

CLP 中電

Powering a Sustainable Future

CLP China



About the CLP Group

The CLP Group is one of the largest investor-owned power businesses in Asia Pacific with investments in Hong Kong, Mainland China, Australia and India. Its business spans every major segment of the electricity value chain ranging from power generation, transmission and distribution to retail and smart energy services. To meet the evolving needs of energy users in a world being reshaped by decarbonisation and digitalisation, CLP strives to embrace new opportunities and expand its horizons as it transforms into a "Utility of the Future".

Founded in **1901**

CLP Holdings was listed in Hong Kong in **1998**

Market capitalisation of **HK\$144 billion**

Investments across Asia Pacific

- ✓ Hong Kong
- ✓ Mainland China
- ✓ Australia
- ✓ India

Highlights of 2022



Revenue

HK\$

100,662

million



Total assets

HK\$

236,026

million



Energy sent out

87.4 TWh

(On an equity plus long-term capacity and energy purchase basis; covers CLP's generation and energy storage portfolio)



5.21 million

Customer Accounts

2.75 million

in Hong Kong

2.46 million

in Australia



16,900 km

Transmission and
high voltage
distribution lines



8,318

Employees
across Asia Pacific

(Data as of 31 December 2022)

CLP China – Milestones

- CLP and Guangdong Nuclear Investment Company Limited jointly established Guangdong Nuclear Power Joint Venture Company Limited to build the first large-scale commercial nuclear power station - Daya Bay Nuclear Power Station in Mainland China
- In the same year, Lord Lawrence Kadoorie, then Chairman of CLP Group, was received by then State leader Deng Xiaoping at the Great Hall of the People



- CLP invested in the first renewable energy project in Mainland China – Guangdong Huaiji Hydro Power Joint Venture
- CLP established the first coal-fired power generation joint venture in Mainland China – Shandong Zhonghua Power Company Limited

- Guangxi Fangchenggang I Power Station was fully put into operation

- Jilin Qian'an I Wind Farm, the first wind power project invested and wholly-owned by CLP in Mainland China, was put into operation

- Gansu Jinchang Solar Power Station, CLP's first solar project in Mainland China, was put into operation

- The Guangxi Power Exchange Centre was formally established, in which CLP Guangxi Fangchenggang Power Company Limited has a 3.33% share

- CLP Guangxi Fangchenggang Energy Company Limited was established to provide electricity sales for CLP Group's operations in Guangxi and to actively engage in electricity trading in Mainland China's market

- CLP China sold its 70% stake in Fangchenggang Power Station, in line with the Group's plan to phase out minority-owned coal assets in Mainland China by 2030

1979

- CLP was successfully connected to the Guangdong power grid to supply electricity to Guangdong

1985

- CLP built Guangzhou Pumped Storage Power Station

1993

- Jiang Zemin, then President of the People's Republic of China, met with Sir Michael Kadoorie, Chairman of CLP Group (fourth from left, first row)

1997



2001

2008

2009

- CLP and China General Nuclear Power Corporation entered into a 20-year extension of the joint venture term for Daya Bay Nuclear Power Station
- Dali Yang'er Hydro Power Station in Yunnan, CLP's first wholly-owned hydro power project in Mainland China, was put into operation

2010

2011

- Sichuan Jiangbian Hydro Power Station, CLP's largest hydro power project in Mainland China, was put into operation

2013

2014

- Yunnan Xicun I Solar Power Station, the first solar project invested and wholly-owned by CLP in Mainland China, was put into operation

2016

- CLP completed the acquisition of 17% equity interest in Yangjiang Nuclear Power Company Limited

2017



2020

2021

- CLP's Jilin Qian'an III Wind Farm was connected to the grid and put into operation, becoming CLP's first grid-parity project and the first one with a 5MW battery energy storage system in Mainland China

2022

About CLP China

CLP entered Mainland China's power market in 1979, and has nowadays become the largest external investor in the energy sector on the Mainland. It is powering the fast-growing economy of Mainland China, with a focus on developing clean and low-carbon energy.

Investment Across the Country

CLP engages in the development of the energy sector in Mainland China with determination and integrity, and has investments across 16 provinces, autonomous regions and municipalities. As a developer, investor, project manager and operator in Mainland China's energy market, CLP has more than 50 power generation projects on the Mainland, including 23 wholly-owned projects with a total investment of around HK\$50 billion. As of August 2023, the total installed capacity (on equity basis) of CLP on the Mainland reached 7,180MW.

