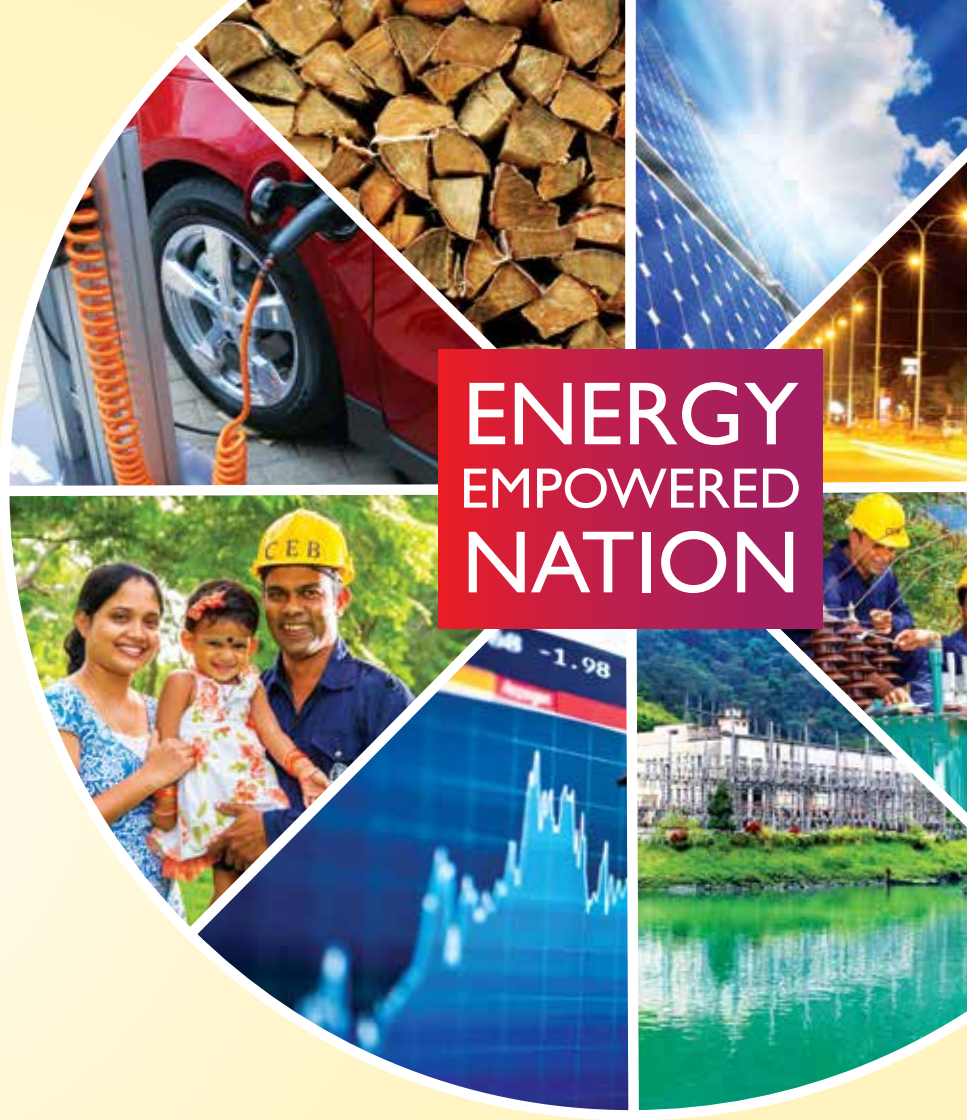
Ministry of Power & Energy



Sri Lanka Energy Sector Development Plan for a Knowledge-based Economy

2015-2025

Ministry of Power & Energy

SRI LANKA ENERGY SECTOR DEVELOPMENT PLAN FOR A KNOWLEDGE-BASED ECONOMY

2015 - 2025

ENERGY EMPOWERED NATION

‘Guide the nation in all its efforts to become an energy self-sufficient nation by developing full potential of renewable and other indigenous energy resources while achieving maximum energy conservation through exploration, facilitation, research & development and knowledge management’

Message of the

Minister of Power & Energy
Hon. Patali Champika Ranawaka, M.P.

Sri Lanka has now embarked on a challenging task of entering into a new energy era. This will be a long journey with full of challenges. With the resolution, steadfastness and dedication we should overcome the obstacles on the way.

A long journey has just begun. We cannot expect success at every corner but strive hard to achieve set targets. Our entrepreneurs now must invest and look for more opportunities in this equitable and transparent environment.

We have set an ambitious goal of 100% energy self-sufficiency by 2030. As a developing economy the challenge ahead of us is enormous and I am convinced that we can reach this goal if we set our priorities right and adjust our actions along the way.

I hope this “Sri Lanka Energy Sector Development Plan for a Knowledge-based Economy, 2015-2025 ” will help us to re-structure the energy sector of Sri Lanka.

Message of the

State Minister of Power and Energy Hon. Palitha Range Bandara, M.P.

The Ministry has embarked on an ambitious action plan to provide reliable and quality electricity access to every citizen in Sri Lanka within this year.

Sri Lanka Energy Sector Development Plan for Knowledge – based Economy, 2015-2025 places a strong emphasis on energy security from both national and individual perspectives. The Plan envisions a situation wherein reliable, affordable, and clean energy will be made available to all citizens at all times.

This requires multi – billion investments both from the public and private sectors. Many actions in diverse areas need follow-up and I hope that the business community in Sri Lanka will actively participate in the process of Implementation of this plan.

Our Vision

Energy security
of the nation is assured...

Our Mission

Provide quality, reliable,
sustainable and affordable
energy for economic
prosperity of the Nation

Introduction

Sri Lanka is on the path towards becoming an internationally competitive middle-income country. This power and energy sector development plan is aligned to the country's development drive, and has been prepared to provide affordable, high quality and reliable energy for all citizens, rich or poor, equally by conserving country's precious natural environment, giving priority to the indigenous energy sources, and minimizing regional disparities in energy service delivery. The power and energy sector vision is to capture the full potential of all renewable and other indigenous resources in order for Sri Lanka to become a nation self-sufficient in energy.

The total energy requirement of the country was around 11,125 ktoe in 2013, and the primary energy supply mainly consisted of 4,814 ktoe of biomass, 4,582 ktoe of fossil fuels, and 1,442 ktoe of hydro. Accordingly, 56% of total energy consumption is from indigenous (biomass + hydro), and Sri Lanka has to import fossil fuels to meet the balance. This requires importing 02 MMT of crude oil, 04 MMT of refined petroleum products and 2.25 MMT of coal to the country annually, costing approximately USD 5 billion in foreign exchange. The average annual total bill of imported fossil fuel is therefore 25% of our import expenditure, and nearly 50% of total export income. Therefore the power and energy sector has a huge bearing on the country's balance of trade and exchange rates.

Sri Lanka has already achieved a grid connectivity of 98%, which is commendable by South Asian standards. Current total installed power generation capacity of the country is approximately 4,050 MW, consisting of 900 MW of coal power, 1,335 MW of oil burning thermal power, 1,375 MW of hydro power and 442 MW of non-conventional renewable energy sources such as wind, mini hydro, biomass and solar power plants.

The annual total electricity demand is about 10,500 GWh, comprising of 38% from domestic consumers, 39% from industries and 20% from commercial enterprises, with the balance coming from other sectors such as religious organizations and street lighting. The overall annual demand for electricity is expected to increase by around 4-6 %, a number constrained by high prices.

The annual total electricity demand is about 10,500 GWh, comprising of 38% from domestic consumers, 39% from industries and 20% from commercial enterprises, with the balance coming from other sectors such as religious organizations and street lighting.

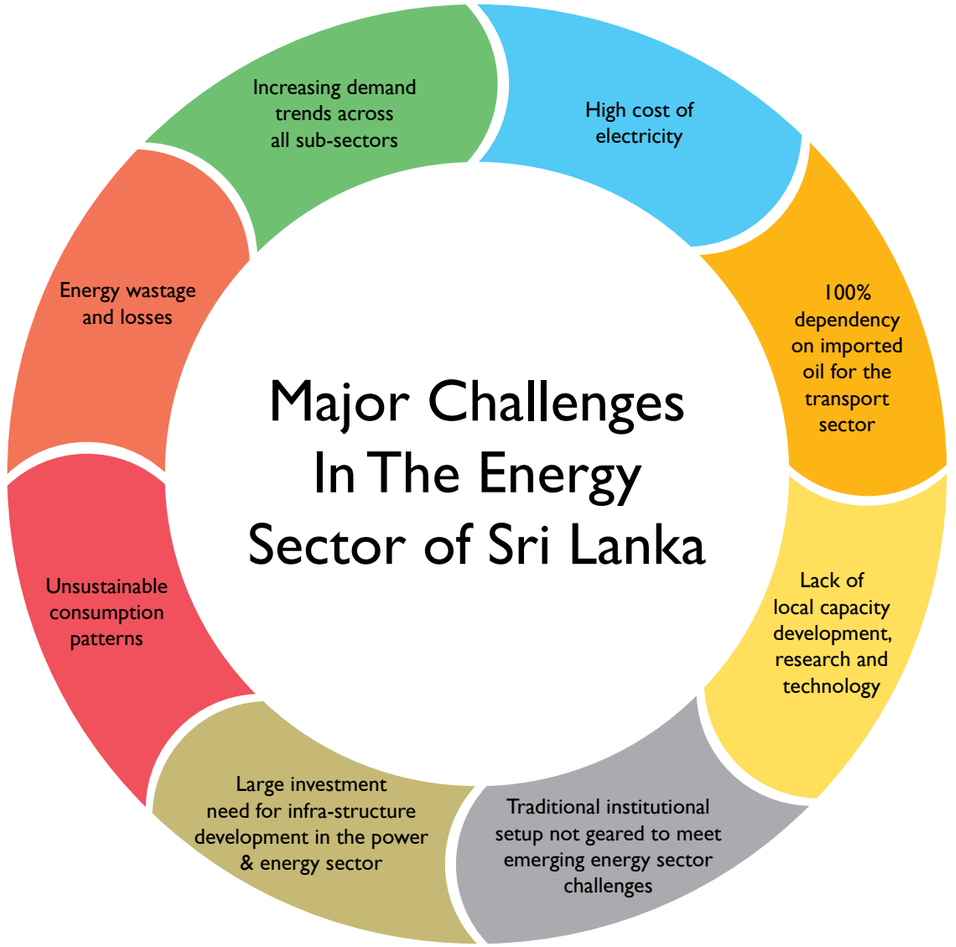
The transport sector is also an important pillar of the economy. A sustainable transportation system contributes towards better socio-economic development by increasing rural connectivity and sustaining an efficient and clean urban environment. As shown by studies conducted in the recent past, the transport sector is the highest contributor to

