Generation Performance in Sri Lanka 2012

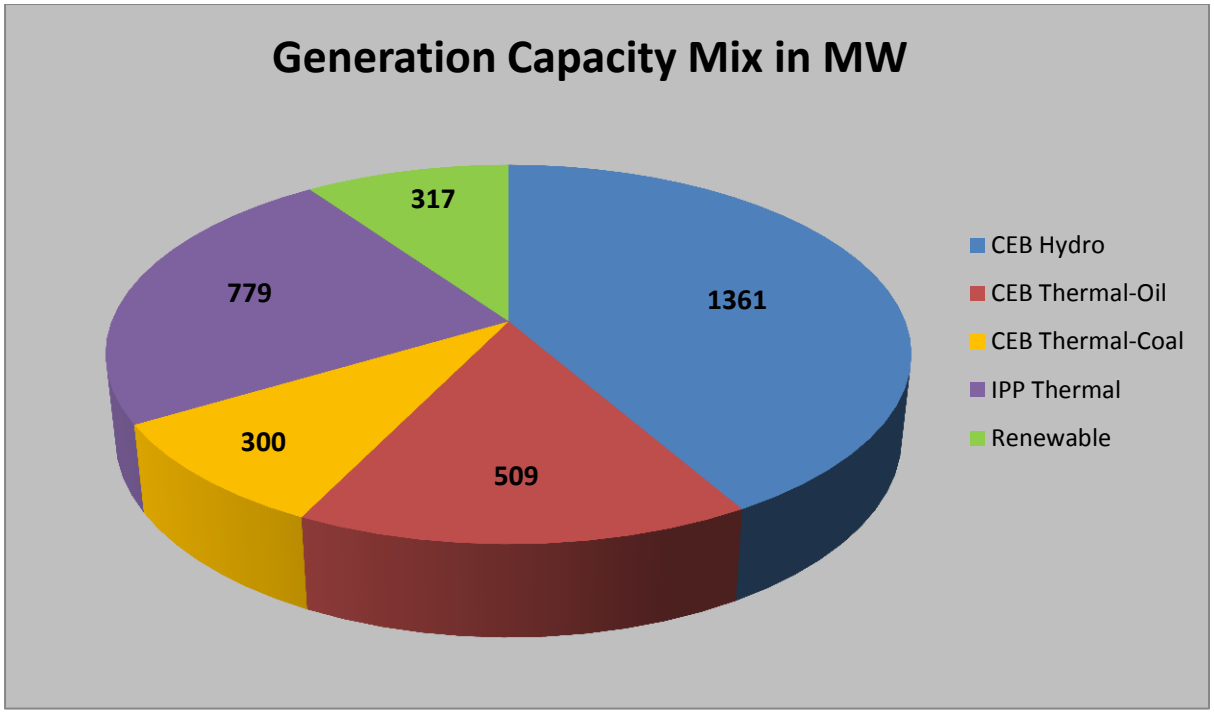
Prepared By : Public Utilities Commission of Sri Lanka

Content

1. Introduction

During the year 2012, maximum recorded electricity demand in Sri Lanka was 2146.4MW (excluding NCRE component) which is a slight low value compared to the maximum demand of 2163.1MW in year 2011. In order to attain this demand and to satisfy the electricity requirement in Sri Lanka, altogether 155 Grid connected power plants and 3 power plants in Jaffna peninsula with total installed capacity of 3323MW have been operated in 2012. Out of these power plants 25 have been owned and operated by Ceylon Electricity Board including 17 hydro plants, 7 thermal plants and 1 wind power plant. Upper Kotmale hydro power plant with 150MW was added to the national electricity grid in the 2012 to enhance the generation capacity of CEB. Withal, 11 thermal power plants have been operated by Independent Power Producers (IPPs) and 122 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 IPPs ACE Matara, Lakdhanavi and ACE Horana plants have been retired in March, November and December respectively. And altogether, 18 renewable power plants have been commissioned during the year 2012 to strengthen the generation capacity of the country.

The chart below shows the existed installed capacities in MW of each type of power plants by the end of the year 2012.



This Generation Performance Report contains a summary of information and performance statistics of the generation units and electricity network in Sri Lanka for the year 2012.

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

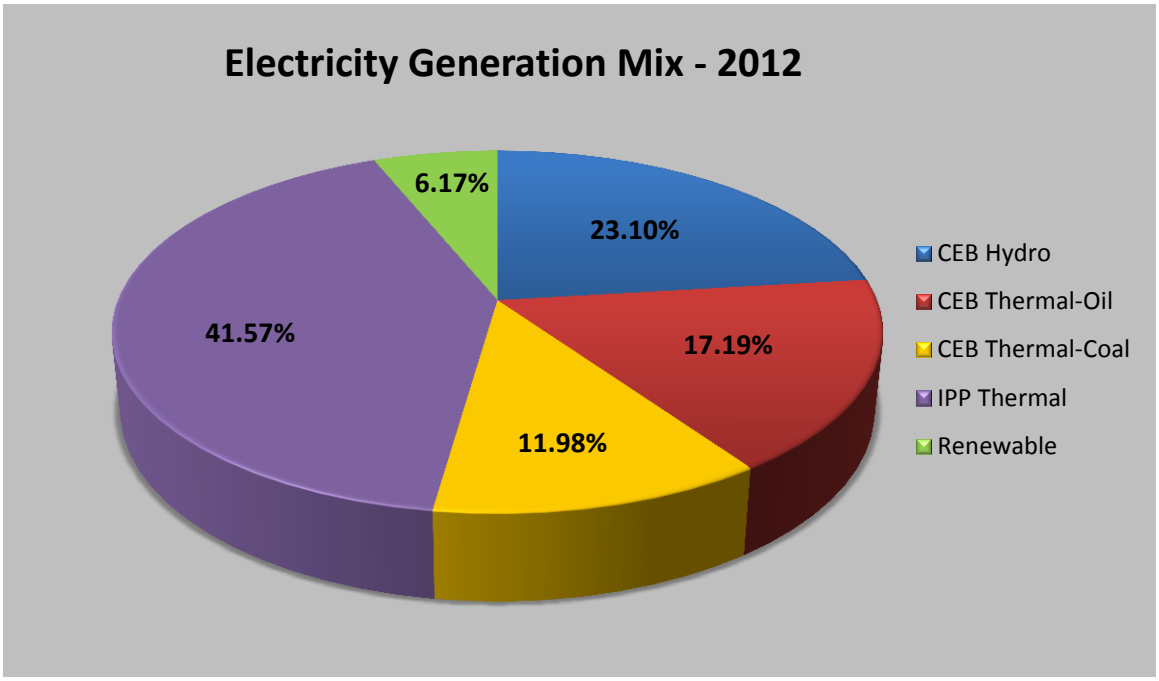
All grid connected generation plants sell their power to the only transmission licensee in Sri Lanka to deliver the power to the consumers through distribution licensees.

The chart below shows the annual generation figures in 2012 in MWh.

