

Legislative Council Panel on Economic Development Meeting 11th December 2012

Information Paper : CLP Power's 2013 Tariff Review

1. Summary

CLP shares the community's concern for environmental improvement and a highly reliable supply of electricity at a reasonable cost. For 2013, we will maintain the average Basic Tariff (BT) unchanged and contain the Fuel Clause Charge (FCC) increase at 4.6 cents per unit (¢/u) despite rising fuel costs. The rise in Average Total Tariff will be 4.5% but because of an adjustment to the Rent and Rates Special Rebate arrangement, the Average Net Tariff increase for 2013 will be 5.9%.

We will introduce a new Energy Saving Rebate Scheme to assist low consumption customers and encourage energy efficiency. This will result in 35% of domestic customers (about 700,000) and 44% of small business customers (about 130,000), seeing no increase or even enjoying a small reduction in their electricity bills.

2. Background

- CLP's tariff is made up of two major components:
 - (a) Basic Tariff to cover the cost of service to customers for facilities, investments and operating costs necessary for the supply of power to meet customers' demand and the standard fuel cost for each unit of electricity generation, and
 - (b) Fuel Clause Charge which is either a surcharge or rebate to cover the difference between the actual cost of fuel used for generating electricity and the standard fuel cost collected through the Basic Tariff. According to the Scheme of Control Agreement, the actual cost of fuel used for electricity generation is directly passed through to customers. CLP makes no profit on fuel.
- Beginning in October each year, CLP and the Government will conduct a Tariff Review to determine the tariff adjustment to be made for the following year.
- To help the community with a better understanding of CLP's tariff adjustment proposal for 2013, this paper gives a brief account of our objectives, underlying principles and key changes in the operational environment to explain our 2013 tariff.

3. Key components of CLP's 2013 Tariff and the adjustments

Basic Tariff

- A combination of higher than expected local electricity sales from the warmer weather and continued stringent cost management has contributed to an improved 2012 year end Tariff Stabilisation Fund (TSF) balance, which is projected to be HK\$771 million. The business environment in 2013 remains challenging. Despite rising costs in Hong Kong, we will maintain the Basic Tariff unchanged in 2013 through prudent financial management and cost control. As an illustration, the projected increase in CLP's total non-fuel operating expenses for 2013 over 2012, is 2.0% - a level much lower than projected inflation.
- The following table gives a summary of the factors that affect the 2013 Basic Tariff and their associated impact:

Factors affecting Basic Tariff for 2013		Tariff Impact (¢ / kWh)
(a)	Increase in Average Net Fixed Asset	+1.3
(b)	Increase in operating expenses	+1.0
(c)	Increase in local electricity sales	-0.4
(d)	Decrease in sales to Mainland	+0.3
(e)	Decrease in Tariff Stabilisation Fund	-2.6
(f)	Others (Change in Interest, Taxation and Standard Fuel Cost)	+0.4
	Basic Tariff Adjustment:	0.0

Fuel Clause Charge

- We have also managed to reduce the Fuel Clause Account (FCA) deficit from the level projected in the 2012 Tariff Review of HK\$833 million to a deficit of HK\$334 million at 2012 year end through continued effort in optimizing our fuel supply portfolio while maintaining reliable electricity supply to our customers.
- CLP's fuel costs are set to rise significantly in the next few years, primarily driven by an increase in gas consumption to meet environmental constraints and the need to replace our main source of gas, the depleting Yacheng field. More details of these changes are given in Section 4 below.
- Given this rise in costs, the Fuel Clause Charge will rise by 4.6 ¢/u from 1st January 2013 to allow the recovery of rapidly increasing fuel expenses. Even with this proposed adjustment, CLP will still carry a high FCA deficit of more than HK\$ 1 billion, to mitigate the tariff impact to customers.

- The following table gives a summary of the factors that affect the 2013 Fuel Clause Charge and their associated impact:

Factors affecting Fuel Clause Charge for 2013		Tariff Impact (¢ / kWh)
(a)	Increase in Fuel Price	+6.3
(b)	Correction for the over-/under-recovery of fuel cost in 2012	+0.4
(c)	Increase in the Fuel Clause Account deficit	-2.1
Fuel Clause Charge Adjustment:		+4.6

Rent & Rates Rebate

- CLP made a commitment in 2011 to return to customers any repayments made by Government upon the final resolution of the Court in our favour in respect of CLP's claim against Government's overcharging of our rent and rates over the past decade. While the case was continuing at that time, we took the initiative to provide a special rebate of 3.3 cents per unit in 2012, which in effect offset part of the tariff increase for 2012. The Court's judgement is still awaited.
- As of today, CLP has already rebated more than HK\$1 billion. In anticipation of reimbursement by Government, a special rebate of 2.1 ¢/kWh will be provided in 2013.
- Taking into account this 2013 Rent & Rates Special Rebate of 2.1¢/u, the Average Net Tariff adjustment in 2013 will be +5.8¢/u, or an increase of 5.9% from that of 2012.

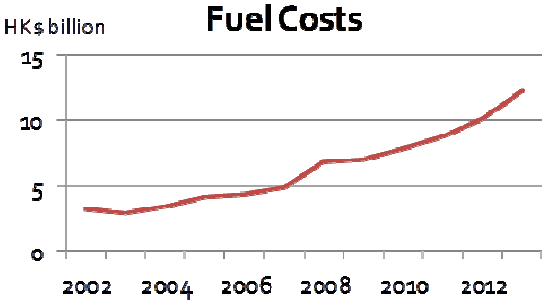
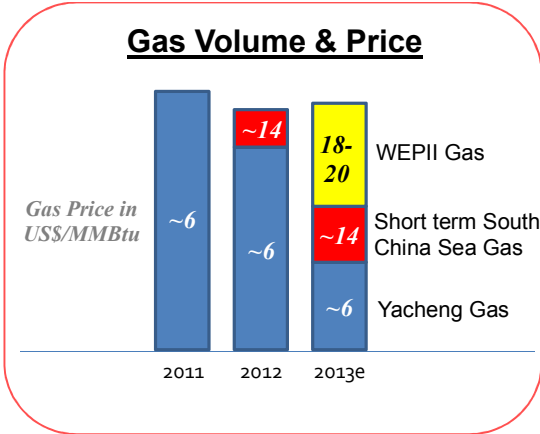
Overall Change

- As a whole, the overall tariff adjustment including the Rent & Rates Special Rebate is as follows:

Tariff Component (¢/kWh)	2012 Tariff	Change	2013 Tariff
Average Basic Tariff	84.2	-	84.2
Fuel Clause Charge	17.8	+4.6	22.4
Average Total Tariff	102.0 (+8.4%)	+4.6	106.6 (+4.5%)
Rent and Rates Special Rebate	-3.3		-2.1
Average Net Tariff	98.7 (+4.9 %)	+5.8	104.5 (+5.9 %)

4. The fuel cost challenge

- All energy for Hong Kong needs to be imported. Diversified supply and an optimised fuel mix to provide a reliable electricity supply and meet environmental standards at a reasonable cost is important for Hong Kong. In this respect, CLP has for many years adopted a balanced fuel mix comprising natural gas, coal and nuclear import. Our coal supply comes from contracts with different suppliers, with different term and pricing mechanisms to diversify the risks, especially during volatile market conditions.
- CLP is facing significant challenges from rising fuel costs. CLP’s main gas supply for the last two decades has been the Yacheng field in the South China Sea off Hainan Island. This reserve is now depleting fast and needs to be replaced by new sources of supply. Starting in 2012, we were able to obtain a short term supply of gas from another field nearby. This new 2012 gas is at much higher prices than our original supply from Yacheng, which was contracted around 20 years ago when oil was close to US\$20/barrel. To fully replace our Yacheng supply and allow the increase in gas consumption necessary to meet the Government’s 2015 emissions caps, a new supply from Central Asia has been secured from the Mainland, under the Government to Government Memorandum of Understanding on energy cooperation signed in 2008. This will be delivered to Hong Kong in 2013, through the new Phase II of the West-to-East Pipeline project. This gas will be priced in line with current international benchmarks.
- Not only will CLP need to increase gas volumes substantially in the years ahead but, as already noted, the new gas supplies are priced significantly above the level of our Yacheng supply. This will have a major impact on our fuel costs for 2013, as the charts below show:

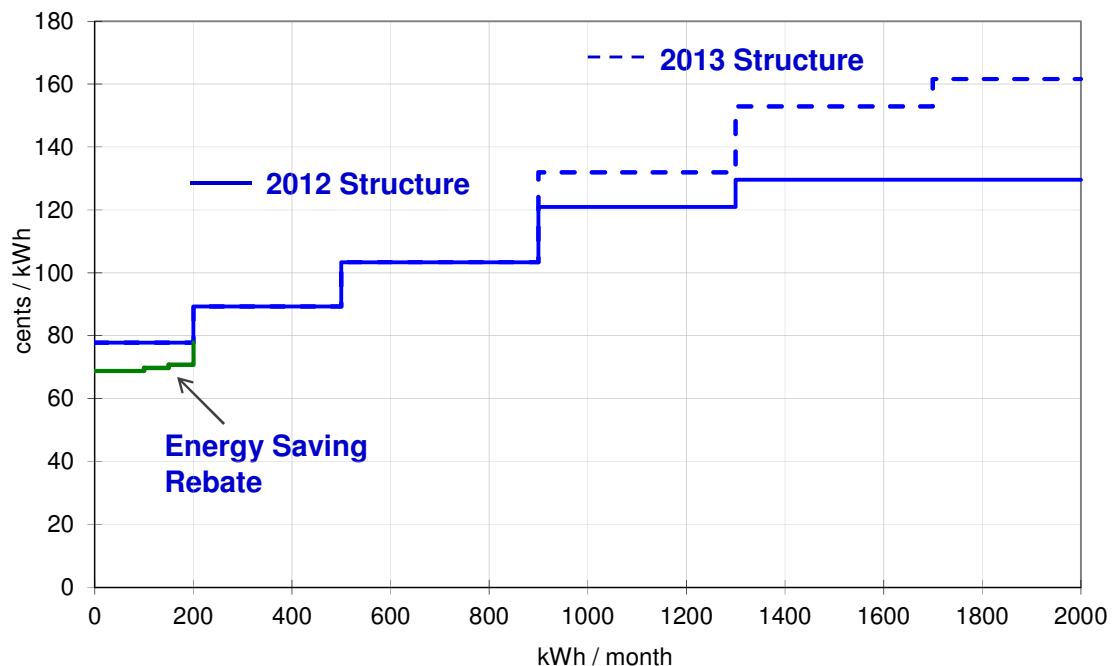


- In summary, the next few years will see significantly increased fuel costs due to more and higher priced gas consumption in order to meet Government’s environmental policy requirements, especially for the 2015 emissions caps. This will raise overall fuel costs and require more Fuel Clause Charge adjustments in the coming years.

5. Tariff Structure

- CLP currently has four tariff classes: Domestic Tariff, General Service Tariff, Bulk Tariff and the Large Power Tariff. Our long-standing policy is for our tariffs to reflect the actual cost of supply to each tariff group of customers and therefore to avoid cross subsidies. It is important to stress that tariff structure design has no effect on the profit to CLP shareholders and on the adjustment to Average Net Tariff each year.
- CLP continuously consults with its customers and other key stakeholders on the design & operation of our tariffs. We consider a wide range of views, as well as international best practice appropriate for Hong Kong conditions. We expect this process to continue in 2013.
- In responding to changing circumstances and feedback from customer groups and others, CLP has in the past amended the structure of its tariffs when the average tariff level is adjusted annually. For example, in 1996 we introduced an inclining block structure for domestic tariffs whereby higher consumption would be charged at a progressively higher unit rate. This was to encourage the efficient use of energy and also the lower blocks were used as a way of providing some protection for the smaller domestic customers with lower household incomes. Inclining tariff structures for domestic customers are now common in many modern cities world-wide.
- In response to the Hong Kong community's opinions that a stronger message for energy saving is necessary, we have included in our 2013 Tariff Review the addition of a 6th block to our Domestic Tariff starting from 1700 units per month and an increase in the rates for the 4th and 5th blocks to steepen the incline.

