Performance and Business Outlook

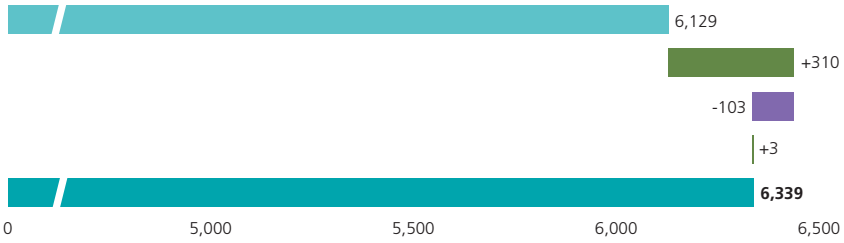
We offer a wide-ranging view of CLP's performance against its strategic objectives, including our operating context and the opportunities and challenges we are likely to encounter in achieving our strategic objectives. Our online Sustainability Report adds to the description here of our social and environmental performance to give an integrated picture of CLP's activities.

Hong Kong

Financial Performance

In 2011, the earnings from our Hong Kong electricity business were HK$6,339 million, compared to HK$6,129 million in 2010. This increase of 3.4% was due to the higher permitted return on a higher level of average net fixed assets, partially offset by the higher interest costs on increased borrowings for the financing of fixed assets.

Hong Kong Earnings (HK$M)



Operational Performance

Meeting Demand

The most important aspect of our performance remains our ability to meet the demand for electricity in Hong Kong, everyday of every year. We achieved this in 2011. Local sales of electricity were 31,168 gigawatt hours (GWh), an increase of 0.8% compared to 2010. Sales growth was supported by the strong local economy and by increased cooling load from the residential sector due to hot summer months. There was slower growth in sales from the commercial sector and a decline in sales from the manufacturing sector due to the continued closure of local textile factories.

Local Sales

	Increase / (Decrease) GWh	Increase / (Decrease) %	As Percentage of Total Local Sales
Residential	137	1.6	27%
Commercial	28	0.2	41%
Infrastructure & Public Services	140	1.8	26%
Manufacturing	(66)	(3.4)	6%

Sales to the Chinese mainland were 2,957GWh, an increase of 13.3% as against 2010. This was primarily due to higher contract volumes with Guangdong Power Grid Corporation in 2011. Overall, total electricity sales, which include both local sales and sales to the Chinese mainland, increased by 1.8% compared to the previous year.

Capital Investment

The ongoing maintenance and enhancement of supply quality and reliability, as well as the need to meet the demand created by infrastructure development projects, requires continuing and substantial investment by CLP. In 2011 CLP invested HK$7.8 billion in generation, transmission and distribution networks as well as in customer services and supporting facilities. The reliability and operational performance of our supply network was reinforced by further upgrading existing plant and equipment. This included,

for example, the replacement of ageing oil-filled cables with the more environmentally friendly "XLPE" cables, strengthening the support structures and lightning protection of overhead lines to improve their resilience against adverse weather conditions, and the mid-life extension of substation buildings and high voltage switchgear.

Gas Supply

Government policy requires a significant increase in the use of gas for the generation of electricity to meet Hong Kong's needs. As part of that policy, the HKSAR Government and the Central People's Government entered into a MOU in 2008 for long-term gas supply from the Mainland to Hong Kong.

In preparation for those new sources of gas supply, the construction of a new gas receiving station and other plant modifications at Black Point Power Station was approved by the HKSAR Government in early 2011. This was the first stage in securing the Executive Council's approval for the various gas supply and gas infrastructure projects resulting from the MOU. The plant modification for the control systems in the first two units, out of a total of eight units, at Black Point was successfully completed. This modification will enable the Black Point plant to migrate progressively from the existing Yacheng gas supply to the various future new gas supplies from the Chinese mainland. The new gas receiving station and related plant modification works should be completed by the end of 2012 and early 2013 respectively.

Progress is being made in securing additional natural gas from all three sources contemplated under the MOU:

- New gas fields in the South China Sea – discussions with CNOOC on both short-term and long-term replacement natural gas supply have advanced. In the short-term, a Gas Sales Agreement entered into in December will allow for a small field, adjacent to the existing and depleting Yacheng field, to supplement those existing gas supplies for five years. Discussions with CNOOC on the long-term supply arrangements are still progressing.
- Second West-to-East Pipeline – negotiations have been finalised with PetroChina for substantial supplies of gas from the second West-to-East Pipeline and for the ownership of the branch line which will connect Black Point Power Station to that pipeline. The National Development and Reform Commission (NDRC) of the PRC approved PetroChina and CAPCO's investment in the branch line (PetroChina 60%, CAPCO 40%) in December 2011. The proposed gas supply contract is under review by the SAR Government and awaiting approval from the Executive Council. Preparations are now underway for sub-sea pipeline construction at the PRC side to start early in 2012. New supplies are expected to arrive by the first quarter of 2013.
- Shenzhen LNG terminal – this has not progressed as quickly as expected, due to difficulties in securing an appropriate site. Currently, a new site in eastern Shenzhen is being reviewed, with a feasibility study under preparation. Project approval from the National Energy Administration is targeted for 2012.

These projects have major implications for the future reliability of supply to our customers in Kowloon and the New Territories and on the emissions levels from our local generating capacity. They will also have a substantial upward impact on future tariff levels, as discussed in the Chairman's Statement to this Annual Report.

Innovation

Meeting our customers' needs calls for ongoing improvement and innovation in our equipment, systems, business processes and programmes. All of our initiatives are focused on reliability, customer services, lowering costs or improving environmental performance. This is illustrated by the following examples of the efforts we made in 2011:

- Customer Process Re-engineering – five key customer processes were critically reviewed from end to end, leading to significant cost savings, enhanced operational efficiency and reduced demand for metering site works.
- Customer Supply Connections – this process was streamlined to shorten turnaround times and optimise the use of resources. In the latest "Doing Business 2012 Report" by the World Bank, Hong Kong ranks fourth amongst 183 economies in the ease of obtaining an electricity connection for a newly-constructed building.
- Data Centre – as a major financial and international trading centre, there is heavy demand for secure data centre facilities and services in Hong Kong. Two of the most pressing local challenges that the data centre sector faces are availability of space and power. CLP has worked closely with Government and industry to support Hong Kong as the best choice for data centre establishment. In 2011, we launched our data centre portal as part of a wider engagement programme with stakeholders to ensure that CLP helps to power Hong Kong as a high-tier data centre hub.

- Live-Line Work Techniques – live-line working greatly increases the flexibility of scheduling maintenance and repair activities and reduces the inconvenience to customers which would arise if their supply needed to be switched off to allow work to proceed. In 2011, we conducted 481 live-line operations on our 11kV overhead network. We are training more live-line work crews to expand this aspect of our operations.
- Smart Grid – we are undertaking extensive work in research and testing smart grid technologies which have the potential to enhance reliability of electricity supply, optimise use of assets and promote operational efficiencies. Our "Smart Grid Experience Centre" opened in March 2011. This forms part of our efforts to work with our customers to identify and implement smart grid technologies, including the use of enhanced intelligence and automation to support renewable generation, strengthen power grid resilience and promote energy saving and demand management.

Fulfilling our Duty to our Customers

CLP has long recognised that Hong Kong's people rightly demand the highest levels of service from their electricity provider. Most of our population live and work in high-rise buildings – they could not get to their homes or places of work without uninterrupted services from lifts and escalators. This, together with Hong Kong's hot and humid climate, heavy reliance on air-conditioning, and high population density, means that individual power failures can quickly cause inconvenience and distress to many thousands of people. Moreover, Hong Kong's role as a financial and services hub and as a tourist centre depends on the high quality of its infrastructure, including the electricity system which powers our society and our economy.

CLP has a duty to deliver an electricity supply characterised by reliability, power quality, excellence in customer service, reasonable tariffs and good environmental performance. In 2011, CLP fulfilled its duty to customers in all these respects – and we will continue to do so.

Reliability

Hong Kong has one of the most reliable electricity services in the world. Since 2000, unplanned Customer Minutes Lost per year, a standard measure of supply reliability, has been improved by 87%. The result is that a typical CLP customer would have experienced an average of only 2.3 minutes of unplanned power interruptions each year between 2009 and 2011. This compares with 15 to 44 minutes (between 2008 and 2010 – the latest available data) of power outages experienced by electricity users in New York, Sydney and London. In 2011, CLP supply reliability reached its best ever levels. This was the result of the adoption of proven technologies, judicious investment in our network, focused asset and operational management strategies and the expertise and dedication of our workforce.

Black Point Power Station

Power quality

Like all developed economies, Hong Kong requires stable electricity supply for critical and sensitive equipment. Given the susceptibility of Hong Kong's power system to voltage fluctuations caused by lightning strikes and third party interference, CLP has been making substantial efforts to strengthen the resilience of our overhead line and cable networks against thundery weather and third party damage respectively. We have also been assisting our customers in resolving power quality issues by offering technical consultancies, such as the performance evaluation of sensitive equipment and fit for purpose solutions. In 2011, more than 30 technical evaluations were conducted and proposals recommended to our major corporate customers.

Excellence in customer service

Our commitment to excellence in customer services remains most clearly expressed in our 12 performance pledges. These set out our targets in areas of our performance which we know are of particular importance to our customers, such as reliable electricity supply and speedy response to our emergency service hotline. These pledges are set out on our website at www.clponline.com.hk, where we also describe our performance against those pledges. In 2011, we met all of our service pledges.

Like the other aspects of our business, customer service requires continuous review and improvement. In 2011, we launched our "Customer Services Improvement Plan" for commercial, industrial and residential customers. This includes 18 initiatives which have been developed and launched over the year. The 24-hour INFOLINE service of the Customer Interaction Centre was launched in October 2011. INFOLINE is expected to receive over 1.4 million calls each year and provides one-stop customer services such as account application and termination. Operating 24 hours a day, seven days a week with customer relations officers speaking in three languages, namely Cantonese, English and Mandarin, INFOLINE will continue to be a key service channel for over 2 million customers. The Improvement Plan also included better arrangements for our customers to receive service visits from CLP staff. Towards the end of 2011, we introduced our weekend installation inspection service and a one-month advance booking schedule.

Tariff

Supply reliability, power quality, excellence in customer service and environmental improvement comes at a price, which must be reflected in the tariffs paid by our customers for their electricity. We do all that we can to maintain those tariffs at reasonable levels. However, a tariff increase for 2012, whilst unwelcome, was unavoidable. The Average Net Tariff in 2012 will be 98.7 cents, an increase of 4.9% from 2011. Details of the tariff increase we announced on 30 December 2011 are as follows:

Components	Previous (HK¢/unit)	Effective 1 Jan 2012 (HK¢/unit)
Average Basic Tariff	80.0	84.2 (+4.2)
Fuel Clause Charge	14.1	17.8 (+3.7)
Rent & Rates Special Rebate	–	-3.3 (-3.3)
Average Net Tariff	94.1	98.7 (+4.6)

This increase, as noted in the Chairman's Statement, was a matter of significant political, media and public controversy. The background and breakdown of the tariff increase, whilst widely communicated, have not always been fully understood.

