Generation Performance in Sri Lanka

2015 (First Half)

PUBLIC UTILITIES COMMISSION OF SRI LANKA

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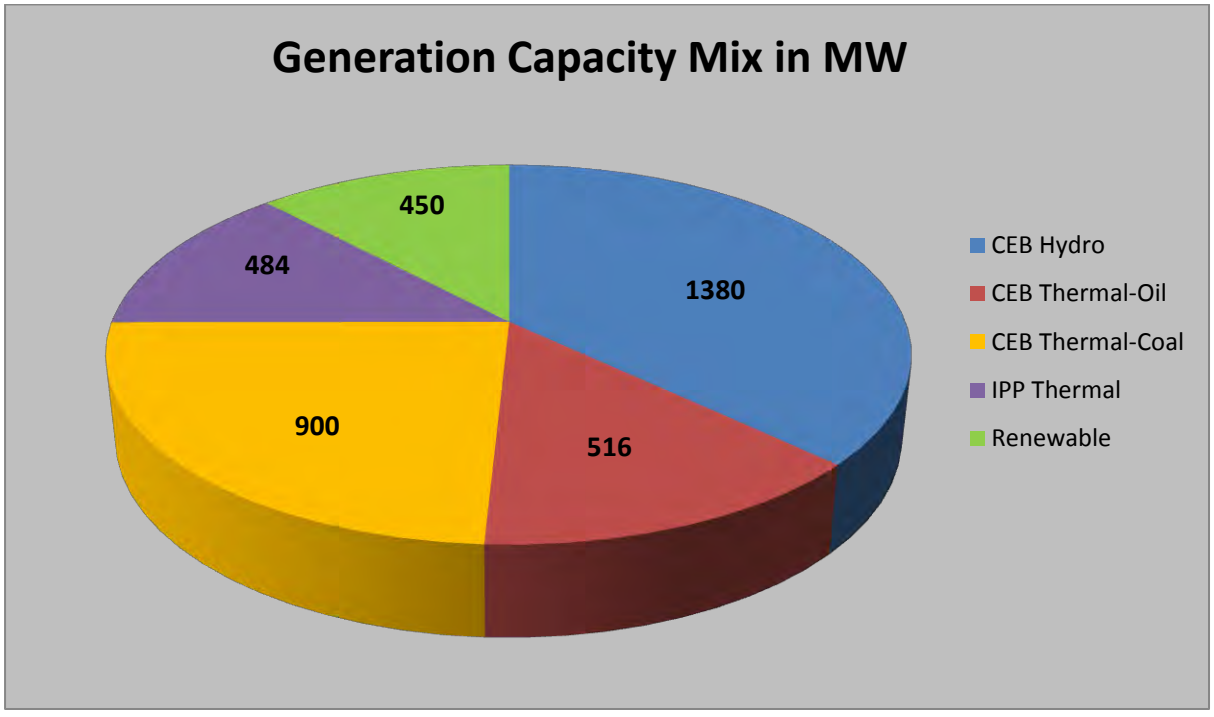
1. Introduction

During the first half of year 2015, maximum recorded electricity demand in Sri Lanka was 2210.4MW (excluding the contribution of SPP Mini Hydro, Solar and Biomass) which is a higher value compared to the maximum demand of 2151.7MW in year 2014. In order to reach this demand and to cater the electricity requirement in Sri Lanka, altogether 196 Grid connected power plants with total installed capacity of 3917MW have been operated in the first half of 2015. Out of these power plants 27 have been owned and operated by Ceylon Electricity Board including 17 hydro plants, 9 thermal plants and 1 wind power plant. Withal, 6 thermal power plants have been operated by Independent Power Producers (IPPs) and 163 renewable power plants have been operated by Small Power Producers (SPPs) including mini hydro plants, solar power plants, wind power plants and biomass power plants. Out of the above, 5 renewable power plants have been commissioned in the first half of 2015 to strengthen the generation capacity of the country. Also, the contract period of the private power plants ACE Power Embilipitiya and Colombo Power Barge expired by April and June 2015 respectively.

The chart below shows the existed installed capacities in MW of each type of power plants by the end of June 2015.



This Generation Performance Report contains a summary of information and performance statistics of the generation units and electricity network in Sri Lanka for the first half of year 2015.

All the index and other calculations in this report have been done based on the data received through Licensee Information Submission System (LISS) and details obtained from CEB Monthly Operational Data Reports.

2. Energy Generation

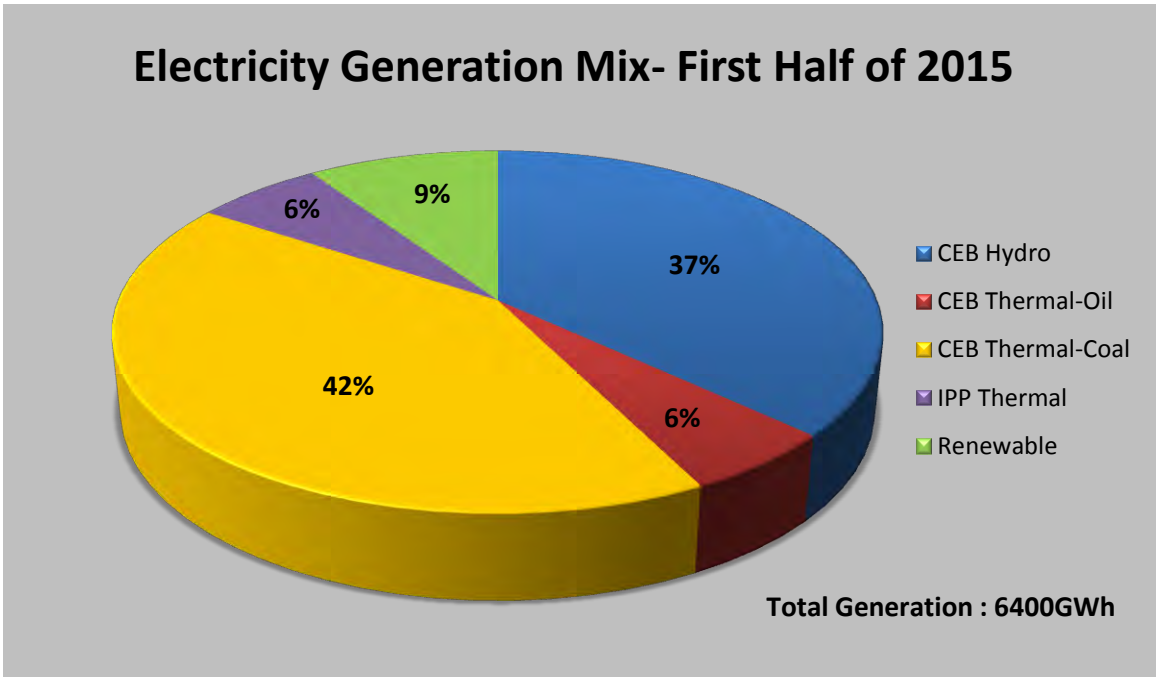
All grid connected generation plants sell their power to the only transmission licensee in Sri Lanka to deliver the power to the consumers through distribution licensees.

The chart and graph below shows the semiannual generation figures in 2015 in GWh.