CLP's Domestic Tariff - Basic Tariff Block Structure Comparison



- For Industrial & Commercial customers, we have not made recommendations for any changes in the tariff structure for 2013 as there are still differing views from quite diverse sections of the community. Unlike Domestic Tariff customers, inclining tariff structures for larger Industrial & Commercial customers are almost unknown anywhere else in the world.
- Importantly, inclining tariff structures take no account of the efficiency with which energy is used. If you use more, you pay more. This applies indiscriminately across the board to systems and buildings already equipped with energy-saving technology simply because they are large in size.
- Many of the largest consumers of electricity in Hong Kong play a very important social role in the community. CLP's largest customers include the MTR Corporation, Hospitals, Airport, Universities, the Housing Authority and key Government infrastructure such as Water & Drainage Services. It has been said that introducing inclining tariff structures for many of the largest users of electricity in Hong Kong may therefore distort the social cost of providing a wide range of services to the community.
- CLP's larger Industrial & Commercial customers already pay Demand Charges, in addition to the cost of the energy units they consume. They also pay a premium for energy used at peak times but are able to reduce costs if they can move this to off-peak periods.
- We will continue to listen to the opinions of all our customers and enhance stakeholder engagement with a view to carefully considering our tariff structure. We will also look at tariff development on an international level appropriate for Hong Kong conditions and consider how to introduce the most appropriate energy efficiency and conservation solutions as community consensus emerges.

6. Support to Customers in Managing Electricity Costs

- CLP will introduce new Energy Saving Rebates for low-consumption domestic & small business customers in 2013. These will apply to consumption of not more than 400 units per bill, with the size of the rebate being inversely linked to the size of the billed consumption level, to help reduce tariffs for this group of customers and encourage energy saving.

Total consumption per bill	Rebate level
Lower than 200 kWh	9 ¢/kWh
201 to 300 kWh	8 ¢/kWh
301 to 400 kWh	7 ¢/kWh

- The threshold of 400 units for this new rebate has been based on analysis of our customer consumption patterns. Some 35% (or about 700,000 in number) of residential customers and 44% (or about 130,000 in number) of small business customers are expected to qualify for this rebate.
- For the larger commercial customers in our Bulk Tariff and Large Power Tariff classes, we do not propose any change to the tariff structure in 2013. These customers have dedicated CLP Account Managers to provide specialist advice on helping them to better manage their energy consumption. In addition, Time-of-Use and Demand Charges tariffs are already provided to these customers for active management of their usage and demand for electricity.
- CLP is firmly committed to energy efficiency and conservation. We encourage our residential and business customers and the Hong Kong community at large to use energy more efficiently and change their behaviour so that they save energy and help create a better environment.

We adopt a four-step approach to changing people’s habits and helping them to reduce their energy consumption. These steps are:

- Educating the public
- Providing customers with information and energy-saving tips
- Equipping customers with tools and technical support
- Helping with enablers to make greater energy efficiency possible

We are committed to doing all we can to help our customers and our city move towards a low-carbon lifestyle that will improve our environment for future generations.

7. Tariff Impact

- As a result of the 2013 tariff adjustment and the tariff structure changes, CLP is expecting that some 35% of its domestic customers and some 44% of its small business customers will see no increase in their tariffs or may enjoy a reduction in 2013, depending on their consumption, as summarized below:

Domestic Customers

Consumption per bill* (kWh)	Tariff Impact (\$ per month)	Approx. % (Number of Customers)
0 – 400	No change or up to \$3 reduction	35% (700,000)
401 – 800	Up to \$23	35% (700,000)
>800	>\$23	30% (600,000)

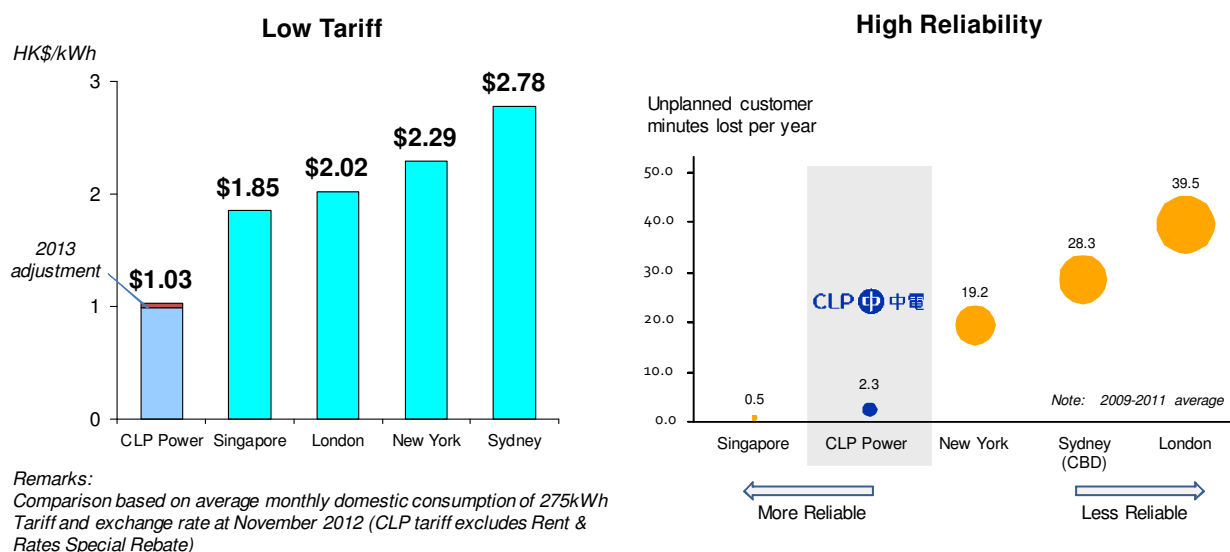
* CLP provides bi-monthly billing for domestic customers

Small Business Customers

Consumption per bill (kWh)	Tariff Impact (\$ per month)	Approx. % (Number of) Customers
0 – 400	No change or up to \$6 reduction	44% (130,000)
401 – 2,000	Up to \$116	33% (100,000)
>2,000	>\$116	23% (70,000)

8. Summary

- CLP is committed to providing a high quality electricity supply characterized by high reliability, strong environmental performance and reasonable prices.
- As the chart below shows, CLP is delivering high reliability at a very competitive tariff, both of which are helping to underpin Hong Kong's continuous development & prosperity.



- As of today, CLP's Basic Tariff is lower than that of 1997. Our tariffs represent good value for our customers. In the forthcoming years, although driven largely by increases in fuel costs, CLP will continue to work hard in containing tariff increases to a minimum level through prudent cost management and control, as well as supporting our customers with practical help and advice to both save energy and reduce bills.

Annexes

- Annex A : Information related to the Five-year Development Plan
- Annex B : Information related to Tariff Adjustments
- Annex C : Fact Sheet on CLP's Tariff Structure
- Annex D : Fact Sheet on Energy Efficiency & Conservation
- Annex E : Fact Sheet on Generation Capacity & Reserve Margin
- Annex F : International Tariff Comparisons

CLP Power Hong Kong Limited

11th December 2012

**Provision of information by CLP Power (CLP) on 2013 Tariff Review
for Economic Development Panel of the Legislative Council**

A. Information related to the Five-year Development Plan

A1. Capital expenditure forecast under the approved^[1] Development Plan including Projects of Gas Supply infrastructure

Categories ^[2] (\$ million)	2008 ^[3]	2009	2010	2011	2012 - 2013	Total
(A) Power Generation System						
Emission Reduction Project	577	2,360	1,821	1,387	287	6,432 ^[4]
Other generation related projects	333	1,327	1,302	1,360	1,621	5,943
Sub-total	910	3,687	3,123	2,747	1,908	12,375
(B) Transmission & Distribution System	1,251	4,365	4,804	5,094	10,389	25,903
(C) Customer and Corporate Services Development	90	310	315	328	604	1,647
Total (A + B + C)	2,251	8,362	8,242	8,169	12,901	39,925
(D) MOU related projects ^[5] on top of the approved total capital expenditure under the 5-yr Development Plan	-	3	88	901	690	1,682
Grand Total	2,251	8,365	8,330	9,070	13,591	41,607

Remarks:

[1] Approved by the Executive Council on the 23rd September 2008, as advised in EnB's paper to the Legislative Council of the same date. It covers the period from the 1st October 2008 to the 31st December 2013.

[2] Capital expenditure forecast breakdowns are shown on page 2 & 3.

[3] Period covering Oct - Dec 2008.

[4] Total project cost is around \$9 billion, part of which is covered by the previous Development Plan.

[5] To realize the long-term stable supply of gas contemplated under the Memorandum of Understanding (MOU) signed between the Hong Kong SAR Government and the National Energy Administration.

Notes:

- Revealing CLP major capital expenditure categories in 2013 would enable the suppliers to easily assess the budget estimates of certain projects that would increase their ability of price negotiations. Such might cause an increase in the costs of capital expenditure leading to an increase future tariff level. This would also reveal CLP's future fixed assets investment as well as future profits. Any disclosure of confidential information may be detrimental to the interests of small shareholders and may also violate the Hong Kong Listing Rules requirements. Any person using confidential information or any "tipping" to others for dealings may also commit an offence under the Securities and Futures Ordinance. Disclosure of 2012 figures separately may enable calculation of 2013 figures.