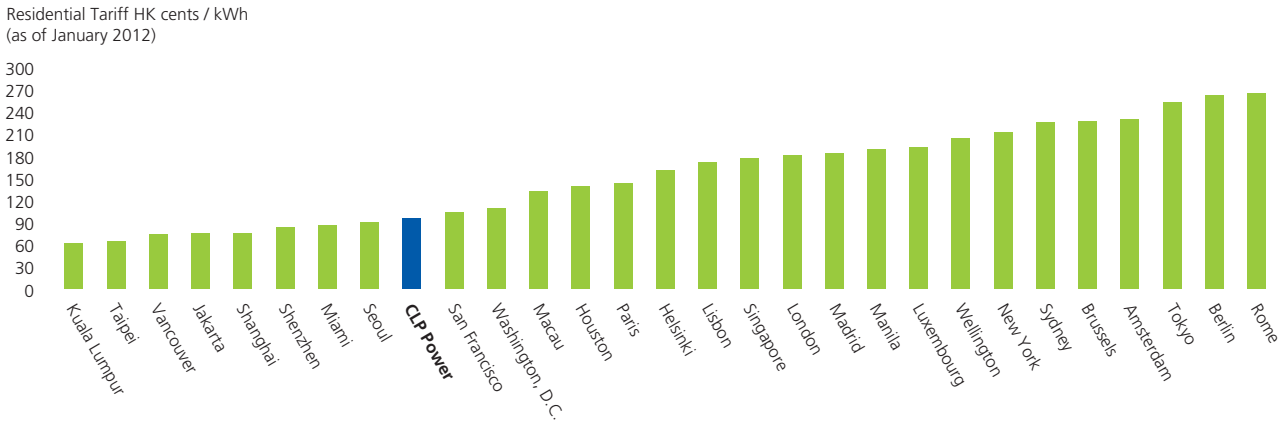
- The increase in basic tariff is primarily due to the costs associated with meeting increasingly stringent Government emission regulations in support of Hong Kong's drive for better air quality, with the need to invest in emissions control facilities and new infrastructure to allow increased use of natural gas for power generation. Under the SoC, a "Tariff Stabilisation Fund" is used to smooth out the impact of tariff increases. This Fund has been drawn down heavily over the past two years to defer the need for a tariff increase. Despite the recent increase, the Fund will drop to a projected level of only HK$100 million by the end of 2012. This is the lowest balance ever recorded and represents just one day of electricity sales for CLP.
- The fuel clause charge is used to recover the costs of the fuel purchased to generate the electricity supplied to our customers. CLP makes no profit on fuel. CLP already carries a deficit in the fuel clause charge account held on behalf of customers. This deficit is growing. This is because of a global trend of higher fuel costs, in particular for gas to generate cleaner electricity. The challenges that we face in managing fuel costs are becoming more serious in the context of these rising costs and the increasing use of gas to meet Government's regulatory requirements, including tighter emission caps on our generation operations.

- The rent and rates special rebate reflects our commitment to return to customers any repayments made by Government upon the final resolution of proceedings we have brought in the Hong Kong courts to recover the overcharging by Government of rent and rates over the past decade. Even though the case is still continuing, we have provided a special rebate of 3.3 cents per unit. This was the primary factor which enabled us to reduce the 2012 tariff increase from the level we had initially proposed.

The tariff increase, and CLP's overall tariff structure, have been carefully managed so that 30% of our domestic customers are expected to bear no tariff increase in 2012, with 50% having a monthly increase of no more than HK$3.4. Finally, half of our commercial customers should have a monthly increase of no more than HK$27.5.

Even with the 2012 tariff adjustment, CLP's tariffs remain highly competitive when compared with other major metropolitan cities, especially when many of those cities will not benefit from the levels of supply reliability, power quality and customer service which are provided by CLP.

2012 Residential Tariff Comparison



Notes: Comparison based on annual domestic consumption of 3,300 kWh.
Tariff and exchange rate at January 2012.

Source: Web search

Environmental Performance

With full operation of the emissions control facilities at Castle Peak Power Station, our overall 2011 emissions performance continued to meet the stringent regulatory requirements. Emissions of SO_2 reduced by 20% compared with 2010. RSP emissions were maintained at a similar level. Emissions of NO_x saw an increase of 22% due to less use of natural gas as a result of the depletion of the Yacheng gas reserve.

We know that the Hong Kong SAR Government, in support of national policy, aims for further carbon intensity reductions from Hong Kong. To this end, in September 2010 Government launched a public consultation on Hong Kong's Climate Change Strategy and Action Agenda, in which it envisaged an overall 50 to 60% carbon intensity reduction for Hong Kong. For the power sector, Government proposed a fuel mix target of 50% nuclear, 40% gas, 3 to 4% renewable energy and not more than 10% coal by 2020. CLP responded constructively to the consultation document (see our response, "Clean Energy" on our website). Although the consultation process was completed at the end of December 2010, Government is still considering the views expressed before finalising its intended policy direction, in particular with regard to increased reliance on nuclear energy in light of the Fukushima accident.

If Government moves ahead on the basis of its original proposal, this will require significant change in CLP's fuel mix and generating capacity. By way of reference, in 2011 the electricity used by our customers came from a fuel mix of 30% nuclear, 21% gas and 49% coal. For its part, CLP is in favour of a balanced mixture of fuel sources and generating capacity which meets our society's need for electricity supply which is secure, adequate, reliable, cost effective and environmentally responsible as regards both local air quality and climate change. Differing fuel types have different characteristics: there is no single fuel source or generating technology which by itself can satisfy Hong Kong's electricity needs across all criteria.

We will continue to contribute to the safeguard of our environment not only through the way in which we generate energy, but also by helping our customers and the public to use energy wisely. In 2011:

- energy efficiency workshops were conducted with a total of over 300 small and medium enterprise customers from the retail, catering, facility management, engineering, information technology, non-governmental organisation (NGO) and education sectors;
- the "Eco Optimizer", an online energy assessment tool which helps our residential customers use energy more efficiently was launched with over 4,300 accounts successfully completed in 2011;
- Meter Online services offered a free, simple and convenient means for business customers to track, compare and analyse energy consumption performance, so that they can adjust their operations to reduce their energy bills;
- over 150 energy audits were conducted for commercial and industrial customers from different sectors including hospitals, commercial complexes, manufacturing plants, hotels, shopping arcades, office buildings, elderly homes, schools and MTR stations;
- our education fund of HK$5 million per annum provided financial support for energy efficiency educational promotion activities in primary and secondary schools and amongst the general public;
- as many of our business customers have operations in Southern China, CGN CLP Energy Services (Shenzhen) was established as a joint venture with CGNPC to provide energy services there to commercial and industrial customers who are looking for ways to use energy more efficiently; and
- we have been studying the feasibility for an offshore wind farm of up to 200MW in the southeastern waters of Hong Kong. For the project to proceed, the next stage would be to install an offshore wind data collection mast to collect wind and other meteorological data for about one year to evaluate the project feasibility and final project design.

Social Performance

The greatest contribution which CLP can make to society in Hong Kong is through the provision of an excellent electricity supply, an essential public service. However, we support the community through a wide range of activities and initiatives, of which only a few examples are given below:

- Since its launch in September 2011 the Hotmeal Canteen has served over 5,500 nourishing, dietician-supervised hotmeals for needy residents in Sham Shui Po who have difficulty in having proper meals.
- The Active Mind programme provided free cognitive assessment and memory training courses for over 5,500 people to fight against dementia.
- "Here WEEE Go" programme 2011 is the first large scale corporate Waste Electrical and Electronic Equipment (WEEE) recycling partnership programme in Hong Kong. CLP helped St James' Settlement collect more than 1,600 WEEEs in 2011. CLP volunteers also conducted weekly caring visits to deliver over 200 refurbished appliances to more than 100 underprivileged families in Hong Kong.
- Our "LS-energy.hk" is Hong Kong's first comprehensive, free of charge e-learning kit provided to senior secondary students and teachers to help them engage in discussions on issues regarding Energy Technology and the Environment module in their Liberal Studies curriculum. Since its launch, the platform has engaged over 1,000 students and teachers from over 100 schools.
- CLP's support for the Clown Doctor Programme organised by the Foundation Theodora at local hospitals helped more than 5,000 children patients and their parents.
- CLP volunteers spent more than 8,500 hours providing re-wiring services and in other volunteering programmes which benefit the elderly and the disabled, new immigrants and young people. CLP's volunteer team currently has over 800 members, comprising both employees and their families.
- Through participation in various initiatives, CLP and its employees raised over HK$1 million for the Community Chest of Hong Kong.

Outlook

Hong Kong is a small and open economy, whose performance is closely tied to financial, economic and market conditions in its major trading partners, including the Mainland and North America. Hong Kong's overall economic performance, and the shift from a manufacturing economy to a services economy which has been underway for more than two decades, has led to a slowdown in the growth in electricity demand. This means that the priority for Hong Kong's electricity sector is less on substantial additions of generating capacity to meet new demand, but in investments and operational expertise which enhance supply reliability, power quality, customer service standards and environmental performance.

Guangdong is likely to reduce its reliance on power imports from CLP over time. However, the problem of power shortages in Guangdong still persists, even if on a smaller scale than hitherto. In the near term, CLP may still have the opportunity to supply Guangdong, although the progressive tightening of environmental regulations in Hong Kong makes this more and more challenging because additional electricity generation to support Guangdong's needs is likely to take CLP over its emission caps. The application of these more stringent local emissions standards will have an adverse tariff impact, since 80% of the earnings from electricity sales to Guangdong accrue to the benefit of Hong Kong customers and help alleviate tariff pressure.

The proposed changes to CLP's fuel mix for electricity generation, as canvassed in the Government's public consultation on Hong Kong's Climate Change Strategy and Action Agenda, would have a significant impact on our generation facilities and interconnected transmission network with Guangdong. However, following the Fukushima nuclear accident, public concerns about increased reliance on nuclear energy seem to have put the Government's decision to import more nuclear energy on hold. This poses uncertainties for the long-term planning of CLP's generating capacity and transmission networks, especially when our experience has been that the time taken for the necessary approvals has been lengthening. Long-term contracts on cross-border gas and nuclear supply need to be put in place in the coming years, as well as strengthened transmission links between Hong Kong and Guangdong. Clarity on the Government's energy strategy and processes is required in order to allow decisions to be taken in a timely and informed manner.

Policy clarity is also necessary to resolve uncertainties about the future regulatory regime for Hong Kong's electricity sector. The power business is long-term and capital-intensive in nature. A stable and transparent regulatory framework is essential for CLP to plan and make long-term energy infrastructure investments to deliver on Government's policy objectives. The present SoC provides a framework until at least 2018, but the future of the electricity sector after 2018 and the longer term direction for market changes in Southern China remains uncertain. This is a challenging background against which to make commitments for nuclear energy and natural gas supplies with a duration of 20 years or more involving contracts of many billions of dollars.

During the year ahead, CLP's priorities will include:

- continuing to closely monitor fluctuations in gas availability from the existing Yacheng gas field and prudently manage gas usage prior to the arrival of replacement gas;
- securing the three gas sources outlined in the inter-Government MOU on energy supplies signed in August 2008, including progressing contracts for gas supply, and the commercial arrangements and technical development of the related pipeline infrastructure;
- enhancement of stakeholder engagement activities and communication plans in relation to nuclear safety to reinforce public confidence in nuclear power and its ability to meet Hong Kong's energy demands safely and securely. We will also take part in emergency drills for nuclear and other operational matters to enhance co-ordination and responsiveness between CLP, Government and key stakeholders;
- engaging actively with the HKSAR Government on a practical plan for meeting proposed climate change goals and achieving air quality objectives, as well as starting to plan and pursue the major infrastructure developments in our business which will be needed if these policies are to be successfully implemented on time;
- evaluating the options for the additional import of nuclear energy to Hong Kong, both to meet increasing electricity demand and to ensure that this is done in line with any decision by the Government regarding the role of nuclear energy in Hong Kong;
- taking forward innovative initiatives such as electric vehicle market development, pilot smart grid projects and supporting the development of the best local renewable energy projects;

- stepping up efforts towards achieving and promoting energy efficiency through public education and the provision of energy efficiency related services; and
- managing our operating costs amidst rising international fuel prices and local labour costs.