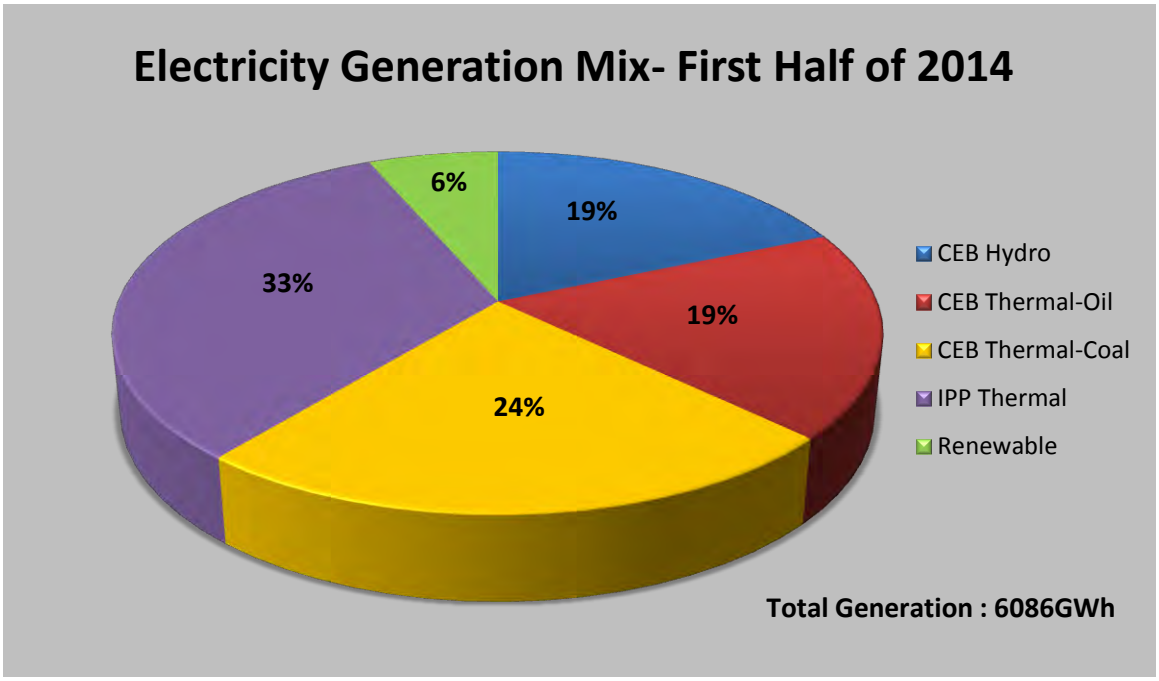
	Jan	Feb	Mar	Apr	May	Jun	Total
CEB Hydro	499	361	312	383	481	326	**2,361**
CEB Oil	25	70	91	41	14	121	**361**
CEB Coal	393	389	528	485	493	380	**2,667**
IPP	31	63	131	31	7	140	**403**
Renewable	94	79	61	97	136	139	**607**
Total	**1,041**	**962**	**1,123**	**1,036**	**1,132**	**1,106**	**6,400**

Source :LISS

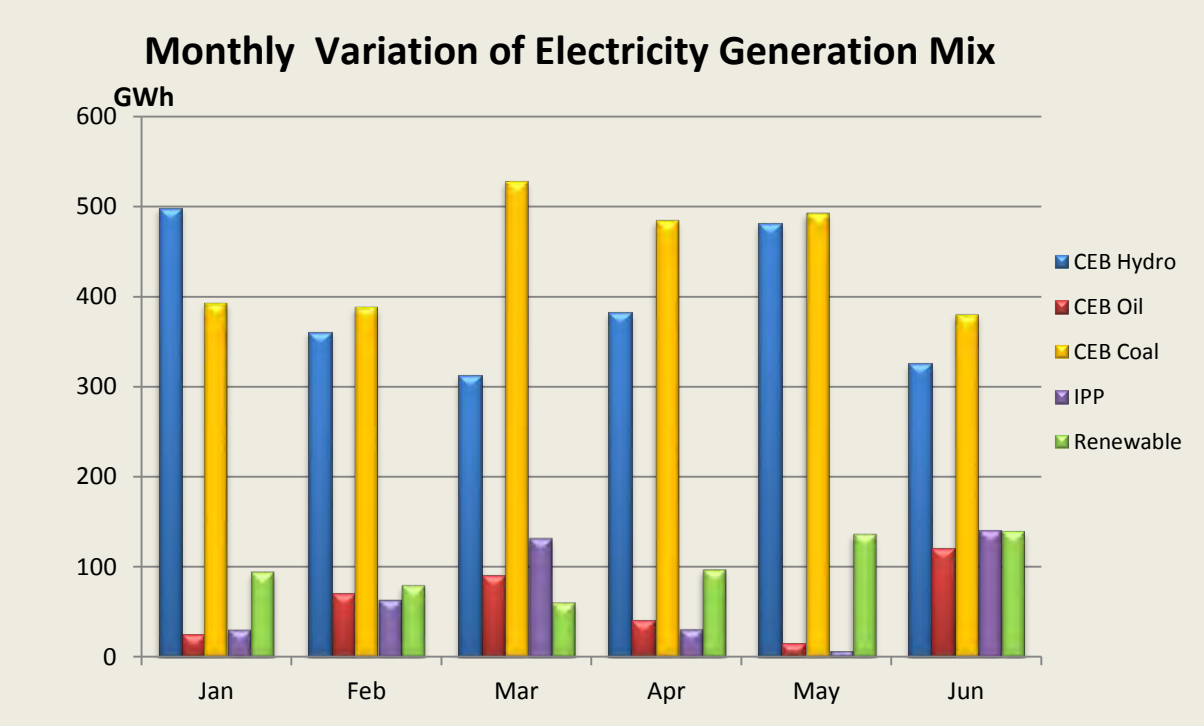
The chart below shows the generation mix in Sri Lanka for the first six months of 2015.



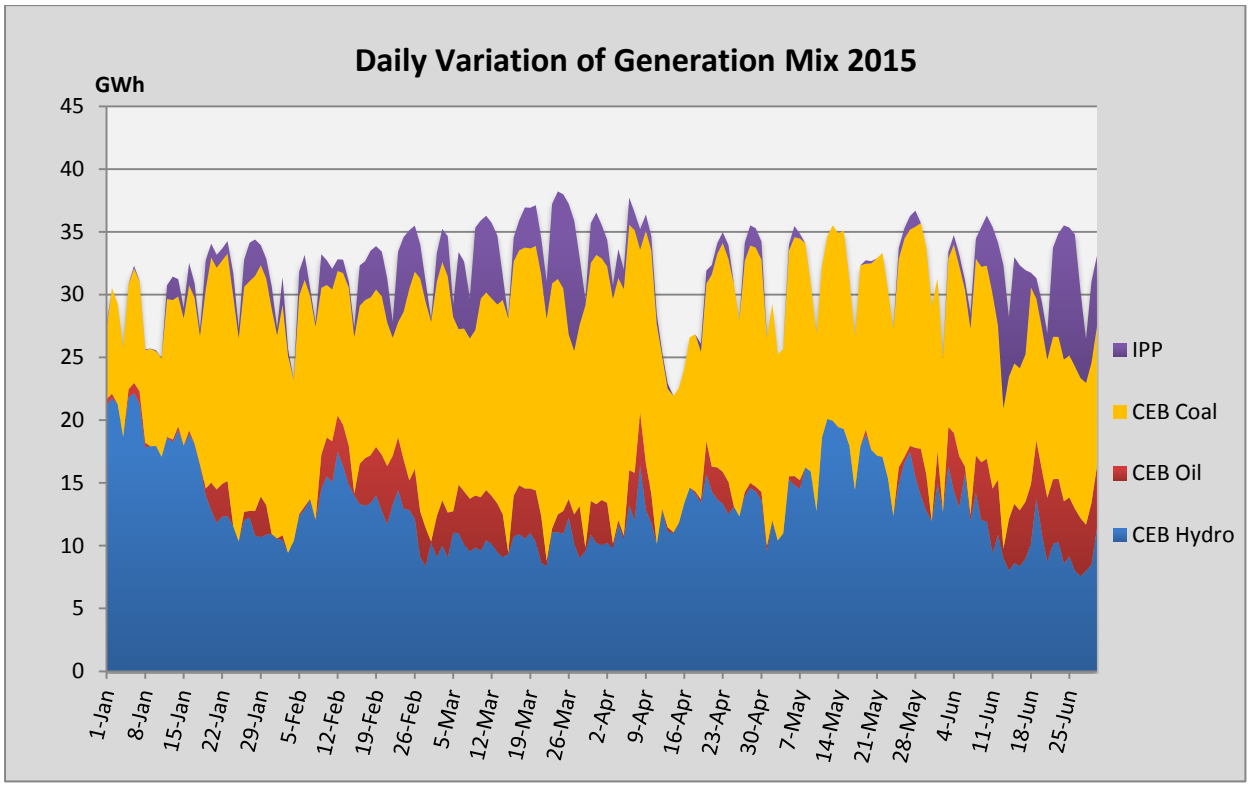
The chart below shows the generation mix in Sri Lanka for the first six months of 2014.