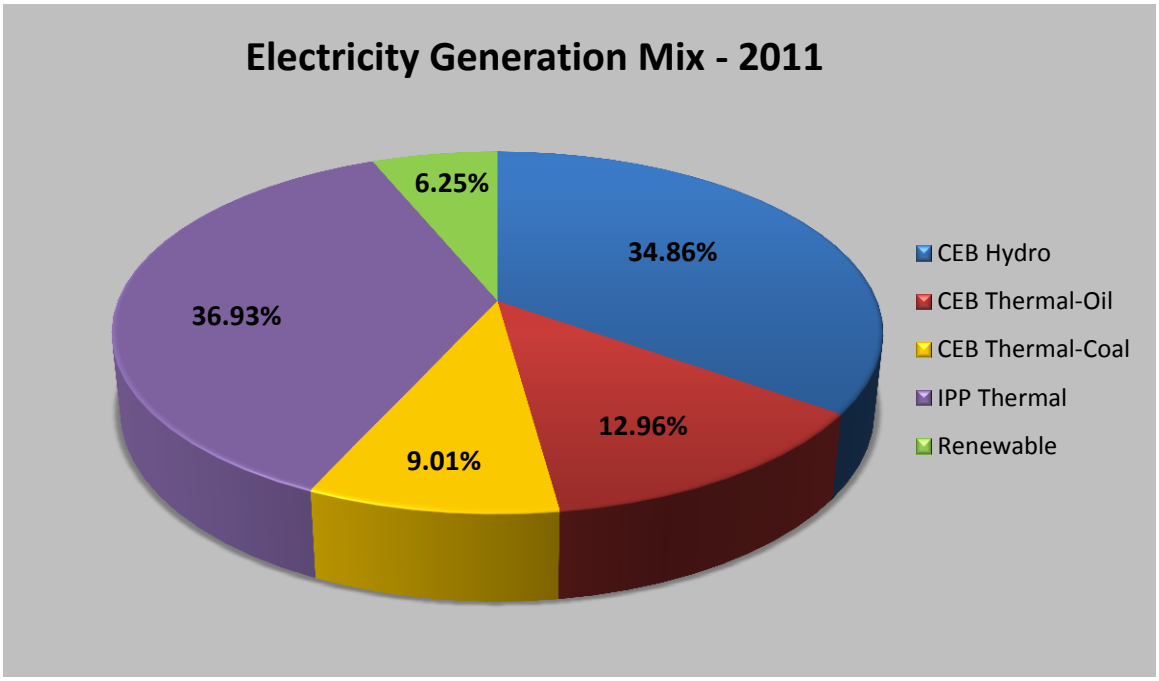
	CEB Hydro	CEB Thermal Oil	CEB Thermal Coal	IPP	Renewable	Total
Jan	160,273	228,512	78,196	497,076	24,626	**988,684**
Feb	155,350	228,432	56,314	456,608	25,663	**922,367**
Mar	160,121	189,273	177,156	489,364	20,177	**1,036,091**
Apr	211,743	137,324	145,796	357,490	60,029	**912,383**
May	220,844	159,762	170,916	440,512	45,264	**1,037,298**
Jun	164,215	177,154	166,716	416,254	59,583	**983,922**
Jul	198,375	200,523	142,898	391,714	66,771	**1,000,280**
Aug	174,990	203,392	39,370	490,727	73,465	**981,945**
Sep	157,136	186,192	136,446	420,610	82,854	**983,238**
Oct	205,006	168,684	179,436	374,211	81,622	**1,008,959**
Nov	395,503	63,834	120,162	281,557	104,045	**965,101**
Dec	522,510	85,793	0	289,957	84,109	**982,369**
Total	**2,726,065**	**2,028,874**	**1,413,407**	**4,906,082**	**728,208**	**11,802,635**

Source :LISS

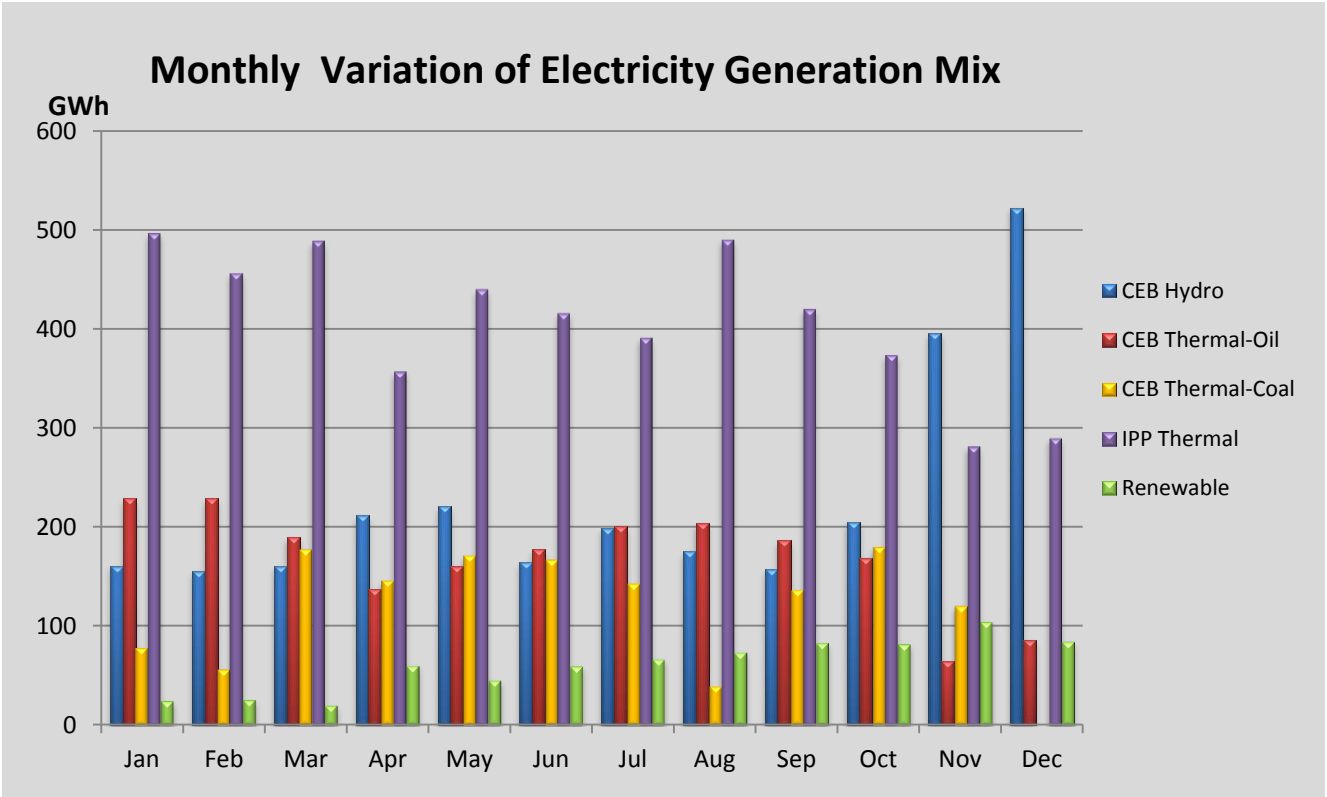
The chart below shows the generation mix in Sri Lanka for the year 2012.



