

# Chinese Mainland



Wind Farm at Changdao, Shandong Province

## How did we do in 2006?

In 2006, the focus of CLP's Mainland activities was upon:

- maintaining progress on our greenfield project at Fangchenggang, Guangxi;
- extending our renewable energy activities;
- management of tariff issues and coal costs;
- excellence in station management and operation; and
- maintaining a meaningful earnings contribution to the Group.

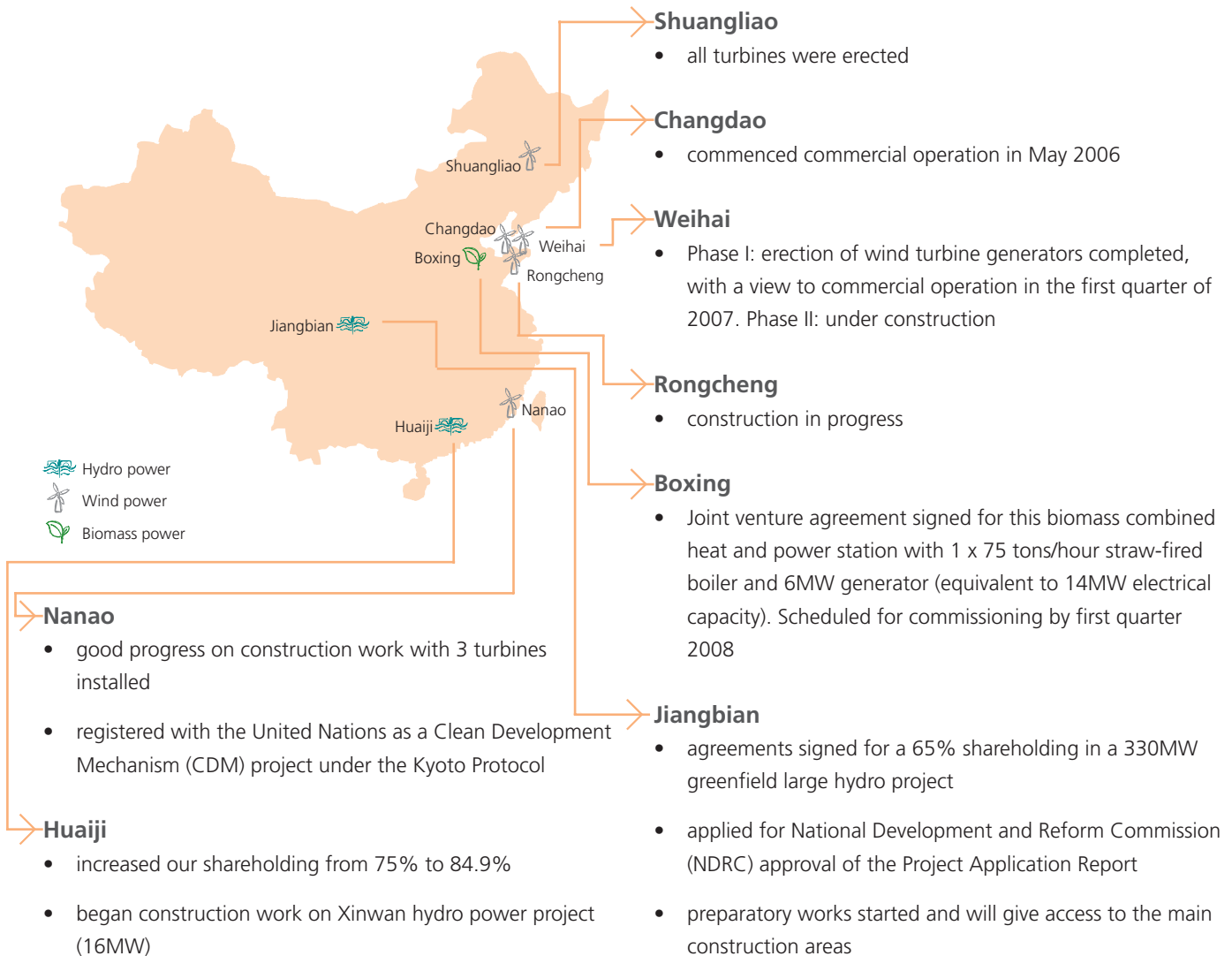
### Fangchenggang

Construction of the two 600MW coal-fired supercritical units is progressing towards the target of commissioning the first unit by the third quarter of 2007. By the end of 2006, the consolidated project completion was 82.16%, which is consistent with this target. Preparations for the start of commercial operations are well underway and newly recruited station operators have been attending classroom and on-job training. However, the death of two subcontractor construction staff in unrelated accidents in November was a major tragedy. Maintaining constant safety vigilance on such a project is extremely challenging, particularly given weaknesses in the prevailing local safety culture. We are examining yet again what more we can do in circumstances such as these to achieve an acceptable level of safety awareness on the ground by all those involved.