The chart below shows the monthly variation of generation mix in Sri Lanka during the first six months of 2015.

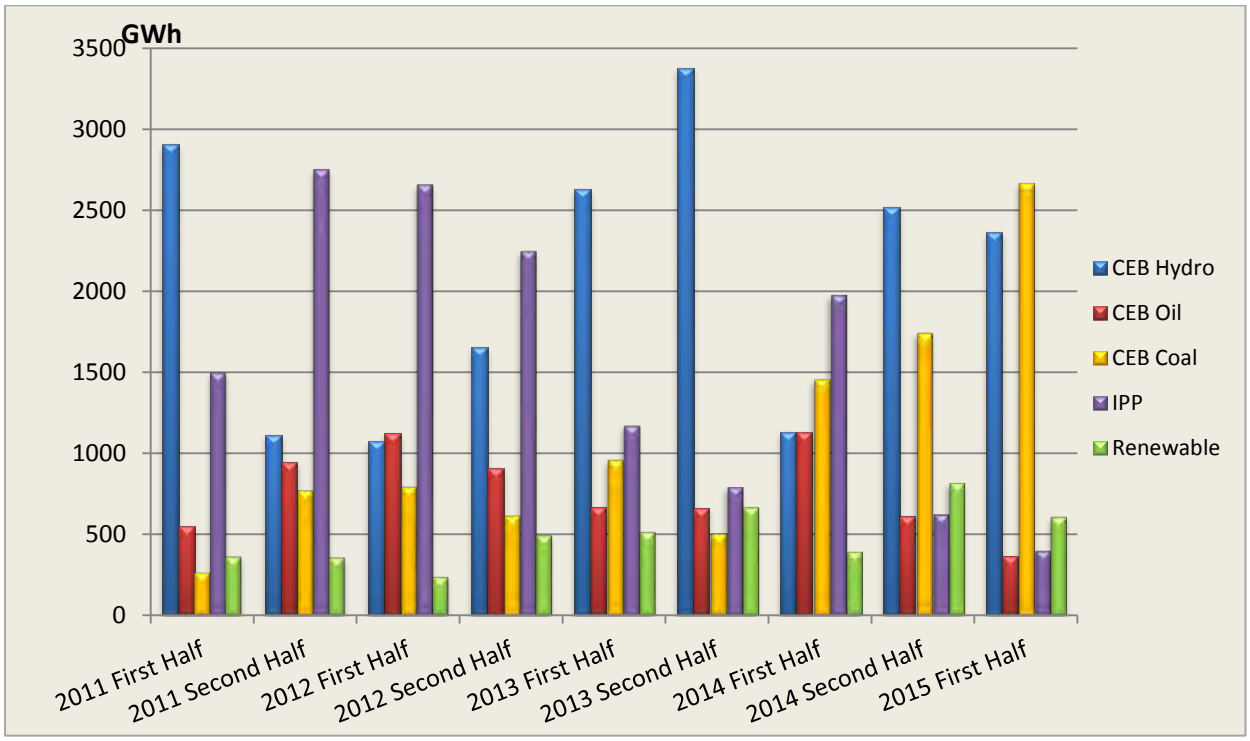


The following chart shows the daily variation of generation mix in Sri Lanka during the first six months of 2015.



Note: *Daily generation data of renewable power plants is not included.*

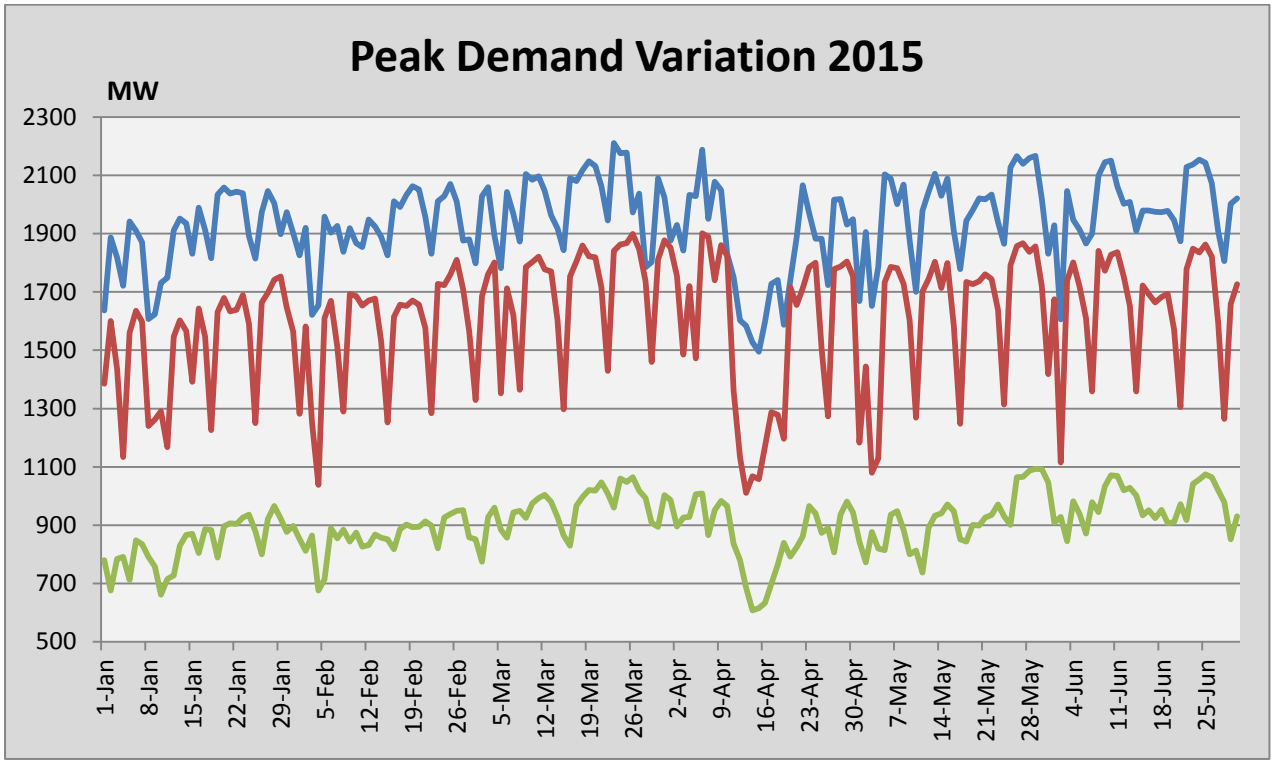
The following chart shows the variation of generation mix in Sri Lanka over the past few years.



3. System Peak Demand

CEB System Control records the daily peak power demand of the country.

Daily variation of country's system peak demand during the first half of the year 2015 is depicted by the following graph.