Submission of Major Projects in the 2008 Development Plan

Generation

No.	Projects	\$billion
1.	Emissions Control Project	6.4
	<u>Other Generation Related Projects</u>	
2.	Black Point Plant Modification	
3.	Replacement & Refurbishment of obsolete/aged equipment in Black Point Power Station, Castle Peak Power Station and Penny's Bay Power Station [hundreds of work items]	5.4

Transmission & Distribution

No.	Projects	\$billion
	<u>Meeting Load Requirements</u>	
1.	Establishment of Chui Ling Road Substation (Tseung Kwan O Development)	
2.	Establishment of South East Kowloon 'A' Substation	0.4
3.	Establishment of South East Kowloon 'D' Substation	0.4
4.	Establishment of HKUST Substation	0.3
5.	Establishment of West Kowloon Reclamation 'B' Substation	
6.	Establishment of Fu On Street Substation	0.2
7.	Addition of 3rd 132/11kV Transformer at Pak Shek Kok Substation	0.2
8.	Establishment of Sky City Road Substation (formerly Airport 'D' Substation)	0.1
9.	Establishment of Yue Man Square Substation	
10.	Addition of 3rd 132/11kV Transformer at Fo Tan Substation	0.1
11.	Establishment of 2nd 400kV Yuen Long - Lai Chi Kok Circuit	
12.	Meeting Load Requirements - Others (Other projects < \$100m and many thousands of projects to meet customer demand)	6.8
	<u>Meeting Government/ Infrastructure Requirements</u>	
13.	Establishment of Stonecutters Island Substation	
14.	Tseung Kwan O – Tai Wan 400kV Cable Diversion for Kai Tak Development	0.1
15.	Meeting Government/ Infrastructure Requirements Others (Other projects < \$100m and hundreds of projects to support Government's new railways, roads, bridges and redevelopment projects)	1.6
	<u>Maintaining Supply Reliability & Quality</u>	
16.	400kV Tower Lines Reinforcement for Super Typhoon	
17.	Establishment of 132kV Open Rings in Tuen Mun	
18.	Establishment of 2 x 132kV Chui Ling Road - Tseung Kwan O Industrial Estate Circuits	
19.	Establishment of 2 x 132kV Junction Road - Kai Tak Circuits	
20.	400kV Tower Line Arresters	0.2
21.	Maintaining Supply Reliability & Quality Others (Other projects < \$100m and many thousands network reinforcement projects to maintain supply reliability & quality)	6.2
	<u>Replacement & Refurbishment</u>	
22.	132kV Oilfilled Cable Replacement	0.5
23.	11kV Switchgear Refurbishment	
24.	Substation Building Refurbishment	0.2
25.	Replacement of 132kV Switchboard at Kwai Chung 'A' Substation	0.2
26.	400kV Tower Lines Refurbishment	
27.	132kV Switchgear Refurbishment	0.2
28.	Replacement of 132kV Transformers / Reactors	
29.	400kV Switchgear Refurbishment	
30.	Non-discretionary Asset Replacement & Refurbishment Others (Other projects < \$100m and hundreds of projects to replace aged equipment)	2.8
31.	Network Operation Systems (System Control, Protection, Telecommunications)	1.2
32.	Miscellaneous & Others	0.9

Customer and Corporate Services

No.	Projects	\$billion
1.	New & Replacement Meters, Metering System Development	0.8
2.	Customer Billing & Services System & Centre Facilities	0.3
3.	Corporate System Development (data storage, backup infrastructure & security system)	0.4
4.	Other Support Services	0.1

Total 39.9

Notes to the confidential information:

Since a lot of work is in progress under individual projects, revealing the capital expenditure forecast would not be appropriate. Such projects may be in the tendering stage or maybe at a commercially sensitive stage. As a result, revealing such confidential figures would not be in the interest of customers.

Major Projects Excluded During the Review of Development PlanGeneration

No.	Projects	\$billion
1.	150 MW Peaking Unit	10.4
2.	LNG Receiving Terminal Project	

Transmission & Distribution

No.	Projects	\$billion
1.	Establishment of 3rd 132kV Castle Peak - Airport 'A' Circuit	
2.	Establishment of LNG Terminal Substation	
3.	Establishment of 132kV Open Rings in Hung Hom	
4.	Establishment of 2 x 132kV Tin Shui Wai 'A' - Tuen Mun Circuits	
5.	Establishment of 2 x 132kV Tai Kok Tsui Traction - West Kowloon Reclamation 'B' Circuits	
6.	Establishment of 2 x 132kV Tai Hom - Hammer Hill Circuits	
7.	Establishment of 2 x 132kV Chuk Yuen - Hammer Hill Circuits	
8.	Establishment of South East Kowloon 'C' Substation	
9.	Addition of 4th 400/132kV Transformer at Castle Peak Power Station	
10.	Preparatory Works for Mongkok Market Substation	

Notes to the confidential information:

For those projects which have not yet commenced, revealing the capital expenditure forecast would not be appropriate. If such capital expenditure is to be incurred in the future, CLP's bargaining power will be weakened in price negotiations, resulting in higher prices to be borne by Hong Kong citizens. Therefore, it is in the interest of CLP's 2.4m consumers to keep these numbers confidential.

A2. Actual capital expenditure under the approved Development Plan Period

Categories (\$ million)	2008 ^[1]	2009	2010	2011	2012 ^[2]	2013
(A) Power Generation System						
Emission Reduction Project	614	2,137	1,685	648	291	
Other generation related projects	366	1,192	1,417	1,857	1,521	
Sub-total	980	3,329	3,102	2,505	1,812	
(B) Transmission & Distribution System	1,135	4,166	4,164	4,530	5,247 ^[3]	
(C) Customer and Corporate Services Development	69	281	386	371	253 ^[3]	
Total (A + B + C)	2,184	7,776	7,652	7,406	7,312	
(D) MOU related projects on top of the approved total capital expenditure under the 5-yr Development Plan	-	22	96	368	571	
Grand Total	2,184	7,798	7,748	7,774	7,883	

Remarks:

[1] Period covering Oct - Dec 2008.

[2] Projected figures per 2013 Tariff Review subject to final verification and annual audit.

[3] Due to internal re-organisation. Some of the capital projects under (C) are now responsible under (B).

Notes to the confidential figures:

- Revealing CLP major capital expenditure categories would enable the suppliers to easily assess the budget estimates of certain projects that would increase their ability of price negotiations. Such might cause an increase in the costs of capital expenditure leading to an increase future tariff level. This would also reveal CLP's future fixed assets investment as well as future profits. Any disclosure of confidential information may be detrimental to the interests of small shareholders and may also violate the Hong Kong Listing Rules requirements. Any person using confidential information or any "tipping" to others for dealings may also commit an offence under the Securities and Futures Ordinance.

A3. Tariff Component by year - Five-year development plan forecast compared with annual tariff review

Tariff Component (cents/ kWh)	2008	2008	2009	2010		2011		2012		2013	
	Actual Tariff (up to Sept)	Actual Tariff (Oct-Dec)	DP Forecast/ Annual Tariff Review*	DP Forecast#	Annual Tariff Review	DP Forecast#	Annual Tariff Review	DP Forecast#	Annual Tariff Review	DP Forecast#	Annual Tariff Review
(A) Basic Tariff	86.0	77.4	77.4	82.7	80.0	86.7	80.0	86.3	84.2	86.3	84.2
<i>Increase/(Decrease)%</i>											
-- Annual	-	(10%)			3.4%		0.0%		5.3%		0.0%
-- Since Sept 2008	-	(10%)	(10%)	(3.8%)	(7.0%)	0.8%	(7.0%)	0.3%	(2.1%)	0.3%	(2.1%)
(B) Fuel Clause Charge	5.9	11.8	11.8	20.7	11.5	17.9	14.1	14.9	17.8	15.5	22.4
<i>Increase/(Decrease)%</i>											
-- Annual	-	100%			(2.5%)		22.6%		26.2%		25.8%
-- Since Sept 2008	-	100%	100%	250.8%	94.9%	203.4%	139.0%	152.5%	201.7%	162.7%	279.7%
(C) Rate Reduction Reserve Rebate	-0.8	-0.8	-	-	-	-	-	-	-	-	-
(D) R&R Special Rebate	-	-	-	-	-	-	-	-	(3.3)	-	(2.1)
(E) Net Tariff	91.1	88.4	89.2	103.4	91.5	104.6	94.1	101.2	98.7	101.8	104.5
<i>Increase/(Decrease)%</i>											
-- Annual	-	(3.0%)			2.6%		2.8%		4.9%		5.9%
-- Since Sept 2008	-	(3.0%)	(2.1%)	13.5%	0.4%	14.8%	3.3%	11.1%	8.3%	11.7%	14.7%

* The two exercises were done at the same time.

The tariff rates for 2010-2013 are only projections and the actual tariffs to be charged to consumers each year will be determined in the preceding year, following discussions between Government and CLP during the annual Tariff Review, taking into account any variations in the components of the Development Plan.

CLP's Consideration in Tariff Adjustment:

1. CLP's objective is to provide reliable supplies of electricity to our customers at the lowest reasonable cost, delivering high levels of customer service, whilst continuing to improve environmental performance to meet Government's regulatory requirements.
2. The 2008 Development Plan, developed in accordance with the Scheme of Control Agreement (SCA) signed in 2008, forms the basis for the Basic Tariff Price path during the period up until 2013. At the ExCo meeting on the 23rd September 2008 the Council advised and the Chief Executive ordered that the plan be approved. The Legislative Council Brief dated 23rd September 2008 [ENB CR 1/4576/08 Pt.6] confirmed the basis of approval and the rationale behind Government's decision.
3. CLP uses coal and natural gas for our local power generation. Our coal supply comes from contracts with different suppliers, with different term and pricing mechanisms to diversify the risks, especially during volatile market situations. As for natural gas, we have been receiving piped-gas from Yacheng gas fields since 1996 under a long term contract with the price set in 1990's when oil price was around US\$ 20 per barrel.
4. Significant pressures are building on fuel costs as our fuel mix is essentially determined by the need to comply with Government's emissions caps which are approved by Legco and are used to implement environmental policy objectives. More gas will be used in place of coal in the coming years, with new supplies costing much more than gas from the current Yacheng contract. The new supplies will be purchased from Mainland companies, in line with the Inter-Government MOU on energy supplies signed in 2008. In this respect, we are introducing gas supplies from new sources starting 2012 and 2013, respectively from the fields near to the current fast-depleting Yacheng gas field, and from Central Asia via the Mainland's second West-East Natural Gas Pipeline Project.
5. The SCA sets out the role for two balancing funds – the Tariff Stabilisation Fund (TSF) and the Fuel Clause Recovery Account (FCA), which are designed to act to smooth out volatility in adjusting both the Basic Tariff and the Fuel Clause Charge (FCC). The TSF has been drawn down from a positive balance of \$1,910 million at the end of the last Development Plan and is now projected to reduce to \$216m by the end of 2013. The FCA is in deficit for the 6th year running. Even with the 2013 tariff adjustment in the FCC, the FCA balance is projected to reach a deficit of \$1,034m by the end of 2013.

B. Information related to tariff adjustments**B1. Final tariff adjustment**

	2012 Tariff c / kWh	Final Proposal for 2013 Tariff c / kWh	Adjustment %
Basic Tariff	84.2	84.2	-
Fuel Clause Charge	17.8	22.4	25.8%
Rent & Rates Special Rebate	-3.3	-2.1	-
Net Tariff	98.7	104.5	5.9%

Year end Balance (\$ million)

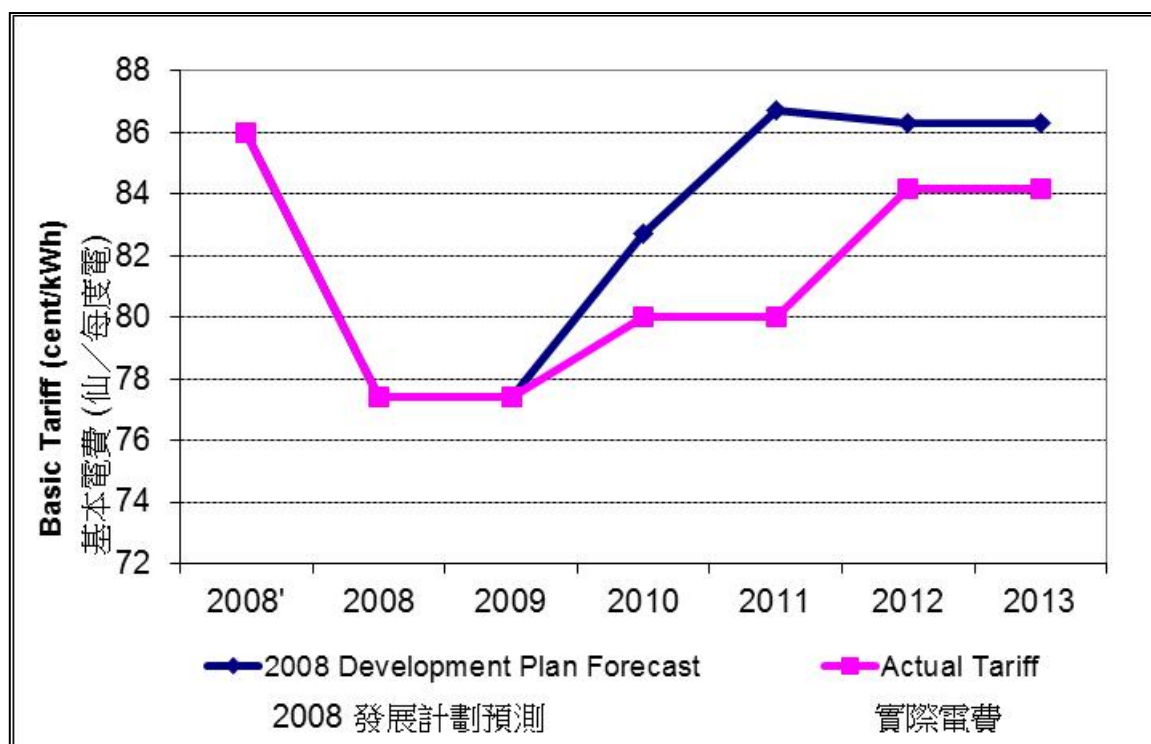
- Tariff Stabilisation Fund	771	216
- Fuel Clause Recovery Account	(334)	(1,034)

Continued efforts to improve work efficiency and optimize costs enabled CLP to maintain the 2012 Basic Tariff unchanged in 2013. Even with a Fuel Clause Charge increase of 4.6 c/kWh, the projected Fuel Clause Recovery Account balance deficit would be widened to \$1 billion by end of 2013.

