformers. The company, having gained experience in modern and innovative technical know-how, locally and internationally, over the past three decades has grown and developed to be the largest engineering establishment in Power Sector market in Sri Lanka and Overseas.

The company offers products and services ranging from Manufacture of Power Distribution Transformers, Thermal and Hydro Power Generation in Sri Lanka and Overseas, Installation and maintenance of Water Processing & Treatment Plants, Erection of Transmission Towers & underground & overhead Power Lines, Grid Substations etc. It has its in house facilities for Fabrication of Steel Structure & Hot Dip Galvanizing. The company's attainments include construction of the State of the Art 300MW Combined Cycle Power Plant at Kerawalaptiya.

Consequent upon Sri Lanka attained over 95% of electrification for the entire country by end 2013 with resultant dwindling scope of works for Power Sector industry in Sri Lanka to a considerable extent, the Company has sought for operational avenues in foreign markets.

LTL Holdings PVT Ltd has already established its effective presence in Bangladesh, Nepal, Ghana, Ethiopia, Tanzania, Uganda, Kenya, Botswana, Jordan, Oman, Myanmar, Maldive Islands and Australia. According to the financial statement, the company has accumulated a net asset worth over SLR 25 Billion. The company has now become one of the successful foreign exchange earners for Sri Lanka. The Company has also diversified into various renewable energy projects as a gesture of goodwill to enhance the stability of the power industry of the country, in an environmentally friendly manner, the latest of which being the exploring possibilities in expanding the Wind Power Projects in Northern Part of Sri Lanka, especially in Mannar coastal area.

The Company has now successfully developed to be the largest engineering organization in the Power Sector in Sri Lanka with magnificent achievements and won several awards over the years with best Engineering Excellence Awards for Engineering Organizations in the infrastructure development sectors at the Ceremony organized by the Institute of Engineers in Sri Lanka and the prestigious Gold Award for the Best Independent Power Producer (IPP) in the Asian Region at the Asian Power Awards organized by the Asia Power Magazine.

9.1 Overseas Assignments

The strong market base, which is being established overseas to compete with International Companies has already paid dividends as the International wing of the company is in the steady progress towards the overseas investments made in Bangladesh, Nepal, India, Australia & East African Countries for construction/operation of Power Plants, for owning of an Equipment & Parts manufacturing plant in India for power sector. A subsidiary of the Company has also been established in Ghana, to undertake power sector development works. The Company is now exploring possibilities to enter into real estate businesses too.

9.2 Performance for 2015 & Programs for 2016

9.2.1 Performance of LTL Holdings Group of Companies during the Financial Year including Financial Highlights 2015

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

PERIOD TURN OVER	F/Year 2014/2015 (Rs.Million)	F/Year 2013/2014 (Rs.Million)	F/Year 2012/13 (Rs.Million)
Manufacturing, Misc. Services	5,292	5,869	6,674
Power Generation	7,753	7,608	6,994
Construction Services	173	17	4,055
TOTAL	**13,218**	**13,494**	**17,723**
GROSS PROFIT			
Manufacturing, Misc. Services	2,699	2,630	3,481
Power Generation	1,549	1,571	1,113
Construction Services	(26)	2	185
TOTAL	**4,222**	**4,203**	**4,779**

The overall Gross Profit recorded for the period under review has improved by 0.45% in comparison to the corresponding period, last year, although the turnover indicates a deficit of 2.04%..

Despite the decrease of 09.83% reflected in the turnover under "Manufacturing & Misc. Services" in comparison to last year, a significant improvement was seen in the profit levels, surpassing the previous year's record by 02.62% equivalent to Rs.69 Million. As far as the Power Generationis concerned, the operation of "100MW Heladhanavi Thermal Power Plant has been stopped with effect from 08th December 2014, consequent upon the expiration of the PPA with CEB.The proposals put forward by the Company for extension/renewal of the PPA has although been turned down by CEB, discussions are being emerged at present to explore the possibility of extending PPA with CEB for the operation of the Heladhanavi Power Plant for a further period of 05 years. At present heavy financial commitments are being encountered by the Company to meet expenditure involved in maintenance of the plant, rental fees, electricity bills, salaries/wages to staff and workers at site, including security arrangements.

Although the closure of 22.5MW Lakdhanavi& 100MW Heladhanavi Power plants had an impact on the turnover under power generation, 300MW Combined Cycle Power Plant at Kerawalapitiya has compensated the loss by generating 434.905 GWh. It achieved a plant availability at 96.75 % during the year.