Looking beyond 2012, and subject to the shape of Government policy, including the development of any regulatory changes to the Hong Kong electricity sector, our plans would include:

- strengthened infrastructure integration with Guangdong, notably through the import of gas and nuclear power;
- a cleaner fuel mix. This will involve using more gas, importing more nuclear energy and reducing our reliance on coal, as well as promoting the use of local renewable energy sources to the extent that this is practical;
- the continued implementation of the inter-Government MOU on energy supplies so that new, long-term gas supplies are brought to Hong Kong in a timely fashion;
- the promotion of energy efficiency – we will continue to help our customers to boost energy conservation through energy efficiency-related services and public education, as well as offering advice on energy efficient products, better building energy design and optimal equipment selection for businesses;
- management of the ongoing capital expenditure which our business will require, both to timetable and within budget; and
- excellence in operations at all times, including the effective management of critical business issues such as supply reliability, environmental and safety performance.

The use of "renewable energy" like solar energy and wind energy is a hot topic. However, it is expensive to connect to the existing electricity system and to have a backup power supply when the electricity generated by the renewable energy system is unable to provide the power required. Will your company promote "renewable energy" and provide assistance like sponsorship funding or free technical support?

Mr. CH Mok
Managing Director,
Hong Yip Service Co. Ltd.

Q

A

We are working hard to make it easier for our customers to connect their renewable generation to our grid. By the end of 2011 more than 90 renewable energy systems had been connected to our grid. For small renewables we have greatly simplified the connection application process and lowered the associated cost. In fact, in the case of NGO's and schools, our service is free.

Larger scale renewables usually require more complex technical considerations and solution engineering. In addition, each case can be quite different, thus requiring tailor-made assessment and design effort. Our experienced engineers are more than happy to offer their professional advice and support to serve the specific needs of our customers.

To help our customers, we have developed a grid connection application procedure, as well as technical guidelines in conjunction with EMSD. These can be found on the CLP and EMSD websites.

Richard Lancaster
Group Director –
Managing Director Hong Kong

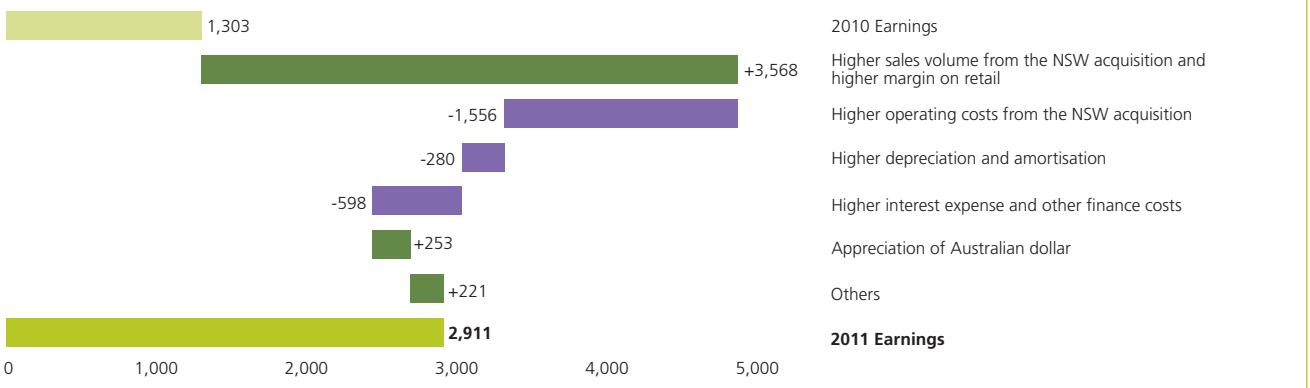
Listen to more Q&As

Australia

Financial Performance

The operating earnings from TRUenergy in 2011 were HK$2,911 million, compared to HK$1,303 million in 2010. Apart from the increase in the average exchange rate of the Australian dollar, the increase in earnings was primarily driven by the acquisition of the EnergyAustralia retail business and Delta Western GenTrader contracts with effect from 1 March 2011 and by retail tariff increases during the course of the year. The increased operating costs compared to the previous year were due to the additional costs associated with the NSW acquisition, including higher employee costs, transitional services provided by Ausgrid, the NSW state-owned distribution company and higher bad debt expense. The NSW acquisition also resulted in higher depreciation and amortisation arising from the acquired assets, as well as higher interest costs due to additional borrowings.

Australia Earnings Before One-off Items (HK$M)



Following the passing of the Australian Government's Clean Energy legislation on 8 November 2011, the book value of our Yallourn brown coal-fired generation business was written down by A$350 million (HK$2,761 million) as at 31 December 2011. As a result, a post-tax impairment loss of A$245 million, or HK$1,933 million, has been recognised for the year ended 31 December 2011. The methodology used in the assessment of this impairment and the assumptions which we have applied, are set out in more detail in Note 6 to the Financial Statements on pages 164 and 165 of this Annual Report.

Operational Performance

Asset Portfolio

2011 was marked by a number of changes to TRUenergy's asset portfolio. The most significant of these was the simultaneous acquisition of the EnergyAustralia retail business and the Delta Western GenTrader contracts through which TRUenergy acquired the retail, and industrial and commercial customers of EnergyAustralia (approximately 1.5 million customers), the Delta Western GenTrader contracts for the output of Mount Piper (1,400MW) and Wallerawang (1,000MW) power stations and three power station development sites. A Transition Services Agreement (TSA) was entered into with Ausgrid to manage the integration process and to ensure that a number of retail support services continue to be provided by Ausgrid until they are taken over by TRUenergy.

In June, we completed the disaggregation of our Roaring 40s wind joint venture, which was owned 50/50 by CLP and Hydro Tasmania. This resulted in an expansion of TRUenergy's renewable energy portfolio by 144MW, through acquiring the Waterloo Wind Farm and a 50% share of the Cathedral Rocks Wind Farm, both in SA and both previously owned by Roaring 40s. TRUenergy also acquired a number of Roaring 40s' development sites, representing a 400MW pipeline of projects at various stages of development.

In July, TRUenergy announced an agreement to acquire from gas producer Santos an effective interest in over 500PJ of coal seam gas reserves in the Gunnedah Basin in northern NSW for A$285 million. This was part of binding agreements by Santos to acquire 100% of a major coal seam gas company, Eastern Star Gas (ESG), with the subsequent sale to TRUenergy of a 20% working level interest in key ESG production and exploration permits and other assets. The purchase by Santos and subsequent sale to TRUenergy of the gas reserves was completed in November 2011. TRUenergy's purchase of the stake in the Gunnedah Basin has long-term strategic value and provides it with upstream gas reserves to help support generation and retail gas demand into the future.

The rezoning of land near TRUenergy's Tallawarra Power Station has been completed and the Federal Government's assessment of the development concept has been concluded. TRUenergy's mixed-use development concept and rezoning of the site is now in the final stages of NSW Government approval. The intention is that the Tallawarra lands will be sold in phases for development through a competitive tendering process.

TRUenergy had been in a joint venture with Petratherm and Beach Petroleum for a geothermal project at Paralana in SA. During 2011, the testing and simulation of temperatures and potential waterflows at depths of greater than 3,400 metres continued, including the injection of a larger volume of water at higher rates in order to determine the power generating capacity of the geothermal resource. In last year's Annual Report, we advised that any decision about the future of the Paralana project would be driven by the results of this testing and an assessment of the overall commercial and technical viability of the project. The relevant agreements had been carefully constructed to include a series of milestones. These allowed TRUenergy to leave the project before substantial financial commitments arose, if our assessment, based on increased geological information, was that the project was not likely to meet our technical and financial thresholds. Following a review of the project, including the most recent drilling data and hydraulic fracture treatment and flow tests, TRUenergy exercised its rights under the project agreements to withdraw from the project in mid-December 2011.

Generation

A major 60-day outage on Unit 4 at Yallourn Power Station was successfully completed to schedule in May. This included the installation of a new high and intermediate pressure turbine on Unit 4. The ongoing project for the redesign and repacking of the cooling tower has resulted in significant improvement in the tower's performance. The State and Federal Government approved the proposed Maryvale field realignment at Yallourn to improve the coal extraction from the field. As part of the transition to Maryvale, major conveyor works for the establishment of the field were progressed including a new overburden system which started operation in September 2011 and installation of a dedicated coal conveyor to be completed in the first half of 2012.

The Iona Gas Plant operated to high levels of reliability during the first full year of operations of the second gas train that was introduced as part of the expansion project completed in June 2010.

Tallawarra carried out its first major outage. The gas turbine, steam turbine and generator were closely inspected and a number of maintenance and replacement activities were carried out. These included replacement of high and low pressure turbine blades and vanes and the repair or replacement of control valves. Just prior to commencement of the outage, a failure of a compressor blade occurred and the outage was extended so the compressor could be rebuilt. The unit returned to service on 6 November 2011 and has performed well.

At Hallett, which provides peaking capacity for our generating portfolio, an additional turbine generator package came into commercial operation in May, increasing Hallett's generation capacity from 180MW to 203MW.

TRUenergy's generating activities are characterised not only by good operating performance of the existing assets, but also by an attractive portfolio of development options and sites. For example, permitting for two potential power station sites in Queensland was initiated, one in Ipswich, close to the population growth areas of Southeast Queensland and the other at Gladstone in Central Queensland, which is projected to be a major hub for industrial growth. Both sites are close to existing infrastructure connections. These developments would utilise high efficiency gas-fired turbines, emitting less carbon than existing coal-fired power plants. TRUenergy's proposal envisages developing these sites in stages as electricity demand grows and market conditions warrant. The initial units would be 500MW and have a total capacity of up to 1,500MW. At full capacity, they would be able to meet the projected growth in demand for electricity in Queensland for the next 10 years and increase the State's total generating capacity by more than 20%. Subject to all permitting and development approvals, construction at these sites could begin as early as 2013.

The Marulan development site in NSW, which was acquired as part of the NSW acquisition, offers scope for an open-cycle gas-fired power station project with a capacity of around 700MW. The permitting for this site is already in place, although some modifications to the project approval are still required. Subject to final investment review, analysis and decision, construction on this project could start as early as 2012. Peaking capacity at Marulan would reinforce TRUenergy's capability to meet its retail customers' needs at periods of high demand in NSW.

Maintaining a balanced generating portfolio, and complying with Federal Government policy on renewable energy capacity, will require TRUenergy to continue to increase its investment in renewable energy sources throughout this decade. Amongst other wind energy projects, TRUenergy has lodged an application for the development of a 123MW wind farm at Stony Gap in SA, as well as securing options to acquire wind farm sites in NSW with a potential total capacity of 250MW. TRUenergy's proposal to build a solar plant of up to 180MW in Victoria was unsuccessful in the initial competitive process for funding under the Australian Government's Solar Flagships Program. However, in February 2012, we, along with three other shortlisted photovoltaic projects, were invited to update our application for reassessment.

Yallourn Power Station

Retail

The year marked a period of significant growth and change for TRUenergy's retail operations, which now represent one of the largest energy retail businesses in the National Electricity Market.