B2. Rationales for final tariff adjustment

	Rationales for tariff adjustment	Tariff impact (c / kWh)
(1)	Basic Tariff	
(a)	<p>Increase in Average Net Fixed Asset</p> <p>Increase from [redacted]^a in 2012 to [redacted]^a in 2013, the majority of which is from investment in our transmission & distribution network to meet supply reliability and customer demand. (Tariff impact includes interest payments borne by the companies, Government taxes as well as net return)</p>	+1.3
(b)	<p>Increase in operating expenses</p> <p>Increase from \$12.9 billion in 2012 to \$13.2 billion in 2013 (2.6%). This mainly includes Depreciation, Government Rent & Rates and costs for nuclear power purchase and pumped storage service fee, which are set through contracts or accounting policies and are not controllable. (breakdown see note iii)</p>	+1.0
(c)	<p>Increase in local electricity sales</p> <p>Increase from 32,110GWh in 2012 to [redacted]^b in 2013 (breakdown see note i)</p>	-0.4
(d)	<p>Decrease in sales to Mainland</p> <p>Decrease from 1,811GWh in 2012 to [redacted]^b in 2013 because of lower projected GPG purchase in 2013 (both 2012 & 2013 sales are forecast figures)</p>	+0.3
(e)	<p>Decrease in Tariff Stabilisation Fund Balance</p> <p>Without Basic Tariff increase in 2013, the TSF balance would decrease from \$771 million (end 2012) to \$216 million (end 2013)</p>	-2.6
(f)	<p>Others</p> <p>Change in taxation (apart from that included in (a) and (e)) and interest, and increase of \$203 million in Standard Fuel Cost</p>	+0.4
	Sub-total (Basic Tariff):	0.0

Basic Tariff since the beginning of the current Development Plan - still below the approved level for 2013 and below that applying in 2008'



2008' = Sept 2008 which marks the end of the previous Development Plan.
 Figures in 2008' include Special Rebates.

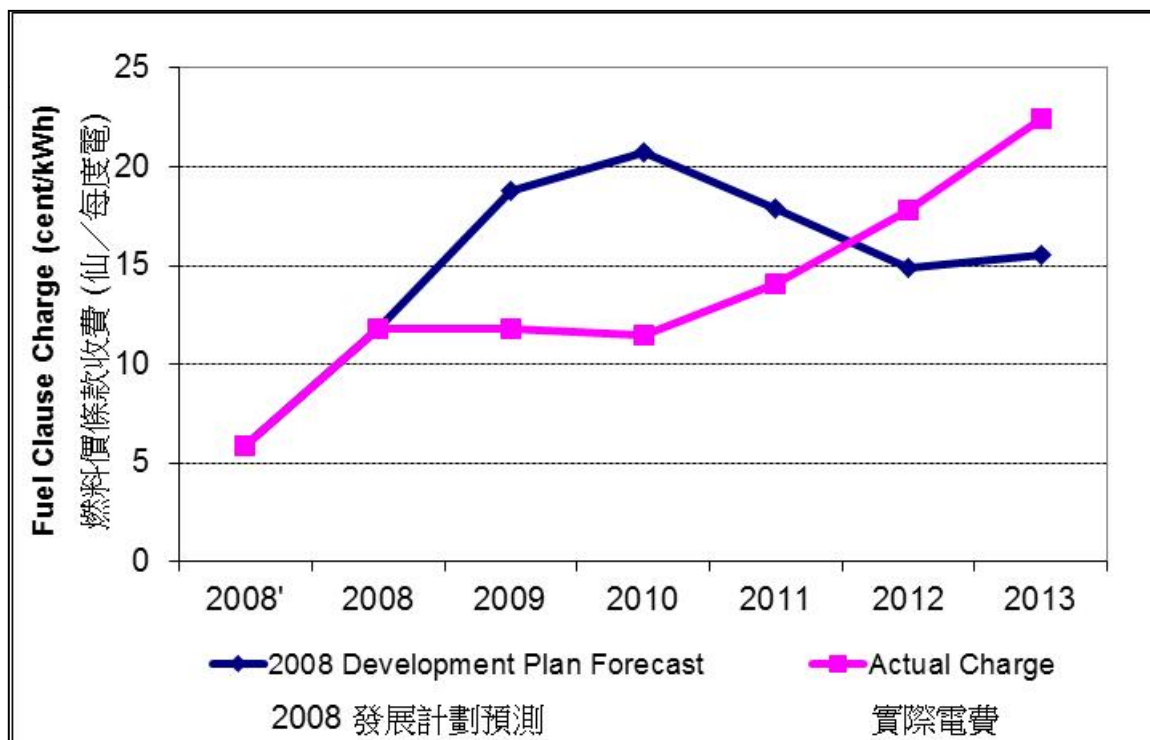
	Rationales for tariff adjustment	Tariff impact (c / kWh)
(2)	Fuel Clause Charge	
(a)	Increase in Fuel Price Increase of \$2,117 million (Note ii) is due to fuel expense change and electricity sales growth of b in 2013	+6.3
(b)	Correction for the over-/under-recovery of fuel cost in 2012 (ie the total Fuel Clause Charge received minus "difference between Standard Fuel Cost and Actual Fuel Cost") The amount of under-recovery of fuel cost in 2012 is \$119 million	+0.4
(c)	Change in the Fuel Clause Recovery Account deficit to reduce tariff increase Worsening of the Fuel Clause Recovery Account deficit from \$334 million at end 2012 to \$1,034 million at end 2013; the change is \$700 million	-2.1
	Sub-total (Fuel Clause Charge):	+4.6
(3)	Rent & Rates Special Rebate Total rebate amount decreases from \$1.1 billion in 2012 to \$0.7 billion in 2013	
	Sub-total (Rent & Rates Special Rebate):	+1.2
	Grand total:	+5.8

Even with a Fuel Clause Charge increase of 4.6 c/kWh, the projected Fuel Clause Recovery Account balance deficit would be widened to \$1 billion by end of 2013.

Notes to the confidential figures:

- a. Forecast Average Net Fixed Assets (ANFA) values might reveal future 2013 profits. Any disclosure of confidential information may be detrimental to the interests of small shareholders and may also violate the Hong Kong Listing Rules requirements. Any person using confidential information or any "tipping" to others for dealings may also commit an offence under the Securities and Futures Ordinance.
- b. Disclosure of future sales growth might indicate to suppliers CLP's underlying demand which could increase their bargaining power in setting prices leading to higher prices to

be borne by Hong Kong citizens. This might also reveal CLP's future fixed assets investment as well as future profits. Any disclosure of confidential information may be detrimental to the interests of small shareholders and may also violate the Hong Kong Listing Rules requirements. Any person using confidential information or any "tipping" to others for dealings may also commit an offence under the Securities and Futures Ordinance.



2008' = Sept 2008 which marks the end of the previous Development Plan.
 Fuel Clause Charges reflect our actual buying prices and are passed through to customers. CLP makes no profit on fuel.

Note i**Local Sales**

	2012 Estimate *		2013 Forecast *	
	This <u>Submi</u> <u>ssion</u> GWh	Incr./ (Decr.) over 2011 %	This <u>Submi</u> <u>ssion</u> GWh	Incr./ (Decr.) over 2012 <u>Estimate</u> _%
Local sales				
• Commercial	12,970	2.4		
• Residential	8,940	4.0		
• Infrastructure & Public Services	8,325	3.8		
• Manufacturing	1,875	(0.6)		
Total Local Sales	32,110	3.0		

* Normal weather assumed in sales forecast

Notes to the confidential figures:

Disclosure of future sales growth might indicate to suppliers CLP's underlying demand which could increase their bargaining power in setting prices leading to higher prices to be borne by Hong Kong citizens. This might also reveal CLP's future fixed assets investment as well as future profits. Any disclosure of confidential information may be detrimental to the interests of small shareholders and may also violate the Hong Kong Listing Rules requirements. Any person using confidential information or any "tipping" to others for dealings may also commit an offence under the Securities and Futures Ordinance.

Note ii

Fuel consumed ('000 terajoules)	<u>2012 Estimate</u>	<u>2013 Forecast</u>
• Coal	169.5	
• Natural Gas	53.4	
• Oil	7.8	
• Interconnection	6.7	
Total	237.4	

Average Fuel Price (HK\$ per gigajoule)	<u>2012 Estimate</u>	<u>2013 Forecast</u>
• Coal	29.4	
• Natural Gas	57.2	
• Oil	161.8	
• Interconnection	66.9	
Total	41.1	

Fuel Cost (\$ million)	<u>2012 Estimate</u>	<u>2013 Forecast</u>
• Coal	4,984	
• Natural Gas	3,055	
• Oil	1,262	
• Interconnection	448	
Total	9,749	
Standard Fuel Cost	3,777	
Fuel Cost exceeding Standard Fuel Cost	5,972	

Notes to the confidential figures:

Disclosure of fuel demand and price forecasts would materially disadvantage CLP in negotiations in setting price or volume delivery terms with fuel suppliers, resulting in higher prices and hence increased fuel clause charges to be borne by Hong Kong citizens.

Note iii

Items for Non-Fuel Operating Expenses	Estimated Expense for 2012 (\$ million)	Forecast Expense for 2013 (\$ million)	% Change
Operating Costs			
Payroll	1,127	a	[1]
Material & Services	1,178	1,144	-2.9%
Loan charges	41	b	
Government Rent & Rates	579	631	9.0%
Fixed Asset Disposal	298	240	-19.5% ^[2]
Exchange Gain /Loss	1	c	
Pumped Storage Service Fee	532	558	4.9%
Sub-total for Operating Costs:	3,756	3,853	2.6%
Nuclear power purchase	4,796	4,890	2.0%
Provision for asset decommissioning	216	0	-100% ^[3]
Depreciation	4,129	4,488	8.7% ^[4]
Total Non-fuel Operating Expenses before Operating Interest and Taxation	12,897	13,231	2.6%
Operating Interest	796	b	[5]
Taxation	1,753	d	[6]
Total Non-fuel Operating Expenses:	15,446	15,761	2.0%

[See notes below]

Notes on the confidential figures:

- The 2013 figure is a budget based on the expected number of employees and salary adjustments. Inappropriate release of the information to the public before it is communicated to staff would jeopardise relations between CLP and its employees.
- Disclosure of this confidential funding information could materially affect CLP's borrowing cost, leading to increased costs to Hong Kong citizens.
- Disclosure of this confidential currency exchange information could materially affect CLP's ability to make currency exchange at the lowest cost, leading to increased costs to Hong Kong citizens.
- Disclosure of this information may enable calculation of Operating Interest.