Highest Peak Demand: 2210.4MW on 23rd March 2015

Lowest Peak Demand: 1494.6MW on 15th April 2015

Lowest Demand ***:*** 608.2MW on 14th April 2015

Note: *NCRE contribution of SPP Mini Hydro, Solar and Biomass is not included for the peak demand.*

4. Load Factor

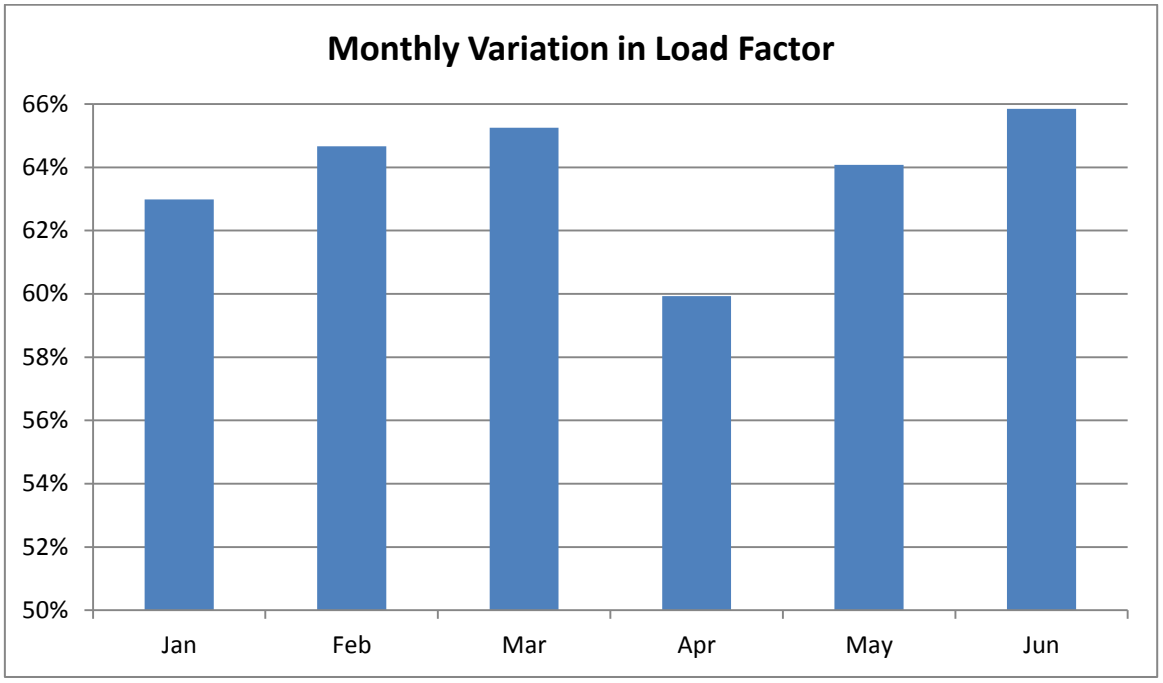
Load Factor is an indicator which shows how steady an electrical load over time. It is simply the average load divided by the peak load in a system over a period of time. But normally load factor is calculated subjected to the produced energy according to the following formula.

$$Load\ Factor = \frac{Total\ Generation\ During\ the\ Nominal\ Period}{Maximum\ Demand\ \mathrm{x}\ No.of\ hours\ in\ the\ report\ period}$$

Calculated Load Factor for the total system for first half of year 2015 = **61.8%**

Calculated Load Factor for the total system for first half of year 2014 = **62.1%**

Load factor of any system must be tried to keep in its maximum by pulling down the concentrated maximum demand and shifting the loads to periods of otherwise low usage. Load factor maximization is essential in maintaining the security of supply of the countries in which, meeting the concentrated maximum demand is critical. Countries which have a flat load curve own a higher load factor.



Sri Lanka has a load curve with a steep peak in the night, where starting from about 6.00 pm the load grows to about 2,100 MW by 7.30 pm and starts falling off after about 08.30 pm. Therefore the system must be comprised a substantial additional generation capacity only to meet that abrupt sharp night peak; hence the load factor in Sri Lanka is comparatively low. As a solution for that, CEB has introduced a three tier tariff plan for the industrial electricity consumers with low off peak rates and penal peak rates to smoothen the daily peak load and push some industrial activities to low demand hours, and this time-of-day tariff scheme is expected to be facilitated for the domestic consumers as well in near future.

***Note**: Load Factors were calculated excluding NCRE contribution of SPP Mini Hydro, Solar and Biomass component of the system*

5. Plant Factor

The plant factor of a power plant is the ratio of the actual energy output of the power plant over a period of time to its potential output if it had operated at full nameplate capacity the entire time.

Plant Factors vary greatly depending on the type of power plants and it is calculated according to the following formula.

$$Plant\ Factor = \frac{Actual\ Energy\ Production\ During\ the\ Nominal\ Period}{Potential\ Energy\ Production\ During\ the\ Period}$$

Calculated plant factors for all grid connected power plants in Sri Lanka during the first half of the year 2015 are listed below.

CEB Hydro

Old Laxapana	68.5%
Inginiyagala	62.0%
Polpitiya	58.9%
Udawalawe	53.4%
Rantambe	52.6%
Nilambe	49.4%

New Laxapana	49.20%
Samanala	45.7%
Randenigala	45.6%
Ukuwela	45.5%
Victoria	43.1%
Kukule	38.5%

Wimalasurendra	30.8%
Canyon	29.8%
Upper Kotmale	27.1%
Kotmale	19.8%
Bowatenna	17.7%

CEB & IPP Thermal

Plant Factors of thermal power plants are listed below in the order of calculated unit cost for the first half of year 2015.

1	Puttalam Coal I	68.2%
2	Puttalam Coal II	68.5%
3	Puttalam Coal III	67.9%
4	Colombo Power	46.9%
5	ACE Embilipitiya	33.0%
6	AES Kelanitissa	1.5%
7	Kelanitissa CCY	40.3%
8	Uthura Janani	44.7%

9	Asia Power	19.9%
10	Westcoast	11.2%
11	Sapugaskanda A	6.7%
12	Kelanitissa PS GT 7	0.6%
13	Sapugaskanda B	1.2%
14	Northern Power	1.9%
15	Kelanitissa Small GTs	0.1%