Focus on Clean Energy

Mainland China pledges to peak carbon emissions by 2030 and achieve carbon neutrality by 2060. Along this goal, CLP has developed a long-term development strategy. With the installed capacity of non-carbon energy accounting for around 70% of its total capacity on the Mainland, CLP will continue to significantly expand its portfolio of investments in renewable energy generation in Mainland China, including new grid-parity wind and solar projects. CLP is also strategically developing nuclear power and other non-carbon technologies, while developing the sales of green electricity products with an aim to help our corporate customers achieve their decarbonisation targets.

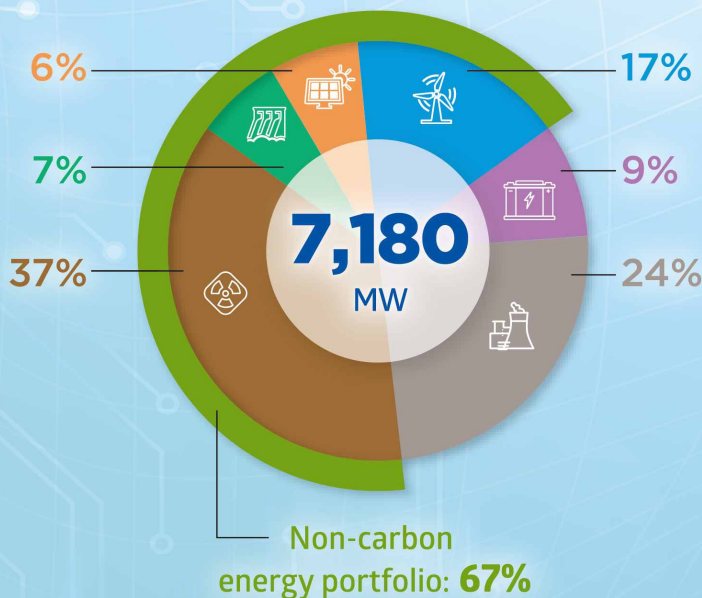
Innovation-Driven Development

The rise of digital and smart technologies is driving the energy sector to upgrade and transform. Moving forward, CLP has set "innovation" as one of its primary goals for long-term development, and is striving to become a "Utility of the Future" by introducing low-carbon, digitalisation, artificial intelligence, big data analysis and other technologies across the business value chain, pursuing innovation and integrated development.

Commitment to Long-Term Cooperation

Building long-term and sustainable business relations is CLP's commitment. CLP is pleased to share its expertise with Mainland counterparts, including its extensive experience in international and local investment, design, construction, operation and asset management, as well as its leading customer service experience. While assisting Mainland China's energy sector to establish a balanced and robust development structure, we will grow with our partners to deliver win-win results and create long-term value for stakeholders.

CLP's Asset Distribution in Mainland China



Asset Type	Gross Capacity (MW)	Location
Nuclear	2,685	Guangdong
Coal	1,776	Beijing, Hebei, Inner Mongolia, Liaoning, Shaanxi, Shandong, Tianjin
Wind	1,209	Guangdong, Guangxi, Guizhou, Jilin, Shandong, Shanghai, Yunnan
Energy storage	618	Guangdong, Jilin, Jiangsu, Yunnan
Solar	402	Gansu, Guangdong, Jiangsu, Liaoning, Yunnan
Hydro	490	Guangdong, Sichuan, Yunnan

(Data as of August 2023)

Our Business Portfolio



Nuclear

Nuclear energy is playing a pivotal role in the decarbonisation journey of Mainland China and the world.

Daya Bay Nuclear Power Station in Guangdong is jointly developed, built and operated by CLP and China General Nuclear Power Corporation. It is the earliest, largest and one of the most successful joint ventures in the early stage of reform and opening up of the Mainland. Daya Bay Nuclear Power Station commenced operation in 1994, and currently generates around 15TWh of electricity per year, of which 80% of its output is supplied to Hong Kong. Daya Bay Nuclear Power Station has been providing safe and reliable electricity to Hong Kong for nearly 30 years, meeting approximately 25% of Hong Kong's electricity demand.

In addition, CLP completed the acquisition of 17% equity interest in Yangjiang Nuclear Power Company Limited in 2017, adding approximately 1,100MW of non-carbon emitting generation capacity to CLP's portfolio. Nowadays, all the electricity generated by Yangjiang Nuclear Power Station is supplied to users in Guangdong through the Guangdong power grid.



In 1994, Daya Bay Nuclear Power Station Unit 1 was put into operation.



In 2009, CLP was granted an extension of the joint venture term for Daya Bay Nuclear Power Station, then Vice President Xi Jinping attended the signing ceremony.