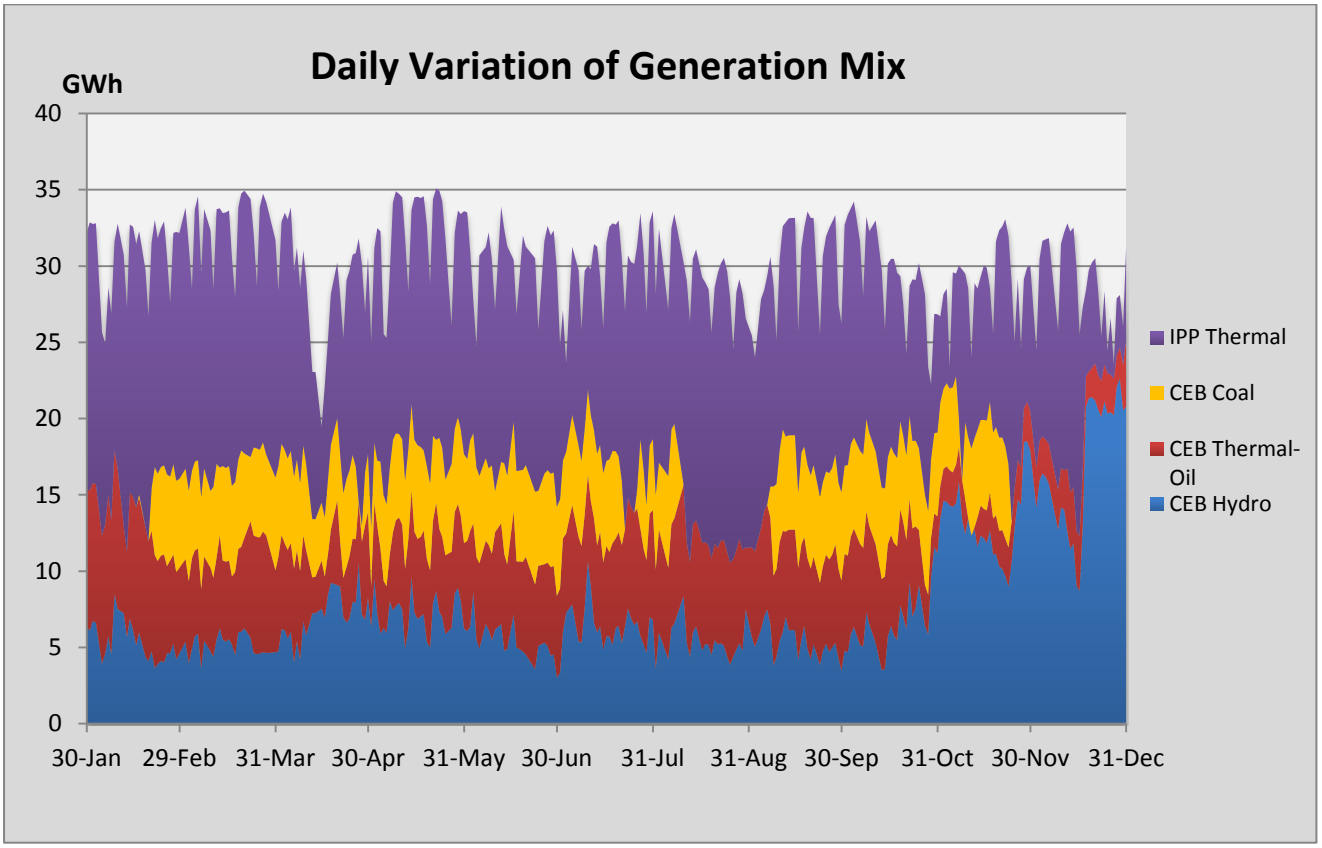
The chart below shows the generation mix in Sri Lanka for the year 2011.



The chart below shows the monthly variation of generation mix in Sri Lanka during the year 2012.



The following chart shows the daily variation of generation mix in Sri Lanka during the year 2012.

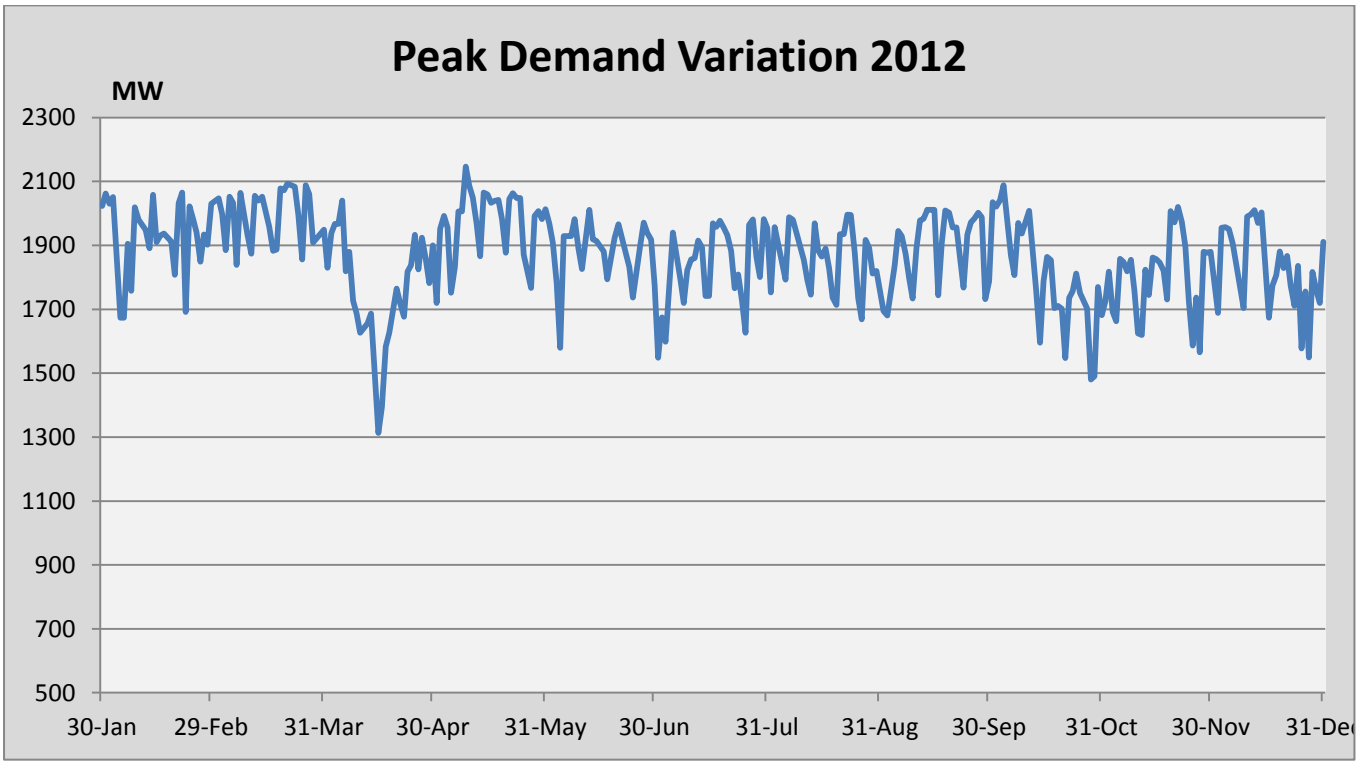


Note: *Daily generation data of renewable power plants was not available.*
Daily generation data of January was not available.

3. System Peak Demand

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

Daily variation of country's system peak demand in the year 2012 is depicted by the following graph.



Note: *NCRE contribution is not included for the peak demand.*
Daily demand data for the month of January was not available.