Items for Non-Fuel Operating Expenses	Reasons for Change
[1] Payroll	In line with budget
[2] Fixed Asset Disposal	Mainly due to disposal for modification work arising from Government to Government MOU gas related projects in 2012
[3] Provision for asset decommissioning	Provision not made for 2013
[4] Depreciation	Mainly due to the normal increase in line with capital expenditure investment in transmission & distribution projects and generating facilities as well as the newly commissioned MOU gas related projects
[5] Operating Interest	Change in forecast interest rate
[6] Taxation	Taxation obligation

FACT SHEET – CLP TARIFF STRUCTURE

CLP supplies electricity to 80 per cent of Hong Kong's population (approximately 5.8 million people). In designing the tariff structure, many factors have been taken into consideration to ensure that it is fair and transparent.

Categories

- CLP has two main tariff categories— one for residential customers and one for commercial and industrial customers. There are two million residential customer accounts and 300,000 commercial and industrial accounts.

Tariffs

- Tariffs are set on the principles of fairness so as to recover the costs of supplying each group, taking into account the investment and resources needed to supply them and the efficiency with which these resources are used. In general, fixed operating costs, e.g., metering, billing and customer service are lower per unit for higher-consuming customers.
- Tariffs are designed to avoid cross-subsidies between the major customer groups such as small and large business, public services and residential households.
- To view the tariff tables, please visit CLP website at:
[https://www.clponline.com.hk/Documents/Tariff%20Table%20-%20English%20\(2012\)%20\(v20111230\).pdf](https://www.clponline.com.hk/Documents/Tariff%20Table%20-%20English%20(2012)%20(v20111230).pdf)

Domestic Tariff (DT)

- Domestic tariff (DT) applies to residential customers where the electricity is used solely for domestic purposes. It is billed on a bimonthly basis.
- An inclining tariff structure on the principle of energy conservation is applied to residential customers, which means they pay a progressively higher rate the more units they use within a billing period. This was introduced in 1996, before the advent of modern smart meters, as a simple price signal to encourage energy conservation for customers who did not have the chance to easily measure and manage their energy consumption from a meter they could see.

Commercial and Industrial Customers (C&I)

- Tariffs for commercial and industrial customers (C&I) are subdivided into three classes. General Service Tariff (GST) is for small and medium businesses. Bulk Tariff (BT) is for larger businesses and Large Power Tariff (LPT) is for the largest organisations such as public utilities and infrastructure companies.

- GST customers have a regressive structure of two blocks: up to 5,000 units and above 5,001 units in each billing period. The difference in energy charges between these two blocks is only about 1 per cent, which reflects the lower unit costs of supply once fixed costs have been recovered.
- For the BT and LPT customers, on top of energy units consumed, these high consumption customers also pay an extra Demand Charge for the capacity of the energy they draw from CLP's network based on their maximum energy demand, which typically accounts for 10 to 40 per cent of the total bill, depending on an individual customer's consumption pattern. This is to recover the cost of investment in infrastructure needed to meet electricity demands. The more capacity they use, the higher demand charge they pay.
- Additionally, Time of Use tariff is applied to high consumption customers, which means that larger users pay a premium for the extra peak-time units they use. They can also save money if they can move their energy consumption use to an off-peak period. This will facilitate demand side management and better utilisation of CLP's power-generation facilities. In many ways, when customers use electricity is as important as how many units they consume. If more units are used at peak times, it will drive investment in extra generation and network capacity leading to higher costs for Hong Kong as a whole.

Energy Efficiency and Conservation

- Caring for the environment is one of CLP's core values. We adopt a proactive approach in promoting energy efficiency and conservation for sustainable development. This is also in line with the government's call to enhance environmental awareness in building a greener future.
- To encourage energy saving, CLP offers an array of tools and services and works directly with its customers to help them manage their energy consumption efficiently. For details, please refer to the Fact Sheet on Energy Efficiency & Conservation.
- In the highly competitive business environment, C&I customers have a greater economic drive to reduce consumption as they are very focused on managing their operating costs. Naturally they are more cautious about their energy costs and willing to devote resources to find possible ways to achieve energy saving. In many cases, their efforts are rightly rewarded. For instance, a large shopping centre has successfully reduced its annual energy charge by \$4M per year by putting in place chiller plant replacement and optimisation, energy-efficient lighting, heat pump water-heating system and PV panels.
- We are advised by the Airport Authority that energy growth has only been 0.7 per cent over the past two years while airport's passenger throughput and aircraft movements both have increased by more than 10 per cent (which means extension of operating hours of the airport), and new retail outlets have opened in Terminal 2. This is attributed to its energy-saving measures include LED application in the terminal building and chiller system optimisation.

We have also been advised by the MTRC that their overall electricity growth grew mildly at around 3 per cent over the past four years despite the commissioning of a new TKO extension line and Kowloon Southern Link in 2010. This is the result of energy-saving measures including in-train lighting replacement with LED, lighting optimisation, addition of sun shading for windows in office buildings, and tunnel ventilation optimisation.

Review of tariff structure

- CLP takes an open approach to changes to the current tariff structure.
- There are voices in the community suggesting the adoption of an inclining tariff structure for C&I customers so as to encourage them to save energy. Others have a different view. To enable the community to make an informed decision, CLP is offering some facts and focus on the issue for consideration.
- Over 60 per cent of the largest users of electricity are schools, hospitals and public utilities. Applying inclining tariffs to them will increase the social cost of providing a wide range of services to the community. Importantly, inclining tariff structures take no account of the efficiency with which energy is used. If you use more, you pay more. This applies indiscriminately across the board to systems and buildings already equipped with energy-saving technology simply because they are large in size. Moreover, some trades are inherently higher consumers of electricity than others due to the nature of their business, such as cold stores, district cooling schemes or data centres. Whether or not it would be appropriate to charge them a lot more just even if they use the energy very efficiently and to the best standards is worth considering carefully.
- Customers who see an increase in their bills if an inclining tariff is introduced may simply be tempted to request multiple electricity supply points to reduce their average consumption per account and hence their unit energy rates. This may reduce energy efficiency and would certainly result in more cables and meters being installed by CLP, which will increase costs for all customers.
- CLP has been soliciting views from different customer groups and organizations regarding suggestions for changes to the current tariff structure. We will also monitor relevant international developments and best practices in energy efficiency and conservation so as to promote these goals in ways that best fit our local circumstances. In this endeavour, we will continue to maintain an open dialogue with stakeholders and make appropriate changes when a consensus has been reached among all sectors in the community.

END

CLP: Our Commitment to Energy Efficiency and Conservation

Four Steps to Saving Energy

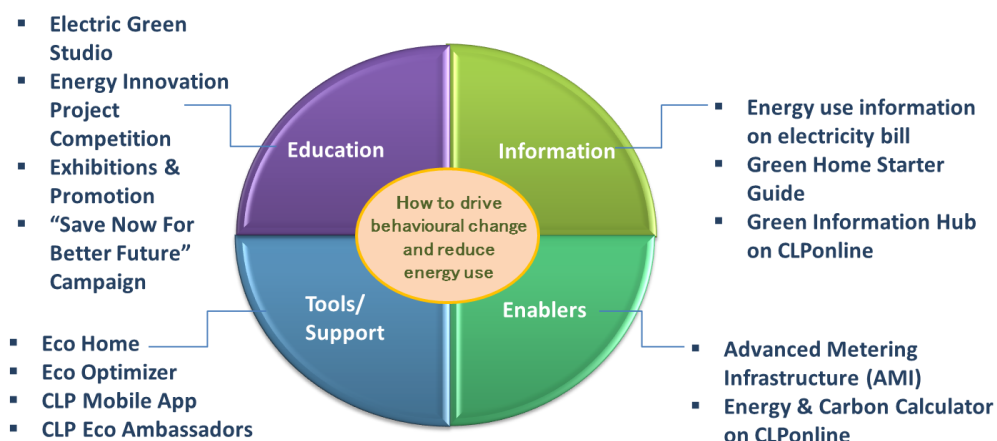
CLP is firmly committed to energy efficiency and conservation (EE&C). We encourage our residential and business customers and the Hong Kong community at large to use energy more efficiently and change their behaviour so that they save energy and help create a better environment.

We adopt a four-step approach to changing people's habits and helping them to reduce their energy consumption. These steps are:

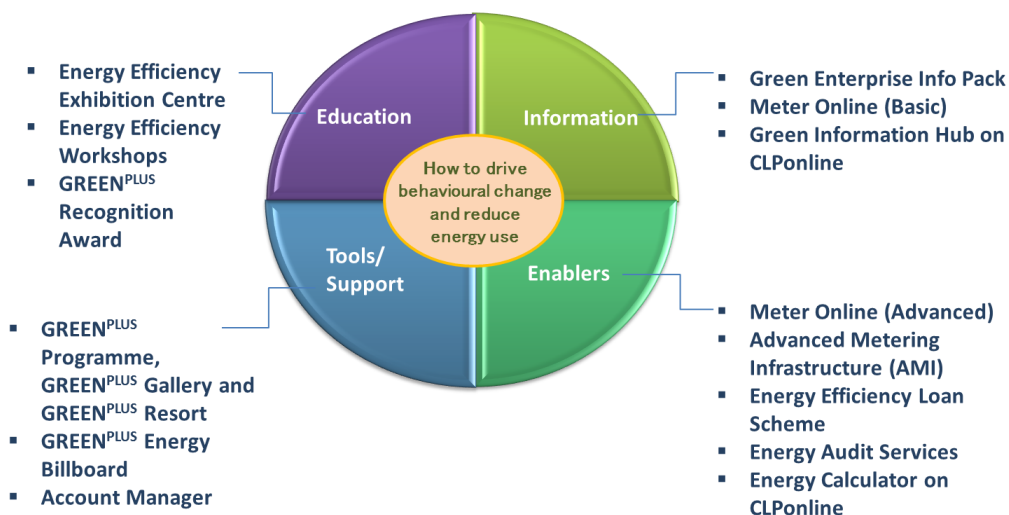
- Educating the public
- Providing customers with information and energy-saving tips
- Equipping customers with tools and technical support
- Helping with enablers to make greater energy efficiency possible

We are committed to doing everything we can to help our customers and our city move towards a low-carbon lifestyle that will improve our environment for future generations.

Energy-Saving Support for Homes



Energy-Saving Support for Businesses



Delivering the Benefits of Behavioural Change

Business and residential customers have welcomed our energy efficiency and conservation initiatives, which have not only helped to reduce their energy use but save them money too.

Our exhibitions, workshops, community programmes and campaigns have encouraged people of all ages and social backgrounds to get involved in a change that is critical to Hong Kong and its environment.

In the Annex attached, we provide details for 26 initiatives launched by CLP, designed & implemented to support energy efficiency & conservation. A summary of each initiative is provided, as well as links to further information and the positive results these programmes have delivered.

