



Business Performance and Outlook

We aim to be at the forefront of the transition to low-carbon, digitalised energy services in Asia Pacific, while providing safe, reliable power supply to customers.



© Connecting electricity supply for Penny's Bay Quarantine Centre

Hong Kong

Improving energy efficiency for customers and meeting evolving electrification needs to reduce the city's carbon footprint.

Financial and Operational Performance

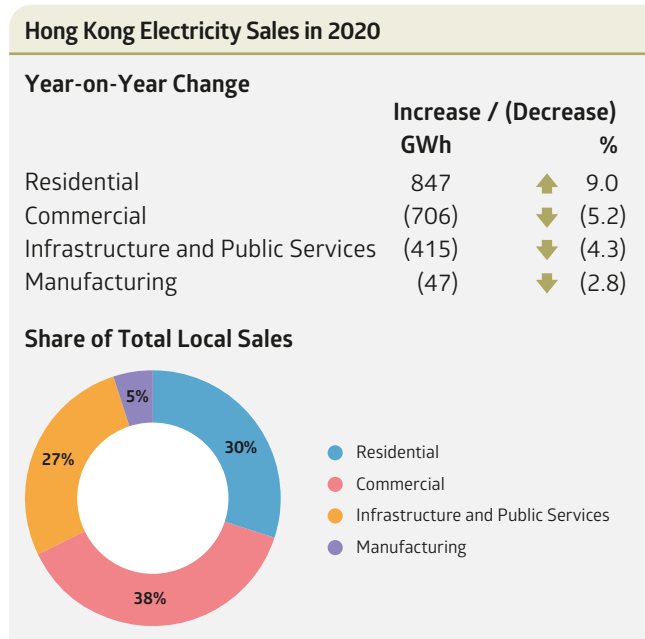
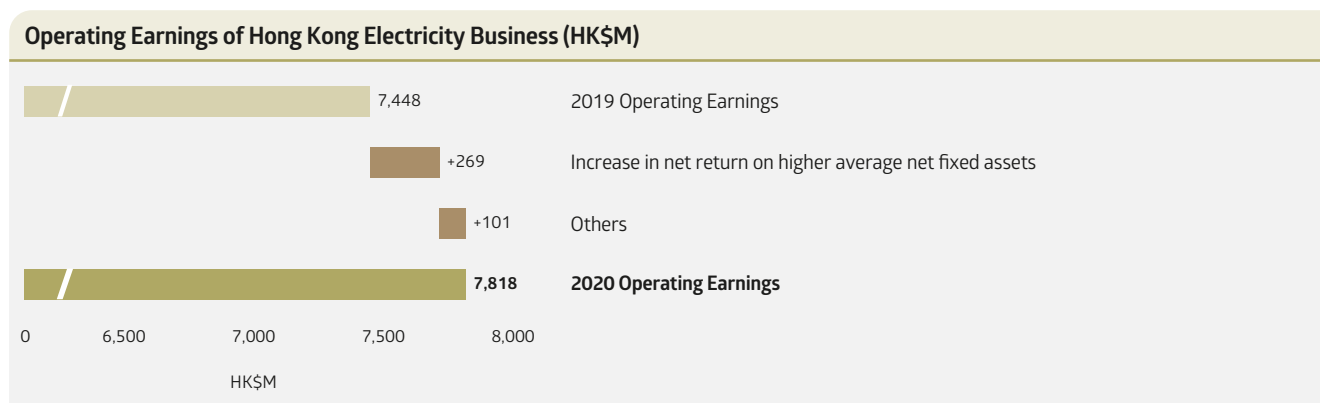
Overview

2020 has been a year of considerable economic and emotional stress for the people of Hong Kong. Throughout this time, CLP has continued to provide a steady electricity supply with a 99.999% reliability to maintain the necessities of daily life. It has also taken exceptional steps to support its people and extend care to customers and businesses suffering from the impact of the pandemic. While demand for electricity was affected by the virus, the impact was mostly confined to non-residential sectors. Sales in the residential sector rose 9% to 10,298 GWh as more people stayed and worked from home, and Hong Kong experienced a hot summer.

Overall, sales of electricity in Hong Kong fell 0.9% to 33,963GWh compared with 2019. The fall in sales would have been larger if demand from data centres had not continued to rise, driven by the increased adoption of big data and cloud computing.