The successful progress made on the Fangchenggang project, growth in electricity demand and the constructive local relationships we have established, have encouraged CLP to consider an expansion at Fangchenggang. We are promoting the incorporation of the Fangchenggang II project in the Guangxi Autonomous Region's five-year plan. A feasibility study report on Fangchenggang II has been completed and submitted to the Guangxi authorities.

## Renewable Energy

2006 was a good year for CLP's renewable energy activities in the Mainland, confirming our view that it continues to offer promising opportunities in wind and hydro power projects.



The progress made on these projects is such that, starting with the stake in the Huaiji hydro power joint venture project which we acquired in 1997, CLP now has an equity interest in 174MW of wind farms, small to medium hydro power and biomass combined heat and power station in the Mainland, with a further 500MW under active development. The Jiangbian project is an important step in the implementation of our climate strategy by increasing the renewable component of our portfolio.

→ Sunset from the Changdao Wind Farm



## Management of Tariff Issues and Coal Costs

Shareholders will recall that a particular problem which CLP's Mainland business has faced in recent years, in common with other Mainland electricity generators, has been the management of substantial rises in coal prices in circumstances where the relevant authorities are reluctant to approve tariff levels which allow electricity generators to recover these cost increases. The position on tariff levels and fuel supply on all the stations in which CLP holds an interest is set out in the following table. All these stations are subject to tariff levels approved by the authorities and implemented.

Station	Approved Tariff (fen/kWh)	Status of Tariff	Fuel Type	Future Development/ Outlook
Daya Bay	Determined at Guangdong Nuclear Power Joint Venture Co., Ltd according to its JV Contract with consideration to the competitiveness of its electricity	Implemented	Uranium – various supplies	Fuel supply adequate
Guangzhou Pumped Storage	Based on service charge per installed capacity	Agreed under long-term agreements	Pumped storage between dedicated reservoirs	
Shiheng I and II	43.00	Tariff adjusted at the second round of coal price linked tariff adjustment	Coal – Shandong mines	Considering application for a single unified tariff for all the power stations in the joint venture
Heze II	38.94	Tariff adjusted at the second round of coal price linked tariff adjustment	Coal – Shanxi mines	
Liaocheng	38.94	Tariff adjusted at the second round of coal price linked tariff adjustment		
Yire	44.65	Tariff adjusted at the second round of coal price linked tariff adjustment	Coal – Supplied by Shenhua from Shaanxi and Inner Mongolia	Adequate and stable coal supply
Sanhe	35.93			
Panshan	39.92			
Shenmu	Normal: 30.95 Excess: 20.00	Tariff adjusted at the second round of coal price linked tariff adjustment	Coal – Local mines	Adequate coal supply but much increased price
Anshun II	27.70	Tariff adjusted at the second round of coal price linked tariff adjustment	Coal – Guizhou local mines	Operating hours may decrease due to surplus generation supply in Guizhou Province
Huaiji	38.20 (4 different tariffs for peak/off-peak periods and dry/wet seasons)	Higher tariffs achieved by use of reservoir regulating capability	Small hydropower	Renewable energy source

In our last Annual Report, we reported that the tariff increases allowed at the Shandong and Anshun Stations were not at levels which fully compensated for the substantial increases in coal cost. We pursued this issue during 2006, with the result that those stations benefited from an upward tariff adjustment, even if not to the extent which allows full recovery of the increased fuel prices.



→ (Left) Construction work at Fangchenggang  
→ (Right) Turbine blade cleaning at Fangchenggang

## Station Management and Operation

In 2006, the power stations in which CLP holds an interest achieved high levels of availability, although there were some reductions in utilisation rates due to an increase in other generating capacity in the regions which those stations serve.