CEB Wind – 4.0%

SPP

Badulu Oya MHP	75.2%
Lenadora MHP	66.6%
Kirkoswald MHP	65.4%
Loggal Oya MHP	61.3%
Wee Oya MHP	58.6%
Waverly MHP	57.9%
Mulgama MHP	57.4%
Hapugastenna - 1 MHP	56.3%
Batatota MHP	56.1%
Gomala Oya MHP	55.1%
Manelwala MHP	54.5%
Ranmudu Oya MHP	54.4%
Bogandana MHP	54.0%
Watakelle MHP	53.8%
Maduruoya II MHP	53.7%
Somerset MHP	53.7%
Rajjammana MHP	53.1%
Ritigaha Oya I MHP	53.1%
Rathganga MHP	52.6%
Mille Oya MHP	51.7%
Kaduruwan Dola MHP	51.4%
Green Energy MHP	50.8%
Belihul Oya Oya MHP	49.6%
Soranathota MHP	49.0%
Owala MHP	48.7%
Maduruoya MHP	47.8%
Pathaha MHP	47.8%
Denawak Ganga MHP	47.7%
Ritigaha Oya II MHP	47.6%
Upper Hal Oya MHP	47.3%
Amanawala Oya MHP	45.8%
Giddawa MHP	45.0%
Lemastota MHP	45.0%
Lower Neluwa MHP	44.7%
Sithagala MHP	44.5%
Kumburuteniwela MHP	44.4%
Palmerston MHP	43.6%
Hapugastenna - 2 MHP	43.4%
Kandadola MHP	42.7%
Kokawita 1 MHP	42.7%
Ross State MHP	42.7%
Indurana MHP	42.2%
Waltrim MHP	42.0%
Asupiniella MHP	41.8%
Bopekanda MHP	41.7%
Punugala MHP	41.5%
Rakwana Ganga II MHP	41.3%
Sheen MHP	39.8%
Kotanakanda MHP	39.8%
Kudawa Lunugalahena MHP	39.3%
Delta MHP	39.3%
Alupola MHP	39.1%
Erathna (Waranagala) MHP	39.1%
Bulathwaththa MHP	39.1%
Koladeniya MHP	38.8%
Henfold (Agra Oya) MHP	37.9%
Gampola Walakada MHP	37.9%
Maha Oya MHP	37.0%
Wembiyagoda MHP	36.7%
Magal Ganga MHP	36.2%
Guruluwana MHP	36.1%
Rideepana MHP	36.1%
Madugeta MHP	36.0%
Lower Hemingford MHP	35.0%
Watawala B Estate MHP	34.9%
Kotapola (Kiruwana) MHP	34.8%
Wellawaya MHP	34.4%
Dick Oya MHP	33.9%
Miyanawita Oya MHP	33.0%
Bambarabatu Oya MHP	32.7%
Gangaweraliya MHP	31.4%
Lower Kotmale Oya MHP	31.3%
Upper Ritigaha Oya MHP	31.2%
Werapitiya MHP	31.0%
Karawila Ganga MHP	30.3%
Kalupahana MHP	30.3%
Kabaragala MHP	30.2%
Niriella MHP	29.9%
Branford MHP	29.9%
Gurugoda Oya MHP	29.7%
Way Ganga MHP	29.7%
Huluganga MHP	29.3%
Kalupahana Oya MHP	29.0%
Bowhill (Kadiyanlena) MHP	29.0%
Seetha Eliya MHP	28.8%
Atabage Oya MHP	28.8%
Koswatta Ganga MHP	28.8%
Coolbawn MHP	28.8%
Maa Oya MHP	28.7%
Minuwanella MHP	28.4%
Ganthuna Udagama MHP	27.9%
Dunsinane MHP	27.9%
Brunswic MHP	27.8%
Barcaple II MHP	27.7%
Monaraela MHP	27.5%
Kadurugal Dola MHP	27.4%
Labuwewa MHP	27.3%
Battalagala MHP	26.9%
Bambarabotuwa III MHP	26.4%
Rakwana Ganga MHP	26.1%
Kudah Oya MHP	25.4%
Adavikanda MHP	24.8%
Radella MHP	23.9%
Galabod MHP	23.9%
Galatha Oya MHP	23.9%
Upper Magal Ganga MHP	23.8%
Barcaple I MHP	23.3%
Lower Atabage MHP	22.9%
Falcon Valley MHP	22.6%
Halathura Ganga MHP	22.0%
Deiyanwala MHP	21.8%
Bambarabotuwa II MHP	21.6%
Watawala MHP	21.5%
Nakkawita MHP	20.9%
Black Water MHP	20.4%
Nandurana MHP	20.4%
Devituru MHP	20.3%
Kehelgamu Oya MHP	19.5%
Kadawala I MHP	19.5%
Nugedola MHP	19.3%
Stellenberg MHP	19.2%
Forest Hill MHP	19.1%
Gampola MHP	18.8%
Upper Korawaka MHP	18.2%
Gonagamuwa MHP	16.5%
Aggra Oya MHP	16.4%
Nilambe Oya MHP	15.1%
Dunsinane Cottage MHP	14.5%
Pathanahenagama MHP	14.4%
Kiriwan Eliya MHP	13.8%
Glassaugh MHP	13.7%
Kolonna MHP	13.5%
Baharandha MHP	13.4%
Bowhill MHP	12.9%
Kolapathana MHP	9.9%
Mul Oya MHP	9.2%
Kalugala-Pitawala MHP	6.1%
Naya Ganga MHP	5.9%
Kadawala I MHP	5.5%
Sanquahar MHP	5.3%
Mandagal Oya MHP	3.0%

Madurankuliya WPP	38.7%
Puloppalai WPP	34.8%
Valimunai WPP	34.7%
Nirmalapura WPP	28.9%
Musaipetti WPP	26.2%
Mampuri II WPP	26.1%
Erumbukkudal WPP	25.8%
Vidatamunai WPP	24.3%
Kalpitiya WPP	23.2%
Mampuri WPP	21.5%
Seguwantivu WPP	21.2%
Uppudaluwa WPP	16.8%
Mampuri III WPP	14.4%
Ambewela WPP	7.2%
Willwind WPP	6.5%

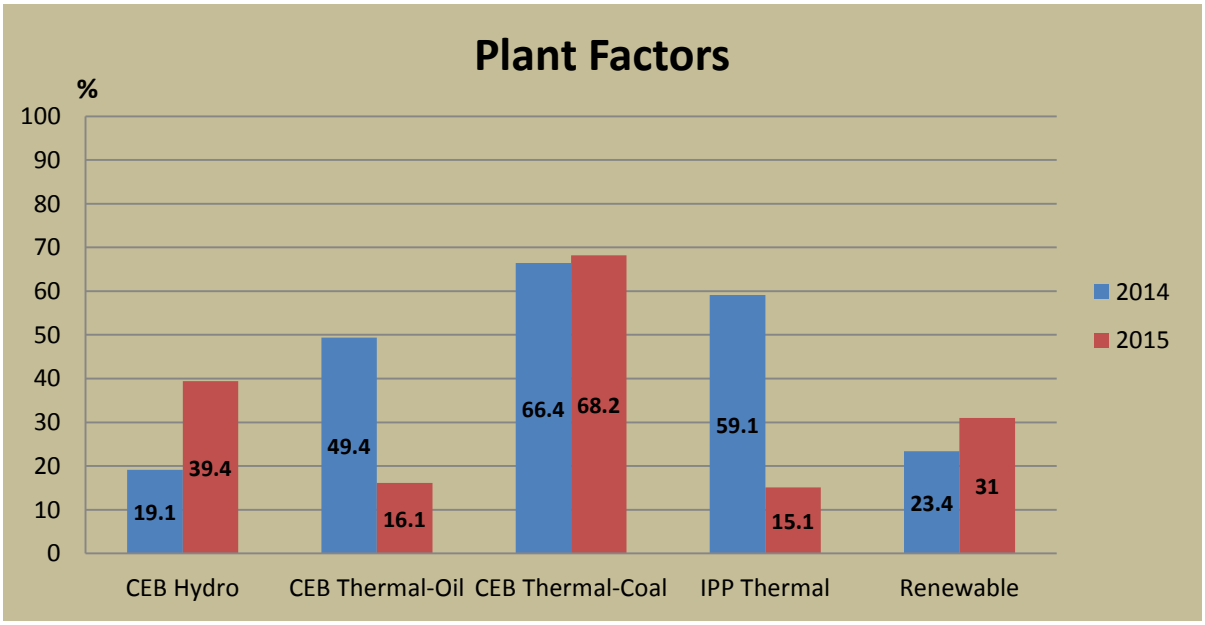
Bathalayaya BMP	71.2%
Badalgama BMP	27.1%
Ninthaur BMP	16.0%
Tokyo BMP	11.5%
Embilipitiya BMP	2.5%

Gonnoruwa I SPP	19.1%
Gonnoruwa II SPP	17.9%

MHP – Mini Hydro Plant
WPP – Wind Power Plant

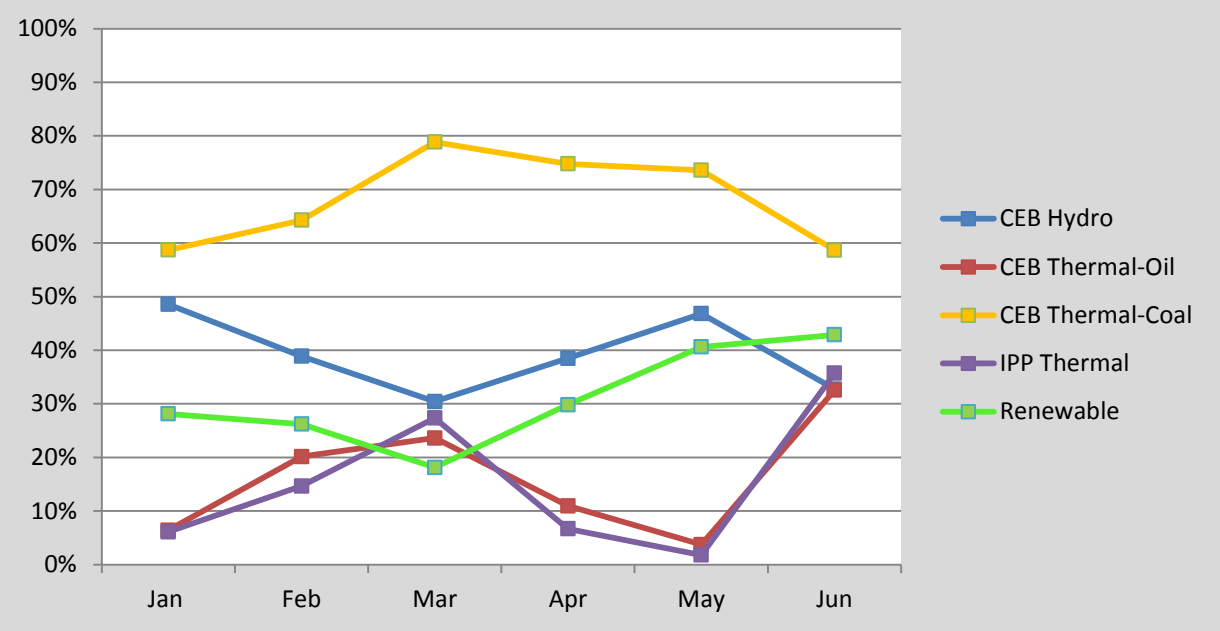
BMP – Biomass Plant
MHP – Solar Power Plant

First Semi Annual Overall Plant Factors for the major types of generation options in 2014 & 2015 are given below.