The acquisition of EnergyAustralia's retail business more than doubled TRUenergy's existing customer base and cemented TRUenergy's position as the third largest gas retailer and the second largest electricity retailer in Australia. The acquisition supported TRUenergy's broader strategy of building a diversified and integrated energy business by substantially expanding its retail presence in NSW, Australia's largest electricity market. The acquired customer base is of high quality, with a major concentration of accounts in metropolitan Sydney. EnergyAustralia also has a strong retail brand, being the most recognised brand in NSW, and enjoys high levels of satisfaction amongst its customers.

From March 2011 onwards, the EnergyAustralia retail business continued to operate under the TSA, whereby the state-owned network business Ausgrid (formerly the EnergyAustralia network business) provides operational and billing services to TRUenergy for up to three years. The TSA has been designed to support a smooth migration of the EnergyAustralia retail customer accounts to TRUenergy's retail billing platform. The initial phase of integration of the EnergyAustralia retail business with TRUenergy has been successfully completed, including the transfer of a number of services to TRUenergy such as sales and marketing, load forecasting and settlements. The final phase, which is expected to be completed within two to three years of the acquisition date is the core services transition. This includes transition of the remaining services such as customer service, billing, credit and collections, and customer data management.

An important element of the integration will be the move to a single national brand. While both the TRUenergy and EnergyAustralia brand names are strong in their primary markets of Victoria and NSW respectively, with strong levels of customer awareness and satisfaction, we have decided to adopt a single national brand. Research with customers and stakeholders has been completed to inform the final brand name decision. The new brand will be launched towards the middle of 2012.

Project Odyssey, the development of TRUenergy's new retail customer service and billing platform saw significant and encouraging progress in 2011, with system integration testing and user acceptance testing scheduled to be completed shortly. A dress rehearsal for the roll-out of Project Odyssey was successfully held in December 2011. Odyssey roll-out is now targeted for the first half of 2012.

The Australian energy markets remain amongst the most competitive in the world and are characterised by high levels of customer turnover (known as "churn"). The EnergyAustralia retail acquisition, and resulting diversification from its previously more concentrated customer base in Victoria, helped TRUenergy reduce its annualised mass market churn rate from 22.5% in 2010 to 20.2% in 2011. Despite increased competitive activity, not only in NSW but also in Victoria, TRUenergy's home state, the overall churn for the expanded retail business stayed below the market average of 20.4%. Over the whole TRUenergy business, customer numbers increased from 1.24 million to 2.81 million during 2011. This includes the 1.54 million EnergyAustralia customers acquired on 1 March 2011.

While there was an increase in mass market churn in NSW from 11.4% in 2010 to 15.1% in 2011, EnergyAustralia's customer account numbers remained reasonably constant, with 1.54 million mass market accounts at the end of the year, the same as at the 1 March acquisition date. TRUenergy's other major market, Victoria, continued to experience amongst the highest levels of churn in the world, highlighting the continued challenge to maintain both market share and profitability in a fully deregulated environment. The TRUenergy retail business performed well despite increased competitive pressure. At the end of 2011, customer accounts within the TRUenergy brand itself had increased to 1.27 million, compared to 1.24 million at the end of 2010.

Customer service performance is at the heart of TRUenergy's retail business. In 2011, 4.13 million customer enquiries were handled, of which 1.82 million involved TRUenergy and 2.31 million involved EnergyAustralia customers. These included calls handled by consultants and by interactive voice response systems which allow customers to undertake self-service of routine matters.

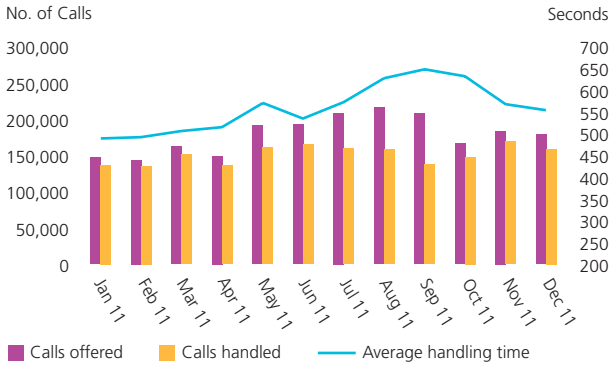
As the table below indicates, there was an increase in the number of calls offered and average handling time for TRUenergy branded customers from May 2011 onwards. This was primarily due to billing system issues caused by industry changes, such as the introduction of interval meters for Victorian customers and system changes being carried out by meter service providers. Large increases in call volumes were also received from customers enquiring about solar products, ahead of regulatory changes at the end of September 2011.

Overdue bills and processing backlogs during the year resulted in increased calls to our call centres and also an increase in issues escalated to the state-based energy ombudsman. In response to these developments, staff levels in call centres and specialist complaint handling teams were reinforced to provide better levels of customer service while billing and backlog issues are resolved. During the year, TRUenergy received 109 ombudsman complaints for every 10,000 mass market customer accounts, a level of performance which is unsatisfactory. As a result of measures taken to resolve the underlying issues, by end of December 2011 the number of customer calls had reduced significantly and the average handling time for each call had also reduced. However, 5.9% of TRUenergy's branded mass market customers had still not received their bills on time by year end of December 2011. A programme of activity with IBM, our customer service partner, has been put in place to address the core billing and delays in dealing with customer enquiries and to make sure that all customer processes are more tightly reviewed and managed. This programme is being supported by the addition of more customer service staff in call centres.

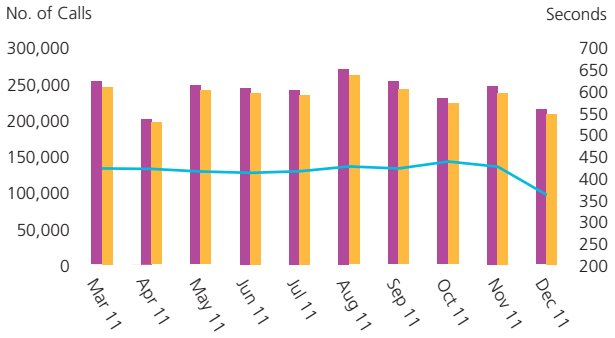
The customer service performance for our EnergyAustralia branded customers has been stronger, as the following table shows. During 2011, there were 15 ombudsman complaints for every 10,000 EnergyAustralia branded mass market customer account. Only 0.3% of EnergyAustralia branded mass market customers had not received their bills on time by year end December 2011.

Customer Interaction Centre – Calls Offered, Handled and Call Control

TRUenergy branded customers



EnergyAustralia branded customers



Note: EnergyAustralia's retail business was acquired by TRUenergy on 1 March 2011; therefore, relevant data for January and February 2011 in respect of EnergyAustralia branded customers is not available.

Environmental Performance

There were some regulatory non-compliances at our Tallawarra Power Station during the first half of 2011. These involved untimely information reporting and submission, not related to any breaches of emissions limits or standards. Looking ahead, TRUenergy will be managing the transition of its business in line with the climate change policy directions set by Federal and State Governments including the Federal Government's recent Clean Energy legislative package. TRUenergy will also be progressing its own Climate Change Strategy launched in 2007. This targets an ambitious one-third reduction in emissions intensity by 2020 and a 60% reduction in emissions intensity by 2050. TRUenergy is also committed to supporting its customers in better managing their own carbon footprints. TRUenergy will be doing more to manage the impact of its activities on biodiversity. A biodiversity register will be developed to identify biodiversity impacts and TRUenergy will continue existing site-based conservation programmes, such as the Latrobe River revegetation project, the Morwell West drain diversion and a fish mortality research project at Tallawarra.

Social Performance

TRUenergy has a strong focus on community engagement. TRUenergy is an active supporter of Conservation Volunteers in its work on revegetation and encourages staff to volunteer for this initiative. TRUenergy also sponsors community groups and activities such as the Wollongong Surf Life Saving Club near Tallawarra, the Learn to Swim programme at the Warrnambool Aquatic Leisure Centre near the Iona Gas Plant and the Moe TRUenergy Dance Eisteddfod in the Latrobe Valley.

TRUenergy established new community liaison groups at potential development sites, including the local community near the proposed Stony Gap Wind Farm site in the Clare Valley near Adelaide in SA, and at Marulan in NSW where TRUenergy owns a site with development approvals for future gas-fired generation. TRUenergy has also continued to hold regular community liaison and environmental review committee meetings at existing operational sites. Throughout the year TRUenergy also engaged with governments, the community and other key stakeholders with a particular focus on the Australian Government's carbon pricing mechanism and related policies, including the Transitional Assistance package available to eligible generators. TRUenergy was a leading party in the ongoing advocacy efforts directly with the Australian Government and with key policy makers in Federal Government departments, as well as more broadly through public advocacy and industry bodies.

Outlook

Clean Energy

One of the key challenges for the business will be in its ability to manage the changes to the energy industry which will result from the Australian Government's "Clean Energy" package, which will come into effect from 1 July 2012. Key elements of this Clean Energy legislation include:

- a default target of 5% abatement on 2000 CO_2 equivalent emissions by 2020 across the Australian energy supply systems;
- a fixed carbon price for the first three years, beginning on 1 July 2012 and starting at A$23 per tonne for liable entities. The fixed carbon price will rise at 2.5% a year in real terms;
- from 1 July 2015 Australia will move to an emissions trading scheme (ETS) with the carbon price set by the market;
- up to 50% of the annual emission liability under the ETS may be acquitted by the purchase of international units; and
- an Energy Security Fund will be established to administer transitional assistance provided for generators with a carbon emissions intensity between 1 tonne / MWh and 1.3 tonnes / MWh. The total compensation available to the generation sector will be A$1 billion provided as cash compensation in the first year and 41.7 million permits available annually for four years.

Waterloo Wind Farm

While the passage of the Clean Energy legislation has led to an impairment of A$350 million for the Yallourn Power Station, there is now greater carbon policy certainty and our business can focus on delivering returns in the new environment. TRUenergy's balance sheet is prepared for the carbon scheme and remains strong.

The Clean Energy package includes a "contract for closure" programme. This enables generators with high carbon intensity to negotiate payment in exchange for closure of some or all of their generation units by 2020. The Yallourn Power Station is eligible to participate, because its emission intensity is about 1.2 tonnes CO_2 / MWh. TRUenergy has, therefore, lodged an expression of interest with the Federal Government under this programme. TRUenergy's submission is non-binding and the Federal Minister for Energy and Resources will determine which applicants progress to the negotiation stage for possible agreement on closure contracts by June 2012.

Another key policy area that will drive significant investment and change to the generation mix in the future is the Federal Government's 2020 renewable energy target. As a major retailer, TRUenergy is a key participant in this scheme, given the obligation placed on the retailers to purchase the renewable energy. Despite challenges in the past, the large scale renewable energy scheme now provides a more certain investment environment and is likely to be the single largest driver of investment in domestic electricity generation in the short to medium term.

TRUenergy will meet its renewable energy obligations through a combination of own build and third party contracting to provide a balance of generation growth and low cost compliance with the renewable energy purchasing targets. TRUenergy is an experienced developer in the renewable space, with a solid pipeline of project opportunities and a strong focus on community engagement. Working with the community to make positive contributions in a transparent and fact-based manner is seen as a critical aspect of successful wind development.