GHG emissions with a share of about 48% of all CO2 emitted from fossil fuel combustion. In 2013, out of a 5.2 million total vehicle fleet, the number of two wheeled and three wheeled vehicles was 3.6 million, which is expected to increase with higher economic development, posing both financial and environmental challenges in the future.

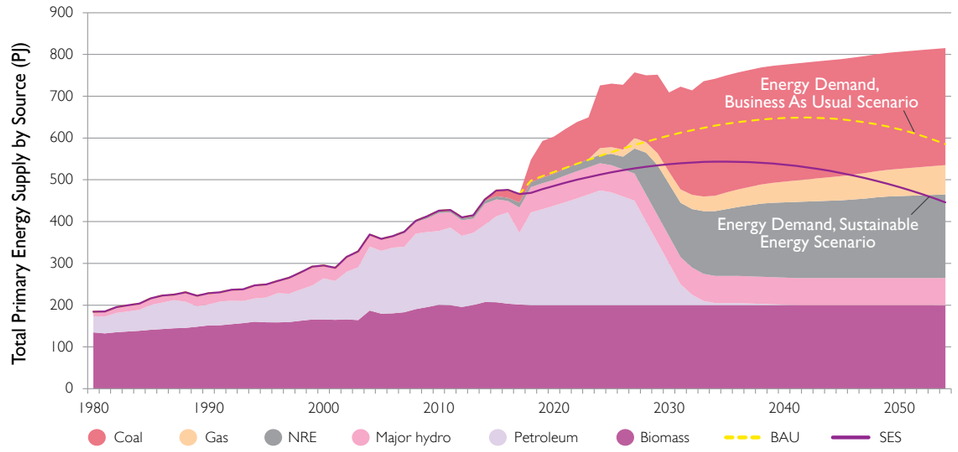
In this context, it is clear that a strategic balance between the national energy demand and supply has to be maintained with a long term perspective, in order to support a steady economic growth in Sri Lanka. With one of Sri Lanka's primary resources being her human capital, this sector development plan for a knowledge based economy has primarily developed to meet energy demand through renewable and other indigenous energy resources, and their potentials towards a "green" economy, energy conservation measures for its sustainability, measures for energy security, financially and economically justifiable pricing policies for electricity and petroleum products, research and development initiatives, and importantly management and good governance practices for the sector.

These initiatives will ensure that consumers and businesses are not unduly vulnerable to external market factors, and that the economy can benefit from a secure and affordable energy supply. Sri Lanka will be elevated to a regional hub by increasing its refinery capacity and utilizing the gas and condensate discoveries in the Mannar basin to create and meet domestic demand as well as to supply international oil and gas markets. Development of a natural gas processing plant in Norochcholai and an oil storage and trading centre using the Trincomalee tank farm are part of this strategy. Large scale deployment of renewable energy will further increase the resilience of Sri Lanka's energy supply, with a large scale wind farm in Mannar and a wide spread network of fuel wood exchanges being some planned Green initiatives.

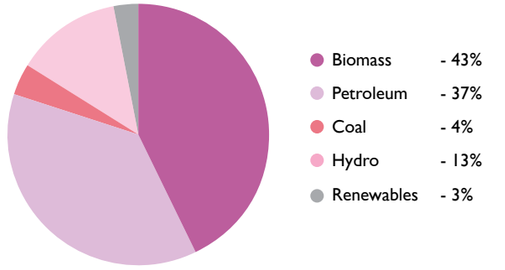
The power and energy sector of Sri Lanka is looking forward to an energy self-sufficient nation by 2030.



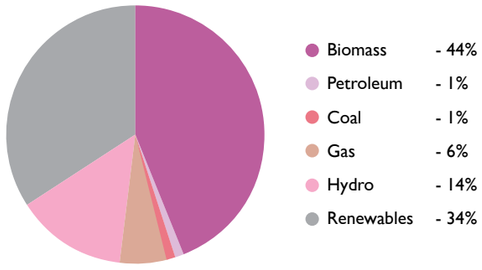
Total Primary Energy Supply by Source



Primary Energy Supply 2013



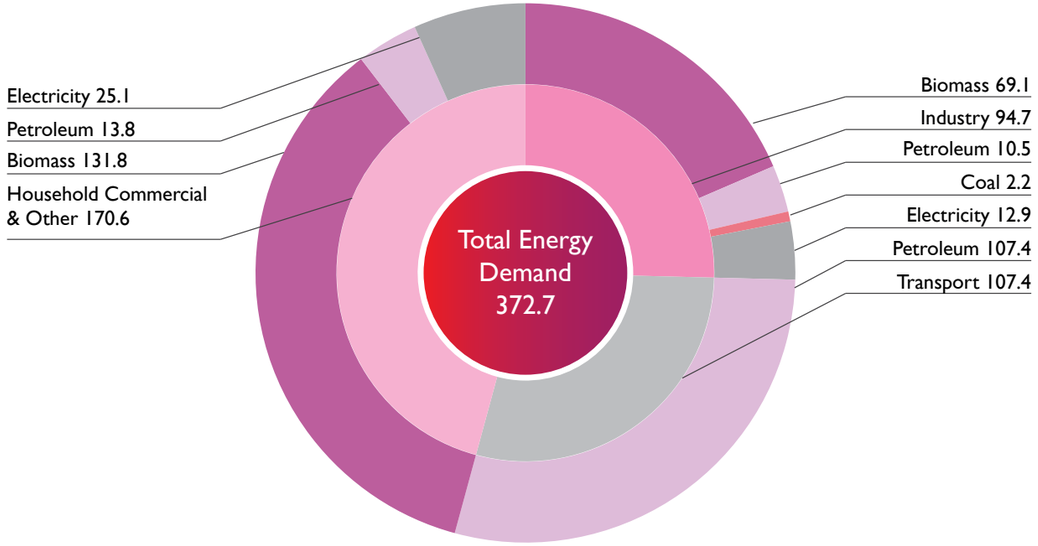
Primary Energy Supply 2030



Renewable Energy Resource Potential

Energy	Resource	Theoretical Potential	Technical Potential	Already Developed
PJ	Biomass	97	59.77	0.59
	Hydro	33	30.46	21.91
	Wind	242	57.05	1.31
	Solar	35,174	32.17	0.01

Sectorial Energy Demand and Supply : 2013



Sectoral Energy Demand and Supply (PJ) in 2013

Energy Sector Targets…

i) To make Sri Lanka an energy self-sufficient nation by 2030

ii) Increase the share of electricity generation from renewable energy sources from 50% in 2014 to 60% by 2020 and finally to meet the total demand from renewable and other indigenous energy resources by 2030.

iii) Increase the electricity generation capacity of the system from 4,050 MW to 6,400 MW by 2025

iv) Generate a minimum 1,000 MW of electricity using indigenous gas resources discovered in Mannar basin by 2020

v) Increase generation capacity of low cost thermal power plants fired by natural gas and biomass to 2,000 MW to reduce the generation costs and to diversify generation mix by 2020

vi) Provide affordable electricity coverage to100% of the people of the country on a continuous basis before end 2015

vii) Reduce the technical and commercial losses of the electricity transmission and distribution network from 11% to 8% by 2020

viii) Reduce annual energy demand growth by 2% through conservation and efficient use

ix) Reduce the petroleum fuel use in the transport sub-sector by 5% by introducing alternative strategies such as efficient modes of transport and electrification of transport by 2020

x) Produce the total petroleum product demand of the country through our own refinery by 2025

xi) Upgrade quality of Gasoline and Diesel to EURO IV and EURO III respectively by 2018

xii) Further enhance the quality and reliability of electricity and fuel supply

xiii) Broadening energy sector investment windows to include bonds, debentures, public private partnerships and other such novel financial instruments