Overall plant factors of CEB hydro plants and Renewable plants have been improved due to rich rainfall, which has highly impacted towards the reduction of thermal oil plant dispatch.

The chart below shows the variation of plant factors during the first 6 months of different types of generation plants operated in 2015.



6. Running Plant Factor

The running plant factor of a generation unit is the ratio of the actual energy output of a generation unit over a period of time to its potential output if it had operated at full nameplate capacity during the period in which it has been operated.

Running Plant Factor shows the extent to which the generation units have been operated when they are running out of their nominal capacities.

Calculated running plant factors for generation units operated in the first half of the year 2015 are listed below.

CEB Hydro

Nilambe	Unit 1-2	100.00%
Upper Kotmale	Unit 1	59.02%
	Unit 2	97.18%
Old Laxapana	Unit 1	96.08%
	Unit 2	92.66%
	Unit 3	95.50%
	Unit 4	84.60%
	Unit 5	83.87%
Inginiyagala	Unit 1-4	95.18%
Ukuwela	Unit 1	94.81%
	Unit 2	94.35%
Randenigala	Unit 1	89.39%
	Unit 2	92.19%
Udawalawe	Unit 1-3	90.89%
Kukule	Unit 1	90.77%
	Unit 2	89.24%
Samanalawewa	Unit 1	65.56%
	Unit 2	86.88%

Rantambe	Unit 1	84.76%
	Unit 2	85.79%
Canyon	Unit 1	72.87%
	Unit 2	59.97%
Kotmale	Unit 1	60.27%
	Unit 2	64.66%
	Unit 3	72.40%
Victoria	Unit 1	61.06%
	Unit 2	68.02%
	Unit 3	69.03%
Wimalasurendra	Unit 1	64.68%
	Unit 2	65.34%
Polpitiya	Unit 1	64.46%
	Unit 2	56.76%
New Laxapana	Unit 1	50.90%
	Unit 2	50.38%
Bowatenna	Unit 1	39.67%

CEB Thermal

Puttalam Coal	Unit 1	82.33%
	Unit 2	76.87%
	Unit 3	75.04%
Sapugaskanda 2	Unit 5	83.60%
	Unit 6	86.75%
	Unit 7	91.74%
	Unit 8	76.19%
	Unit 9	88.67%
	Unit 10	0.00%
	Unit 11	90.00%
	Unit 12	81.58%
Sapugaskanda 1	Unit 1	78.05%
	Unit 2	75.84%
	Unit 3	0.00%
	Unit 4	87.63%

Uthuru Janani	Unit 1	100.00%
	Unit 2	98.44%
	Unit 3	98.67%
KPS CCY	GT	85.44%
	ST	94.15%
KPS GT7	Unit 7	66.76%
KPS(Small) GT	Unit 1	62.91%
	Unit 2	72.11%
	Unit 4	90.59%
	Unit 5	84.44%

IPP Thermal

Asia Power	Unit 1-8	88.23%
ACE Embilipitiya	Unit 1-14	92.54%
Colombo Power-Barge	Unit 1-4	100.00%
AES Kelanitissa	GT & ST	77.03%
Westcoast	GT 1, 2 & ST	84.71%

***Note**: Running Plant Factors for SPPs were not calculated since the operation durations of those plants were not available.*

7. Generation Cost

Power Station	Semi Annual Generation (GWh)	Total Cost to CEB (Mn.LKR)	Average Unit Cost(Rs/kWh)
Asia Power	44	1,964	44.53
AES Kelanitissa	10	594	57.01
Colombo Power	122	3,062	25.04
ACE Embilipitiya	95	2,338	24.58
Westcoast	131	5,991	45.75
Northern Power	0.38	40	104.18
Sapugaskanda A	18	1,592	86.10
Sapugaskanda B	4	1,438	389.76
Kelanitissa Small GTs	0.27	511	1900.49
Kelanitissa PS GT 7	3	805	262.72
Kelanitissa CCY	289	8,601	29.75
Puttalam Coal	2,667	20,364	7.63
Uthura Janani	47	1,413	30.35
Victoria	393	1,246	3.17
Ukuwela	79	339	4.30
Kotmale	173	1,074	6.20
Upper Kotmale	176	890	5.05
Randenigala/Rantambe	356	920	2.58
Bowatenna	31	253	8.23
Nilambe	6	61	9.42
Old Laxapana/New Laxapana	405	753	1.86
Polpitiya	192	279	1.45
Wimalasurendra	67	203	3.03
Canyon	78	406	5.23
Samanalawewa	238	979	4.10
Kukule	126	404	3.22
Inginiyagala	27	78	2.90
Udawalawe	14	68	4.90
Renewable	607	10,292	16.97
All Hydro	**2,361**	**7,952**	**3.37**
All CEB Thermal	**3,029**	**34,724**	**11.47**
ALL IPP Thermal	**403**	**13,989**	**34.69**
All Plants	**6,400**	**66,957**	**10.46**

Source: *LISS Data*
Note: Cost of operating Hydro plants were obtained through estimated BST (Bulk Supply Tariff) values

7.1 Amount Paid in Excess of Capacity and Energy Charges

CEB has paid to Independent Power Producers (IPP) in excess of capacity and energy charges according their Power Purchase Agreements (PPA). The amounts which have been paid are summarized below.

Power Plant	Start/Stop Charge (Mn.LKR)	Reimbursement Claim (Mn.LKR)	O & M Charge (Mn.LKR)	Total (Mn.LKR)
Asia Power	30.13	46.50		**76.63**
AES - Kelanitissa	39.45	23.07		**62.52**
Colombo Power - Barge	43.18	269.68		**312.87**
ACE Embilipitiya	40.67	63.12		**103.79**
Westcoast	118.75	230.18		**348.93**
Northern Power	0.00	2.02	1.08	**3.10**
Total (Mn.LKR)	**272.19**	**634.57**	**1.08**	**907.84**

8. Comparison of Scheduled Dispatch and Actual Dispatch

CEB implements a generation dispatches schedule every 6 months prior operation. It contains the amount of energy to be produced by each power plant for the forthcoming months. Due to numerous reasons the actual dispatch could be deviated from this schedule and, the comparison between actual and scheduled dispatches for the first six months of year 2015 is given below.

	Capacity MW	Scheduled GWh	Actual GWh	Variation GWh	Scheduled PF	Actual PF
Puttalam Coal	900	2,597	2,667	71	66%	68%
ACE Embilipitiya	100	65	95	30	15%	22%
Colombo Power Barge	60	253	122	-131	97%	47%
KPS CCY	165	471	289	-182	66%	40%
Uthuru Janani	24	96	47	-50	92%	45%
ASIA Power	51	166	44	-122	75%	20%
Westcoast	270	512	131	-381	44%	11%
AES Kelanitissa	163	166	10	-156	23%	1%
Sapugaskanda A	72	103	18	-84	33%	6%
Northern Power	27	70	0	-69	59%	0%
KPS GT 7	115	38	3	-35	8%	1%
Sapugaskanda B	72	38	4	-35	12%	1%
KPS Small GTs	68	6	0	-5	2%	0%
Total Grid Con. Thermal	2,087	4,580	3,432	-1,148	51%	38%
Renewable energy	450	406	607	201	21%	31%
CEB Hydro	1,380	1,542	2,361	820	26%	39%
Total Generation	3,917	6,528	6,400	-128	38%	38%

9. Auxiliary Consumption

Auxiliary system facility is a major part of a power generation facility and the auxiliary consumption of a power plant depends on its configuration, age and related technical parameters. Purpose of an auxiliary system is to supply power for its own electricity requirements.