4. Load Factor

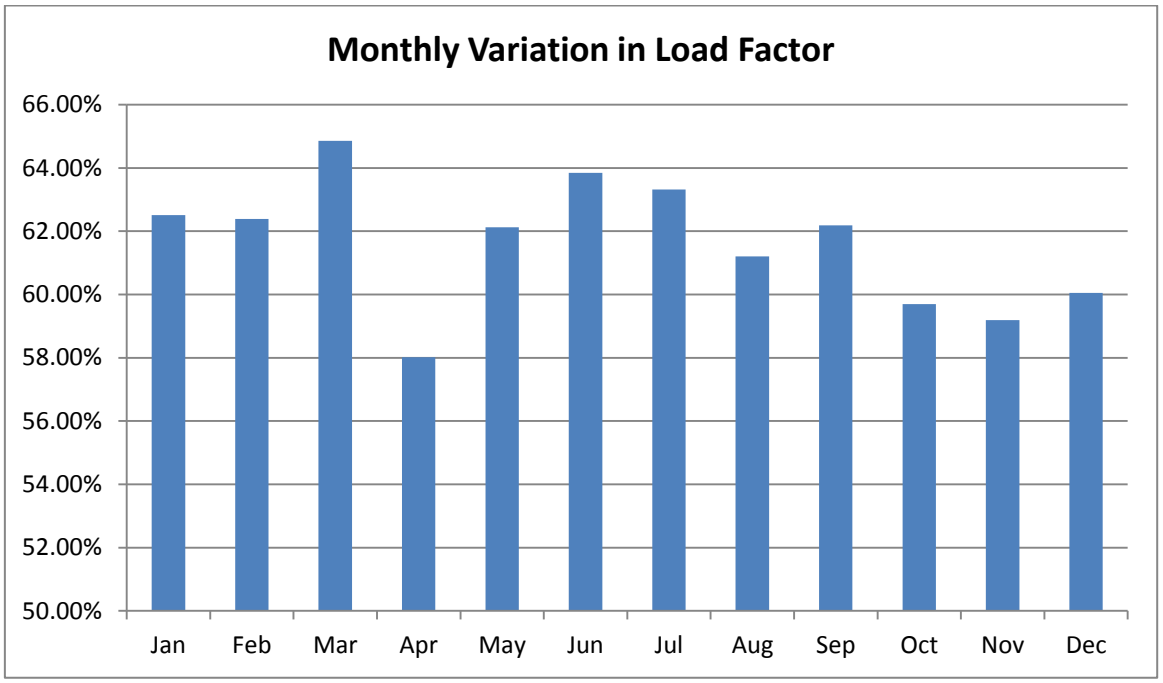
Load Factor is an indicator which shows how steady an electrical load over time. It is simply the average load divided by the peak load in a system over a period of time. But normally load factor is calculated subjected to the produced energy according to the following formula.

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

Calculated Load Factor for the total system for year 2012 = **58.74%**

Calculated Load Factor for the total system for year 2011 = **57.02%**

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 2,000 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 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 2012 are listed below.

CEB Hydro

Kukule	40.45%
Old Laxapana	40.37%
Polpitiya	37.49%
Inginiyagala	36.01%
New Laxapana	34.19%
Upper Kotmale	26.22%

Rantambe	25.60%
Ukuwela	24.20%
Victoria	21.29%
Nilambe	19.22%
Samanala	18.52%
Randenigala	17.54%

Wimalasurendra	16.88%
Canyon	16.31%
Kotmale	15.29%
Udawalawe	10.94%
Bowatenna	9.04%

CEB & IPP Thermal

Plant Factors of thermal power plants are listed below in the order of calculated energy unit cost for the year 2012. Power Plants in Jaffna Peninsula have been shown in a different colour.

1	Puttalam Coal	53.64%
2	Sapugaskanda 2	84.31%
3	ACE Matara	84.06%
4	Sapugaskanda 1	69.84%
5	Heladhanavi	79.59%
6	Colombo Power	91.39%
7	ACE Horana	101.86%
8	ACE Embilipitiya	70.70%
9	Lakdhanavi	54.95%

10	Asia Power	74.33%
11	Northern Power	57.97%
12	Westcoast	64.78%
13	KPS CCY	60.70%
14	AES - Kelanitissa	50.40%
15	KPS GT 7	11.91%
16	Aggreko	35.90%
17	Chunnakam	7.35%
18	KPS Small GTs	13.11%