Wind



Jilin Qian'an III Wind Farm



Yunnan Xundian I Wind Farm



Since 2006, CLP has made significant progress in wind power development in Mainland China, with projects in Jilin, Shandong, Yunnan, Guizhou, Guangdong, Guangxi and Shanghai.

In 2021, Jilin Qian'an III Wind Farm was connected to the grid and put into operation. With a combined capacity of 199MW, the three-phase project is currently CLP Group's largest wind asset in terms of generation capacity, and the first grid parity project with a 5MW battery energy storage system.

In 2023, CLP's 50MW Yuannan Xundian II Wind Farm was put into operation while the construction of the 150MW Gunagxi Bobai Wind Farm has commenced.



Solar

In November 2015, Yunnan Xicun II project officially commenced operation. Xicun Solar Power Station is CLP's first wholly-owned solar power project and the first large-scale agrivoltaic project in Yunnan. Honeysuckle is planted in the power station, and the combination of agricultural activities with solar power generation brings multiple benefits to the community.

Also, CLP adopts the aquavoltaic model at Jiangsu Sihong Solar Power Station and uses abundant local water resources to develop fish farms under solar panels, breeding crabs, crayfish and mandarin fish, etc.

CLP will continue to focus on solar-rich regions in Mainland China to explore more opportunities for investment in solar projects.



Honeysuckle planted in the Yunnan Xicun agrivoltaic project is in full bloom.



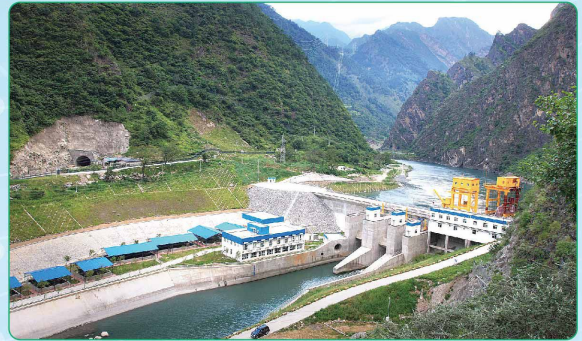
The contractor of the Jiangsu Sihong aquavoltaic project harvests mandarin fish.

Hydro

In 1997, CLP acquired Huaiji Hydro Power Project in Zhaoqing, Guangdong, which became CLP's first renewable energy investment project in Mainland China. Since then CLP has built and operated 12 hydro power stations in Huaiji.

In 2009, Dali Yang'er Hydro Power Project in Yunnan, CLP's first wholly-owned hydro power project, was put into operation.

In 2011, Sichuan Jiangbian Hydro Power Station, CLP's largest hydro power project in Mainland China, was put into operation.



Sichuan Jiangbian Hydro Power Station

Coal



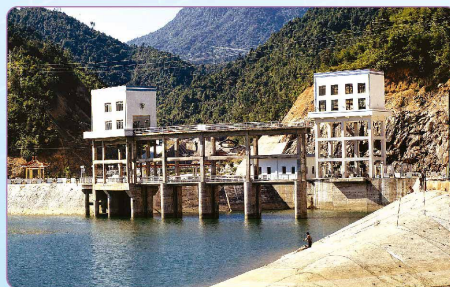
Hebei Sanhe Power Station

In 1998, CLP invested in its first coal-fired power generation project in Mainland China. Currently, CLP's coal-fired power generation projects in Mainland China are located in Beijing, Shandong, Hebei, Tianjin, Liaoning, Shaanxi and Inner Mongolia.

According to CLP's updated Climate Vision 2050, CLP plans to phase out minority-owned coal assets in Mainland China by 2030.

Energy Storage

The total capacity of Guangzhou Pumped Storage Power Station is 2,400MW, and CLP has the contractual right to use half of the Phase I facility (600MW). In addition, both Qian'an III and Xundian II wind farms, as well as Yangzhou Gongdao Solar Power Station are equipped with battery energy storage systems.



Guangzhou Pumped Storage Power Station



The 5MW battery energy storage system at Qian'an III Wind Farm



Corporate Social Responsibility

Caring for the local community is one of CLP's core values. We work closely with the communities where we operate to provide care and assistance to people in need, while promoting community wellbeing, environmental protection, education, culture preservation and voluntary work.



Rural Vitalisation Programme

A three-year community initiative on rural vitalisation has been launched since 2023. Seven projects are rolled out in the first year under the three major objectives of ecological vitalisation, talent vitalisation, and industrial/ agricultural vitalisation, including:

- Ecological vitalisation: installing solar lamp poles and smart display boards in schools, promoting the use of renewable energy and educating the next generation, driving green development in rural areas;
- Talent vitalisation: Subsidising schools to enhance facilities, such as purchasing teaching equipment and books, in order to cultivate talents;
- Industrial/agricultural vitalisation: Supporting the development of high-quality agriculture by funding the building of greenhouses.