xiv) Reduce the carbon footprint of the energy sector by 5% by 2025

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

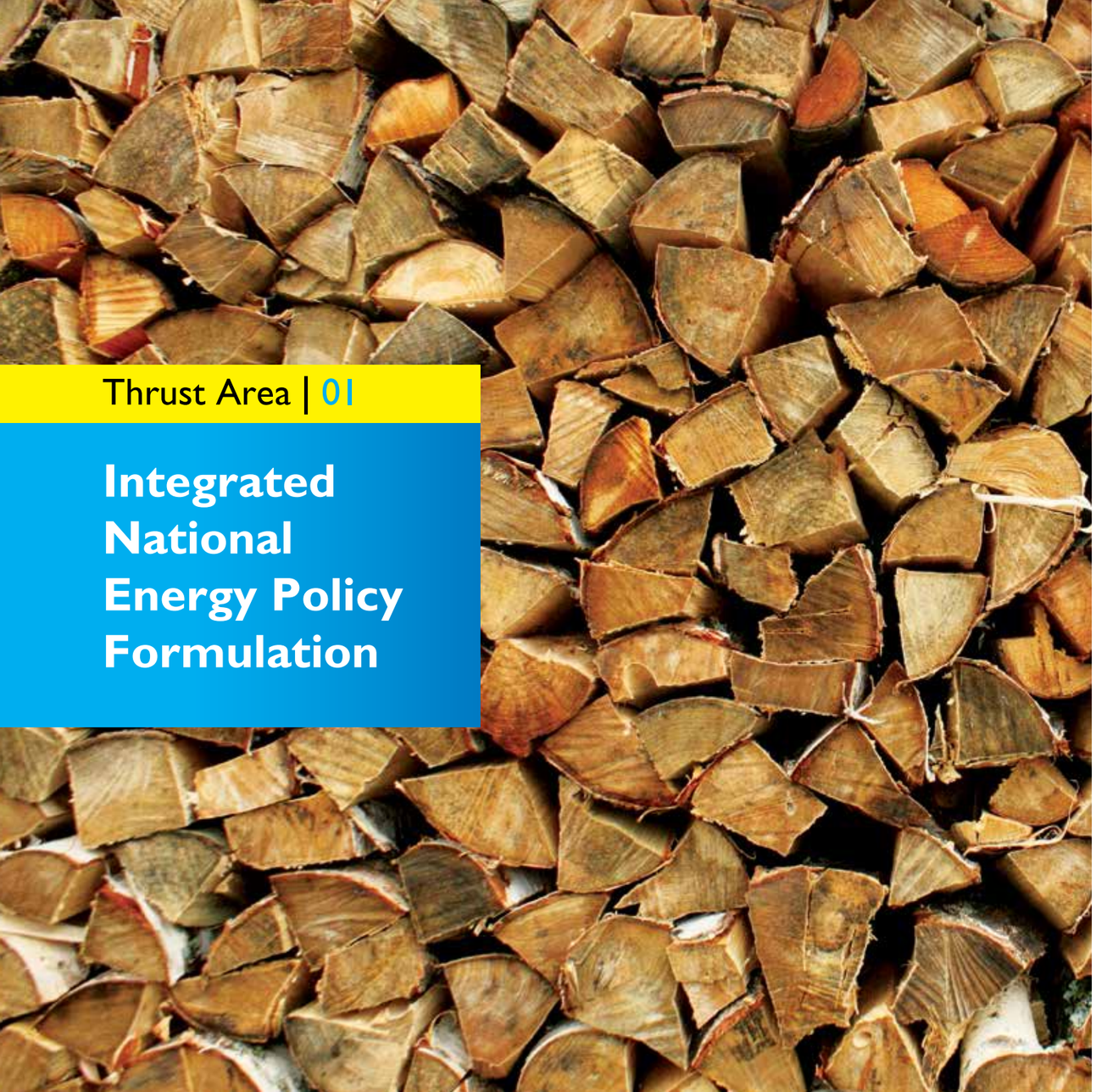
Efficient energy sector institutions and good governance

Innovative financing for a diverse energy sector

Investment in R&D for cutting-edge product development

Thrust Area | 01

Integrated National Energy Policy Formulation



Thrust Area | 01

Integrated National Energy Policy Formulation

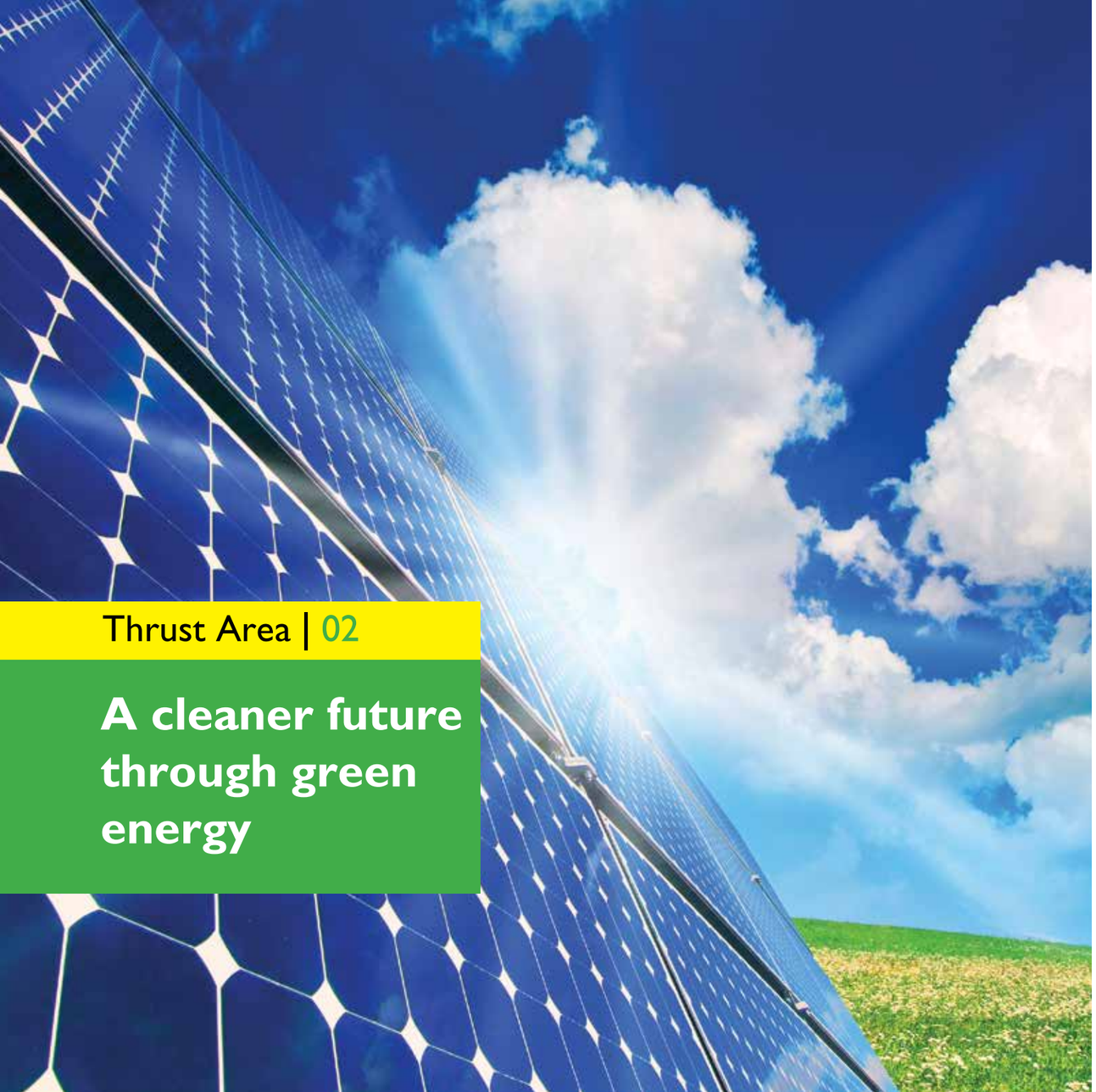
A conscious effort will be made towards the economic consolidation of the energy supply of the country by exploiting all opportunities available. Domestic natural gas will be mainstreamed as the fourth fuel in the electricity generation and transport energy diversity will be pursued through electrification of both rail and road transport. Further economic opportunities in cross-border energy trading will be explored and gainfully utilized. Conversion of oil burning power plants to operate on natural gas, repowering of hydropower plants and revamping the petroleum refining and distribution sectors will be approached to further consolidate the energy security and resilience of the supply. Internationally competitive pricing policies to commercialize oil and gas discoveries, as well as a cost-based domestic pricing structure will also be introduced.

Strategies:

- Ensure optimum fuel diversity in electricity generation.
- Develop indigenous energy resources to the optimum level.
- Promote shifting the preferred fuel choice in the transport sector from Liquid Petroleum to Electricity & Gas with the intention of reducing dependence on imported petroleum products.
- Encourage viable cross-border energy transfer and cooperation with neighboring countries.
- Provision of a basic electricity connection to 50,000 customers who are in remote Locations through renewable energy solutions.
- Provision of electricity to remaining 126,000 rural homes without electricity through grid connected Rural Electrification schemes.
- Implement a transparent pricing methodology and periodic revision mechanism.
- Rationalization of Net Metering tariff.
- Special off-peak tariff for irrigation of agricultural land.
- Special off-peak tariff for charging electric vehicles for domestic customers.

Thrust Area | 02

A cleaner future through green energy



Thrust Area | 02

A cleaner future through green energy

The vast renewable energy resource base of Sri Lanka will be developed to increase the dominance of indigenous energy in both electricity and thermal energy supplies. This initiative will cover the whole value chain of the electricity sector from electrification of remote locations through off-grid solutions to large scale infrastructure development to absorb wind, solar, remaining hydro and other renewable energy resources based power generation to the national grid. Investment climate will be improved to encourage and develop the markets for small scale green energy systems for SMEs and state sector and also to ensure a stable market for fuel wood through a guaranteed price.