Retail Pricing

In NSW, the Independent Pricing And Regulatory Tribunal (IPART) has recommended a draft, non-binding benchmark range for 2011/12 of A¢8 to A¢10 per kWh for electricity exported to the grid from new customers with solar PV units who are not already eligible for the NSW Government's subsidised solar bonus scheme. EnergyAustralia currently offers A¢6 per kWh. In September 2011, the Victorian Government announced changes to its solar feed-in tariff regime with a substantial reduction in those tariffs with effect from 1 January 2012. The Victorian Competition and Efficiency Commission is reviewing those solar feed-in tariffs and will report in the second half of 2012.

Retail pricing in Victoria is fully deregulated, with prices being set by market competition. This is not yet the case in NSW, where IPART handed down its final price determination on 14 June 2011. This determination allowed an average increase in regulated retail prices of 17.9% for EnergyAustralia's residential and small business customers from 1 July 2011. IPART estimated a further 10% price increase would apply from 1 July 2012 for EnergyAustralia customers. However, this estimate did not include the impact of any carbon price. A draft report with 2012/13 prices is expected to be available in mid-April 2012 and the final determination made by mid-June 2012.

Future Challenges

Beyond clean energy and retail pricing policy, there are a number of emerging challenges in the marketplace. First, the price of gas is changing and is expected to move towards export parity on the back of the construction of LNG export facilities in Gladstone and the ability for coal seam and other gas reserves to access the international export markets in 2014 and beyond. TRUenergy's business is well positioned to manage higher gas prices. As a gas retailer, higher costs can be passed onto customers (given cost-reflective retail price determinations). Gas tends to set the price of wholesale electricity and as gas prices rise, wholesale electricity prices are expected to rise and the value of the output from TRUenergy's power stations will increase. Additionally, in the transition period where gas prices are uncertain, price risk is being managed through the use of TRUenergy's equity gas position in NSW and its Iona gas storage facility in Victoria. Both these assets provide physical gas reserves that can be used as required, allowing the business to maintain its competitive position regardless of movements in the underlying wholesale gas price.

A second market challenge lies in the retail space. Energy prices are rising, predominantly due to upgrades of distribution network infrastructure and the cost of complying with government renewable energy schemes. Rooftop solar and energy efficiency are being aggressively driven by government policy. These trends are pushing customers to reduce their consumption from the stationary energy sector. In this environment, TRUenergy is changing the relationship with its customers. TRUenergy's focus is on being the leading "energy management" provider to Australian customers. To this end, the business has commenced selling rooftop solar and offers energy efficiency advice to its customers. The intention is to grow value-added services which promote energy efficiency and help customers manage their energy costs with the aim of promoting customer loyalty and retaining customers. Higher levels of customer retention will reduce the high levels of churn that the business currently faces, thereby reducing one of the key components of operating expense in the business. TRUenergy's initiative for improving systems and processes to deliver core services more effectively and efficiently will establish stronger levels of service capability and enable the retail business to strengthen customer relations and loyalty.

Its diversified and vertically integrated energy business model provides TRUenergy with access to a variety of profit channels. The overlap between retail customers and generation capacity places the business in a strong position to take advantage of the changes in market conditions and policy direction. TRUenergy's goal of positioning the business as a major and successful energy provider is based on the following strategies:

- continued focus on core operations by driving improvements in the quality and reliability of operating assets and the services offered to customers;
- expansion of a balanced and integrated portfolio of retail and wholesale generation assets to mitigate policy changes and benefit from market and price changes at both a wholesale and retail level; and
- delivering a sustainable future by helping customers manage their energy usage and develop clean and efficient energy alternatives.

With rising energy prices and the need to reduce greenhouse gas emissions, customers and governments will increasingly look for greater levels of energy efficiency. How will TRUenergy continue to add value to the business if the growth in demand for energy services such as energy efficiency outstrips the growth in demand for electricity and gas?

Ms. Clare Savage
Executive General Manager,
Energy Supply Association of Australia

Q

A

Electricity retailers have an important role to play in assisting customers to understand their energy usage. Increasingly we will need to become energy management and service companies rather than simply the sellers of energy.

Energy efficiency advice either in person, over the phone or via internet-based energy efficiency services has been driven to date by state-based regulated targets such as Victoria's Energy Efficiency Target. Differentiating ourselves beyond these compliance obligations will be the next big challenge for retailers. TRUenergy has established a dedicated Energy Smart team and taken other initiatives within our Retail business to help us meet this challenge. We have also sent information to our customers on the specific saving amounts they could achieve by modifying their use of individual appliances, such as air conditioners and clothes dryers. These tips illustrate how a customer could save more than A$130 each year on his/her electricity charges, which represents 6 to 8% of the typical annual cost of electricity in NSW, which is Australia's largest energy market.

We are also developing the customisation of energy use comparison data based on household type to give individual customers a greater understanding of their energy use.

Richard McIndoe
Group Director –
Managing Director Australia

More Q&As

Chinese Mainland

Financial Performance

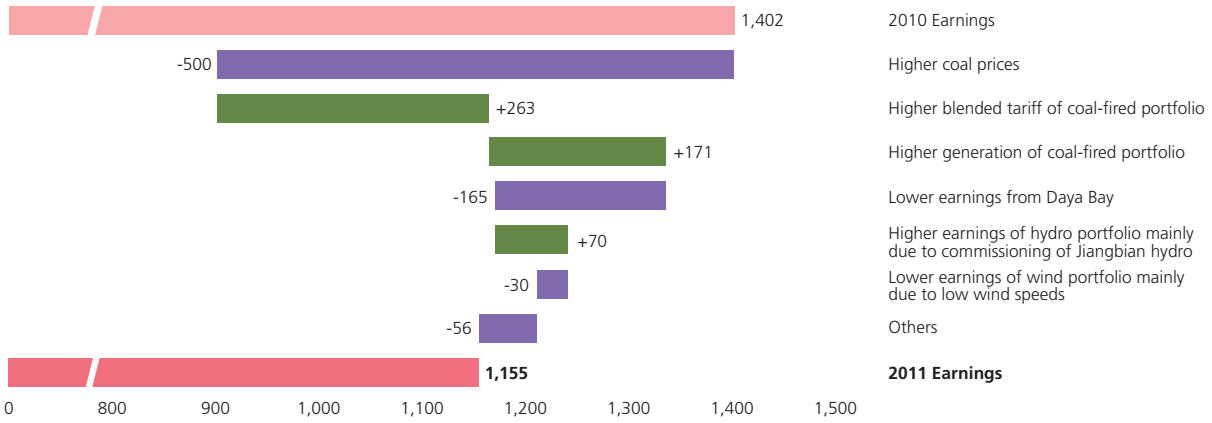
Earnings from the Chinese mainland (including our 25% stake in the Daya Bay Nuclear Power Station, 70% of its output serves our Hong Kong electricity business) in 2011 totalled HK$1,155 million, a decrease from HK$1,402 million in 2010.

Earnings from Fangchenggang and from our investment in the Guohua International joint venture were supported by strong market demand and good operational performance, but all our coal-fired projects were affected by high coal prices. There were modest adjustments to tariffs in April 2011, followed by more substantial nationwide increases in December 2011 together with caps on spot coal prices. We hope these measures can mitigate the impact of high fuel costs in 2012.

The increasing contribution from our renewable energy investments reflected the successful commissioning and smooth operation of Jiangbian hydro. The earnings from our wind energy portfolio in China were below those in 2010, despite new capacity coming into service. This was due to low wind speeds in 2011.

Daya Bay maintained satisfactory operational and safety performance. Its earnings decreased in 2011 mainly because of lower shareholders' funds resulting from a higher dividend pay-out in 2011.

Chinese Mainland Earnings (HK$M)



Operational Performance

Coal-fired Power Stations

Overall, our coal-fired power stations maintained a high level of generation, due to strong market demand, supported by effective asset operations and maintenance.

The major contribution to our coal-fired generation activities in the Mainland continues to come from Fangchenggang. Electricity demand in Guangxi has grown as the economy recovers and at the same time, regional hydro electricity generation has been adversely affected by dry weather. Consequently, there have been severe electricity supply shortages and generation from Fangchenggang has made an essential contribution to support the local grid, leading to high dispatch levels. The high demand growth, proven operational performance and the use of imported coal support the construction of two further 660MW units at Fangchenggang. We therefore propose to develop Fangchenggang Stage II. We await approval from the NDRC for this expansion project.

Coal costs have been high at the other power stations in the Mainland in which we hold an interest. Our local partners have been able to obtain lower prices in some cases, but economic performance has still been adversely affected, particularly in Shandong. The coal price-linked tariff adjustment was not fully implemented by the Government for most of the year, with only minor tariff adjustments in several provinces.

Coal-fired Power Stations – Performance

	Rating (MW)	Generation (GWh)		Utilisation (%)		Availability (%)		Operating Hours (Hours)	
		2011	2010	**2011**	2010	**2011**	2010	**2011**	2010
Shiheng I and II	1,260	**6,390**	6,632	**58**	63	**89**	91	**5,071**	5,526
Heze II	600	**3,334**	3,357	**63**	64	**95**	93	**5,556**	5,595
Liaocheng I	1,200	**6,788**	6,665	**65**	63	**94**	91	**5,657**	5,554
Yire	400	**2,394**	2,417	**68**	69	**95**	96	**5,985**	6,043
Sanhe I and II	1,300	**7,660**	7,489	**67**	66	**96**	93	**5,892**	5,761
Panshan	1,030	**6,225**	6,214	**69**	69	**93**	94	**6,044**	6,033
Suizhong I and II#	3,600	**18,830**	15,092	**60**	55	**90**	79	**5,231**	4,858
Zhungeer II and III	1,320	**6,960**	7,175	**60**	62	**96**	91	**5,273**	5,436
Shenmu	220	**1,471**	1,371	**76**	71	**98**	95	**6,686**	6,233
Fangchenggang	1,260	**7,896**	7,055	**72**	64	**87**	91	**6,266**	5,599

Units 3 and 4 of Suizhong II Power Station (2 x 1,000MW) entered commercial operation in February and May 2010 respectively

Renewables – Wind Energy

CLP's investments in wind energy in the Mainland are in three forms:

- minority shareholdings in individual projects (reflecting the limitations in earlier years on non-Mainland companies holding a majority stake in such projects);
- our 32% shareholding in the CGN Wind joint venture; and
- more recently, wholly-owned projects which are also operated and maintained by CLP itself.

In 2011, 20 out of 22 of CLP's minority-owned projects were in commercial operation. Of the remaining two, the 48MW project in Shanghai is under construction with a target completion date in early 2012, whereas construction of the 49.5MW project in Shandong (Haifang Wind) was delayed due to land permitting issues. Future capacity growth from minority-owned projects will be limited to expansions of existing projects which have already performed well.

In March 2010 CLP completed the acquisition of a 32% stake (HK$1.19 billion) in CGN Wind. However, CLP and our partner, China Guangdong Nuclear Power Holding Company, Limited (CGNPC), have had different views about the speed and scale of the expansion of this joint venture. CGNPC now intends to expand the business more quickly than previously expected, whereas CLP has been concerned that this growth might result in the development of projects that do not match our own investment criteria. Accordingly, we have reached an agreement whereby CLP's equity stake in the joint venture will be diluted from 32% to 15.75% as CGNPC continues to inject additional capital. Implementation of this agreement is pending approval by the relevant PRC authorities.

Our first wholly-owned wind project, Qian'an I, entered commercial service in November 2010 and is operating smoothly. We obtained approval for the construction of phase II at Qian'an, an additional 49.5MW, in early 2011 and all 33 new wind turbines were in commercial operation by October 2011. We are subsequently pursuing the necessary approvals for the development of phases III and IV at Qian'an. Construction of phase I (48MW) of the Penglai wind project, CLP's second wholly-owned wind project, has progressed well with energisation completed in December 2011 and commercial operation achieved in February 2012.