Normally 0.5% - 2% of power generated is consumed for the auxiliary system in hydro plants while the auxiliary consumption in fossil fuel power plants is 7% - 15% since there are different equipment like feed pumps, cooling water pumps, air fans, coal grinding mills, ash handling equipment etc. utilized in thermal plants.

Calculated percentages of auxiliary consumption of thermal power plants out of gross generation during 2015 are as follows.

CEB Thermal

KPS Small GTs	13.1 %
Puttalam Coal	9.3 %
Sapugaskanda B	8.0 %
KPS GT 7	5.2 %
Sapugaskanda A	4.3 %
Uthura Janani	2.9 %
KPS CCY	2.3 %

IPP Thermal

ACE Embilipitiya	4.3 %
Westcoast	3.4 %
Barge	3.3 %
AES Kelanitissa	2.7 %
Asia Power	2.0 %

10. Availability Factor

The evaluation of availability of a power plant is one of the most important tasks at any power station. To analyze plant availability performance, generation unit outages should be scrutinized to identify the causes of unplanned or forced energy losses and to reduce the planned energy losses. Reducing outages increases the number of operating hours, therefore increases the plant availability factor.

Availability Factor of a generation plant can be calculated using the formula given below.

$$Availability\ Factor = \frac{Duration\ in\ which\ the\ generation\ unit\ was\ available\ for\ opertaion}{Total\ length\ of\ the\ period}$$

Total Availability Factor for all CEB generation Units in first half of 2015 = **68%**

Availability Factor for CEB hydro generation units in first half of 2015 = **83%**

Availability Factor for CEB thermal generation units in first half of 2015 = **51%**

Availability Factor for CEB wind generation units in first half of 2015 = **32%**

Availability Factor for all IPP generation units in first half of 2015 = **98%**

Calculated availability factors for CEB owned generation plants in the first half of year 2015 are listed below.

CEB Hydro

Rantambe	98.08%
Randenigala	97.69%
Polpitiya	97.22%
New Laxapana	97.20%
Bowatenna	95.82%
Ukuwela	93.55%
Wimalasurendra	88.71%
Canyon	88.58%
Samanalawewa	88.06%

Upper Kotmale	86.36%
Victoria	85.65%
Nilambe	84.58%
Kotmale	84.17%
Old Laxapana	79.06%
Kukule	66.42%
Inginiyagala	64.88%
Udawalawe	58.78%

CEB Thermal

Uthura Janani	96.21%
KPS CCY	91.64%
Puttalam Coal III	90.75%
Puttalam Coal II	89.59%
KPS(Small) GT	83.20%

Puttalam Coal I	82.82%
KPS GT7	75.44%
Sapugaskanda 1	24.22%
Sapugaskanda 2	3.34%

IPP Thermal

AES Kelanitissa	99.94%
Westcoast	99.02%
Colombo Power-Barge	97.98%
ACE Embilipitiya	97.54%
Asia Power	97.05%