Strategies:

- Develop the renewable energy portfolio in the generation mix to an optimum level
- Establish a competitive bidding process for large scale wind and solar power generation projects
- Promote grid connected small renewable based power generation through net-metering.
- Promote use of biomass by elevating its use as a modern, convenient energy source
- Promote off-grid renewable energy applications for small/medium scale applications
- Integrate the environmental protection and climate change issues with the energy sector development plans
- Reduce the carbon footprint of energy sector to address global warming and climate change impacts

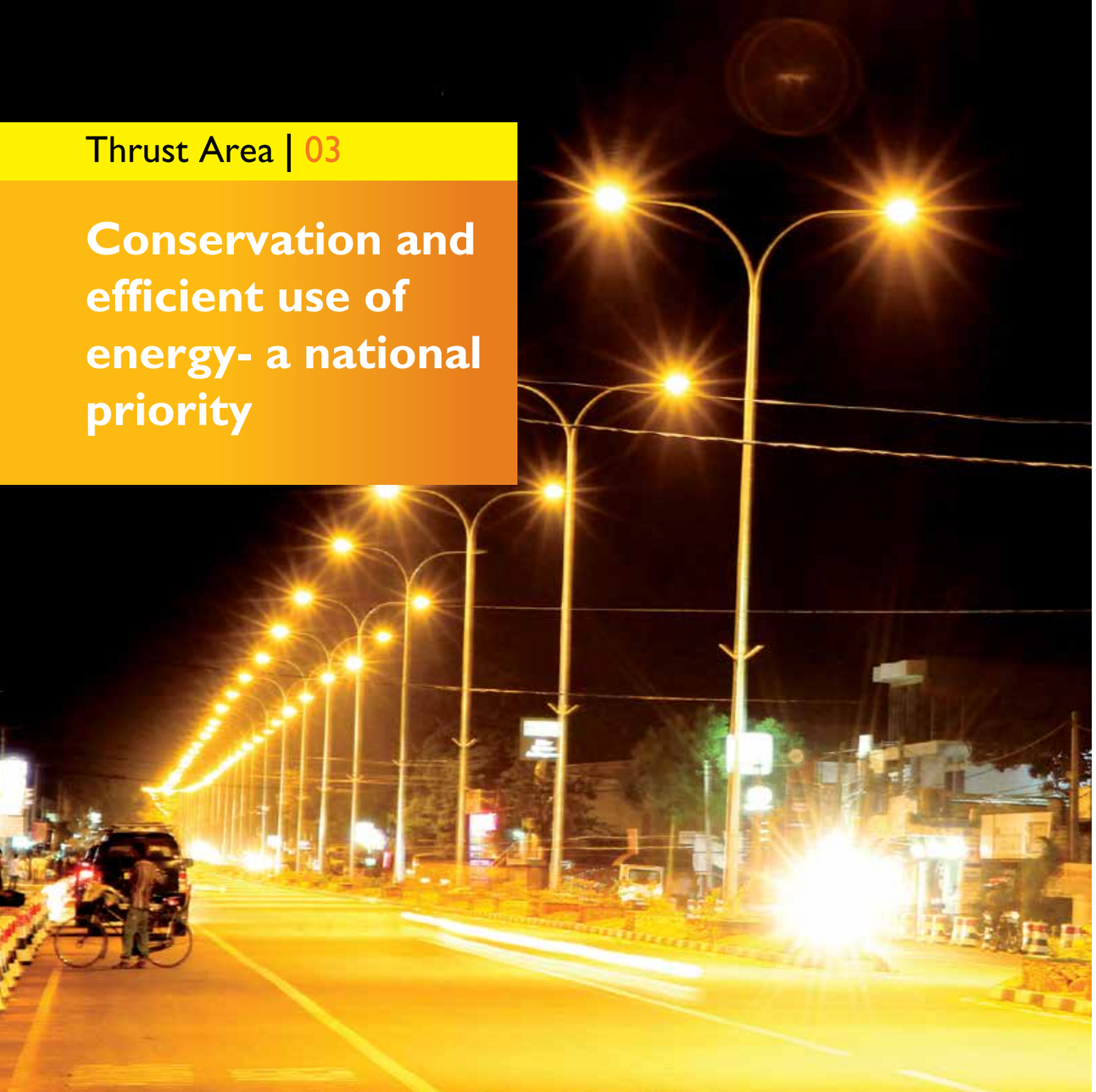
Renewable Energy Resources	Cumulative Capacity in 2020 (MW)
Small Biomass projects	153
Mini Hydro projects	873
Small Solar power projects	161
Small Wind power projects	401
Total	**1,114**

Key Programs

- Establishment of a fuel wood exchange
- Rehabilitation/ refurbishment old hydro power plants
- Establishment of a natural gas processing facility in Norochcholei
- Development of grid connected large scale wind and solar power

Thrust Area | 03

Conservation and efficient use of energy- a national priority



Thrust Area | 03

Conservation and efficient use of energy- a national priority

Efficiency of the energy supply and use will be improved across the many value chains of the country, starting from the petroleum refinery and power plants through the transmission and distribution and at final end user levels. The whole nation will be engaged in this effort through a nationwide awareness campaign. Energy conservation and efficiency improvement opportunities in electricity, transport and thermal energy systems will be exploited using newer technologies ranging from Time of Use meters to combined heat and Power and tri-generation and bus rapid transit systems to advanced intermodal transport solutions. Through these efforts, a 10% reduction in total energy demand will be realized by 2020.

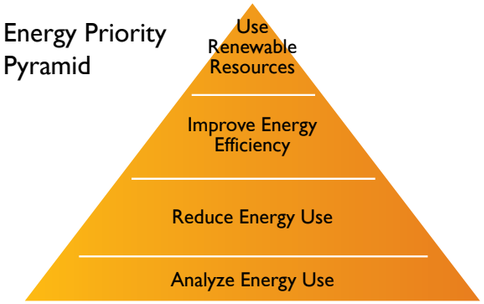
Strategies:

- Enhance the efficiency of power generation and petroleum refinery facilities
- Reduce electricity network losses and petroleum distribution losses to acceptable norms
- Promote energy efficient modes of transport
- A conscious effort to reduce the energy sector carbon footprint
- Improve end-user efficiency of electricity and petroleum products
- Promote sustainable and environmentally friendly building concepts in urban development

Key Programs

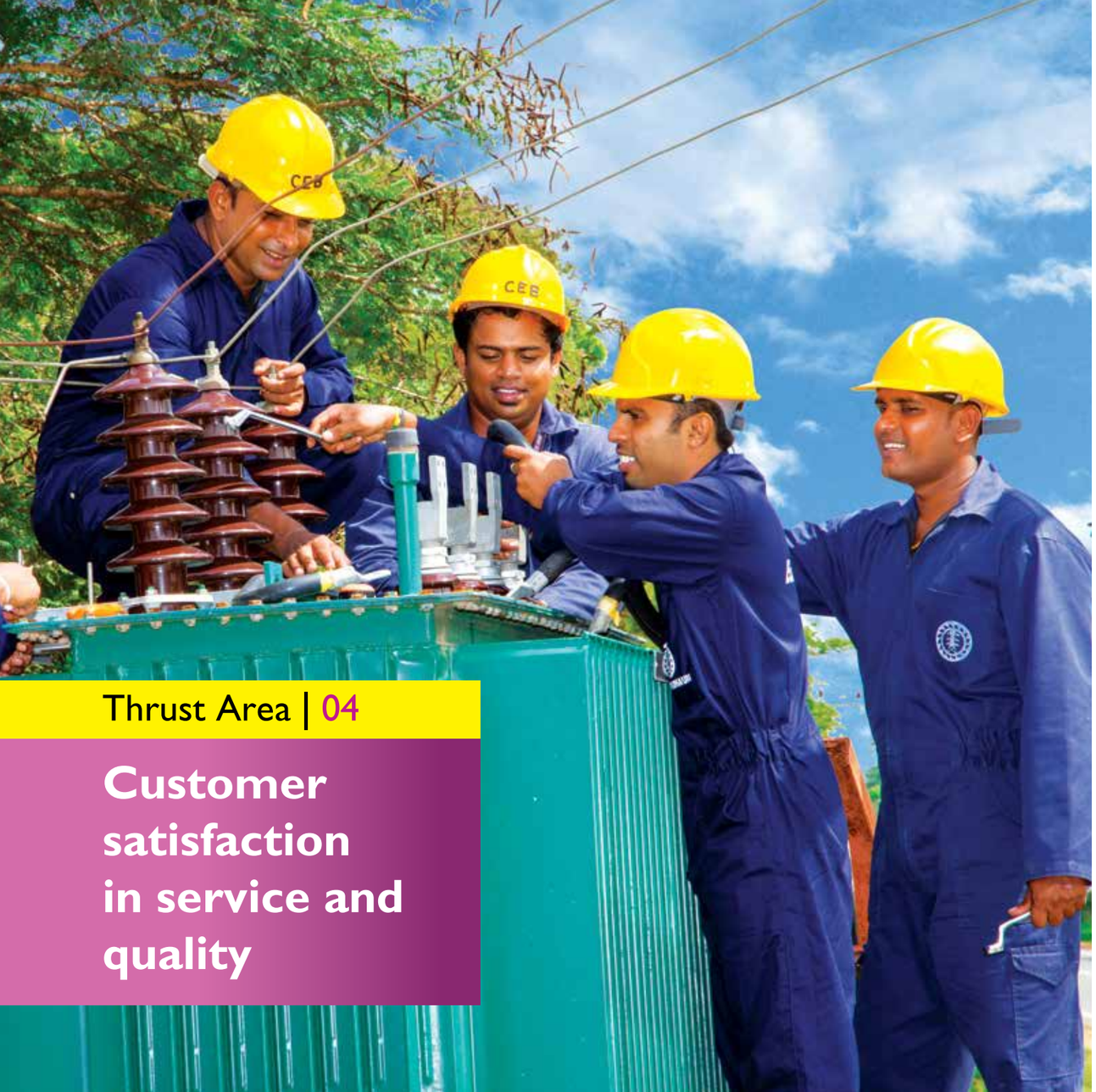
- Energy Conservation in transport, industrial and commercial sectors
- Standardization / Automation of street lighting
- Introduction of Time of Use meters and Tariffs
- Smart cities and green buildings
- Sustainable energy zone programs

Energy Priority Pyramid



Thrust Area | 04

Customer satisfaction in service and quality



Thrust Area | 04

Customer satisfaction in service and quality

A complete overhaul of customer interfaces in all energy delivery points will be made to change the customer perception of the energy sector. Quality of supply will be ensured by adhering to a scheme of stated quality standards, whilst developing the sector professionals to meet the new level of service quality. Novel ICT solutions will be used to enhance the customer service and to diversify the payment options available in electricity and petroleum distribution.