The number of customer accounts meanwhile rose to 2.67 million, compared with 2.64 million in 2019.

Operating earnings of Hong Kong electricity business rose 5.0% from 2019 to HK\$7,818 million in 2020, in line with the increase in invested capital. CLP's performance is summarised below:



Supporting Hong Kong and the Community

CLP introduced a range of measures to ease the hardships suffered by many Hong Kong people as a result of COVID-19. Dining coupons were given to underprivileged families and elderly customers on concessionary tariffs, generating business for around 700 restaurants at a time when the catering industry suffered a heavy blow to patronage. Separately, a two-month electricity bill payment deferral programme was offered to small and medium-sized enterprises in the catering, hotel, and retail sectors, whose businesses were particularly hard-hit by the pandemic.

In November, CLP announced the launch of a series of support programmes for 2021 totalling more than HK\$160 million funded by CLP Community Energy Saving Fund to encourage consumer spending and help the Hong Kong economy regain momentum. Below are details of some of the initiatives:

CLP Community Support Programmes

Allocated over **HK\$80 million** to launch a CLP Retail and Catering Coupons programme, of which coupons were given to nearly **800,000 households**

HK\$1.5 million will be used to fund the CLP Award for Vocational and Professional Education and Training Students



Over **HK\$35 million** will be spent on the CLP Power Connect programme to provide assistance to disadvantaged people and encourage energy saving



Around **HK\$3 million** will be spent to subsidise NGOs and community partners in organising activities related to energy conservation



HK\$20 million subsidy will be used on the Electrical Equipment Upgrade Scheme, and another **HK\$1 million** will be spent on the Retro-Commissioning Training Scheme to help business customers enhancing energy efficiency



Over **HK\$7 million** will be allocated to provide electricity subsidy for **10,000 subdivided unit tenants** and subsidise landlords to carry out rewiring works needed for the installation of individual electricity meters. Another **HK\$10 million** will be used to provide energy-efficient electrical appliances to **5,000 households living in transitional housing**



CLP managed to keep its Average Net Tariff unchanged at HK\$1.218 per unit of electricity for 2021, despite a substantially increased proportion of gas-fired generation. A fall in international fuel prices over the course of 2020 meant the Fuel Cost Adjustment could be reduced to the benefit of customers.

Decarbonising Our Portfolio for Hong Kong

Although COVID-19 hampered economic activity in general, CLP was able to manage the challenges and move forward with a number of strategic projects aimed at increasing the use of natural gas in power generation and enhancing Hong Kong's energy security and the sustainability of gas supply.

A new Combined-Cycle Gas Turbine (CCGT) unit at Black Point Power Station was commissioned, marking the first new major generation unit deployed by CLP in Hong Kong since 2006. Statutory approvals were also obtained for a second CCGT unit at Black Point and early civil works got under way while engineering, procurement, and construction contracts were finalised. Development of the offshore LNG terminal also progressed as fabrication works continued and marine installation works started during the year.

Over the years, CLP has delivered a stable, and reliable electricity supply for Hong Kong while continuing to decrease its carbon emissions-intensity. In 2020, with the new CCGT unit going into operation, CLP substantially increased the

proportion of gas-fired generation to around 50%. This represents a reduction of around 20% in the carbon intensity of CLP's electricity supply.

CLP welcomes the announcement by the Chief Executive of the Hong Kong Special Administrative Region in her Policy Address that the city will strive to achieve carbon neutrality by 2050. The new target will have major implications not just for the electricity industry but also for Hong Kong as a whole. CLP is already well into decarbonisation and will work closely with the Government and the community to support the formulation of a practical roadmap to reduce carbon emissions and contribute strongly towards that goal.

To support Hong Kong in achieving its 2050 target, CLP will continue to promote the development of renewable energy, help customers improve their energy efficiency, and closely monitor the latest technological developments in new zero-carbon energy. CLP's first landfill gas generation project in Hong Kong, capable of producing 10MW of electricity, went into commercial operation in March and provided a platform for CLP to use landfill gas as a renewable energy source. Meanwhile, over 1,800 solar panels were installed on the rooftops of some buildings in CLP's generation plants and substations. With a combined capacity of around 0.7MW, the system is capable of generating the annual electricity used by around 170 households.