Many thousands of people have visited our CLP Eco Home or attended one of a host of themed exhibitions, tours and workshops to highlight energy-saving ideas. Meanwhile, residential customers have stronger awareness on home energy saving by using our Green Home Starter Guide and getting more energy information and green tips from their electricity bill.

CLP now has a wide range of web-based services. More than 26,000 residential customers have signed up for our Eco Optimizer online energy assessment tool since it became available last year, and over 1,000 business & community organizations have cut their annual energy consumption by 10 to 20 per cent on average after joining our GREEN^{PLUS} programme.

There are many success stories where CLP has been working with Commercial customers across the city. As examples, one shopping centre has reduced its annual electricity consumption significantly after adopting our recommendation for a chiller optimization energy-saving solution and a tertiary education institute has made more savings by installing a heat pump dehumidification system on our advice.

The Road Ahead

CLP is determined to play its part in building a better future for the Hong Kong environment. The energy efficiency and conservation initiatives we have launched so far are important steps towards that goal.

We will continue to support our residential and business customers in their efforts to reduce consumption, and we will look to seek out new ways to take forward our mission for a greener, more environmentally-aware Hong Kong.

Annex:**CLP: Our Commitment to Energy Efficiency and Conservation
(4 December 2012)****For Residential Customers
Educating the public**

- ***Electric Green Studio, A Mobile Classroom***

The 10-ton electric truck, a mobile environmental education classroom, was newly refurbished in September 2012 and provides zero roadside emissions. It is a new version of the original Green Studio launched in 2009 which aims to encourage children to adopt green living and energy saving in their daily lives through interactive activities including the 3D movie “Earth Hero”



Results: Since the roll-out of the Green Studio mobile classroom in 2009, it has visited more than 100 schools and made 75 community visits, helping to spread the green message to over 50,000 children.

- ***Energy Innovation Project Competition***

Jointly organised with The Hong Kong Institution of Engineers, the Energy Innovation Project Competition has been held since 2009. The Competition aims to encourage secondary school students to develop innovative ideas on energy efficient applications and promoting the concept of energy efficiency to the community.



Results: Since the launch of the Energy Innovation Project Competition in 2009, it has sponsored over 140 projects.

- ***Exhibition & Promotion***

Organise exhibitions to enhance public awareness on energy efficiency.



Results: Exhibitions on energy efficiency have been held in Telford Plaza in Kowloon Bay and Maritime Square in recent years, attracting over 11,000 visitors.

- ***“Save Now For Better Future” Campaign***

The Campaign comprises our energy saving competition and sharing of successful cases using Eco Optimizer. The “Save Now For a Better Future” saving competition is divided into 2 categories and the saving period lasts for 4 months. The first 150 participating household families which save the most will get attractive rewards. For details, please visit:

https://www.clponline.com.hk/MyHome/EcoLivingIdeas/Documents/default_en.html



Results: Over 14,000 household families have enrolled in the competition.

Providing customers with information and energy-saving tips

- ***Energy use information on electricity bill***

Since 1998, CLP has provided customers with bar charts of their past electricity consumption on their electricity bills. Starting from 1 June 2012, customers are able to understand even more about their consumption patterns with extra information on the bar charts on their bills, a comparison to the per capita consumption of CLP customers and the CO2 per unit of electricity.



Results: Enables customers to have a clear understanding of their electricity consumption and enhanced awareness of their carbon footprint.

- ***Green Home Starter Guide***

The Starter Guide, which comprises comprehensive information on creating a Green home is prepared for residential customers when they open a new CLP account. It provides tips on the choice and installation of electrical appliances, as well as energy saving.

For details, please visit:

https://www.clponline.com.hk/Documents/CLP_GreenHome_Eng.pdf



Customers can also make reference to the readily available green tips online; *for details please visit:*

<https://www.clponline.com.hk/MyHome/EnergyEfficiencyIdeas/MyPowerWiseHome/EnergySavingTips/Pages/Default.aspx>

Results: Over 10,000 booklets have been distributed.

- **Green Information Hub on CLPonline**

An online holistic roadmap provides customers with vivid and comprehensive information on how to lead a green life and save energy at home.

Please visit:

<https://www.clponline.com.hk/Pages/InformationHub.aspx>



Equipping customers with tools and technical support

- **CLP Eco Home**

The first of its kind, Eco Home is a one-stop green service store which provides energy efficient information and high-tech eco home appliances demonstrations. Exhibitions showcase the latest energy efficient technologies and products.

Results: Over 12,000 visitors have visited CLP Eco Home, seen its different themed exhibitions and joined talks, workshops & guided tours.



- **Eco Optimizer**

Provided on-line for residential customers, this web-based energy assessment tool features 3 major components – Benchmarking, Analysis and Customized Solutions. The tool also provides customers with tailor-made energy solutions for their daily lives and offers customised green tips within 8 minutes. The Eco Optimizer Smartphone App was launched in October 2012.

For more details about Eco Optimizer, please log on:

<https://www.clponline.com.hk/EAS/?langzh-HK>



Results: Since the launch in 2011, over 26,000 users have registered to use Eco Optimizer.

- **CLP Mobile App**

Customers get handy energy saving tips and other information from the mobile application at anytime. The Green Walker tool in the application can calculate the calories burned in walking.



For more details about the app, please visit:

<https://www.clponline.com.hk/MyHome/EcoLivingIdeas/ecoAmbCorner/EcoPromotion/Pages/mobileApps201108.aspx?lang=en>

Results: Over 29,000 users have downloaded the mobile application.

- ***CLP Eco Ambassadors***

Eco Ambassadors offer energy efficiency tips and introduce eco products to our customers. They also share in talks organised by Government or business organisations, as well as on their Eco Ambassador's blog.



Eco Ambassador's blog address:

<http://www.clponline.com.hk/myHome/EcoLivingIdeas/EcoAmbCorner/EcoAmbBlog/Pages/Default.aspx>

Results: Over 15,000 visitors read the Eco Ambassador's blog. 23 talks have been held by Eco Ambassadors since March 2012.

Supplying enablers to make greater energy efficiency possible

- ***Advanced Metering Infrastructure (AMI) Pilot Scheme***

The 18-month pilot scheme is due to launch in the first half of 2013 and targets 3,000 residential customers in both private and public housing. Customers can proactively control their daily energy usage through the Smart Meters installed in this pilot scheme, and manage their energy usage smartly to pave the way for greener living.



- ***Energy & Carbon Calculator on CLPonline***

A user-friendly online calculator, enabling customers to calculate their own home energy usage and an individual's carbon footprint.



For more details, please visit:

<https://www.clponline.com.hk/ourEnvironment/MeasureOurImpact/Pages/Default.aspx>

For Business Customers
Educating the public

- ***Energy Efficiency Exhibition Centre***

The exhibition centre showcases the latest innovative energy efficiency technologies for various trades and industries. Customers can learn about the relevant energy efficiency technologies through demonstrations of energy efficient products and appliances.

Results: 22,000 business & community leaders have visited the Exhibition Centre.



- ***Energy Efficiency Workshops***

CLP organises energy efficient workshops for people from diverse industries.

Results: Enhance the energy efficiency awareness in the Commercial & Industrial sector. Over 600 people have participated in the workshops.



- ***GREEN^{PLUS} Recognition Award***

The first GREEN^{PLUS} Recognition Award was held in 2012, aiming to assist customers to adopt green solutions and to acknowledge their concerted efforts on energy saving.

Results: Over 400 organisations have participated. Amongst them, 29 received awards.



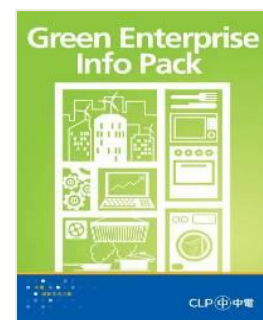
Providing customers with information and energy-saving tips

- ***Green Enterprise Info Pack***

A handy green info pack is prepared for customers who open a new business electricity supply account. *For details, please visit:*
https://www.clponline.com.hk/Documents/CLP_Enterprise_Chi.pdf

Customers can also make reference to the readily available green tips online, *details please visit:*

<https://www.clponline.com.hk/myBusiness/EnergyManagement/InformationHub/EnergySavingTips/Pages/Default.aspx>



Results: Assists customers to set up their green enterprise by providing tips on the application of energy efficiency appliances and sharing successful cases.

- **Meter Online (Basic)**

After installing smart meters, business customers can have a better understanding of the energy consumption of their operation via this free and easy to use platform.

For more details, please visit:

<https://www1.clpgroup.com/myws/tc/flogin.do>

Results: Meter Online helps businesses analyse their energy use, to reduce consumption and enhance energy efficiency. More than 1,300 customers are already using the service.



- **Green Information Hub on CLPonline**

An online holistic roadmap provides customers with vivid and comprehensive information on how to lead a green life and save energy in their working environment.

Please visit:

<https://www.clponline.com.hk/Pages/InformationHub.aspx>



Equipping customers with tools and technical support

- **GREEN^{PLUS} Programme, GREEN^{PLUS} Gallery and GREEN^{PLUS} Resort**

Our GREEN^{PLUS} Programme assists business customers to implement customised energy efficient applications. The GREEN^{PLUS} Gallery offers real-life demonstrations of energy efficient applications for areas including heating, lighting, electric cooking and renewable energy, as well as showcasing the effectiveness of the applications. CLP's GREEN^{PLUS} Resort showcases energy efficiency applications for outdoor settings and renewable energy for business customers.



Results: The GREEN^{PLUS} programme was launched in 2010. 1,000 organisations have benefitted from CLP's energy efficiency recommendations and this has helped them save 10-20% on average on their annual energy consumption.

- ***Energy Efficiency Loan Scheme***

An interest-free Energy Efficiency Loan Scheme to subsidise non-governmental business customers to install energy efficient applications.



- ***Energy Audit Services***

CLP provides energy audit services for medium to large businesses to evaluate, analyse and improve their energy efficiency and thus help them to reduce both energy use and the cost of business operations.



Results: CLP has provided energy audit services to 1,300 Commercial & Industrial customers since 1990s. Since 2009, CLP has assisted these customers to save around 60 GWhs of electricity - equivalent to supplying almost 20,000 typical homes in CLP's area.

- ***Energy Calculator on CLPonline***

A user-friendly online calculator, enabling customers to calculate energy use in the office.



For more details, please visit:

<https://www.clponline.com.hk/ourEnvironment/MeasureOurImpact/Pages/Default.aspx>

FACT SHEET – GENERATING CAPACITY & RESERVE MARGIN

CLP supplies electricity to 80% of Hong Kong’s population (approximately 5.8 million people). Provision of sufficient and highly reliable electricity to meet customers’ needs anytime and anywhere is the primary objective of CLP as the principal power supplier for the city.

Unique Nature of Electricity

- Electricity cannot be efficiently stored and electricity demand from customers has to be met at the time it is needed, and at all times by the amount of electricity supplied. Any imbalance in supply and demand in a power system, even only for a fraction of second, may lead to system instability or even large scale blackout.

Installed Generating Capacity

- Installed generating capacity refers to the maximum amount of electricity a power supplier is able to provide by all its power generating units and energy imported. The amount of generating capacity required should be set at a level not only being able to meet the maximum demand but also to include the reserve capacity required in case of any loss of generating capacity due to planned maintenance and unforeseen outages of generating units. At CLP, the installed generating capacity is 8,888MW.