Station	Rating (MW)	Generation (GWh)		Utilisation (%)		Availability (%)		Operating Hours	
		2006	2005	2006	2005	2006	2005	2006	2005
Daya Bay	1,968	<b>14,858</b>	14,848	<b>90</b>	90	<b>90</b>	90	<b>7,946</b>	7,918
Guangzhou Pumped Storage (Phase I)	1,200	<b>1,493</b>	1,403	<b>14*</b>	13*	<b>80</b>	89	<b>2,646*</b>	2,801*
Shiheng	1,200	<b>6,650</b>	7,164	<b>63</b>	68	<b>95</b>	91	<b>5,542</b>	5,970
Heze II	600	<b>3,328</b>	3,462	<b>63</b>	66	<b>97</b>	95	<b>5,548</b>	5,770
Liaocheng	1,200	<b>6,634</b>	6,844	<b>63</b>	65	<b>95</b>	95	<b>5,528</b>	5,703
Yire	400	<b>2,370</b>	2,664	<b>68</b>	76	<b>92</b>	96	<b>5,925</b>	6,660
Sanhe	700	<b>4,206</b>	4,563	<b>69</b>	74	<b>97</b>	90	<b>6,008</b>	6,519
Panshan	1,000	<b>5,881</b>	6,295	<b>67</b>	72	<b>91</b>	90	<b>5,881</b>	6,295
Shenmu	200	<b>1,319</b>	1,486	<b>75</b>	85	<b>96</b>	95	<b>6,595</b>	7,430
Anshun II	600	<b>3,781</b>	3,602	<b>72</b>	69	<b>95</b>	88	<b>6,301</b>	6,003
Huaiji	82	<b>324</b>	284	<b>56</b>	50**	<b>98</b>	99**	<b>3,933</b>	3,465

\* Generating and pumping modes

\*\* Figures restated

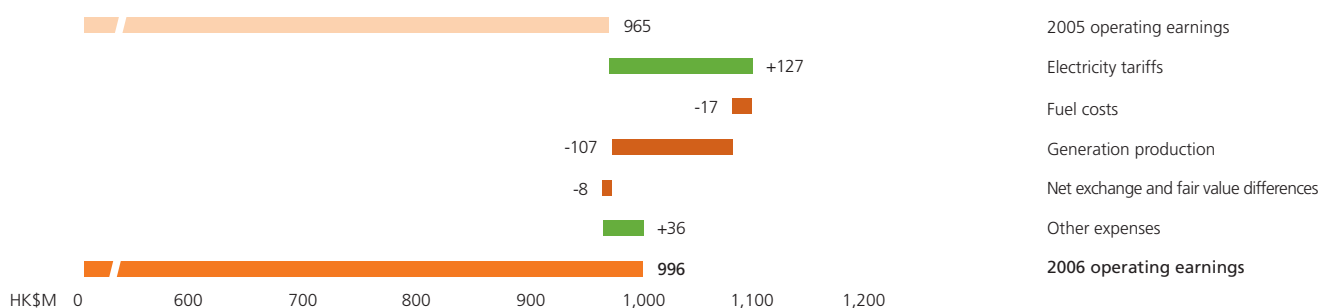
Major events in plant operation in 2006 included:

- The successful retrofit of low NO<sub>x</sub> burners to Unit 2 at Yire Power Station in Beijing, which resulted in an appreciable reduction in NO<sub>x</sub> emissions;
- A feasibility study for upgrading the plant capacity at Shenmu by 10% was completed, with a view to implementing these modifications during 2007;
- The reliability of the FGD plant at Anshun II improved. However, it was originally designed for much lower loadings of sulphur than we currently experience from local coal supplies. Consequently, the plant was taken out of service towards the end of 2006 for a major upgrade. Progress of this work was marred by a fatal accident to two subcontractor's employees in December;
- Daya Bay continued to operate efficiently and safely, contributing about 29% of the total electricity supplied to our Hong Kong electricity business; and
- To improve environmental performance, our joint venture in Shandong has embarked on a series of programmes to install FGD equipment to the operating plants. Construction of the FGD equipment for Shiheng Power Station started.

## Earnings

2006 earnings from CLP's power projects in the Mainland were HK\$996 million, an improvement of HK\$31 million on the previous year. Earnings improved largely due to tariff increases. However, this was partly offset by lower generation volume as a result of new generating facilities constructed by other power producers coming on stream. The following chart gives an account of the 2006 performance in our PRC power projects, by illustrating the major variations (plus or minus) from 2005:

### Chinese Mainland Operating Earnings



## What are we going to deliver in 2007 and beyond?

### Business Environment and Challenges

We expect that the Mainland's economic growth will remain strong and that electricity demand will see double digit growth for the next few years. Electricity generation capacity will also continue to grow rapidly. Overall, utilisation hours for generating plant will fall, especially for 2007 and 2008, although the average utilisation hours for large size coal-fired plant will remain above 5,000 hours. Coal prices are expected to rise in 2007. Whether the PRC authorities will implement another round of coal price linked tariff adjustment is unclear.