Environmental Protection

- Every year, on the World Environment Day (5 June), various assets of CLP launch different environmental activities, such as tree planting, school talks and student drawing competitions to raise environmental awareness among local residents;
- To help ethnic-minority students learn more about environmental protection, CLP has published three editions (Tibetan-Chinese, Zhuang-Chinese, Miao-Chinese) of bilingual booklets on environmental protection, which also helped pass on the ethnic language and culture.



CLP volunteers and their families protect the environment by planting trees.



Community Wellbeing

- Every year, we make donations, organise visits and safety talks, and enhance facilities and services to improve the livelihood of the neighbouring community of our assets;
- In 2009, CLP earmarked HK\$6 million to set up the CLP-Tsinghua University "Clean Energy Education Fund" to provide financial assistance to needy students from the Department of Electrical Engineering of Tsinghua University. The Department is known for its outstanding academic achievements and research, and has nurtured a large number of experts for the energy sector in Mainland China over the years;
- In 2017, Jiangsu Sihong Solar Power Station made donations to construct a road named "CLP Hope Road" to enhance the traffic safety for students;
- In 2020, CLP made donations to several provinces in Mainland China to assist in the fight against COVID-19, including donating medical ventilators to hospitals and medical supplies to frontline medical staff and communities, which benefitted about 350,000 people;
- In 2021, CLP donated HK\$1 million to support the flood relief efforts in Zhengzhou.



At the launch ceremony of the CLP-Tsinghua University "Clean Energy Education Fund", CLP Group Chairman Sir Michael Kadoorie (right) received a certificate of appreciation.



Culture Preservation

- Launched "The Green Cedar Project" in 2019, a poverty alleviation and cultural inheritance campaign for ethnic minorities in Guangxi, aiming to help the underprivileged students and residents to stay as resilient as local green cedar trees;
- Published the first Black Miao Dictionary in Guangxi Autonomous Region in 2022, featuring about 1,500 vocabularies and short sentences, enables students to learn the language which is ebbing away.



One of the initiatives in the Green Cedar Project is to preserve the minorities culture. CLP has invited a Miao embroidery inheritor to help train up over 100 Miao women in the embroidery craft.



Youth Education

- Supports youth education by subsidising teaching facilities and equipment to schools, as well as providing donations and offering scholarships to students in need.



CLP has made donations to build a library.



Volunteer Service

- CLP encourages its employees to participate in volunteer activities and has set up volunteer teams to organise various activities in the vicinity of its assets;
- In 2022, CLP launched the "Knitting for the Community" campaign in Mainland China. Over 600 volunteers from Hong Kong and the Mainland including CLP staff, their family members and the local community in the vicinity of its assets dedicated a total of about 3,500 hours to knit over 1,000 clothing items and accessories such as scarves, hats, sweaters, etc.



"Knitting for the Community" campaign brings warmth to children and elderly in need.

Climate Vision 2050

In 2007, CLP Group established the Climate Vision 2050 as a strategic guide for the Group to manage climate-related risks and opportunities and to support the Group's move towards a sustainable and low-carbon future. Over the years, CLP Group has kept reviewing and updating its targets following changes in policy and technological developments. According to the "Climate Vision 2050" revised in 2021, CLP Group has set a carbon reduction target – phasing out coal-based assets by 2040 and achieving net-zero greenhouse gas emissions across CLP's value chain by 2050.

The Group will work tirelessly to review its targets at least every five years, seeking to limit global warming to 1.5 degree Celsius.

CLP's Key Targets and Commitments

BY 2030

BY 2040

BY 2050

▶ Meet science-based green house gas ("GHG") emissions intensity targets

▶ Phase out coal-based assets

▶ Achieve net-zero GHG emissions across CLP's value chain

0.3 kg
CO₂e/kWh
↓ 52%
from 2019

0.1 kg
CO₂e/kWh
↓ 84%
from 2019

NET-ZERO

0.36 kg CO₂e/kWh
↓ 50% from 2019

SCOPE 1
Emissions from CLP's owned or controlled sources



SCOPE 2
Emissions from the generation of purchased electricity for CLP's own use



SCOPE 3 CATEGORY 3
Emissions from the generation of purchased electricity sold to CLP's customers



SCOPE 3 OTHER CATEGORIES
Emissions from CLP's suppliers and customers as well as other sources

GHG emissions intensity of electricity generated



GHG emissions intensity of electricity sold



GHG emissions across the value chain



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