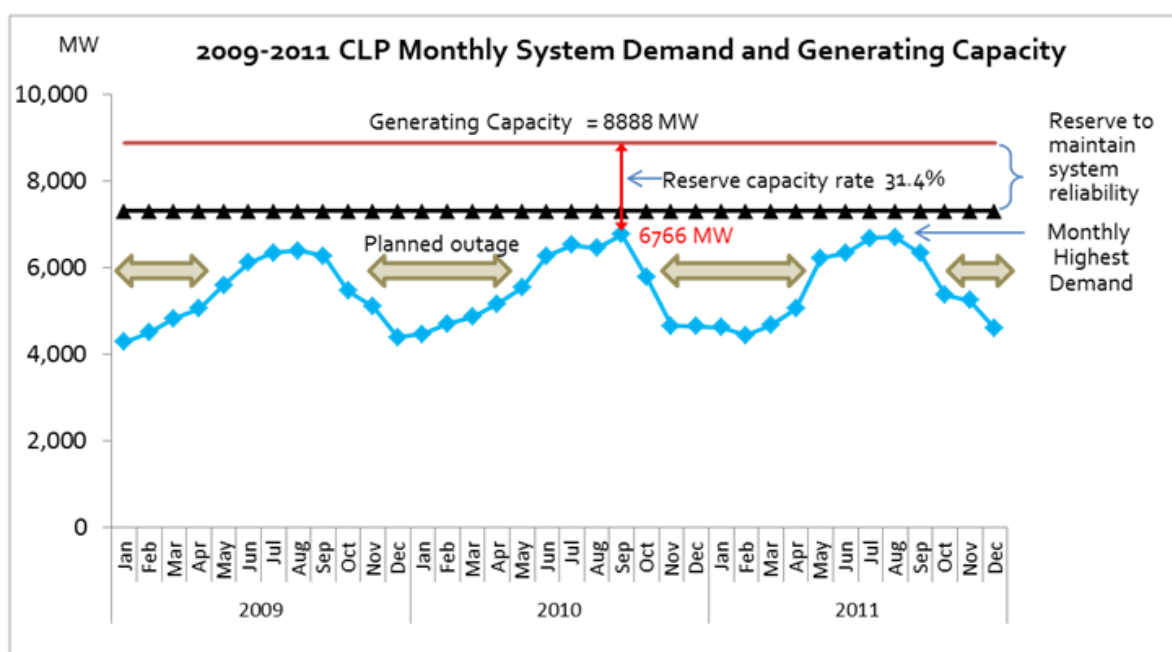
Maximum Demand

- The maximum demand is the highest aggregate electricity demand of all customers that needs to be supplied at the same time. In Hong Kong, the maximum demand in summer is higher than in winter and daytime is higher than night time. Maximum demand (rather than electricity consumption, which is represented by electricity demand over a period of time) is therefore one of the most important indicators for planning the required installed generating capacity.

Reserve Capacity & Reserve Margin

- Reserve capacity is necessary to cater for any loss of generating capacity due to faults or planned maintenance and refurbishment. CLP sets the level of reserve margin by making reference to the maximum electricity demand as one of the most important indicators for planning and operation. This is in line with the practices adopted in the electricity industry all over the world.

- The level of reserve margin required is dependent on a number of factors including the size of the power system and the reliability level required etc. The higher the need for reliability in a small power system, the higher the percentage reserve margin tends to be.
- Hong Kong is one of most densely-populated cities in the world where people mostly live or work in high-rise buildings, so supply reliability is of the utmost importance for our safety, our society and our economy.
- Typically, the reserve margin recommended by the International Energy Agency (IEA) is 20% to 35%. CLP's reserve margin in 2011 was 33%, while Singapore keeps a margin of about 50% as required by its regulator.



Electricity Sales to China

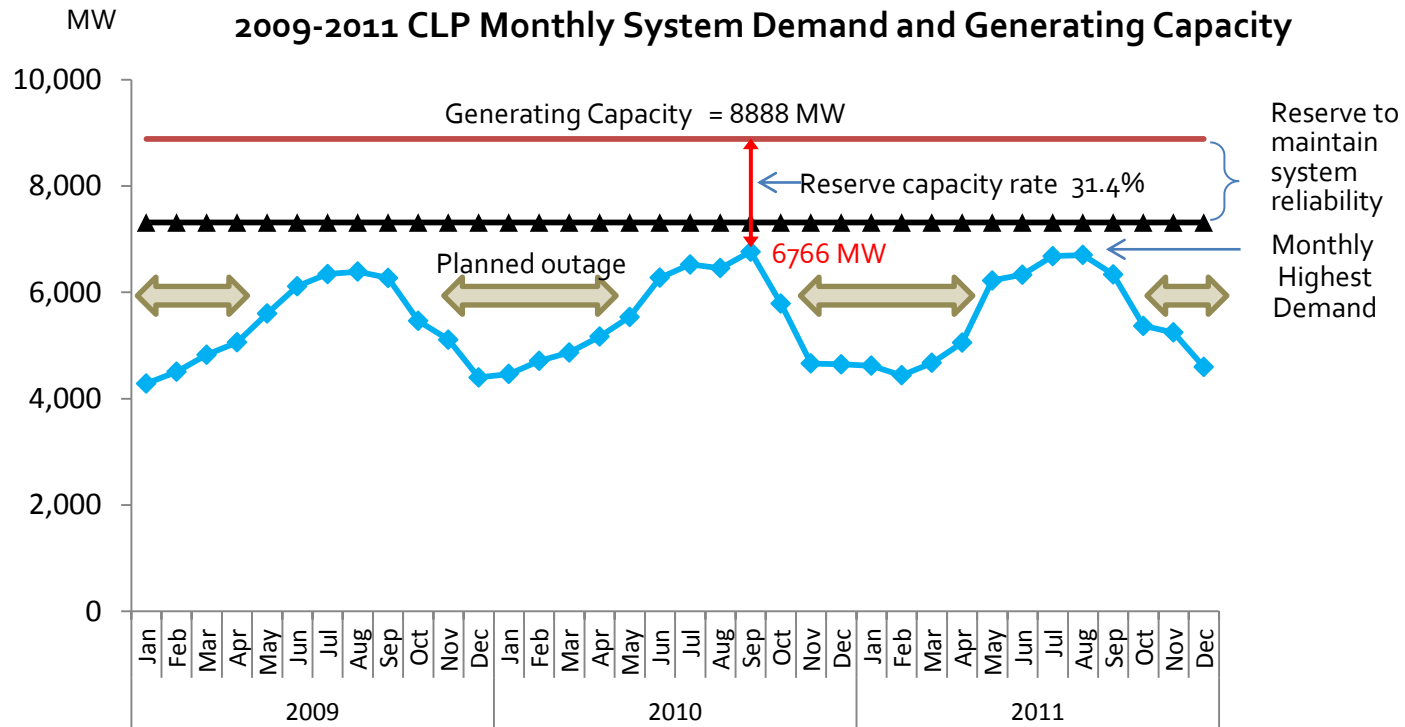
- To optimise the utilisation of the reserve capacity, CLP makes use of spare capacity and sells electricity to China under the principle that customers in Hong Kong will have priority and that the supply to China is made on an interruptible basis. In 2011, electricity sales to China accounted for only about 8% of CLP's total sales.
- With Government's endorsement for this arrangement since the 90's, 80% of the profit derived from electricity sales to China goes to the Tariff Stabilisation Fund and benefits local customers by relieving tariff pressure. From 2002 to 2011, HK\$5.1 billion from the profit of China sales has been contributed to Tariff Stabilisation Fund and this is one of the key factors that has enabled CLP to keep its current basic tariff lower than the 1997 level.

Excessive Capacity

- CLP's generating capacity and the reserve capacity required is under close scrutiny of the Hong Kong Government, as well as the power company's operational and financial performance. As stipulated in the Scheme of Control Agreement, if the installed generating capacity is found to be excessively higher than the required capacity when a new generating unit is commissioned, penalties will be imposed on the power company.

End

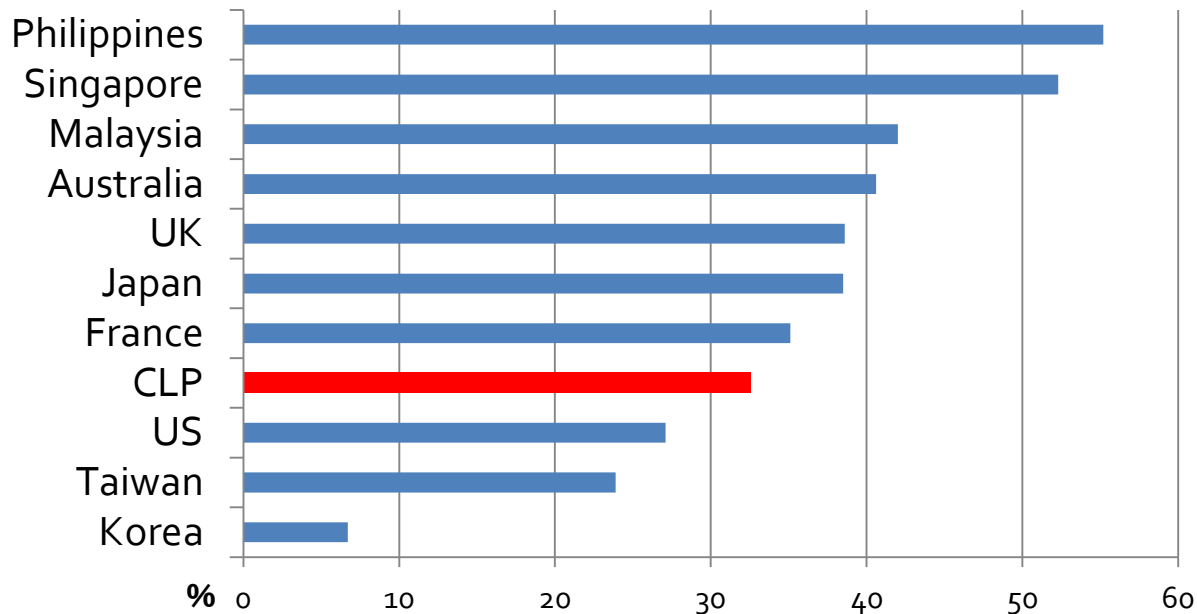
Why Reserve Capacity is Needed?



- As electricity cannot be efficiently stored, electricity demand needs to be met at all times by the amount of electricity supplied.
- To ensure safety and reliability, CLP's system total installed capacity in addition to preparing for the highest estimated consumption any time has to set a sufficient level of generating capacity as reserve margin to cater for any loss of generating units due to forced outage and planned outage for maintenance purpose

Our Reserve Capacity within Reasonable Level

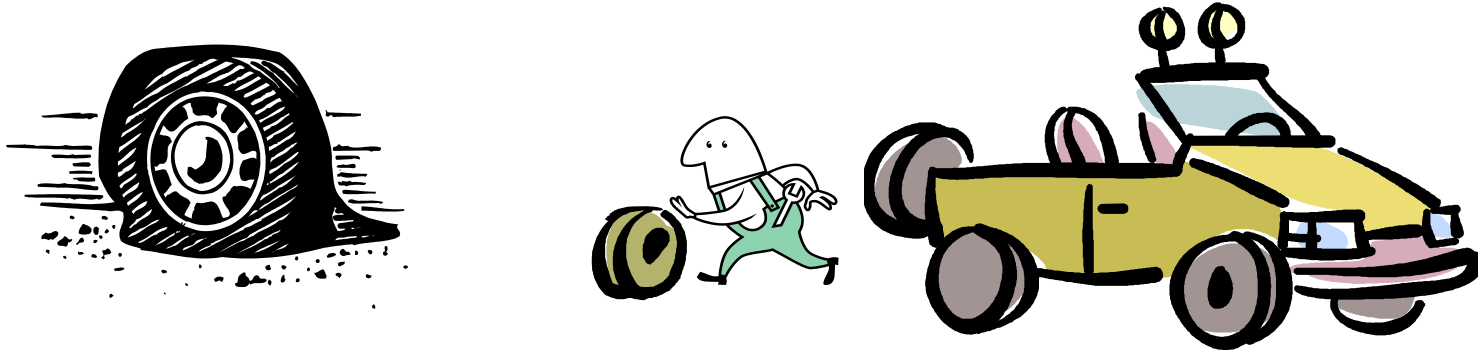
- Reserve capacity is affected by a basket of factors including the size of the power system and the reliability level required, etc.
- The reserve margin recommended by the International Energy Agency is 20% to 35%. In fact, the levels required by different nations and regions are different. For example, Singapore sets at 50%.