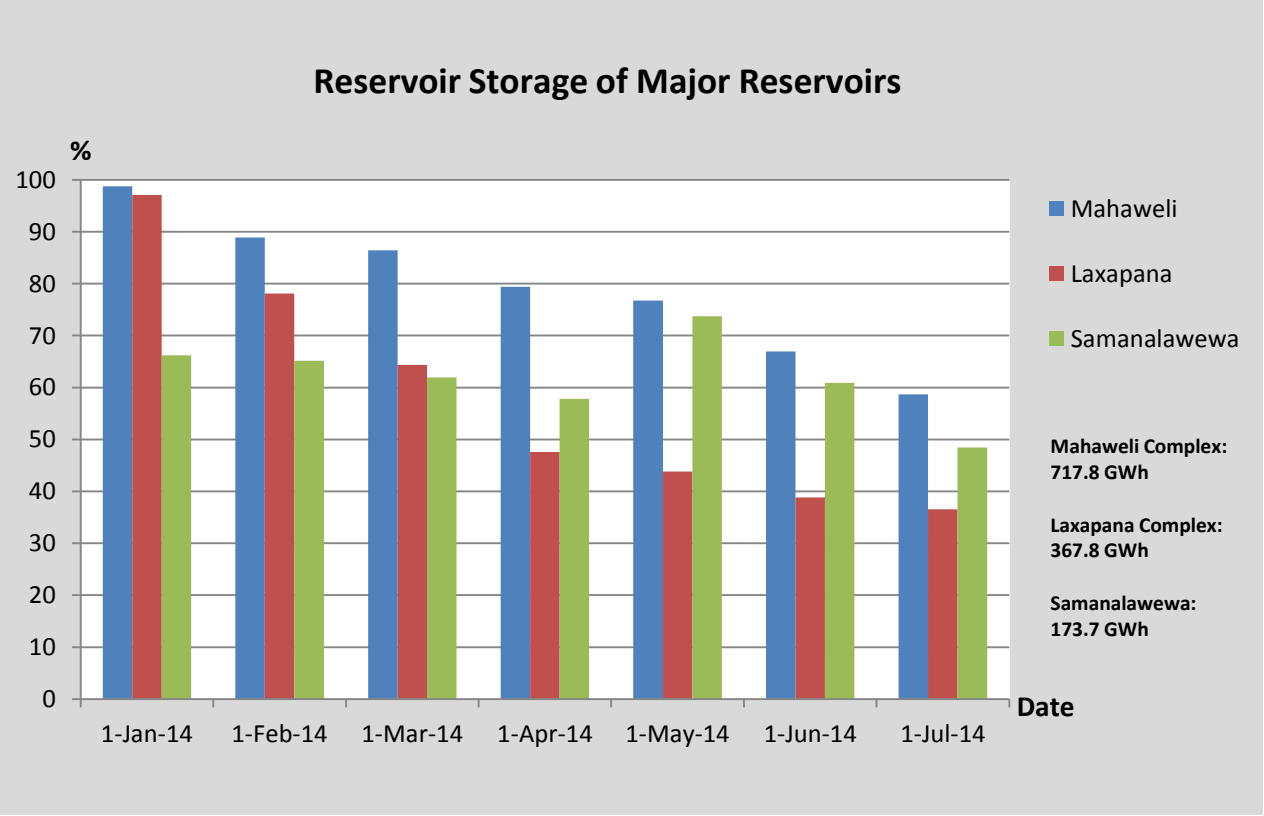
11.Reservoir Storages

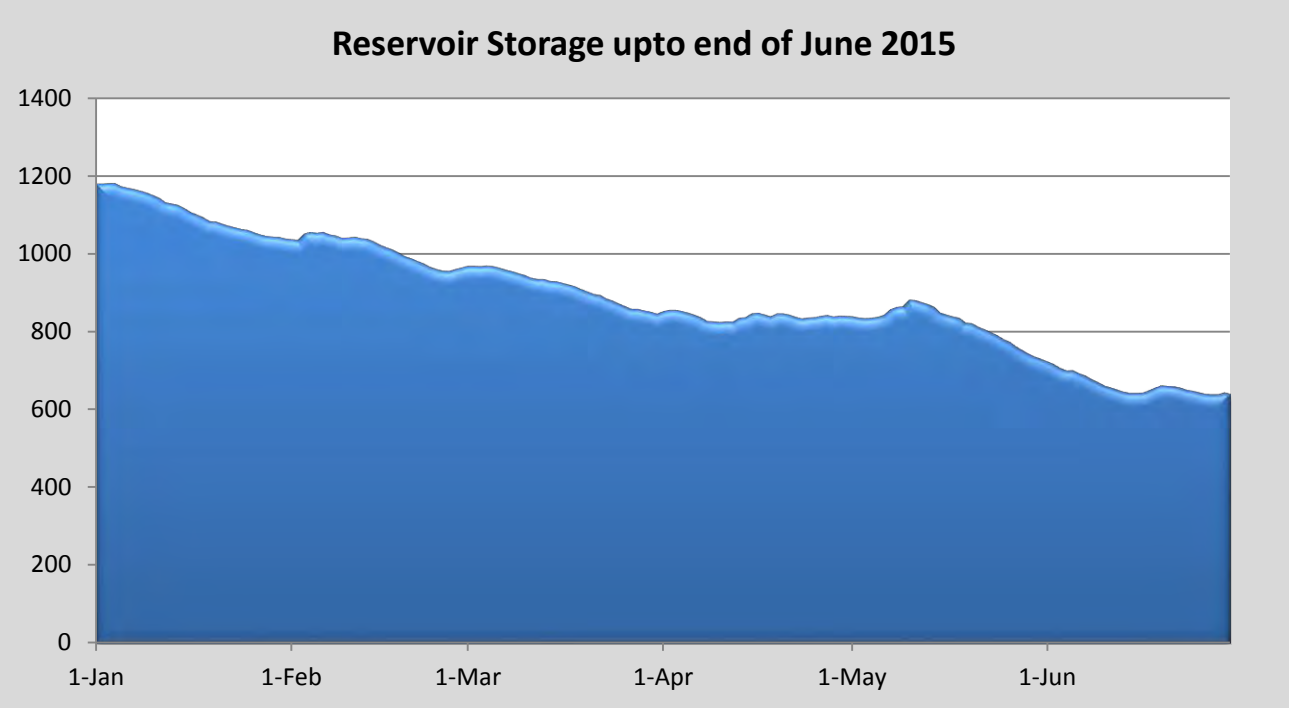
Hydro power is one of the major sources of electricity generation in the Sri Lanka and most of the large scale hydro projects have been developed by CEB. In 2015 approximately 37% of the total existed capacity by the end of June was covered by 17 CEB hydro stations and a contribution of 37% has been given out of total generation.

The major hydropower schemes already developed are associated with Kelani and Mahaweli river basins. Laxapana complex comprises five hydro power stations which have been built associated with the two main tributaries of Kelani River; Kehelgamu Oya and Maskeli Oya. Castlereigh and Moussakelle are the major storage reservoirs in the Laxapana complex. Mahaweli complex comprises seven hydro power stations and three major reservoirs; Kotmale, Victoria and Randenigala. In addition to above mentioned reservoirs Samanalawewa, which is on Walawe River, is also can be considered as a large reservoir. And all the other small reservoirs which contribute to power up the run-of-river type plants are considered as ponds.

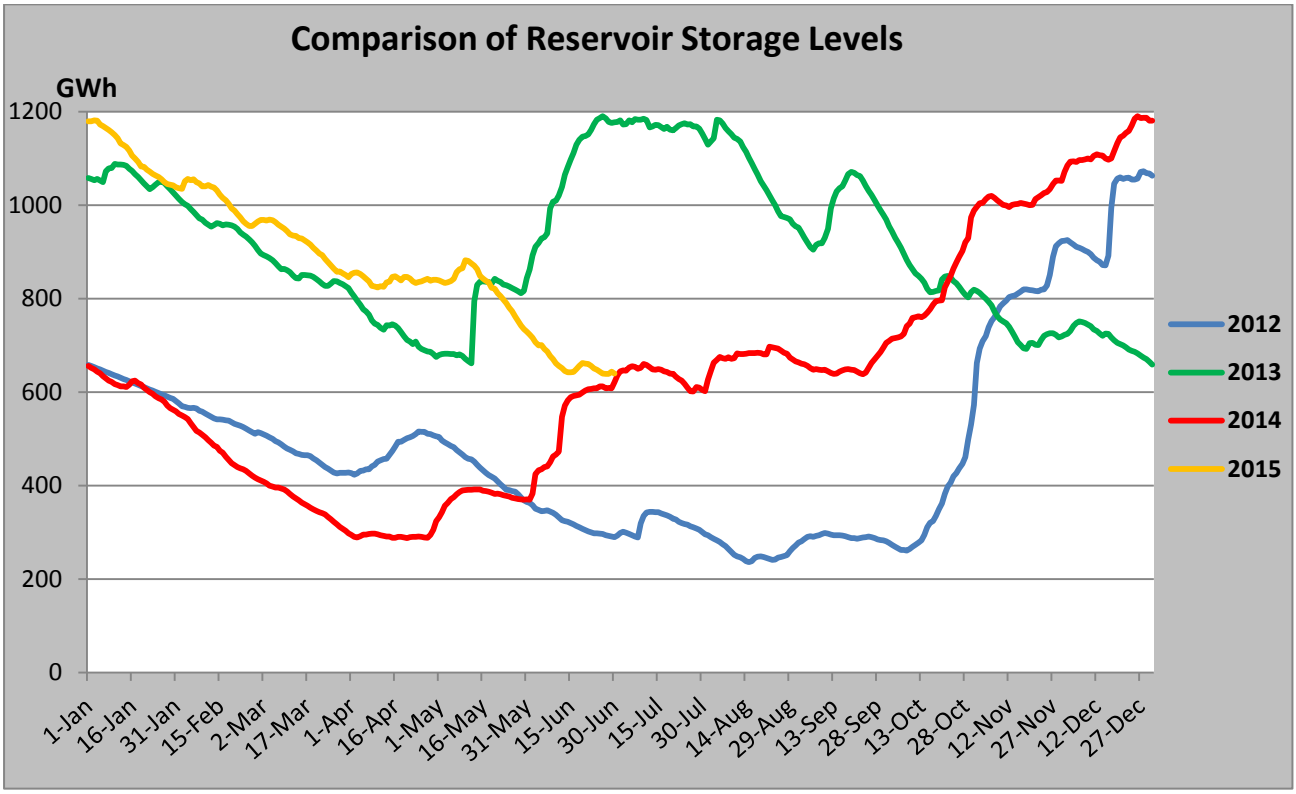
Therefore having a satisfactory capacity of water in these reservoirs throughout the year is essential to dispatch the hydro power to a significant amount.

The major reservoir storage levels prevailed during the first half of the years 2015 are depicted below.





Note: Only Mahaweli, Laxapana and Samanalawewa Complexes' reservoirs are considered in total reservoir storage profile.



12.Conclusion

Compared to the generation figures in first six months of year 2014, it can be perceived that hydro generation contribution has been improved from 19% to 37% during the first half of year 2015 as a result of the rich levels of hydro storage conditions. Also the contribution of renewable energy component has been improved to 9% which was 6% in the first half of 2014 and coal energy component has been improved to 42% which was 24% in the first half of 2014. As a result of that, IPP thermal generation has been dropped drastically to 6% during first six months of 2015.

The Report has described and calculated a number of key performance indicators for total generation system and individual generation plants operated in Sri Lanka. And it moreover gives a comparison of the generation statistics between first halves of year 2014 and 2015. The indicators for the present technical performance of the generation system are useful when planning the future developments and taking the corrective actions if necessary to improve the efficiency of generation.

Maximum electricity demand recorded in the year 2015 is 2210.4MW and it is expected to be risen to 2374MW in 2016 subjected to the peak demand growth rate of 7.4% as specified by the Long Term Generation Expansion Plan (2013-2032). To achieve this demand a system capacity of 3280MW (excluding NCRE contribution) is available to dispatch during the year 2016. Therefore there will be a Reserve Margin of 38% when the peak demand of year 2015 is reached, assuming that all the power plants are readily available to dispatch with their full capacities. But when it comes to the practical state it is obvious that all the plants will not be available fully at every time.

Therefore, even though the available dispatchable total capacity is dropped by 668MW, the Reserve Margin can be maintained above 10%, which is the minimum allowed Reserve Margin by the Least-Cost Generation Expansion Planning Code. .