Wind Energy Portfolio – Performance

	Rating (MW)	Generation [1] (GWh)		Utilisation [1] (%)	
		2011	2010	**2011**	2010
Minority-owned					
Shuangliao I	49.3	**74.6**	83.2	**17.3**	19.3
Shuangliao II	49.5	**89.8**	96.4	**20.7**	22.2
Datong	49.5	**81.2**	96.3	**18.7**	22.2
Changling II	49.5	**67.7**	92.1	**15.6**	21.2
Qujiagou	49.5	**90.6**	102.9	**20.9**	23.7
Mazongshan	49.5	**105.5**	94.1	**24.3**	21.7
Changdao	27.2	**55.3**	59.0	**22.8**	24.7
Weihai I & II	69.0	**143.7**	161.6	**23.5**	26.7
Laizhou	40.5	**69.8**	86.9	**19.7**	24.5
Nanao II	45.1	**124.2**	107.9	**31.5**	27.3
Nanao III	15.0	**36.9**	10.5	**28.1**	n/a
Hekou	49.5	**93.9**	118.7	**21.7**	27.4
Lijin I	49.5	**81.6**	112.1	**18.8**	25.8
Lijin II	49.5	**94.5**	39.2	**21.8**	n/a
Zhanhua I	49.5	**92.1**	116.3	**21.2**	26.8
Zhanhua II	49.5	**97.8**	31.4	**22.5**	n/a
Rongcheng I	48.8	**94.5**	108.5	**22.1**	25.4
Rongcheng II	49.5	**108.9**	34.8	**25.1**	n/a
Rongcheng III	49.5	**100.0**	n/a	**n/a**	n/a
CGN Wind JV (32%)					
CGN Wind Portfolio [2,3]	1,671	**2,663**	2,110	**16.9**	21.3
Wholly-owned					
Qian'an I	49.5	**92.3**	25.2	**21.3**	n/a
Qian'an II	49.5	**36.3**	n/a	**n/a**	n/a

(1) n/a (not applicable) is for projects which had not yet commissioned for a full year's operation.

(2) The total capacity of operational wind farms of CGN Wind Portfolio in 2010 was 1,231MW, of which the utilisation and operating hours are applicable to projects with full-year operation in the portfolio.

(3) CGN Wind is expected to undergo restructuring in the near future whereby its gross capacity under operation and construction will be reduced to 1,794MW. The total capacity of CGN Wind Portfolio under operation stated herein refers to that after such pending restructure.

Renewables – Hydro and Biomass

The Jiangbian Hydro Power Station, comprising 3x110MW units in Sichuan Province is the first wholly-owned greenfield hydro project in China to be developed, constructed and operated by CLP. We completed construction and commissioning of all three units in June 2011, within budget and ahead of schedule. There were many challenges in working at a remote site that is subject to floods, rock bursts, landslides and earthquakes, but the project was managed in compliance with both national and CLP standards on safety, quality, health and environment. Our most significant achievement was zero fatalities during construction, consistent with the value we place on the safety of all those working on our sites. All three units have performed well since the start of commercial operation.

Electricity sales for both Dali Yang_er and Boxing biomass projects improved significantly in 2011. In the case of Dali Yang_er this was due to increased water discharge from the upstream lake; at Boxing this was due to commissioning of an additional 15MW condensing turbine.

Hydro and Biomass Power Stations – Performance

	Rating (MW)	Generation (GWh)		Utilisation (%)		Availability (%)		Operating Hours (Hours)	
		2011	2010	**2011**	2010	**2011**	2010	**2011**	2010
Boxing Biomass	15	**93**	75	**61**	62	**82**	81	**5,329**	4,271
Huaiji Hydro	125	**307**	443	**28**	40	**90**	92	**2,455**	3,541
Dali Yang_er Hydro	50	**181**	176	**42**	40	**90**	75	**3,638**	3,542
Jiangbian Hydro*	330	**1,143**	n/a	**66**	n/a	**93**	n/a	**4,002**	n/a

* All three units entered commercial operation in June 2011

Nuclear

Daya Bay achieved a utilisation rate of 93% in 2011, compared to 91% in 2010. In January 2011, an enhanced notification mechanism for non-emergency Licensing Operational Events was introduced for the Daya Bay units. There was no such event at Daya Bay in 2011.

Following the Fukushima accident, a comprehensive safety review, requested by the State Council, was conducted by the National Nuclear Safety Administration (NNSA) at all nuclear power stations in China, including Daya Bay. The report of the review is expected to be released by the State Council shortly. Preliminary findings have confirmed that the design and operation of Daya Bay is in full compliance with existing national regulations and standards. Prior to the NNSA's review, Daya Bay also conducted its own internal review and had been formulating improvement initiatives in dealing with natural disasters of extreme severity in order to further enhance its safe operation.

In July 2011, CLP reached an agreement with CGNPC, our longstanding partner in Daya Bay, to acquire a 17% equity share in the Yangjiang Nuclear Power Station project (6 x 1,080MW of the CPR1000 technology) in Guangdong. Regulatory approvals from the relevant Mainland authorities are being sought. Construction of the station commenced in 2008 and has been making good progress. The project is expected to commission in phases between 2013 and 2017 and will supply power to Guangdong.

Jiangbian Hydro Power Station

Environmental Performance

During 2012 CLP intends to enhance and extend its processes for the measurement of emissions from each asset where we have operating control. Emissions to be measured are expected to include carbon intensity, SO_2, NO_x, particulates, recycled or reused water and hazardous waste. We aim to set baseline levels for each asset, establish specific targets to reduce emissions and strengthen the benchmarking of performance against other assets elsewhere in the Group and those of our peers in the Chinese mainland. We also aim to contribute to the Group's efforts to move towards a more sustainable rate of resource use, such as by measuring water use and discharges and developing initiatives to promote a culture of efficient resource use in the offices of our project companies, such as in respect of paper, water, batteries, stationery and the like.

Social Performance

Our colleagues in the Mainland contribute actively to the Group's efforts in community investment. During the past year, four additional staff volunteer teams were set up to provide support and assistance to meet local needs. For example:

- in Fangchenggang CLP donated dictionaries and classroom furniture to primary schools, benefiting 455 students;
- at Boxing our volunteers planted saplings for local farmers and paid caring visits to the elderly and children with special needs;
- in Qian'an our volunteers established a mentoring system and supported promising, but under-privileged, local university students; and
- in Huaiji our volunteers gave electrical and fire safety talks at primary schools, as well as taking care of elderly people.

Throughout the Mainland, CLP has funded 18 schools. These include two in Sichuan as part of relief efforts after the earthquake of 2008. Staff in the Mainland and Hong Kong continued to contribute to our "support-a-student programme". This provides financial assistance to 354 students living in poverty in Guangdong, Guangxi and Sichuan Provinces.

Stakeholder engagement forms part of our commitment to the communities in which we operate. A particular aspect of this in 2011 was the need to respond to the growing concerns of the Hong Kong public on nuclear safety, especially following the Fukushima accident and to their demands for greater transparency regarding the operations of Daya Bay. Although CLP does not operate Daya Bay, we have deployed and enhanced communication channels with media and public on the safe operation of Daya Bay and, more broadly, on the issues related to nuclear power. Daya Bay site visits have been organised for various groups, nuclear experts were invited to Hong Kong for public speaking engagements and nuclear related topics were included in the e-learning kit which forms part of liberal studies curriculum in local secondary schools. A Nuclear Resources Centre to support public education is being established. All these efforts are aimed at facilitating more informed discussion among members of the community about nuclear energy.

Outlook

China's economy remains strong with annual GDP growth running at about 9 to 10%. The Government's macroeconomic controls continue to guide economic development, including growth of the power sector, where both power demand and generating capacity have increased in recent years. We expect that supply and demand will remain generally balanced nationwide in the near term, although there may be local power shortages in some areas, such as parts of Southern China that are affected by a combination of high demand growth, low rainfall and high coal prices.

Approval for new generating projects has become more difficult over the past year. The proposed expansion of Fangchenggang Power Station has been delayed and new wind farm projects now need to be registered with the Central Government before approval can be given by the relevant provincial government. Some of this delay comes from the need for better co-ordination between additional generating capacity and strengthened transmission infrastructure.

The People's Bank of China maintained a tight monetary policy in 2011 through raising the RMB deposit reserve requirement ratio and also the benchmark lending interest rate. The major banks strengthened risk control, making enterprise financing more difficult and financing costs higher. Despite tighter fiscal and macroeconomic policy, there are still opportunities for growth in the Mainland's power sector. CLP has demonstrated the ability to develop, construct and operate new projects using coal, hydro and wind technology, and we have been able to apply our own standards on safety, reliability and technical quality. We are now exploring the possibility of greater control of upstream coal supply to mitigate some of the volatility in coal market prices, which would be particularly beneficial in the Chinese market.

The growth opportunities in the Mainland power sector will reflect the government's policy measures to mitigate and adapt to climate change. The 11th Five-Year Plan (2006-2010) included requirements to achieve defined reductions in energy consumption and greenhouse gas emissions per unit of GDP. Good progress has been made in this respect. For example, in 2010 China installed significantly more wind power than any other country. The outline of the 12th Five-Year Plan released in 2011 further promotes green and low-carbon development. CLP's own climate strategy is consistent with the policy direction in China. We will therefore continue to rationalise the ownership of minority-owned coal-fired assets and to invest in renewable energy projects. We are already one of the largest external investors in wind power in China and we will use ultra-supercritical technology for the Fangchenggang expansion project to maximise thermal efficiency.

Nuclear energy will play a key role in achieving the target set by the PRC Government in its 12th Five-Year Plan to reduce the Mainland's carbon intensity by 40-45% by 2020, as compared to the 2005 level. The Fukushima accident has led to construction and planning of nuclear power stations being placed on hold, pending the NNSA's safety review. Nonetheless we believe China's nuclear generation expansion plan will continue, with additional safety measures being expedited for existing nuclear power stations and more advanced design features being adopted for new stations.

In this context, CLP's priorities for the year ahead include:

- introducing technical improvements at Fangchenggang to maximise availability for high dispatch periods in the local grid and exploring the possibility of a dedicated supply of imported coal to mitigate high and volatile market prices;
- obtaining Central Government approval to proceed with the development of Fangchenggang II;
- maintaining a high operational standard at Jiangbian and exploring new hydro project opportunities to build on the experience gained on that project;
- obtaining approvals and commencing construction of at least two further wind projects and identifying other development opportunities;
- following up with our joint venture partners on any necessary actions that may arise from the NNSA's safety review with regard to Daya Bay and Yangjiang nuclear power stations;
- continuing to improve communication channels with the public on nuclear related matters in Hong Kong, including the launch of the Nuclear Resources Centre and a new nuclear energy website; and
- completing the process for the acquisition by CLP of its minority stake in the Yangjiang project and thereafter monitoring its progress to support completion on time and within budget.

Another Q&A

Based on the current international and domestic coal prices and transportation fees and the operating and generation profile in 2011, what will be the financial performance of CLP Guangxi Fangchenggang Power Company Limited in 2012?