Notes: Comparative figures are as of 2010/11, based on the following sources:

- (1) UK : 2011 NETS Seven Year Statement; other European countries: ENTSOE System Adequacy Retrospect 2011
- (2) Northern America: NERC's 2011 Long Term Reliability Assessment
- (3) New Zealand : Report of Transpower; Australia: Report of AER
- (4) Asian countries: Annual reports of regulatory authorities or utilities

Reserve Capacity and Sale of Electricity to China



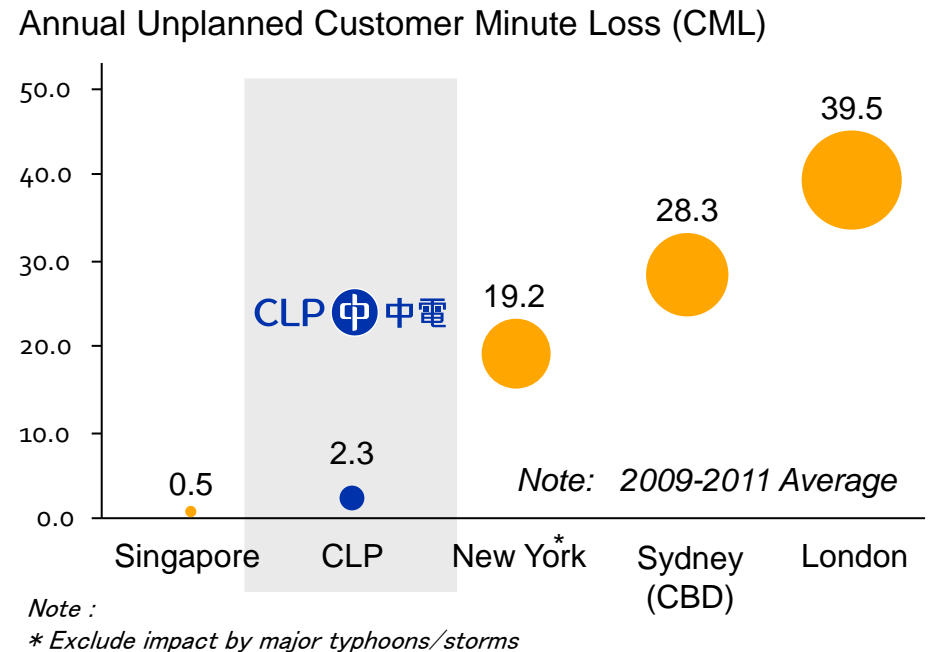
- To make better use of our resources, we use our reserve capacity for sale of electricity to China. When this reserve capacity is needed to support our own system, we can immediately stop the sale.
- This is similar to a spare tyre in a car, which can be leased out to others for extra income and when needed, we can get it back.
- 80% of the profit derived from electricity sales to China goes to the Tariff Stabilisation Fund (TSF) to help relieve tariff pressure.
- For years from 2002 to 2011, profits from CLP's supply to China that has contributed to TSF was HK\$5,100 million, which significantly relieved the tariff pressure. Taking years from 2009-2011 as an example, local customers saw a reduction of 1.0 – 1.8 cents per kWh as a result.

World-class Electricity Supply

Hong Kong needs a reliable electricity system

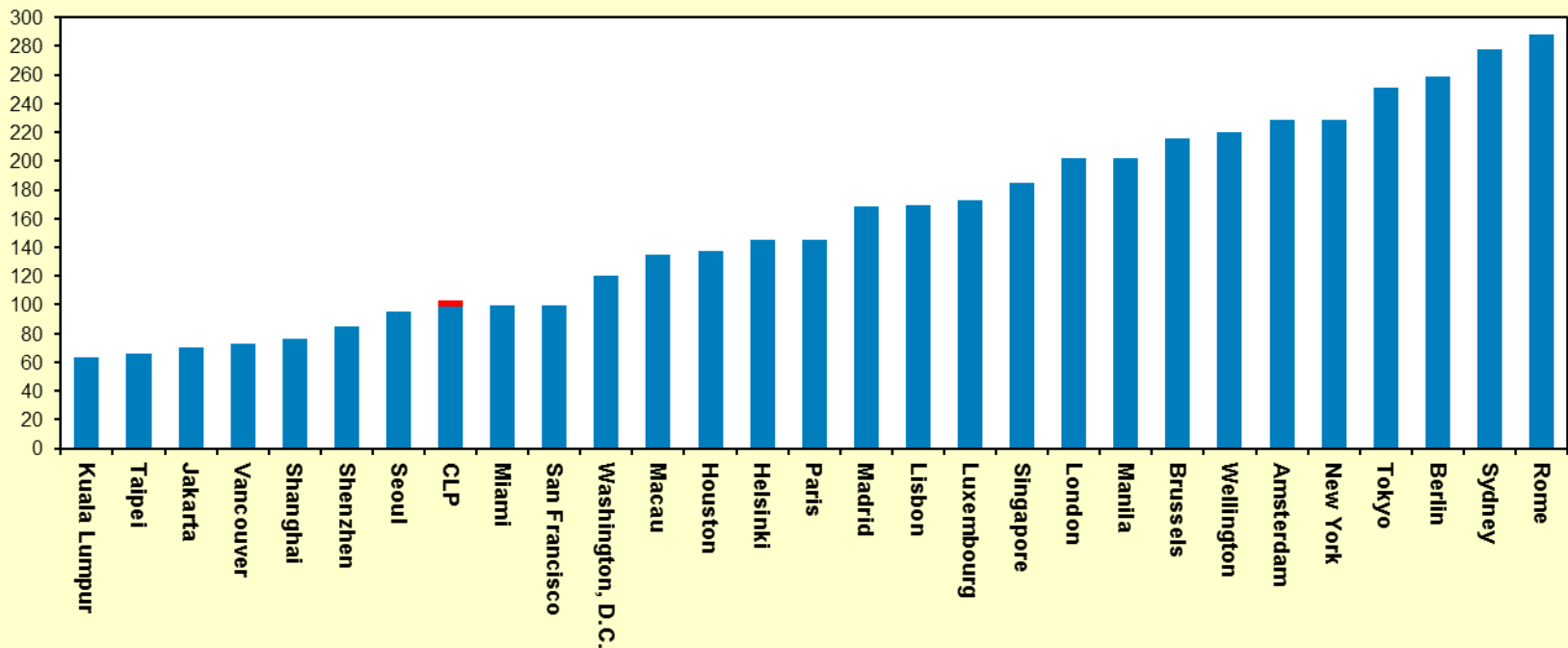
- Densely populated
- Round-the-clock trade and financial hub in the region
- Half of its population live and work in high-rise buildings of 15 storeys or above
- Provide a reliable electricity supply to power all businesses

CLP's supply reliability up to 99.999% - one of the best in the world



Residential Tariff Comparison with Other Cities

Residential Tariff HK cents/kWh (as of Nov 2012)

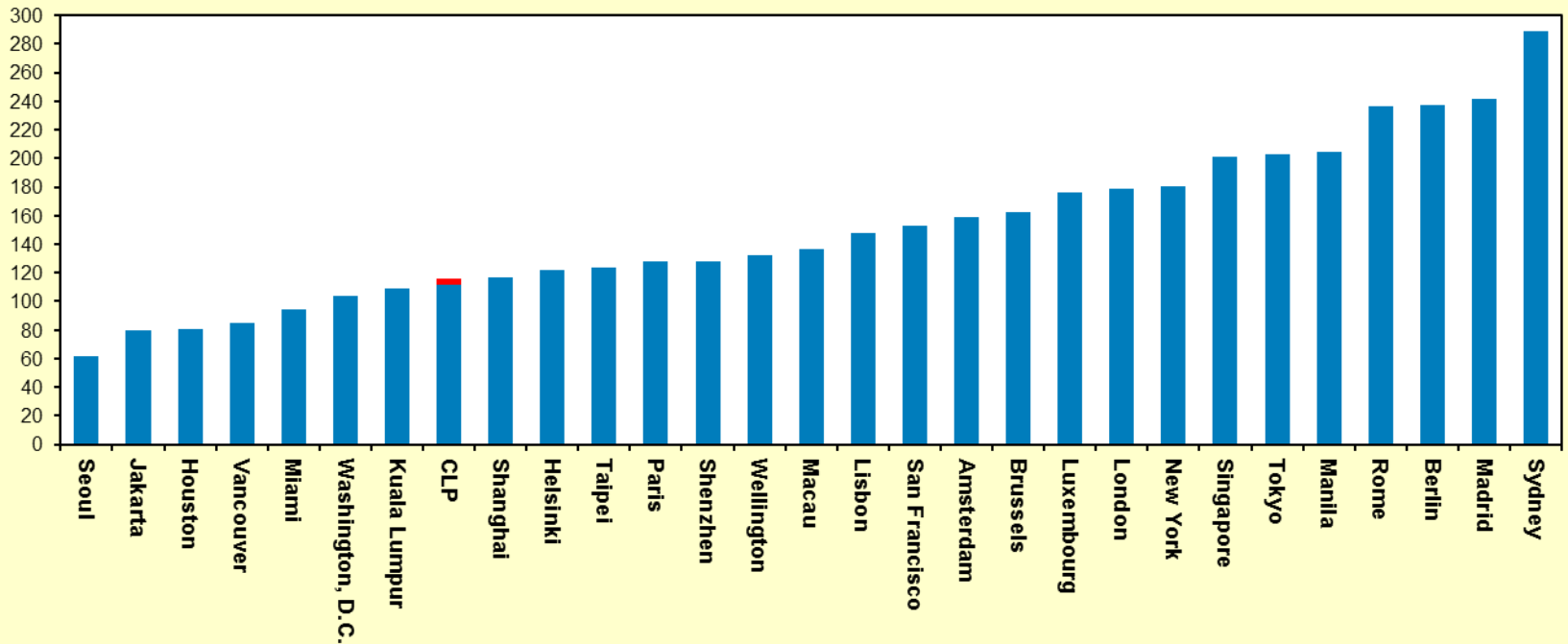


Remarks: Comparison based on average monthly domestic consumption of 275kWh
 Tariff and exchange rate at November 2012 (CLP tariff excludes Rent & Rates Special Rebate)
 ■ CLP 2013 tariff adjustment

Source: Web search

Small Commercial Tariff Comparison with Other Cities

Small Commercial Tariff HK cents/kWh (as of Nov 2012)



Remarks: Comparison based on average monthly consumption of 3,000kWh
 Tariff and exchange rate at November 2012 (CLP tariff excludes Rent & Rates Special Rebate)
 ■ CLP 2013 tariff adjustment

Source: Web search