

Fact Sheet (2)

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

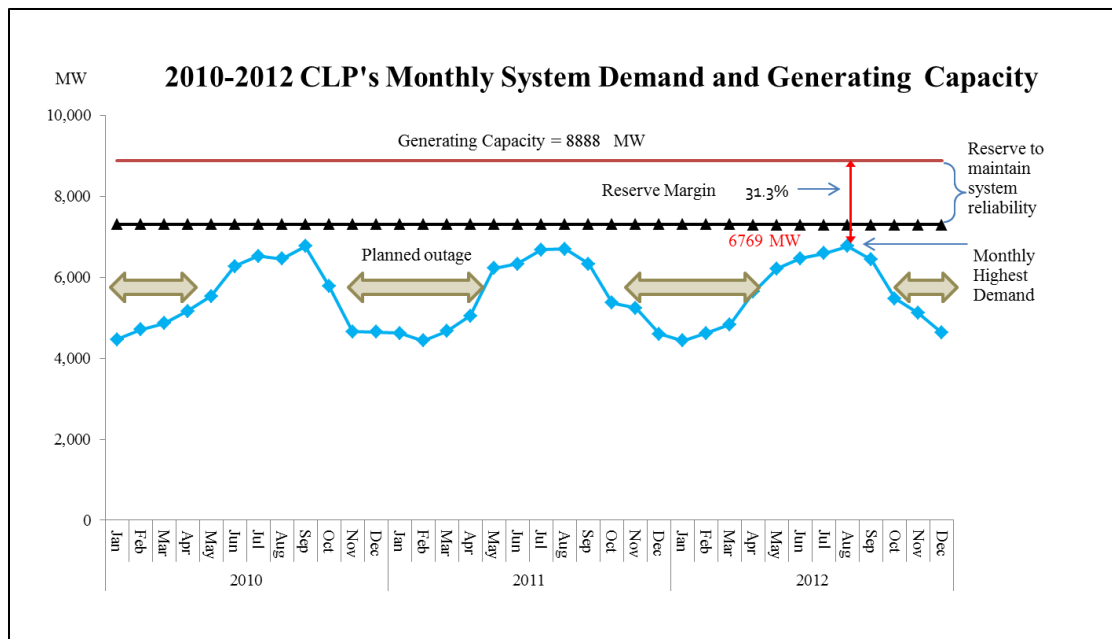
- The maximum demand is the highest aggregate electricity demand of all customers that needs to be supplied at the same time. In Hong Kong, the maximum demand in summer is higher than in winter and daytime is higher than night time. Maximum demand (rather than electricity consumption, which is represented 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 2012 was 31%, while Singapore keeps a margin of about 50%.



Electricity Sales to the Mainland China

- To optimise the utilisation of the reserve capacity, CLP makes use of spare capacity and sells electricity to the Mainland China under the principle that customers in Hong Kong will have priority and that the supply to the Mainland China is made on an interruptible basis. In 2012, electricity sales to the Mainland China accounted for only about 5% 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 the Mainland China goes to the Tariff Stabilisation Fund and benefits local customers by relieving tariff pressure. From 2003 to 2012, HK\$4.9 billion from the profit of the Mainland 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 at a competitive 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

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