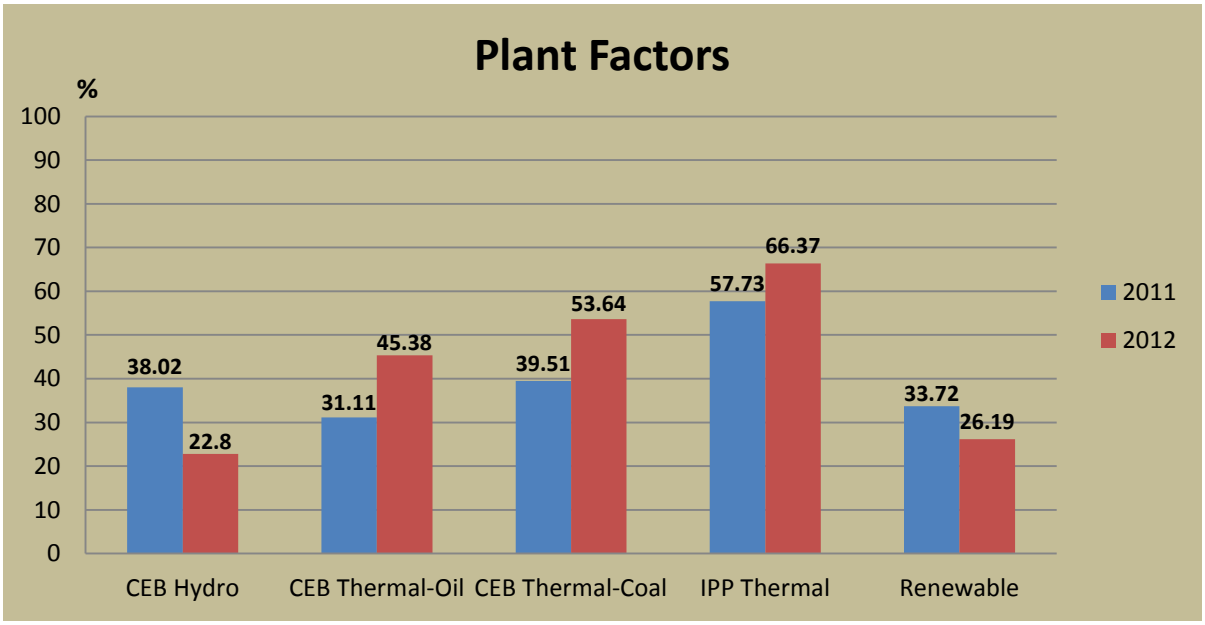
CEB Wind – 8.76%

SPP

Kalugala-Pitawala MHP	57.13%
Rathganga MHP	56.39%
Hapugastenna - 2 MHP	52.55%
Batatota MHP	51.98%
Loggal Oya MHP	51.46%
Koladeniya MHP	48.90%
Wee Oya MHP	48.60%
Kokawita 1 MHP	47.15%
Lower Neluwa MHP	46.73%
Bopekanda MHP	45.21%
Hapugastenna - 1 MHP	45.01%
Kotanakanda MHP	44.12%
Denawak Ganga MHP	43.48%
Erathna MHP	41.99%
Barcaple II MHP	41.67%
Gomala Oya MHP	40.74%
Gampola Walakada MHP	40.28%
Amanawala Oya MHP	38.99%
Delgoda MHP	38.95%
Kaduruwan Dola MHP	38.32%
Alupola MHP	37.81%
Carolina MHP	37.72%
Guruluwana MHP	37.40%
Nandurana MHP	37.35%
Halathura Ganga MHP	37.31%
Watakelle MHP	37.05%
Maduruoya MHP	36.69%
Kirkoswald MHP	35.64%
Bogandana MHP	35.62%
Palmerston MHP	35.28%
Bambarabatu Oya MHP	35.00%
Badulu Oya MHP	34.99%
Asupiniella MHP	34.66%
Ellapita Ella MHP	34.04%
Seguwantivu WPP	33.57%
Somerset MHP	33.18%
Magal Ganga MHP	33.06%
Watawala B Estate MHP	32.77%
Gangaweraliya MHP	32.70%
Belihul Oya Oya MHP	31.54%
BowhillMHP	31.41%
Mandagal Oya MHP	31.21%
Sheen MHP	31.03%
Lemastota MHP	30.97%
Upper Ritigaha Oya MHP	30.76%
Miyanawita Oya MHP	30.61%
Brunswic MHP	30.39%
Coolbawn MHP	29.86%
Waltrim MHP	29.69%
Denawak Ganga MHP	29.27%
Giddawa MHP	29.12%
Karawila Ganga MHP	29.04%
Labuwewa MHP	28.87%
Niriella MHP	28.54%
Kolonna MHP	28.21%
Minuwanella MHP	28.20%
Kotapola (Kiruwana) MHP	27.90%
Sithagala MHP	27.71%
Ritigaha Oya II MHP	27.70%
Kiriwan Eliya MHP	26.92%
Lower Hemingford MHP	26.82%
Koswatta Ganga MHP	26.64%
Glassaugh MHP	26.51%
Kalupahana Oya MHP	26.47%
Dunsinane MHP	26.43%
Pathaha MHP	26.37%
Watawala MHP	26.19%
Henfold (Agra Oya) MHP	25.84%
Adavikanda MHP	25.42%
Nakkawita MHP	25.14%
Manelwala MHP	24.95%
Barcaple I MHP	24.73%
Kehelgamu Oya MHP	24.33%
Upper Magal Ganga MHP	24.27%
Upper Korawaka MHP	24.02%
Ganthuna Udagama MHP	23.07%
Way Ganga MHP	23.01%
Huluganga MHP	22.78%
Kumburuteniwela MHP	22.76%
Rakwana Ganga MHP	22.37%
Black Water MHP	22.05%
Aggra Oya MHP	21.81%
Nugedola MHP	21.27%
Kadawala I MHP	21.21%
Kabaragala MHP	20.63%
Delta MHP	20.10%
Kalupahana MHP	19.54%
Kudah Oya MHP	18.73%
Soranathota MHP	18.14%
Gurugoda Oya MHP	17.33%
Atabage Oya MHP	16.70%
Punugala MHP	16.43%
Deiyanwala MHP	15.12%
Kolapathana MHP	14.37%
Sanquahar MHP	13.88%
Lower Atabage MHP	13.47%
Branford MHP	13.38%
Falcon Valley MHP	12.80%
Galatha Oya MHP	12.51%
Radella MHP	11.75%
Indurana MHP	10.50%
Nilambe Oya MHP	10.45%
Forest Hill MHP	9.87%
Battalagala MHP	7.93%
Bambarabotuwa III	6.75%
Kadawala I MHP	6.23%
Weddemulle MHP	1.67%
Vidatamunai WPP	37.68%
Mampuri WPP	30.97%
Nirmalapura WPP	27.48%
Uppudaluwa WPP	18.64%
Madurankuliya WPP	18.48%
Kalpitiya WPP	8.66%
Ambewela WPP	13.88%
Willwind WPP	6.69%
Gonnoruwa I SPP	15.59%
Gonnoruwa II SPP	14.42%
Tirappane SPP	1.64%
Solar PV	0.41%
Badalgama BMP	26.17%
Kottamurichchana BMP	22.50%
Tokyo BMP	20.93%

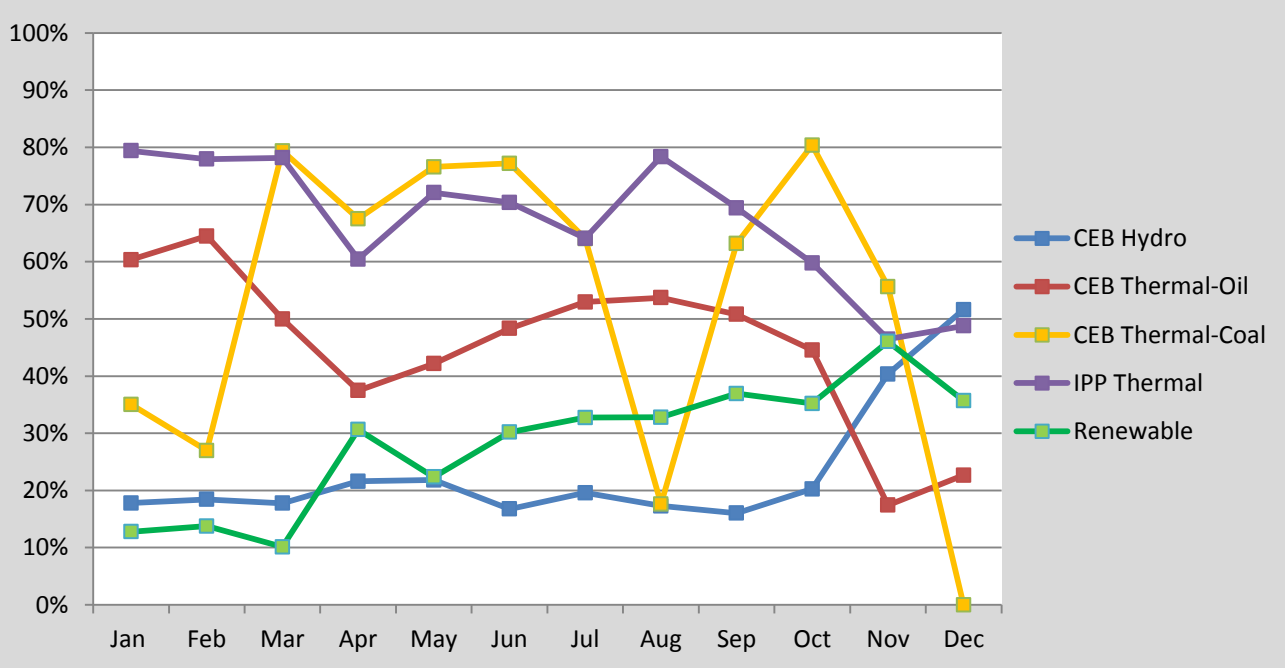
Note: *Plant Factors for the CEB power plants were calculated using gross generation figures*
Gross generation data for IPPs and SPPs were not available for Plant Factor calculation.
Therefore the Net generation data were used to calculate the plant factors of these plants.

Annual Overall Plant Factors for the major types of generation options in 2011 & 2012 are given below.



Overall plant factors of CEB hydro plants and Renewable plants have been dropped drastically due to lower rainfall, which has highly impacted towards increasing thermal dispatch.

The chart below shows the variation of plant factors of different types of generation plants operated in 2012.



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 CEB owned generation units in year 2012 are listed below.