Strategies:

- Introduce service quality standards
- Maintain supply quality standards
- Establish/update equipment standards to ensure the quality and reliability of energy services
- Capacity building of energy sector professionals to meet challenges in the emerging competitive environment

Key Programs

- Smart Meters and advance payment mechanism
- Pre-paid card facility for electricity bill payment and fuel purchasing
- Loyalty card for bulk fuel purchases
- Use of mobile telephone based applications
- Introduction of a Supply Service Code for power sector
- Declaration of Rights and Obligations of Electricity Consumers
- One day service for new electricity connections
- A responsive breakdown service
- Establishment of an ombudsman service for customers

Thrust Area | 05

Timely development of infrastructure

Thrust Area | 05

Timely development of infrastructure

In view of the all role played by the energy systems in long term economic development of the country, early action will be taken to secure central locations and corridors for energy infrastructure facilities. Petroleum transfer facilities and power transmission facilities will be enhanced and new infrastructure for natural gas will be established on a timely basis.

Strategies:

- Strengthening of the electricity transmission network to meet additional generation capacity
- Rehabilitation of the petroleum transfer network
- Centrally locate major utilities and secure backbone corridors for future utility infrastructure
- Enhancing and construction of new electricity transmission lines as the transmission expansion plan of CEB
- Develop a natural gas transmission and distribution network

Key Investment	USD Mn
500 MW Coal fired Thermal Power Plant- Sampur I (Joint Venture – India)	536
600 MW NG or Biomass fired Thermal Power Plant -	1,200
100 MW Mannar Wind Farm	200
Indo-Sri Lanka grid interconnection	350
Electricity transmission infrastructure development	1,723
Oil refinery expansion and modification	1,700
Enhancing petroleum storage facilities (220,000 MT)	125
Fuel Hydrant System at Katunayaka International Airport	60
Cross Country Pipeline	45
Oil trading platform through Trincomallee Oil Tank Farm	380
Gas pipeline from Norochcholai to Kerawalapitiya	260
Upstream gas production (Dorado Gas discovery, Mannar)	1,000

Thrust Area | 06

Efficient energy sector institutions and good governance

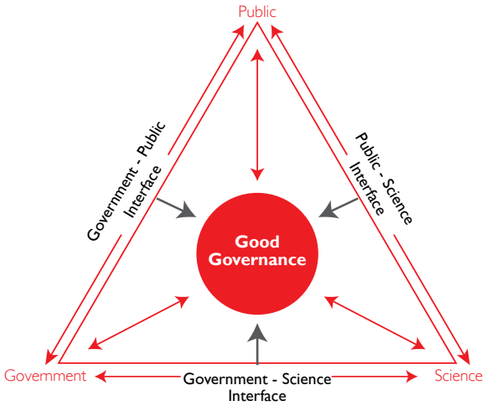
Thrust Area | 06

Efficient energy sector institutions and good governance

The sector utility governing structure will be revamped through an enhanced regulatory framework, where customer rights, satisfaction and service quality will be the hallmarks. Transparency, efficiency and competence will be the pillars of support in the new sector governance strategy.

Strategies:

- Introduce effective regulation in both upstream and downstream energy sectors
- Create an open, transparent investment climate with protection to all stakeholders
- Encourage diversity in all areas of energy supply and delivery for maximum economic benefit through competitive market mechanisms for the benefit of the consumers
- Monitor service and supply quality standards
- Implementing a transparent pricing methodology and periodic revision mechanism
- Eliminate legal hindrances to sectorial development activities (e.g. way leave clearances)
- Empower energy sector institutions by removing inefficient rules and practices

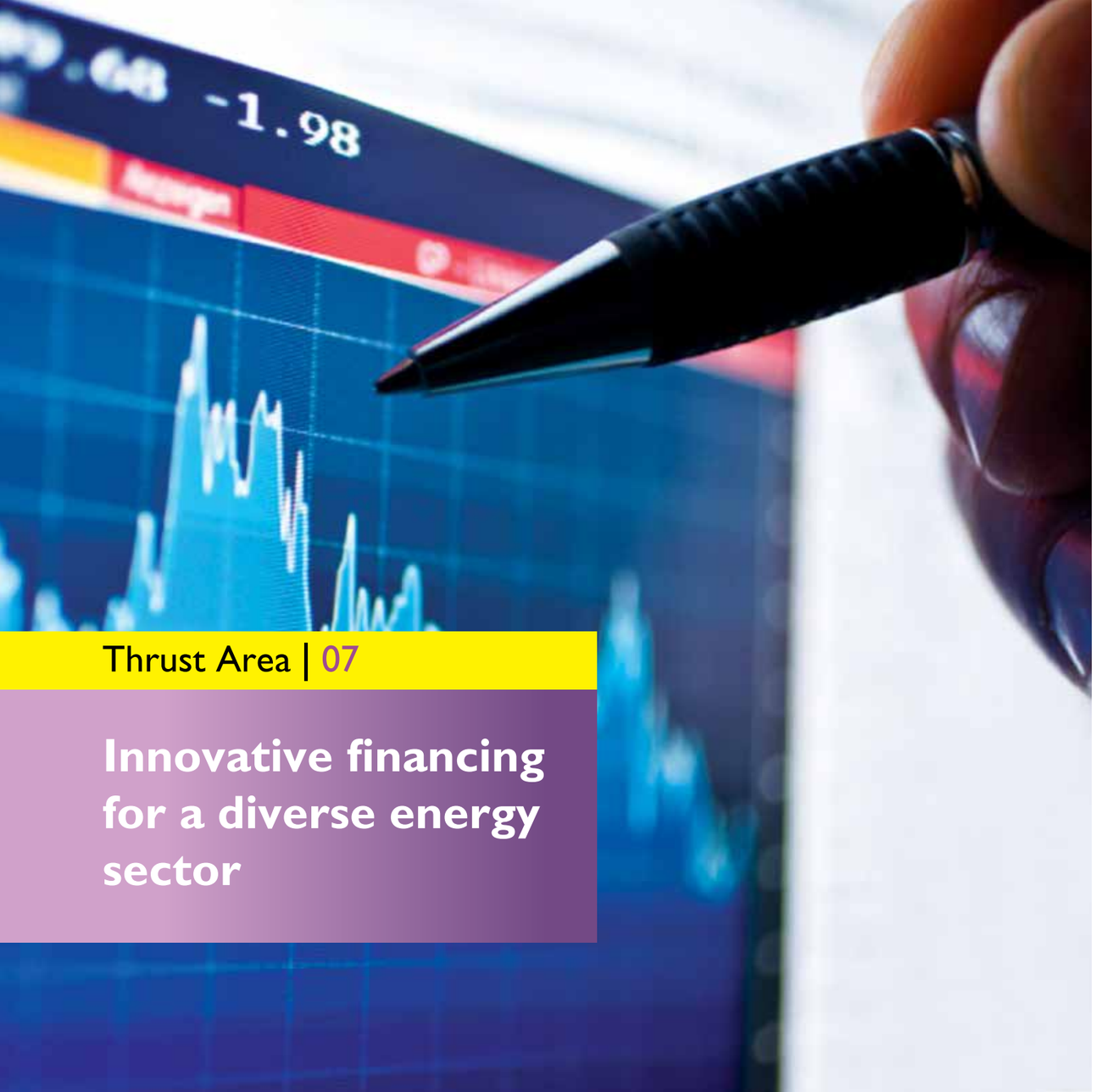


Key Programs

- Introduction of e-procurement system
- Enhance employee performance through Balanced Scorecard system
- Implementation of 5 S and ISO systems for productivity enhancement
- Introduction of e-governance for all energy sector institutions

Thrust Area | 07

Innovative financing for a diverse energy sector



Thrust Area | 07

Innovative financing for a diverse energy sector

The financial health of the energy sector will be improved through efficient treasury operations by restructuring debt portfolios of the sector entities using innovative mechanisms and tools ranging from trade debtors and public private partnerships in investments.