Mr. Wei Jiasen
Vice President,
Guangxi Power Grid Corporation

Q

A

Fangchenggang Power Station has performed well since commissioning and remains one of the major profit contributors to CLP's Mainland business. The station generated high output in 2011, reflecting both the strong economic growth in Guangxi *Region* and also the extended dry season, which depressed the supply of hydro electric power. Fangchenggang is conveniently located on the coast, which enables the use of imported coal. Our fuel costs were controlled by a combination of long-term coal supply and freight agreements, supplemented by spot purchase. Our power station team has also experimented with mixed-firing of environmentally friendly coal with low sulphur content, which manages fuel costs and sulphur dioxide emissions. With continuing equipment improvements and strengthening of management, we expect operational efficiency and performance of the station to improve further. The tariff increase in December 2011 should also help to maintain profitability.

Benjamin Lui
Director – China

India

Financial Performance

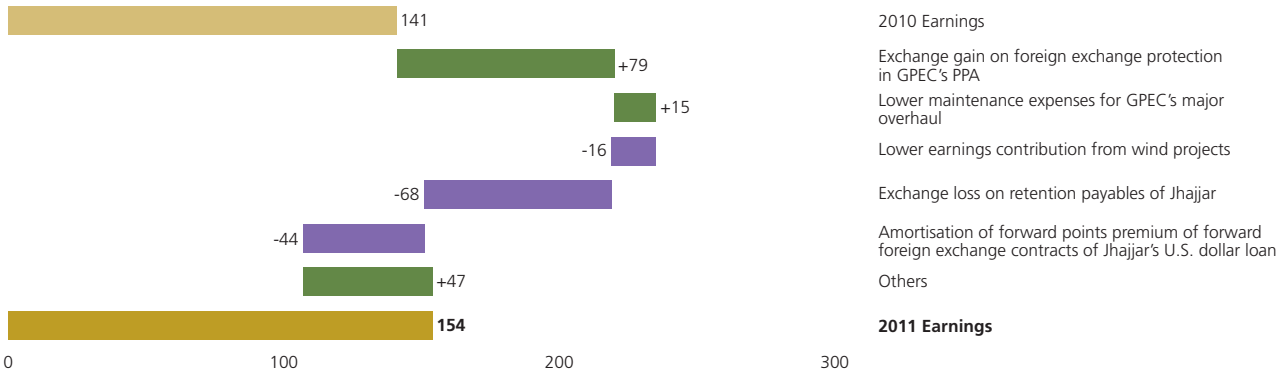
The operating earnings from India in 2011 were HK$154 million, compared to HK$141 million in 2010. The earnings from GPEC increased from HK$247 million in 2010 to HK$391 million in 2011 due to the effects of foreign exchange protection under its Power Purchase Agreement (PPA) and to lower maintenance expenses.

Jhajjar suffered a loss of HK$223 million compared to a loss of HK$108 million in 2010, largely attributable to start-up costs and the following foreign exchange movements:

- exchange loss on the translation of Euro and U.S. dollar retention payables of construction work at the closing rate; and
- amortisation of forward points premium of forward foreign exchange contracts relating to the U.S. dollar loan.

Our wind energy investments made a profit of HK$21 million compared to a profit of HK$10 million in 2010. These also recorded a pre-operating loss of HK$8 million, unchanged from 2010 and a one-off hedges termination cost of HK$27 million. Whilst the start of commercial operations at our Samana II and Harapanahalli projects in 2011 contributed to earnings, this was partly offset by the adverse impact of lower than expected wind resources and grid restrictions on the Theni wind farm.

India Earnings (HK$M)



Operational Performance

GPEC, which still represents the primary source of earnings from India, continued to perform well. Availability was maintained at a high level (91.53% compared to 90.1% in 2010). The second of major overhauls to each of the three units was completed in 2011, once again enhancing the operational performance of the unit to near-new levels. We have entered into a long-term maintenance and support contract with the equipment suppliers, Siemens. We expect this will assist in the careful control of the ongoing maintenance costs of this plant. Due to declining production at the relevant gas field, that part of the gas supply to meet GPEC's need which is provided through a gas supply contract with Reliance Industries Limited has been reduced. This means that the coming months may see higher reliance on LNG purchased on the spot market at higher prices, with a potential adverse impact on earnings during 2012. The impact of this may be somewhat mitigated by the possibility of lower generation at neighbouring coal-fired power plants, as a result of problems with coal supply, leading to higher demand for generation at GPEC using gas and naphtha.

There has been a longstanding dispute between CLP India and its off-taker, Gujarat Urja Vikas Nigam Ltd. (GUVNL) regarding CLP India's entitlement to receive payments when availability of the GPEC plant is declared on the basis of naphtha, rather than gas. That dispute remains before the Supreme Court of India. Because spot gas availability was constrained for parts of 2011, GPEC was forced to declare capacity on naphtha. This resulted in an increase of about HK$3 million in the disputed deemed generation incentive payment. The total amount of the claim, plus interest and tax, with respect to the deemed generation incentive has therefore been revised to HK$1,245 million. Further details of the claim are set out in Note 34 to the Financial Statements as a contingent liability.

Jhajjar

The Jhajjar project has progressed towards scheduled full commissioning in the first half of 2012. There are currently no major delays in construction and commissioning. Project progress is close to performance schedule, with overall progress at end December 2011 at 96.1% compared to a planned 95.3%. The major challenge for this project has been safety management. During 2011, two separate accidents led to the deaths of three subcontractor workers. Throughout the year the Jhajjar project team continued with its "Sunflower" project to improve safety on site. Amongst other initiatives, this project included strengthened site supervision, additional safety leadership, construction safety and induction training, extra safety reviews, controls and initiatives to motivate the workers to work safely. At Jhajjar we are confronted by a lack of safety awareness which is deeply embedded in construction projects in India. We have worked extremely hard to drive the Jhajjar project towards the safety standards we require, but the results this year fell short of the high standards that we set ourselves. We will continue our efforts.

The availability of coal for the Jhajjar project has been a concern throughout 2011, both in terms of the railway connections to the site and the ability of Coal India to meet its supply obligation. We have been able to complete the railway system, which is now operational, but the quantity of coal supplied so far has only been sufficient to commission unit 1 and demonstrate full load operation for a short time. Coal India has not so far been able to increase its production to meet the expansion of India's coal-fired generating capacity over the past few years and this has caused delay, disruption and shortfalls in supply of domestic coal to numerous projects. In the case of Jhajjar, following intensive efforts with concerned parties such as the Central Electricity Authority, we have now secured sufficient short-term coal supply to restart unit 1 and to commission unit 2. We are also encouraged by intervention from the highest levels of Government, which we believe will lead to the signature of a long-term coal supply agreement with Coal India in the near future and should enable us to put the completed plant into full operation. We also note the recognition by the Government that coal may have to be imported to make up any shortfall, on the understanding that the cost will be passed through under the PPA.

Jhajjar Power Station

Wind Energy

Starting with CLP's first project, at Samana in 2007, CLP India's wind energy portfolio has grown rapidly and to a scale where we are now the largest investor in wind energy in India.

Wind Energy Portfolio – Status and Performance

Project	Rating (MW)	Commissioned / To be Commissioned (MW)	Forecast Full Commissioning Date	Utilisation % 2011	2010
Samana I	50.4	50.4	-	**21.1**	20.9
Samana II	50.4	50.4	-	**23.1**	n/a
Saundatti	72.0	72.0	-	**23.4**	n/a
Khandke	50.4	50.4	-	**24.4**	21.9
Theni I	49.5	49.5	-	**26.1**	n/a
Theni II	49.5	49.5	-	**24.6**	n/a
Andhra Lake	106.4	72.0 / 34.4	February 2012	**n / a**	n/a
Harapanahalli	39.6	39.6	-	**31.8**	n/a
Sipla	50.4	9.6 / 40.8	March 2012	**n/a**	n/a
Tejuva	100.8	0 / 100.8	January 2013	**n/a**	n/a
Total	619.4	443.4 / 176.0			

Note: n/a (not applicable) is for projects which had not yet commissioned for a full year's operation.

The Andhra Lake project, presently the largest in our portfolio, has suffered from construction delays, largely attributable to the unusually difficult terrain at the site. The overall delay on this project will be about 19 months, which affected earnings from our wind portfolio in 2011. However, the project is now moving towards completion. As at the end of December 2011, 90 wind turbines out of a total of 133 at Andhra Lake had been commissioned, with the remainder due to be commissioned shortly.

The wind resources on our earlier projects have fallen short of expectations. We have been exercising greater discipline and carrying out more extensive analysis on the wind resources for new projects. We recently stepped back from a proposed project at Narmada in Andhra Pradesh, when further analysis indicated the wind resource was less than originally estimated. We have also experienced problems in receiving payments due under the PPA for the Theni I and II wind farms in Tamil Nadu. However, in recent months the state off-taker has been making substantial efforts to make good on the delayed payments. The problem is not related specifically to Theni. CLP India will not pursue new wind projects in Tamil Nadu until a more stable and predictable payment regime is firmly in place, even though the state has the best wind resources in India. Notwithstanding the challenges on individual projects, CLP India intends to continue to grow its wind energy business in a steady and disciplined manner. A number of development projects are under consideration, including at Bhakrani in Rajasthan which might both replace the abortive Narmada project and make good a reduction in the capacity of the Sipla project. This came from a recent decision by the Rajasthan Government to forbid the installation of wind turbines on part of the Sipla site, due to the adverse impact of wind turbine visibility on the local tourist industry.

Environmental Performance

CLP India is contributing to the CLP Group's Climate Vision. The carbon emissions intensity of our generating capacity in India is aimed to be maintained at around 0.45 tonnes CO_2/MWh in 2012, with a further move downwards to around 0.4 tonnes CO_2/MWh by 2015. In addition to our growing wind energy portfolio we are exploring the opportunities to deploy solar energy. We are likely to focus on Gujarat and Rajasthan which have the best solar resource in India, and supportive state-level policies.

We meet our responsibility to reduce the environmental impacts of operations through strict adherence to environmental laws and regulations, and adoption of voluntary measures. Our supercritical coal-fired power station at Jhajjar incorporates flue gas desulphurisation equipment, even though this is not required under India's current environmental regulations. With respect to water management, GPEC draws water from the river Narmada which is situated about 25 kilometers away from the power plant. We purify the water and use it as cooling tower make-up, for demineralisation, as drinking water and for other domestic uses. Water used in the condenser cooling water system is recycled to optimise the make-up water requirement.

At the working level, we are implementing initiatives in 2012 for recycling of e-waste at all locations, with a longer term goal of achieving 100% reuse or recycling of e-waste by 2017. In line with the Group's goal of moving toward no net loss on biodiversity, CLP India aims to identify any major impact on local biodiversity for all new major developments from 2012 onwards.

Social Performance

In a vast country with different social needs, CLP contributes to the collective effort required to address some of the communities' more pressing needs through a significant number of community investment programmes. At GPEC, through our Paguthan Power Plant Social Development Trust (Trust), we have made continued efforts to improve the livelihood of the local community through initiatives in public health, education and environment. The following are just a few of the activities we have undertaken:

Nutrition programme – this provides pre and post-natal nutritional food supplements to 17 pre-primary centres for women in 10 villages near our gas-fired power station GPEC. Since its inception in 2003, the nutrition supplement programme has helped remarkably to improve attendance at these centres, and protein energy malnutrition cases have significantly declined.

Women self-help groups – since 2003, the Trust has been running eight self-help women groups in the GPEC neighbourhood. This year, more such groups have been formed so that this initiative now covers over 190 women in 14 self-help groups.

Education initiative programme – in collaboration with renowned NGO Pratham, our team ran the education initiative programme in ten villages and six selected urban slums. The objectives are to improve basic reading and maths, through regular classes and a rotating library. Over 2,700 children benefited from this programme.