CEB Hydro

Kukule	Unit 1	95.83%
	Unit 2	95.29%
Ukuwela	Unit 1	93.06%
	Unit 2	94.09%
Upper Kotamle	Unit 1	89.68%
	Unit 2	88.08%
New Laxapana	Unit 1	88.21%
	Unit 2	64.35%
Rantambe	Unit 1	80.95%
	Unit 2	77.81%
Wimalasurendra	Unit 1	74.10%
	Unit 2	73.21%
Old Laxapana	Unit 1	74.58%
	Unit 2	51.58%
	Unit 3	54.47%
	Unit 4	64.61%
	Unit 5	64.59%

Randenigala	Unit 1	68.81%
	Unit 2	68.46%
Kotmale	Unit 1	66.08%
	Unit 2	58.00%
	Unit 3	56.28%
Victoria	Unit 1	58.01%
	Unit 2	62.17%
	Unit 3	65.05%
Samanalawewa	Unit 1	65.44%
	Unit 2	66.99%
Canyon	Unit 1	59.46%
	Unit 2	61.00%
Polpitiya	Unit 1	50.33%
	Unit 2	46.36%
Bowatenna	Unit 1	42.10%

CEB Thermal

Puttalam Coal	Unit 1	79.64%
Sapugaskanda 2	Unit 5	88.63%
	Unit 6	88.10%
	Unit 7	87.73%
	Unit 8	87.66%
	Unit 9	85.73%
	Unit 10	89.13%
	Unit 11	89.13%
	Unit 12	89.10%

Sapugaskanda 1	Unit 1	75.25%
	Unit 2	76.45%
	Unit 3	70.54%
	Unit 4	75.65%
KPS CCY	Unit 8 (GT)	80.15%
	Unit 8 (ST)	83.94%
KPS GT7	Unit 7	81.34%
KPS(Small) GT	Unit 1	61.33%
	Unit 2	68.30%
	Unit 3	75.18%
	Unit 4	80.79%
	Unit 5	85.24%

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

7. Generation Cost

Power Station	Annual Generation (GWh)	Total Cost to CEB (Mn.LKR)	Average Unit Cost(Rs/kWh)
Lakdhanavi	99	2075.62	20.88
Asia Power	333	7540.55	22.65
AES Kelanitissa	722	21720.78	30.10
Colombo Power	482	8824.54	18.32
ACE Matara	86	743.69	8.65
ACE Horana	179	3516.48	19.65
Heladhanavi	699	12522.30	17.91
ACE Embilipitiya	621	11902.99	19.17
West Coast	1536	37298.61	24.28
Sapugaskanda A	393	7268.47	18.51
Sapugaskanda B	533	9539.95	17.89
Kelanitissa Small GTs	98	2190.88	22.38
Kelanitissa PS GT 7	120	5170.67	42.98
Kelanitissa Combined	880	22514.96	25.59
Puttalam Coal	1413	10507.90	7.43
Chunnakum	5	271.62	52.60
Aggriko	47	2057.24	43.50
Northern Power	102	2406.62	23.63
Victoria	393	1468.08	3.74
Ukuwela	85	821.75	9.67
Kotmale	270	1456.09	5.39
Randenigala/Rantambe	298	1630.19	5.47
Bowatenna	32	409.29	12.89
Nilambe	5	96.01	18.95
Laxapana	478	1145.35	2.40
Polpitiya	247	497.01	2.01
Wimalasurendra	74	244.71	3.30
Canyon	86	625.36	7.27
Samanalawewa	195	1191.28	6.10
Kukule	266	432.66	1.62
Inginiyagala	32	166.35	5.26
Udawalawe	6	85.02	14.74
Renewable	728	9830.72	13.51
All Hydro	**2466**	**10269**	**4.16**
All CEB Thermal	**3442**	**57464**	**16.69**
ALL IPP Thermal	**4906**	**110609**	**22.55**
All Plants	**11543**	**188174**	**16.30**

Source: *LISS*

Note: *Capacity cost of Upper Kotmale Power Plant was unavailable.*

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 in 2012 are summarized below.

Power Plant	Start/Stop Charge (Mn.LKR)	Reimbursement Claim (Mn.LKR)	O & M Charge (Mn.LKR)	Total (Mn.LKR)
Lakdhanavi	0.00	19.29		**19.29**
Asia Power	0.00	180.54		**180.54**
AES - Kelanitissa	820.90	126.38		**947.28**
Colombo Power - Barge	13.72	97.46		**111.18**
ACE Horana	11.38	31.86		**43.24**
ACE Matara	7.45	16.97		**24.42**
Heladhanavi	5.39	325.37		**330.75**
ACE Embilipitiya	22.53	576.75		**599.28**
Westcoast	272.93	840.38		**1113.32**
Aggreko	0.00	0.00	34.86	**34.86**
Northern Power	0.00	79.06	266.49	**345.55**
Total (Mn.LKR)	**1154.30**	**2294.06**	**301.35**	**3749.71**

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 year 2012 is given below.

	Capacity MW	Scheduled GWh	Actual GWh	Variation GWh	Scheduled PF	Actual PF
Puttalam Coal	300	1849.3	1413.41	-435.89	70.18%	53.64%
Sapugaskanda 2	72	502.1	533.21	31.11	79.39%	84.31%
Heladhanavi	100	723.8	699.09	-24.71	82.40%	79.59%
Sapugaskanda 1	64	386.3	392.60	6.30	68.72%	69.84%
Colombo Power Barge	60	462	481.69	19.69	87.66%	91.39%
ACE Embilipitiya	100	635.1	621.02	-14.08	72.30%	70.70%
Lakdhanavi	22.5	120.9	99.40	-21.50	61.17%	50.30%
ACE Horana	20	176.7	178.95	2.25	100.58%	101.86%
ACE Matara	20	42.1	85.95	43.85	23.96%	48.92%
ASIA Power	51	348	332.99	-15.01	77.68%	74.33%
Kerawalapitiya	270	1423.3	1536.31	113.01	60.01%	64.78%
AES Kelanitissa	163	834.4	721.56	-112.84	58.28%	50.40%
KPS GT 7	115	0	120.30	120.30	0.00%	11.91%
KPS CCY	165	861.5	879.71	18.21	59.44%	60.70%
KPS Small GT	85	138.6	97.90	-40.70	18.56%	13.11%
Total Grid Con. Thermal	1607.5	8504.1	8194.07	-310.03	60.23%	58.03%
Northern Power	20	110.9	101.83	-9.07	63.13%	57.97%
Aggreko	15	99.81	47.30	-52.51	75.75%	35.90%
Chunnakam	8	11.09	5.16	-5.93	15.78%	7.35%
Total Northern	43	221.8	154.29	-67.51	58.72%	40.85%
Renewable energy	316.4	465	728.21	263.21	16.73%	26.20%
CEB Hydro	1356	2758.9	2726.07	-32.83	23.16%	22.89%
Total Generation	3322.9	11949.8	11802.64	-147.16		

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 CEB power plants out of gross generation during 2012 are as follows.

- CEB Hydro 0.63%
- CEB Thermal Oil 2.87%
- CEB Wind 0.52%

Note: *Auxiliary power consumption data was available only for CEB power plants and consumptions for each plant separately were not available.*

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 unit 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 2012 = **78.59%**

Availability Factor for CEB hydro generation units in 2012 = **77.85%**

Availability Factor for CEB thermal generation units in 2012 = **75.93%**

Availability Factor for CEB wind generation units in 2012 = **95.78%**

Calculated availability factors for CEB owned generation plants in year 2012 are listed below.

CEB Hydro

Nilambe	98.53%
Kotmale	97.73%
Kukule	94.97%
Randenigala	94.40%
Upper Kotmale	94.11%
Polpitiya	92.50%
Ukuwela	92.23%
Canyon	91.54%
Victoria	91.27%

Rantambe	91.22%
Samanalawewa	91.01%
Bowatenna	90.85%
Old Laxapana	82.75%
New Laxapana	56.00%
Wimalasurendra	52.27%
Inginiyagala	43.33%
Udawalawe	16.46%

CEB Thermal

Sapugaskanda 2	86.25%
KPS CCY	83.02%
Sapugaskanda 1	75.17%
Puttalam Coal	73.22%
KPS(Small) GT	68.06%
KPS GT7	24.39%