Strategies:

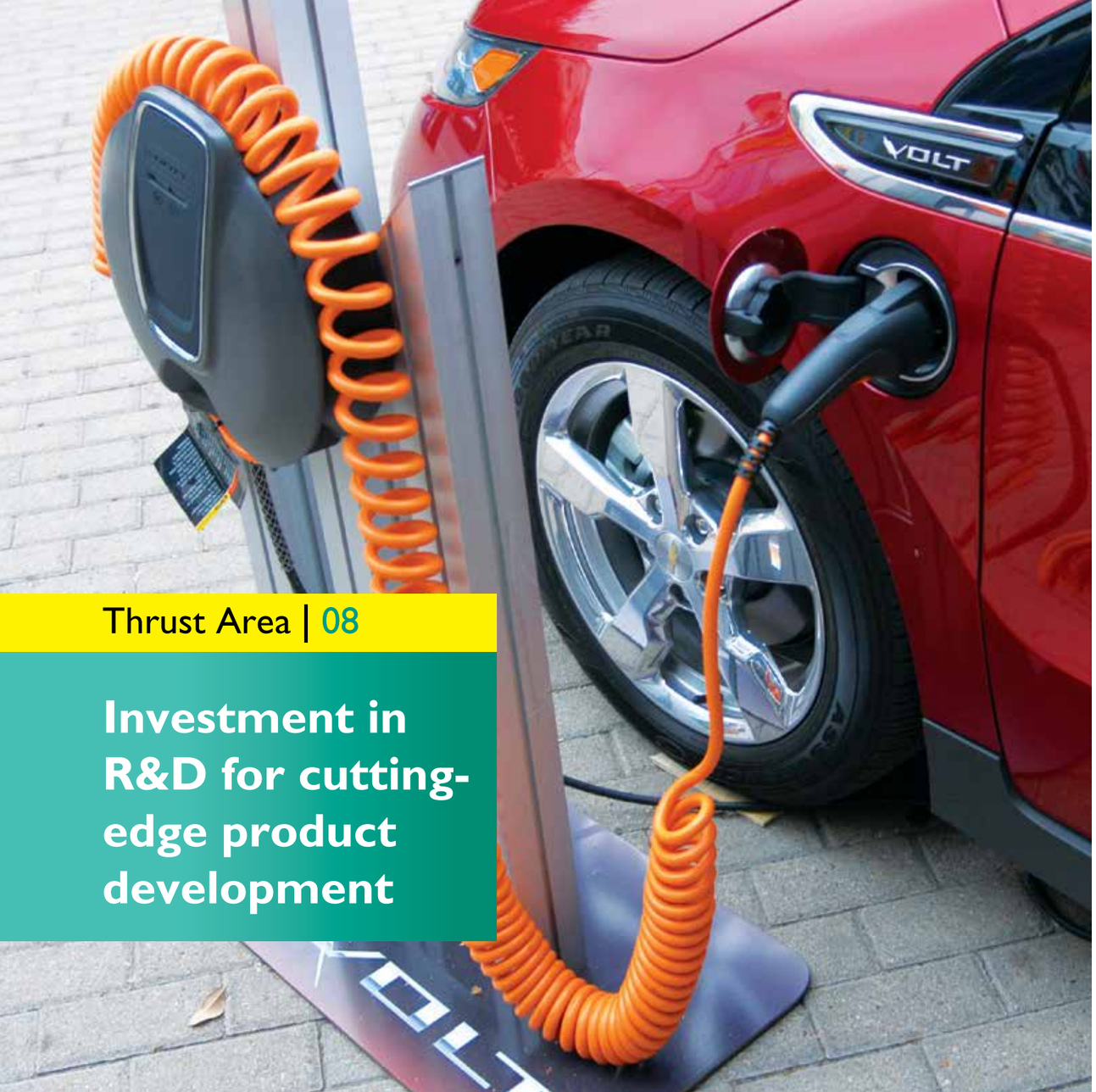
- Explore and adopt Innovative means of energy infrastructure financing
- Introduction of efficient treasury operations
  - Reducing the cost of finance by introduction of new financing tools such as issuance of Bonds/Debentures/shares etc..
  - Reviewing existing credit policy
  - Restructuring CEB/CPC loan portfolio
  - Competitive financing markets
- Implementation of Asset Management policy effectively.

Key Programs

- Issuance of debentures and institutional bonds (CPC bonds – USD 2 billion and CEB debentures – USD 500 million) for restructuring of debt portfolios
- Financial restructuring of CEB and CPC
- Introduce concessionary loan schemes for low income electricity customers
- Introduce concessionary financing for small renewable energy systems
- Introduce loan schemes for large and medium scale renewable power development

Thrust Area | 08

Investment in R&D for cutting-edge product development



Thrust Area | 08

Investment in R&D for cutting-edge product development

Available opportunities in product development and service delivery will be exploited to develop home grown technologies in energy conversion, storage, delivery, metering and billing to enhance the stake of renewable energy, carbon emissions avoidance and efficiency in the energy systems.

Strategies:

- Establishment of a consultancy arm for energy sector projects.
- Encourage to develop standard high-tech instruments

Key Programs

- Peaceful applications in Nuclear Energy for Agriculture, Human health, Environment and Industry
- Electricity charging stations
- Smart Meters and ICT solutions for energy sector transactions
- Develop local capacity in renewable energy technologies and energy efficiency improvement technologies

Our Investment Programme

Petroleum Sector Upstream and Downstream Development	USD 3,600.00 million
Electricity Generation	USD 1,800.00 million
Electricity Transmission	USD 1,725.00 million
Electricity Distribution	USD 220.00 million

01. Petroleum Sector Upstream and Downstream Development

On-going projects

	Project/ Activity	Total Estimated Cost	Duration	Funding Source	Responsible Agency
1.	Oil and gas exploration in Block SL 2007-01-001 awarded to Cairn Lanka	USD 260.0 Mn	2008-2016	Cairn Lanka Pvt Ltd	PRDS
2.	Closure of 2013 bid round-evaluate, award and explore the two Blocks in the Cauveri Basin (C2,C3) and one Block in the Mannar Basin (M5)	USD 150.0 Mn		BONE VISTA ENERGY PTE LTD together with Azimuth Ltd ((C2 & C3 – Cauvery) Cairn India Ltd (MS, Mannar) One Block in Mannar – Cairn Lanka Pvt Ltd	PRDS
3.	Marine environmental baseline survey – Desktop studies followed by a field survey	Rs. 150.0 Mn		GOSL	PRDS
4.	Supply, Installation and Commissioning of maximum continuous rating 60,000 lbs/ hour capacity brand new D-type steam boiler for the refinery	USD 5.0 Mn	2015-2016	EPCC contractor, Italy	CPC

Future Projects

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
01.	Modernization and upgrading of oil refinery at Sapugaskanda	US$ 1,700.0 Mn	2015-2018	CPC
02.	Construction of additional product storage tanks with a total capacity of 220,000 MT (Muthurajawela, Kolonnawa and other selected locations)	USD 125.0 Mn	2015-2023 (Stages - wise)	CPSTL
03.	Multi-client data reprocessing –Modern reprocessing and imaging of Mannar 2D (WesternGeco Seismic Holdings Ltd	USD 0.7 Mn		PRDS
04.	Multi-client data acquisition – Air Borne Gravity Magnatic Survey (ARKES Ltd)	USD 6.3 Mn		PRDS
05.	Multi – client data acquisition program – proposed acquisition and basin studies	To be estimated		PRDS
06.	Commercialization of Dorado Gas discovery in Mannar Basin (Cairn Lanka Pvt Ltd)	USD 1,000.0 Mn		PRDS
07.	Joint study in two Bay of Bengal deep water exploration blocks (Total E & P Activities Petroliers	USD 10.0 Mn		PRDS
08.	Formulation of a policy framework and infrastructure investment plan for the use of natural gas in the future			M of P & E
09.	Build local capacity towards establishing a National Oil Company (NOC) for effective management of the upstream petroleum industry in the future			M of P & E
10.	Introduce a new Petroleum Bill to strengthen legal and fiscal framework for investment in and management of the upstream petroleum sector	To be estimated		M of P & E/ PRDS
11.	Initiation of detailed designs and construction of gas transfer lines from Norochchole to Kerawalapitiya	To be estimated		CEB/CPC
12.	Rehabilitation of Trincomalee tank farm as a regional oil handling facility	To be estimated		CPC/CPSTL

Future Projects Cntd...

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
13.	Introduction of loyalty cards for bulk customers	Rs. 2.5 Mn		CPC
14.	Face-lifting and modernization of filling stations (50 no.s)	Rs. 22.0 Mn		CPC
15.	Automation of filling stations	Rs. 1500.0 Mn		CPC
16.	Installation of a new Single Point Buoy Mooring system (SPBM) for the offshore discharging of crude oil	USD 15.0 Mn	2015-2017	CPC
17.	Establishment of a Fuel Hydrant System and associated facilities at Bandaranaike International Airport	USD 60.0 Mn	2015-2019	CPC
18.	Installation of loading arms at Dolphin Pier and pipeline facility from Dolphin Pier to tunnel gate at Colombo harbor	USD 20.0 Mn	2015-2016	CPC
19.	Construction of two Diesel tanks each of the capacity of 10,000 MT at Sapugaskanda Distribution Terminal	USD 10.0 Mn	2015-2017	CPC
20.	Construction of a new crude oil tank for the Spaugaskanda refinery	USD 10.0 Mn	2015-2017	CPC
21.	Procure a Mobile Cleaning Facility for fuel storage tanks at filling stations and tank farms	USD 7.8 Mn	2015	CPC
22.	Design and construction of two story building for refinery laboratory	USD 4.0 Mn	2015-2016	CPC
23.	Establishment of a new bulk depot in Northern Province	USD 20.0 Mn	2015-2016	CPSTL
24.	Rehabilitation of two pipe lines from Colombo tunnel gate to Kolonnawa	USD 45.0 Mn	2015-2016	CPSTL