Health care support to poor patients – various public health initiatives like diagnostic medical camps and health care support activities in collaboration with local NGO Sewa Yagna Samiti (SYS), have covered around 5,000 needy patients. Patients received support for various health care needs such as free consultation, medicines, surgery, blood transfusion, nutrition support etc. CLP India donated an ambulance to SYS so that they could transport patients to hospitals. Our support also covers the provision of 200 healthy meals on a daily basis to in-house patients at the district hospital.

CLP India intends to extend its commitment to social programmes to our new project at Jhajjar, where we will focus our efforts on making health care accessible to the rural poor. With the Wockhardt Foundation, our health outreach programme has covered 3,000 beneficiaries in four villages. We have provided clean drinking water for Government schools in two of those villages, benefiting around 1,000 schoolchildren. With the support of veterinarians, farmers have been taught to increase milk yield, prevent disease and provide supplementary nutrition to their cattle.

What in your view are the key bottlenecks of operating in India's power sector? How can these be addressed?

Mr. Rajesh Menon
Deputy Director General,
Confederation of Indian Industry

Q

A

The majority of the current capacity and proposed capacity addition in the country is coal-based. There are significant challenges in the production and transportation of adequate quantity of coal to thermal power plants. The financial health of state-owned distribution companies is the other significant challenge facing the industry. These two critical issues have made investors apprehensive about the viability of several projects and jeopardise the continued growth of the sector.

The Government of India has recognised the importance of adequate power infrastructure to support the strong GDP growth forecasts. Many sections of the Indian Government, including the Prime Minister's Office, have swung into action to address various challenges facing the Power players. Measures are being taken to reduce the coal demand-supply gap and to improve the financial health of the state-owned distribution companies. These efforts are likely to yield positive results in the long term and are welcome initial steps to mitigate the risks for the players in the Indian power sector.

Rajiv Mishra
Managing Director – India

One more Q&A

Outlook

India's GDP growth for the fiscal year 2010-11 has been revised downwards to around 7.6%. Inflation continues to be high, driven by higher food, grain and commodity prices. The Indian rupee depreciated significantly against the U.S. dollar throughout the year, mainly due to uncertainties in the global economy, withdrawal of funds by foreign investors in India, inflation differentials between the U.S. and India and the higher than originally expected budget deficit of the Union Government. In view of the high inflation rate, the Reserve Bank of India has been following a tight monetary policy and has increased benchmark interest rates during the year, with the benchmark repo rate now at 8.5%. Due to this, bank lending rates also increased by 3 to 4% over the year. These difficult market conditions were reflected in the performance in 2011 of the Bombay Stock Exchanges Benchmark Index which stood at 15,454 on 31 December, as compared to 20,500 at the beginning of 2011.

Despite these adverse trends in 2011, the continued growth in the Indian economy provides the need and the opportunity for significant additions to the country's existing generating capacity. Capacity now stands at 186GW, with an additional 75GW expected to be added over the next 5 years. The availability of fuel resources and the need for electricity to remain affordable dictate that a major proportion of this additional capacity should be from coal. India's domestic coal reserves are sufficient to meet this capacity, but problems of land acquisition for coal mines, the need for enhanced operational capability at Coal India and transportation constraints on the Indian railway system, suggest that substantial recourse will be needed to imported coal, even though that may be more expensive.

The Union Government seems likely to continue with its programme of Ultra Mega Power Projects (UMPPs). These are large coal-based power projects, typically around 4,000MW of capacity. The UMPPs are supported by long-term PPAs and in some cases, direct linkage to domestic coal reserves. In those cases, the developer receives a mining license to develop the related mine and use the coal, thereby insulating the developer from coal price movements and the risks of disruption in coal supplies, as well as facilitating competitive tariffs. The financial credibility of some of the power off-takers, which are state distribution companies, has been a major concern for potential investors in UMPPs. This risk is partly mitigated through a diversified off-taker base with PPAs expected to be executed with six to nine state utilities. The UMPPs must be based on supercritical technology. This fits in with CLP's policy of adopting generating capacity with lower carbon intensity and would not put CLP at a disadvantage on technology with competitors in the bidding for UMPPs who might otherwise propose cheaper subcritical technology.

UMPPs are awarded on the basis of competitive tenders. In pursuing further growth in its Indian power business, CLP will consider bidding for UMPPs, in addition to continued expansion of our existing wind energy portfolio.

Against this background, CLP India's priorities for 2012 include:

- management of the construction of the Jhajjar project towards commissioning in the first half of 2012, including achieving stability in future coal supplies;
- completing our wind projects at Andhra Lake, Sipla and Tejuva;
- securing long-term (i.e. five to ten years) gas supply contracts for GPEC;
- further improving our wind resource forecasting and project execution capabilities for new wind projects to provide greater assurance that ultimate returns will match the original investment case;
- pursuing a further large coal-fired power project, likely to be in the form of a UMPP, either on our own or in joint venture; and
- continuing existing efforts to diversify our portfolio by "run of river" hydro and solar projects, although such projects will be considered only on a selected basis having regard to critical issues such as land acquisition, reliable technology and a supportive tariff regime.

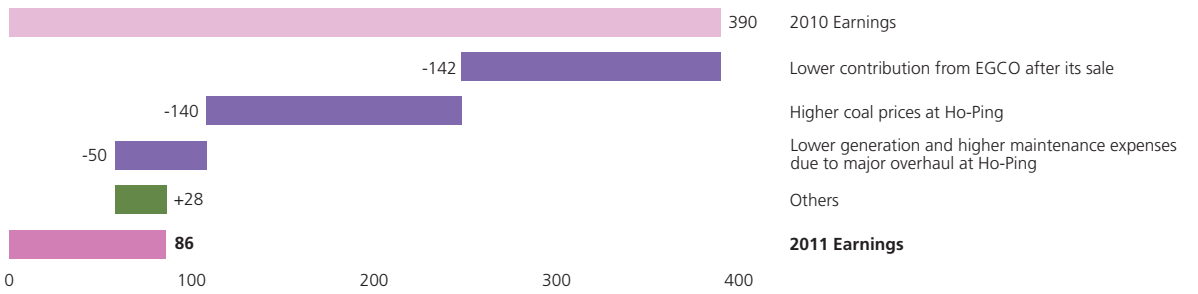
In the longer term, we can envisage CLP India's business reaching a point where, in terms of maturity, organisational capability, quality of asset portfolio and size and stability of earnings, the business might be suitable for a local listing, subject to prevailing market conditions. For the time being, this remains a long-term potential goal. Our current focus is sharply on successful completion of the Jhajjar project and steady growth from the strong business platform which we have already established in India.

Southeast Asia and Taiwan

Financial Performance

The operating earnings from Southeast Asia and Taiwan in 2011 were HK$86 million, HK$304 million below those in 2010. This was mainly due to the absence of earnings contribution from EGCO in Thailand, following the sale of all of our EGCO shares in February 2011. Earnings from CLP's 20% stake in the Ho-Ping power station in Taiwan were also lower than the previous year. This was due to higher coal prices and to a major scheduled plant overhaul in February and March 2011 which meant less generation and higher maintenance expenses.

Southeast Asia and Taiwan Earnings Before One-off Item (HK$M)



The divestment of CLP's effective interest of 13.36% in EGCO, together with the associated restructuring of our OneEnergy joint venture with Mitsubishi Corporation, was completed in April 2011. The sale price for our EGCO shares was US$273 million (HK$2,122 million) and a one-off gain of HK$876 million was recognised.

Operational Performance

Ho-Ping achieved good operational and safety performance during the year, including the successful completion of the major overhaul of Unit 1. Although earnings in 2011 were impacted by the rise in coal market prices, Ho-Ping will eventually be compensated through the energy tariff adjustment mechanism. This is linked to the coal prices paid by the off-taker, Taipower, but with a one-year delay.

Good progress was made on the 55MW Lopburi solar project in Thailand, which is owned equally by CLP, Mitsubishi Corporation and EGCO. The project site is not located in those areas of Thailand which were subject to severe flooding in late 2011. At end December the project was 95% complete, with the installation of solar panels in its final stage. Commissioning of the initial phases was delayed by the late availability of Electricity Generation Authority of Thailand's 115kV grid connection (unrelated to the effects of flooding). Nonetheless, the first phase of 8MW was commissioned in December 2011. The remaining 47MW will be commissioned in phases by mid-2012 and should meet the original completion schedule. Arrangements for an 8MW expansion at an adjacent site are being finalised.

CLP and Mitsubishi Corporation have been developing the 1,320MW Vung Ang II and 1,980MW Vinh Tan III coal-fired projects in Vietnam. We have been negotiating with the Vietnamese Government on the terms of the key project agreements that are necessary to provide a reasonable basis for investment and to enable project financing to be secured. We are also evaluating bids for the power plant equipment supply and construction. We have local partners in both projects, but we have reached a restructuring agreement which would allow the local partners in the Vung Ang II project to transfer their shares in the project company upon completion of a number of conditions. If this occurs, CLP and Mitsubishi Corporation will each hold a 50% interest in this project.

Social Performance

Following some of the worst flooding in Thailand in half a century, CLP supported the flood relief efforts in Lobpuri Province through our joint-venture company NED. In addition, a "Big Cleaning Day" after the flood was organised to celebrate the 84th birthday of His Majesty the King.

Our community programmes have focused on youth and education. We provided scholarships, sponsored lunches, held a sport day for a local school, organised a renewable energy camp and established a kids' soccer team for under-privileged children living near the solar project site. We are developing an education centre at our Lopburi project that features displays on renewable energy and aims to raise the environmental awareness of the public.

Outlook

Demand for electricity in most Southeast Asia markets, including CLP's incumbent markets of Taiwan, Thailand and Vietnam, continues to grow in line with broader economic development. However, the opportunities for CLP to grow its business in these markets do not match the scale of underlying economic growth. This is for a number of reasons which are specific to each market.

In Taiwan there is the likelihood of new bids for additional generating capacity being sought from independent power producers (IPPs), given the reducing reserve margin in the Taipower grid. However, the capacity requirement available for private sector investment and the preferred fuel types are uncertain.

No new IPP bidding is currently expected in Thailand. The Thai authorities are addressing the low reserve margin expected in the coming years by deferred retirement of old EGAT plant, accelerated development of new EGAT plant, an expanded small power producer programme and further renewable projects. It appears that only the renewable energy sector offers potential opportunities for CLP, as it is open to outside investors and is supported by favourable feed-in tariffs.

Vietnam has set ambitious new generation capacity goals in its Five-Year Plan in order to support economic growth. However, the development of private sector generating capacity has been slow. The current economic situation in Vietnam is characterised by high inflation, currency depreciation and low foreign currency reserves, and the Government is likely to be cautious in the near term about guaranteeing payment obligations assumed by the state-owned off-taker, Vietnam Electricity. We expect that only a limited number of IPPs with competitive tariffs will ultimately be successful.

All CLP's assets in Southeast Asia and Taiwan are supported by long-term PPAs with state-owned electricity companies and provide stable revenue. However, there is limited opportunity for growth either in the size of the portfolio or underlying earnings in the near-term. Our priorities in this region remain to:

- maintain good operational and safety performance at Ho-Ping;
- complete the construction of the 55MW Lopburi solar project and the 8MW expansion;
- progress negotiations with the Vietnamese Government on the Vung Ang II and Vinh Tan III projects to determine whether the investment economics and risks are acceptable to CLP, so that one or other of these projects might proceed; and
- explore opportunities that may arise in renewable energy projects in the Indochina region, particularly wind energy where the CLP Group already has considerable expertise.