Note: *Interruption data is available only for CEB owned power plants*

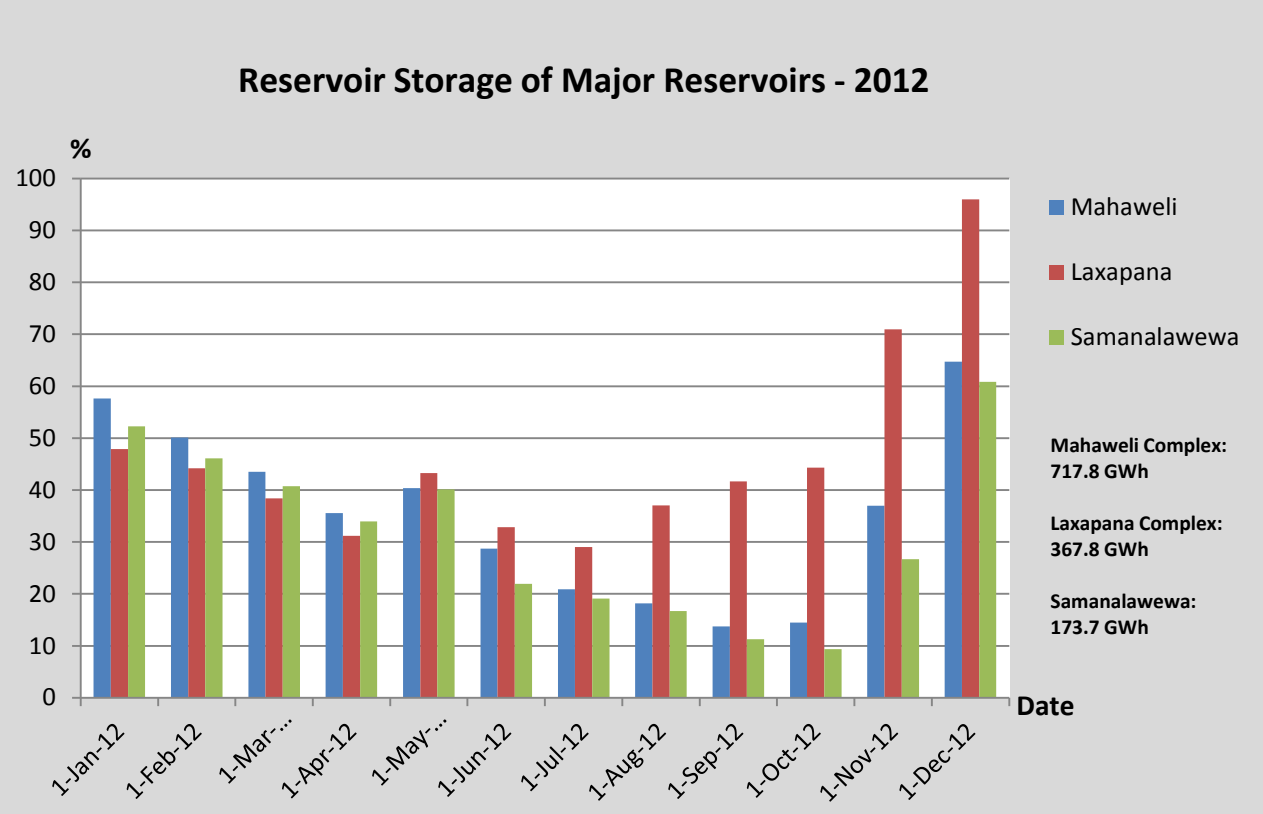
11.Reservoir Storages

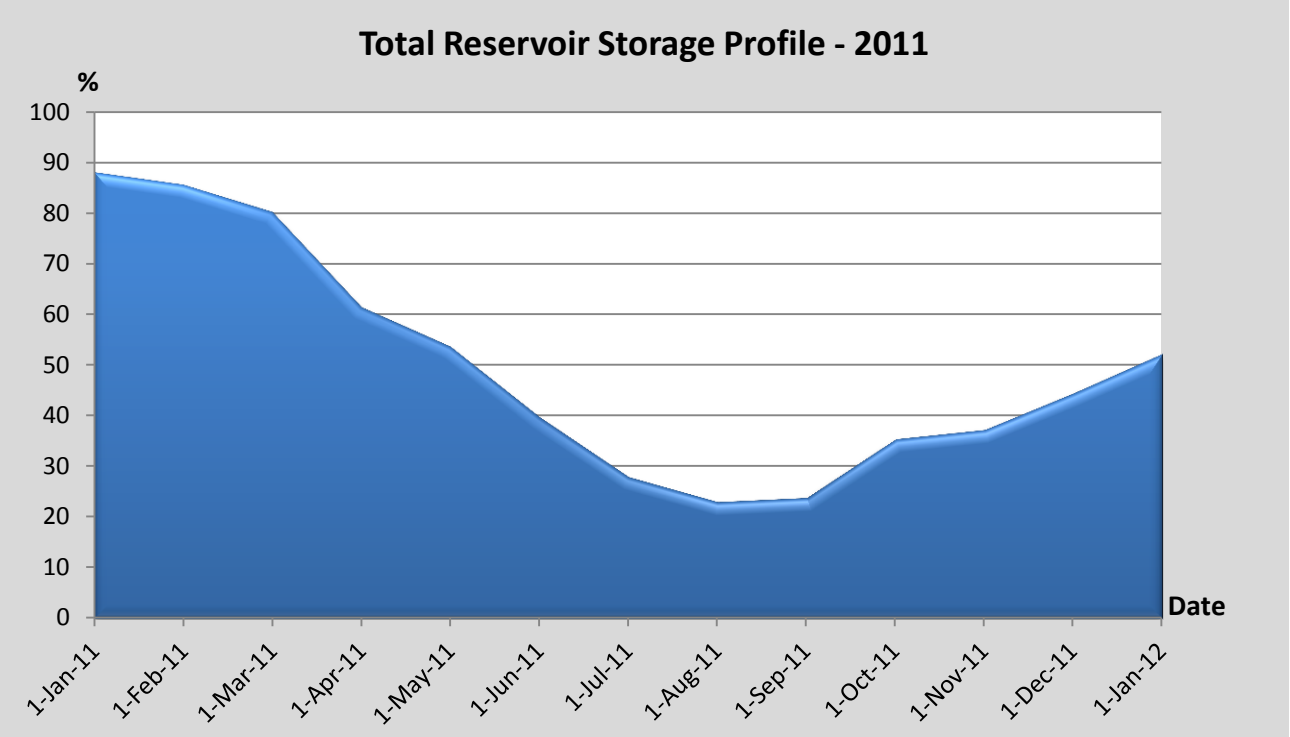
Hydro power is one of the major sources of electricity generation in the Sri Lanka and most of the large scale hydro projects have been developed by CEB. Approximately 41% of the total existed capacity by the end of 2012 has been covered by 17 CEB hydro stations while contributing 23% out of total generation during the year 2012.