02. Electricity Generation

On-going Projects

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
01.	Construction of 500 MW (2 x 250 MW) Sampur coal power plant – Joint venture between NTPC of India and CEB	USD 536.0 Mn (Equity portion US $ 25.0 Mn)	2012-2018	CEB
02.	Feasibility Study of 20 MW Seethawaka Ganga Hydro Power Project	US$ 1.5 Mn	2015-2017	CEB
03.	Construction of 30.5 MW Moragolla Hydropower Project	US$ 125 Mn	2015 - 2019	CEB
04.	Construction of 35 MW BroadlandsHydropower Project	US$ 82.5 Mn	2015 - 2018	CEB
05.	Procurement of New 3x35 MW Gas Turbine	US$ 12.6 Mn	2015 - 2016	CEB
06.	Polpitiya (Samanala) PowerStation Rehabilitation Project	US$ 25 Mn	2015 - 2018	CEB
07.	Construction of 120 MW Uma Oya Hydropower Project	US$ 529 Mn	2010 - 2016	CEB
08.	Feasibility study of 600 MW pump storage power plant	Rs. 5.0 Mn	2015-2016	CEB
09.	Master Plan study for Planning & Design of the Transmission & Generation Systems	US$ 5 Mn	2015 - 2016	CEB

Future Projects

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
01.	Construction of 2nd coal power plant in Sampur	USD 1000 Mn	2018 - 2022	CEB
02.	Development of 375 MW wind power farm in Mannar (100 MW in Stage-I)	USD 180 Mn	2015 - 2020	CEB
03.	Establishment of natural gas processing facility in Norochchole	To be estimated		CEB
04.	Establishment of a fuel wood exchange for guaranteed supply to users and purchase at a guaranteed price from the suppliers	To be estimated		CEB/SEA
05.	Development of grid connected large scale wind and solar power based on the renewable energy development plan of CEB			M of P & E/ CEB
06.	Conducting of detailed feasibility on conversion of Kerawalapitiya and Kelanithissa Gas Turbines to natural gas use	To be estimated		CEB
07.	Rehabilitation/repowering old hydro power plants	To be estimated		CEB
08.	Technical co-operation project for supporting energy planning (Nuclear Power) and pre-feasibility study for Nuclear Power	To be estimated	2015 - 2018	CEB
09.	Optimizing the use of CPC furnace oil (Naphtha) for power generation by CEB	-		CPC/ CEB

03. Electricity Transmission

On-going projects

	Project/ Activity	Total Estimated Cost	Duration	On-going	Responsible Agency
01.	Construction of Nawalapitiya 132/33 kV GSS	Rs. 1,226.0 Mn	2015-2017	AFD	CEB
02.	Construction of Ragala 132/33 kV GSS	Rs. 1,649.0 Mn	2015-2017	AFD	CEB
03.	Construction of Maliboda 132/33 kV GSS	Rs. 1,190.0 Mn	2015-2017	AFD	CEB
04.	Construction of Wewalwatte 132/33 kV GSS	Rs. 1,033.0 Mn	2015-2017	AFD	CEB
05.	Construction of Kerawalapitiya GSS	Rs. 1,067.0 Mn	2015 - 2017	ADB – 2014 (Green power tranche I)	CEB
06.	Construction of Kappalthurai GSS	Rs. 1,617.0 Mn	2015-2017	ADB – 2014 (Green power tranche I)	CEB
07.	Augmentation of old Anuradhapura GSS	Rs. 1,341.0 Mn	2015 - 2017	ADB – 2014 (Green power tranche I)	CEB
08.	Construction of Kesbewa GSS	Rs. 1,362.0 Mn	2015 - 2017	ADB – 2014 (Green power tranche I)	CEB
09.	Augmentation of Katunayaka GSS	Rs.327.0 Mn	2015 - 2017	ADB – 2014 (Green power tranche I)	CEB
10.	Construction of Kaluthara GSS	Rs. 1,139.0 Mn	2015 - 2017	ADB – 2014 (Green power tranche I)	CEB
11.	Construction of Kirindiwela 220/132 kV switching station and 220/33 kV grid sub-station with related 132 kV, 220 kV and 400 kV transmission lines	Rs. 8,730.0 Mn	2015-2018	JICA (45th Loan Package)	CEB

On-going projects Cntd...

	Project/ Activity	Total Estimated Cost	Duration	On-going	Responsible Agency
12.	Construction of Weyangoda – Thulhiriya 132 kV transmission line	Rs. 1,299.0 Mn	2015 - 2018	JICA (45th Loan Package)	CEB
13.	Construction of Battaramulla 132/33 kV grid sub-station	Rs. 1,752.0 Mn	2015 - 2018	JICA (45th Loan Package)	CEB
14.	Capacity enhancement of Kolonnawa – Pannipitiya 132 kV transmission line	Rs. 480.0 Mn	2015 - 2018	JICA (45th Loan Package))	CEB
15.	Capacity enhancement of Pannipitiya – Ratmalana 132 kV transmission line	Rs. 943.0 Mn	2015 - 2018	JICA (45th Loan Package)	CEB
16.	Construction of Kotmale – New Polpitiya 220 kV transmission line	Rs. 1,652.0 Mn	2015 - 2018	JICA (45th Loan Package)	CEB
17.	Capacity enhancement of Polpitiya – Habarana 132 kV transmission line	Rs. 5,809.0 Mn	2015 - 2018	JICA (45th Loan Package)	CEB
18.	Power transmission facilities related to Trincomalee coal power station – Phase I	Rs. 16,227.0 Mn	2017 - 2018	JICA (46th Loan Package)	CEB
19.	Habarana – Weyangoda 220 kV transmission project	Rs. 10,780.0 Mn	2015 - 2016	JICA (42nd Loan Package)	CEB
20.	Greater Colombo transmission and distribution loss reduction project	Rs. 18,229 Mn	2014 - 2018	JICA (43rd Loan Package)	CEB
21.	Mannar transmission infrastructure	Rs. 4,520 Mn	2014 - 2017	ADB – 2012 (CENEIP)	CEB
22.	Construction of 132 kV transmission infrastructure	Rs. 2,936 Mn	2014 - 2017	ADB – 2012 (CENEIP)	CEB

On-going projects Cntd...

	Project/ Activity	Total Estimated Cost	Duration	On-going	Responsible Agency
23.	Construction of 220 kV transmission infrastructure	Rs. 7,985 Mn	2014-2017	ADB – 2012 (CENEIP)	CEB
24.	Kelaniya – Vauvuniya augmentation project	Rs. 750.0 Mn	2014-2016	JICA / ADB	CEB
25.	Power transmission facilities related to Broadlands PS	Rs. 277.0 Mn	2014 - 2015	China	CEB
26.	Power transmission facilities related to Uma Oya hydro PS	Rs. 767.0 Mn	2014 -2015	Iran	CEB
27.	Construction of New Polpitiya – Hamabnthota (Via Ambilipitiya) transmission line with Hambanthota GSS 220 kV development	Rs.9,976.0 Mn	2016-2019	ADB-2016 (Green Power Tranche II)	CEB
28.	Installation of 100 MVAr SVC at Pannipitiya	Rs. 1,717.0 Mn	2016-2019	ADB – 2016 (Green Power Tranche II)	CEB
29.	Augmentation of grid sub-stations (Kotugoda, Biyagama, Kolonnawa)	Rs. 1,096.0 Mn	2016-2019	ADB – 2016 (Green Power Tranche II)	CEB
30.	Construction of Mannar – Nadukuda TL and Nadukuda GSS	Rs. 2,558.0 Mn	2016-2019	ADB – 2016 (Green Power Tranche II)	CEB
31.	Construction of Samanalawewa – Ambilipitiya 132 kV TL and rehabilitation of Ambilipitiya GSS	Rs.1,373.0 Mn	2016-2019	ADB – 2016 (Green Power Tranche II)	CEB
32.	Construction of Thissamaharama GSS	Rs. 1,685.0 Mn	2016-2019	ADB – 2016 (Green Power Tranche II)	CEB
33.	Construction of Hambanthota port 132/ 33 kV GSS	Rs. 1,528.0 Mn	2016-2019	ADB – 2016 (Green Power Tranche II)	CEB

Future Projects

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
01.	Indo – Sri Lanka power marine cable line	USD 350.0 Mn	2015 - 2020	CEB
02.	Power transmission facilities related to Trincomalee coal power station – Ph II	Rs. 7,262.0 Mn	2019 - 2022	CEB
03.	Construction of Colombo K 132/11 kV GS	Rs. 3,844.0 Mn	2018 - 2020	CEB
04.	Capacity enhancement of 132 kV Lynx transmission lines to Zebra – Package I	Rs. 2,013.0 Mn	2019 - 2021	CEB
05.	Augmentation of Dehiwala GSS	Rs. 386.0 Mn	2020 - 2022	CEB
06.	Construction of Kalawana GSS	Rs. 1,704.0 Mn	2019 - 2021	CEB
07.	Construction of Chemmuni GSS	Rs. 1,258.0 Mn	2018 - 2022	CEB
08.	Vavuniya GSS 220 kV development	Rs. 1,753.0 Mn	2019 - 2022	CEB
09.	Augmentation of Madampe GSS	Rs.324.0 Mn	2019 - 2022	CEB
10.	Augmentation of Trincomalee 132/33 kV grid sub-station	Rs.134.0 Mn	2020 - 2018	CEB
11.	Construction of Padukka 220/33 kV GSS	Rs. 1,185.0 Mn	2018 - 2010	CEB
12.	Construction of port city – I 220/33 kV GSS	Rs. 2,086.0 Mn	2019 - 2022	CEB
13.	Construction of port city-2 220/33 kV GSS	Rs. 1,585.0 Mn	2019 - 2022	CEB
14.	Construction of Eluwankulama 132/33 kV GSS	Rs. 1,439.0 Mn	2020 - 2023	CEB
15.	Construction of Wellawaya 132 / 33 Kv GSS	Rs. 1,061.0 Mn	2019 - 2022	CEB
16.	Construction of Victoria – Randenigala, 2*Zebra, 16.4 km, 220 kV single transmission line	Rs. 845.0 Mn	2019 - 2022	CEB
17.	Capacity enhancement of 132 kV Lynx transmission lines to Zebra – Package II	Rs. 2,772.0 Mn	2020 - 2022	CEB
18.	Second circuit stringing of Habarana – Walachchenai, Zebra, 100 km 132 kV transmission line	Rs. 369.0 Mn	2019-2021	CEB

Future Projects Cntd...