A loss of 26 Million has been incurred by the Company under "Construction Services" during the period under review as there had been hardly any civil constructions works undertaken.

9.2.2 Programs for 2015 and Programs for 2016

9.2.2.1 Operations and Maintenance of Power Plants

(a) Yugadanavi Power Plant at Kerawalapitiya, Sri Lanka

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 2015 up to 1st Sep 2015 is 434.905 GWh and achieved availability 96.75 %. The annual availability target for the year 2016 hasbeen based at 75%

(b) 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 2015 up to 1st Sep 2015 is 119.198 GWh and achieved availability 92.43%. The annual availability target for the year 2016 has been based at 90%

(c) 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 2015 up to 1st Sep 2015 is 106.489 GWh and achieved availability 97.48%. The annual availability target for the year 2016 has been based at 90%

(d) 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 2015 up to 1st Sep 2015 is 18.722 GWh and achieved Plant Factor is 32.76 %

(e) 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 2015 up to 1st Sep 2015 is 6.232 GWh and achieved Plant Factor is 48.51 %

(f) 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 2015 up to 1st Sep 2015 is 9.906 GWh and achieved Plant Factor is 42.41 %

9.2.2.2 Manufacturing and Marketing of Transformers

Machinery & Equipment at Angulana Transformer Plant

The new technology and modern machinery and equipment available in the plant which are in par with international standards has gained significant confidence from International Electricity Producers, in countries in South African region, Nepal and Jordan etc., and large orders have been executed during the last year.

Although the total production of transformers under review declined the transformers supplied to CEB has increased considerably. It is expected to increase the exports during the ensuing year.

Equipment at Planttransformers at production level

*Transformers at production leve*l

The production recorded for the year under review are as follows:

a)	No. of Transformers supplied to CEB	..	1,297 Nos.
b)	No. of Transformers supplied to LECO	..	137 Nos.
c)	No. of Transformers supplied Other Local customers		72 Nos.
d)	No. of Transformers exported to other countries		1,225 Nos.
	Total Production		**2,731 Nos.**

Improvements Programmed for 2016

1) Starting of production for 5 MVA 33kV/11kV after Prototype testing in KEMA Netherlands.
2) Starting of Dry type transformer production process
3) Introducing of ERP system to company business process
4) Improving process flow of the factory taking the new process into consideration.

5) Upgrading the testing facility of the plant to test bigger size of oil filled transformers and Dry type transformers.
6) Developing of new transformer designing software.

9.2.2.3 Steel Fabrication Plant at Sapugaskande

As done hitherto in the past the LTL Steel Fabrication Plant at Sapugaskande, has extended its unstinted performance to the Galvanizers Plant and the Transformers Plant to cope up with large international orders for manufacturing and supply/export of Power Distribution Transformers and local requirement of the CEB for Transmission Towers etc.,The quantum of work carried out at Steel Fabrication Plant for last year amounts 1,429.76 M/T as against 951.94 MT during last year thus exceeded the production levels over last year by 477.82 MT.

Annual Production

Production Capabilities

PERIOD	F/YEAR 2014/2015	F/YEAR 2013/2014	Variance
Production	In MT	In MT	In MT
CEB	294.91	555.47	- 260.56
Private Organization	1,134.85	396.47	+738.38

The Power Sector requirement has almost reached to its optimum level; the lack of CEB's projects in Sri Lanka, the production levels to meet the requirement of CEB has dwindled to 294.91 MT as against 555.47 MT last year. However, the company has moved steps to accommodate the needs for private organizations especially for overseas projects which indicate a sizeable increase than 2013/2014 by 738.38 MT.

Improvement Programmed for 2016

Following Transmission lines were awarded and some of them are still in evaluation stage.

NO	PROJECT	TOWER WEIGHT (TON)	REMARKS
1	33 kV Transmission line Towers	187	Confirmed
2	CENEIP- Package 1 (220kV lines)	6250	Confirmed
3	CENEIP- Package 2 (132kV lines)	1650	Confirmed
4	CENEIP- Package 3 (220kV lines)	4850	Confirmed

Capacity of Machinery/Equipment

At the Plant the angle steel production lines are controlled by computer and PLC systems with high precision, efficiency, stable quality, and various productions and inspection equipment, and thereby production lines could be met in conformity with customers' demands to utmost.

Fully Automated CNC Angle punching Machine

Master Angle punching Machine

The company has made huge investments in buying most advanced 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.