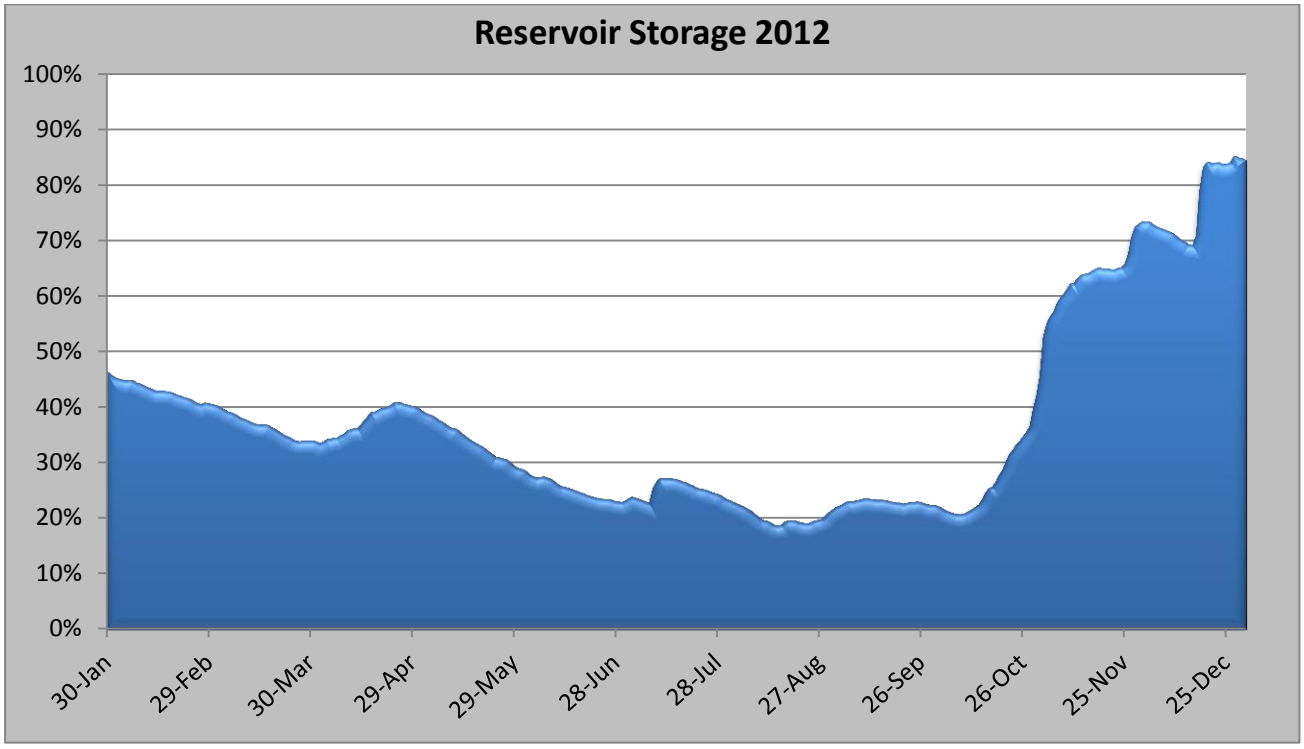
The major hydropower schemes already developed are associated with Kelani and Mahaweli river basins. Laxapana complex comprises five hydro power stations which have been built associated with the two main tributaries of Kelani River; Kehelgamu Oya and Maskeli Oya. Castlereigh and Moussakelle are the 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.

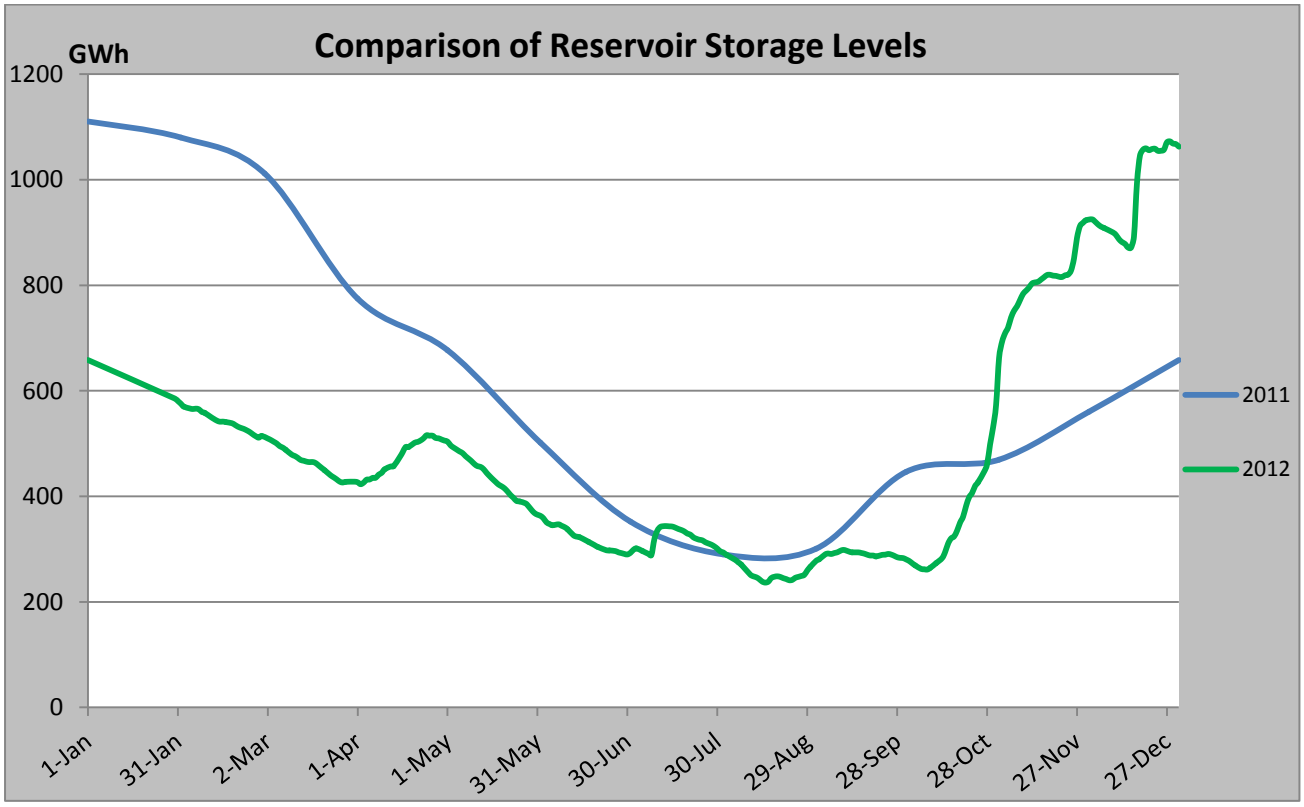
Therefore having a satisfactory capacity of water in these reservoirs throughout the year is essential to dispatch the hydro power to a significant amount.

The major reservoir storage levels prevailed during the years 2012 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 2011, it can be perceived that hydro generation contribution of 35% has been dropped down to 23% during 2012 as a result of the low levels of hydro storage conditions due to failure of sufficient rainfall. At the same time Puttalam Coal power plant has been failed to deliver adequate energy as scheduled (shortage of 436GWh), due to frequent plant breakdowns occurred in 2012. Therefore more IPP thermal generation (42% of total generation) has been dispatched in 2012 to fill that deficiency.

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 year 2011 and 2012. 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 2012 is 2146MW and it is expected to be risen to 2288MW in 2013 subjected to the peak demand growth rate of 6.6% as specified by the Long Term Generation Expansion Plan (2011-2025). To achieve this demand a system capacity of 2950MW (without NCRE component) is available to dispatch during the year 2013. Therefore there will be a Reserve Margin of 29% when the peak demand of year 2013 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 the same time.

Even though the available dispatchable total capacity is dropped by 400MW the Reserve Margin can be maintained above 10%, which is the minimum allowed Reserve Margin by the Least-Cost Generation Expansion Planning Code. And it is to be noted that the phase 2 of the Puttalam Coal Power Plant will be commissioned by October 2012 to enhance the generation capacity of Sri Lankan electricity network.

Improving the performance of existing power plants is the most cost effective way to increase the energy producing capabilities of them. Performance indicators are very useful in identifying the areas where the improvements are needed. Among generation plants' performance measures plant factor, availability and auxiliary consumption are critical performance indicators, both in technical and commercial terms. Nevertheless, generator outages' details and auxiliary consumption data of IPPs are not available to assess the availability and percentage of auxiliary consumption of them. Therefore the availability details and auxiliary consumption data of all private power plants are intended to be received through LISS in order to measure their performance.