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
19.	Augmentation of Aniyakanda GSS	Rs. 327.0 Mn	2019-2022	CEB
20.	Construction of Akkaraipattu 132/33 kV GSS	Rs. 1,771.0 Mn	2020-2023	CEB
21.	Construction of Colombo P GSS	Rs. 1,240.0 Mn	2019-2022	CEB
22.	Augmentation of Pannala GSS	Rs. 327.0 Mn	2020-2023	CEB
23.	Augmentation of Colombo B GSS	Rs. 481.0 Mn	2020-2023	CEB
24.	Augmentation of Pallekele GSS	Rs. 324.0 Mn	2021 – 2023	CEB
25.	Capacity enhancement of Badulla – Inginiyagala-Ampara 132kV, 105 km singte circuit TL to Zebra	Rs. 3,267.0 Mn	2020- 2023	CEB
26.	Augmentation of Chunnakan GSS	Rs. 324.0 Mn	2020-2023	CEB
27.	Augmentation of Athurugiriya GSS	Rs. 327.0 Mn	2020 - 2023	CEB
28.	Capacity enhancement of Balangoda – Deniyaya Tiger, 132 kV, 44 km double circuit TL to Zebra	Rs.1,328.0 Mn	2020 - 2023	CEB

04. Electricity Distribution

On-going Projects

	Project/ Activity	Total Estimated Cost	Duration	On-going	Responsible Agency
01.	Complete balance 5% of rural electrification	US$. 122Mn	2015 - 2017	CEB	CEB/SEA
02.	Rural Electrification 08 Project	US$ 132 Mn	2014 - 2015	Iran	CEB
03.	Construction of 129km of D/S Tower Lines and Five Switching Gantries		2014 - 2016	ADB – 2012 (CENEIP)	CEB
04.	Design, Supply and Installation of 33kV Tower Lines and Gantries	US$ 8.4 Mn	2015 - 2017	ADB – 2014 (Green power tranche I)	CEB
05.	Design, Supply and Installation of 33kV Tower Lines and Gantries	US$ 14.5 Mn	2016 - 2018	ADB – 2016 (Green Power Tranche II)	CEB
06.	LECO Supply Source Enhancement Project	US$ 8.2 Mn	2015 - 2017	CEB	CEB
07.	Electricity distribution development and loss reduction project – Dehiwala Mount Lavinia	US$ 12.2 Mn	2015 - 2017	JICA (45th Loan Package)	CEB
08.	11 kV underground electricity distribution development project at Battaramulla	US$ 17.1 Mn	2015 - 2017	JICA (45th Loan Package)	CEB

Future Projects

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
01.	Solar home system for off grid customers	Rs. 2,000.0 Mn		CEB
02.	Establishment of a credit line for promotion of off-grid renewable energy applications for small and medium scale industries and net metering	To be estimated		CEB/SEA
03.	Solar roof-top power generation system for off-grid households	Rs. 300.0 Mn		SEA
04.	Expired LOIs to be reviewed and reissued on Competitive Basis while feed-in systems are faced out.			CEB
05.	Introduction of concept of smart grids for effective utilization of distribution and variable generation from renewable energy sources	To be estimated		
06.	Dissemination of smokeless fuel-wood stoves and commercialization of supply of fuel wood			SEA
07.	Conducting an island wide awareness campaign on electricity and petroleum saving with the aim of 5% saving on total consumption	To be estimated		CEB/CPC
08.	Expansion and improvement of electricity transmission and distribution network to improve the supply reliability and to minimize system losses	To be estimated		CEB
09.	Standardization / Automation of street lighting in Colombo and other major cities	To be estimated		CEB/ LECO
10.	Street Lighting Pilot Project with the design of Energy Efficient Street Lighting in the area of Homagama CSC	To be estimated		CEB
11.	Introduction of Time Day Use meters and Time of Day Tariff for domestic consumers	To be estimated		CEB/LECO

Future Projects Cntd...

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
12.	Introduction of minimum energy performance standards for commonly used household appliances and preferential tax structure for efficient products	To be estimated		CEB/SEA/ LECO
13.	Promotion of Cogeneration/ Tri generation in industrial sector	To be estimated		CEB
14.	Introduction of Bus Rapid Transit (BRT) and intermodal transport systems	To be estimated		M of P & E/ M of Transport/ CEB
15.	Introduction of Smart Meters- an electronic device to monitor and billing, with two way communication between the customer and the utility (Target aprox. about 50,000 consume more than 300 kWh.)	US$ 100.0 Mn		CEB/ LECO
16.	CEB Provincial boundary re-arrangement considering consumer convenience			CEB
17.	CEB strive to eliminate planned interruptions			CEB

05. Other

Future Projects

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
01.	Introduce Pre-paid Card Facility for paying electricity bills and petroleum products	-		CEB/ LECO/ CPC
02.	Availing customers of more and more payment options	To be estimated		CPC/CEB
03.	Improvement/ modernization of Customer service call centers	To be estimated		CEB/LECO/ CPC
04.	Introduction of a Star Rating for all Consumer Interface Offices. First Step CSCs	To be estimated		CEB
05.	Introduction of Separate Solar PV Tarff			CEB
06.	Rationalization of Net Metering			CEB
07.	Establishment of an Energy Ombudsman	-		Ministry
08.	Use of mobile telephone based applications for customer services			CEB/CPC
09.	Expansion of Disconnection & Planned Interruption Notices through SMS to other provinces			CEB
10.	On line updating of meter readings through Handhelds (Pilot Project) and Remote Metering			CEB
11.	Introduction of pre-paid meters for electricity	To be estimated		CEB/LECO
12.	Embark on rapid capacity building and training of officials in new areas of energy management	To be estimated		M of P & E/ All institutions
13.	Introduction of Codes, rules and regulations related to service standards			
	i. Supply Service Code (A guide to processes and procedures of CEB)			CEB
	ii. Statement of Rights and Obligations of Electricity Consumers			PUCSL/CEB

Future Projects Cntd...

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
	iii. Distribution Performance Standards			CEB
	iv. KPI for Distribution Licensees			CEB
	v. BSC cascading to Distribution			CEB
14.	Establishment of e-procurement system	-		M of P & E
15.	Reviewing the procurement system in oil purchasing	-		
16.	Competitive bidding in purchasing of goods and services	-		M of P & E/ All institutions
17.	Competitive bidding in issuing filling station license	-		M of P & E/ CEC
18.	Introducing a trade debtors credit policy	-		CPC
19.	Reducing CPC loan portfolio	-		CPC
20.	Balance sheet restructuring for CEB and CPC	-		CEB/CPC
21.	Reducing cost of financing by introducing new financing tools			Ministry / All Institutes
22.	Effective Treasury Operation and introduction of non-conventional financing Instruments			CEB
23.	Re-negotiation of Fuel Prices with CPC for fuel supplied to CEB for power generation			Ministry/CPC/ CEB
24.	Introducing a cost reflective pricing formula for petroleum and electricity	Rs. 2.5 Mn		M of P&E/ CEB/CPC
	a). Introducing a new set of electricity tariff policy guidelines for power sector			
	b). Introducing a new set of fiscal policy guidelines for the petroleum sector			
	c). Introduction of Tariff Structure changes for Load Curve Management			M of P&E/ CEB/PUCSL
	d). Tariff Revision Intervals			M of P&E CEB/PUCSL

Future Projects Cntd...

	Project/ Activity	Total Estimated Cost	Duration	Responsible Agency
25.	Development of electricity meters to suit CEB/ LECO requirements	To be estimated		M of P & E/ CEB/LECO
26.	A research in atmospheric carbon reduction technologies to mitigate the impact of increased energy consumption on the climate	To be estimated		M of P & E
27.	Development of integrated IT based Billing and metering system to suit CEB/LECO requirements	To be estimated		M of P & E/ CEB/LECO
28.	A research in green areas such as energy conversion and storage technologies	To be estimated		M of P & E/ SEA
29.	Electrification of Transport System	To be estimated		M of P &E/M of Transport/ CEB
30.	Introduction of Electric Car and Installation of Charging Stations	To be estimated		CEB

CEB - Ceylon Electricity Board\
CPC - Ceylon Petroleum Corporation
SEA - Sustainable Energy Authority
PRDS - Petroleum Resource Development Secretariat
PUCSL - Public Utility Commission of Sri Lanka
CPSTL - Ceylon Petroleum Storage Terminals Ltd
LECO - Lanka Electricity Company (Pvt) Ltd

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