Fully Automated
CNC Plate shearing Machine

Hydraulic Angle Bending MachineFully Automated CNC profile cutter

The fabrication plant is thoroughly equipped with required sophisticated machinery and equipment, consisting 5 Nos. manually operated hydraulic punching, notching machines & one Number stamping machine. Our Company is now the process of increasing production levels to a considerable extent.

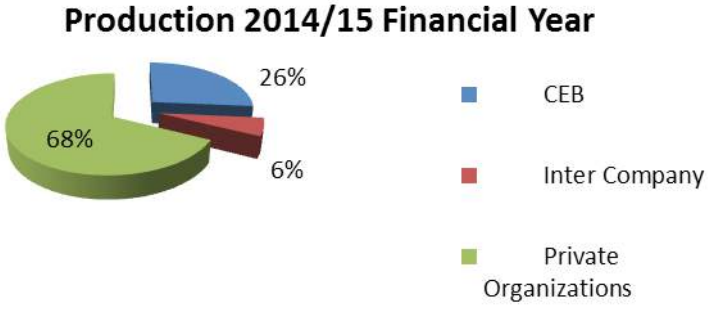
9.2.2.4 Galvanizing Plant at Sapugaskande

Sapugaskande Galvanizing Facility

Galvanzing Proce

Production Analysis – Galvanizing Plant

Period	Production (MT)		Variance (MT)
	Financial Year 2014/15	Financial Year 2013/14	
CEB	1,767.030	1,363.842	403.188
Inter Company	1,648.732	1,346.544	302.188
Private Organizations	4,526.333	3,875.334	650.999
Total	**7,942.095**	**6,585.720**	**1,356.375**



The steady progress in overall production levels during the year under review was achieved which surpassed the records of previous year by 1,356 MT., equivalent to 20.60%. The foreign projects undertaken by our company has tremendously helped increasing the production to optimum levels involving in continuous exports during the year.

Improvements Programed for 2016 – Galvanizing Plant

S/N	Description	Benefit for the company
1	Arrange a seminar series for major customers	To strengthen the relationship with major customers
2	Vertical handling of > 80 % of angles by using special jigs. Additional crane will be used to handle items from drying furnace to quenching tank.	To reduce Zn coating thickness by 30 % For improvement of production
3	Installation of a fume elimination chamber for acid baths	To improve plant atmosphere
4	Renovation of the factory floor (60' X 100')	To upgrade factory environment
5	Installation of acid proof brick lining/poly propylene tanks for 2 acid baths	To extend the lifetime of acid baths
6	Purchasing of a metal analyzer to detect Si content of steel	To reduce Zn coating thickness and to charge customers on the basis of Si content
7	Modification of bath 02 for separate operation	Increase bath 02 production efficiency & effectiveness
8	Meet both private & state owned major construction companies	To acquire more jobs for galvanizing
9	Planning to agree CEB for a fixed price for up to 33 kV towers.	

9.2.3 Mini Hydro Power Plants

The company has resumed discussion with regard to the proposals submitted to Nepal Electricity Company for setting up of Mini Hydro Power Plant, after the earthquakes in central Nepal.

9.2.4 Performance under Social Responsibilities

As a part of the contributions towards Social Responsibility, the company undertakes lighting projects for sites of Archeological and Religious importance, most of them based on actual cost and sometimes free of charge. Tabulate below are the sites already undertaken towards the above

1. Illumination of ThissamaharamayaMahaViharaya
2. Illumination of MahamevnawaBuddihst Monastery in Malambe
3. Illumination of MahamevnawaBuddihst Monastery in Mahawa
4. Illumination of Abayagiriya Temple in Anuradhapura
5. Design and Installation of Sri MahaBodiya Underground Cable system and brand new LV Feeder Panel.
6. Illumination of Kalaniya Raja MahaViharaya Street Lighting
7. Illumination of Polonnaruwa Archaeological Reserve. (Gal Viharaya, Kiri Vehera, Watadageya)
8. Illumination of Gatabaru Raja MahaViharaya
9. Illumination of Kotte Raja-MahaViharaya:
10. Illumination of SeruwavilaMangalaViharya
11. Refurbishment of lighting system in Jethawanaya Temple

Illumination of Tissamaharamaya

Illumination of Thuparamaya

Illumination of Gal Viharaya

Illumination of WatadaGeya

Illumination of Pathway to Gal Viharaya

Illumination of Kiri Wehera