Reform of the power sector will continue. Although the timing for full scale competitive bidding is uncertain, the introduction of "benchmarking" on-grid tariffs on a regional or provincial basis sends a clear price signal for developers of greenfield generating plant, namely that the key success factor in the market is to be a lower cost producer.

The power sector is dominated by a small number of Chinese state-owned national and provincial Independent Power Producers (IPPs) pursuing aggressive expansion strategies. These generators have ready access to both domestic and international financial markets for equity and debt.

Energy conservation and environmental protection are becoming factors in Government's decision-making processes for this industry. The authorities are promoting energy saving economic dispatch, which will benefit high efficiency large-scale generating units. FGD is required on all new coal-fired plant. Special policies with regard to both dispatch and tariff are emerging to encourage nuclear, gas and renewable generation facilities.

The increasing demand for clean energy is creating opportunities for renewable projects. The renewable energy target for China has increased from 10% to 15% of national

energy supply by 2020, comprising hydro (300GW), wind (30GW), biomass (20GW) and solar (1GW). A projected investment of RMB1,500 billion is required to achieve this target. The tariff policy is generally supportive of renewable energy, with a new renewable energy law implemented since January 2006. A 15-year tariff subsidy of RMB0.25 per kWh is allowed for biomass projects. However, it is not yet clear how Government-guided pricing is to be implemented for wind power projects.

The unification of corporate income tax levels for domestic and foreign-invested enterprises is imminent, with the latter to bear higher income tax after this convergence has been achieved. This will eliminate a small competitive advantage previously enjoyed by an external company such as CLP.

Within this business environment, CLP can add value to projects and to Mainland business partners through its international operating experience (including exposure to stringent environmental regulation, competitive markets and technical skills, such as in nuclear power and combined-cycle gas turbine operation), experience in international markets, and leadership in corporate governance. CLP also enjoys good standing with state and provincial governments and PRC partners, reflecting our reputation for responsibility and prudence. However, CLP's prudent approach to decision-making and risk management means that CLP may be more risk adverse than local IPPs, who may pursue more aggressive growth strategies.

One area in which CLP is developing a competitive advantage is that of renewable energy, where we have a growing portfolio of assets and a strong project pipeline, involving hydro, wind and biomass in an increasing number of Mainland provinces and in collaboration with a range of leading PRC project partners.

## Year 2007

In 2007, our focus will include:

- commissioning the first 600MW unit at Fangchenggang;
- completion of the Xinwan Hydro Power Station and wind power projects (Weihai I and II, Nanao, Shuangliao, Rongcheng) within schedule and budget;
- construction of the biomass combined heat and power station at Boxing County, Shandong;
- completion of the FGD upgrade at Anshun II;
- obtaining NDRC approval for the Jiangbian hydro project;
- work on the expansion of the CLP/Guohua joint venture. Progress has already been made on this in 2007 – the State Grid Company put up its 25% share of Panshan Power Station for sale through bidding. The CLP Guohua joint venture, which originally owned 50% of Panshan Power Station, has successfully bid for an additional 15% stake. During 2007 steps necessary to finalise this purchase will be carried out;
- improving the returns from our investment in Shandong by a project restructuring, involving an extended joint venture term and reduced operating and maintenance and fuel costs;
- reviewing the existing operating arrangements at Anshun, which presently see the management of Anshun I largely responsible both for the operation and maintenance of Anshun I (in which CLP does not have an interest) and for Anshun II (in which CLP holds a 70% interest); and
- establishing a flagship office in Beijing as a base for our Mainland development, construction and operations teams.

## Beyond 2007

CLP's longer term objectives are to:

- consolidate and rationalise our asset ownership structure. The present organisation structure, involving a series of different joint ventures, can lead to assets operating independently and hinder the exploitation of management and operational synergies between different joint ventures and assets;
- maintain a balanced portfolio of fuel mix and greenfield/operating assets, including a leading position in renewable energy;
- assess the options for continued involvement in nuclear energy, including in Southern China in light of the expiry in 2014 of the current agreement for the off-take of electricity to supply Hong Kong from Daya Bay Nuclear Power Station; and
- explore opportunities for broad-based strategic partnerships with major market players and IPPs, particularly in high growth regions such as Eastern and Southern China. In doing so, we expect to give priority to the expansion of existing joint ventures and relationships.