CLP is considering the feasibility of constructing an offshore wind farm in the south-eastern waters of Hong Kong. The project has been under consideration for some time, but recent advances in the technology of wind turbine generators and an increasingly mature supply chain in the region make it appear more feasible.

Electrification is another key driver to lower carbon emissions, and CLP is committed to promoting low-carbon transport to make Hong Kong a greener, smarter city. CLP launched an advanced service called Eco Charge 2.0 in support of a Government scheme that subsidises the installation of electric vehicle charging facilities at residential premises. Eco Charge 2.0 provides one-stop technical support and customer service to applicants interested in applying for funding for electric vehicle charging-enabled infrastructure under the Government's scheme. In the meantime, CLP extended its free EV charging service until the end of 2021, providing EV drivers with a convenient, territory-wide network through 54 semi-quick and quick EV charging stations with a total of 161 chargers across its supply area.

Providing a Greener Customer Experience

CLP continued to equip its customers with the most up-to-date technologies and products to help them adopt greener lifestyles in 2020. By the end of the year, over 840,000 smart meters were connected across CLP's supply area, giving customers rapid access to electricity usage data to allow

them to better manage their consumption. Another feature of smart meters is that they can help detect supply failures quickly and reduce repair times. Given the severe damage caused by Super Typhoon Mangkhut in 2018 to power supplies to remote villages, CLP prioritised the connection of smart meters in areas served by overhead lines, which are more prone to typhoon disruption. This work was completed in 2020.

CLP has seen a significant increase in interest in the Feed-in Tariff (FiT) scheme thanks to Hong Kong people's commitment to a more sustainable future and the falling cost of renewable energy equipment. By the end of 2020, an accumulated total of more than 13,000 applications had been received, nearly twice as many as the 6,900 received by the end of 2019. Around 87% of the projects have already been approved or connected to our grid. They represent a combined capacity of 175 MW, equivalent to the annual electricity consumption of around 42,800 households.

Sales of Renewable Energy Certificates grew about 70% compared with last year. Even more encouragingly, some customers expressed interest in larger purchases of certificates, either for a greater amount or for a longer period, demonstrating their commitment to a greener, lower-carbon Hong Kong.

The CLP Eco Building Fund provided subsidies for over 700 residential and commercial buildings to install energy-efficient equipment in 2020, saving a total of more than 48 GWh of electricity.

Continuing the Digitalisation Journey

For all its negative impact globally, one silver lining of the COVID-19 pandemic is that it has quickened the pace of digitalisation. From the beginning of the outbreak in early 2020, CLP swiftly implemented flexible working policies with most of its workforce working remotely during peaks of the pandemic. This was made possible by CLP's strategy of moving to cloud computing several years ago, underpinned by investments in system enhancement.

The new CLP mobile app provides customers with an end-to-end digital experience, from move-in services and eBill applications, to mobile payments and a Smart Shopping platform. Downloads and usage of the app saw a nearly 50% increase compared with the previous year as growing numbers of customers opted for online services.

To demonstrate the immense range of new possibilities, a CLP customer services centre was renovated and upgraded to feature multi-function self-service kiosks, deploying the latest digital technology to give customers a convenient and flexible account service and shopping experience. CLP also introduced robotic process automation to enhance its operational efficiency in a number of areas, including customer application processing and marketing consent checking.

Environmental Performance

Environmental Regulatory Compliance

All Hong Kong assets under CLP's operational control maintained full compliance with environmental regulations in 2020. CLP also complied with all the emissions caps set by the Government during the year. It achieved this by optimising its diversified fuel mix and maintaining the effectiveness of its emissions control facilities.

Air Emissions

The new CCGT unit at Black Point enables CLP to support the Government's target of increasing natural gas use to around 50% of Hong Kong's fuel mix for power generation from 2020 in order to improve air quality. Together with the second CCGT unit being developed, it will contribute to the gradual phase-out of the oldest coal-fired units at Castle Peak Power Station which are expected to reach the end of their operating life in the mid-2020s. Furthermore, the new landfill gas project will help CLP reduce the carbon dioxide emissions of its generation activities in Hong Kong.

Social Performance

Stakeholder Engagement

To facilitate communication over environmental issues between CLP and stakeholders regarding the construction of the offshore LNG terminal, a stakeholder liaison group was set up in September comprising academics, marine conservation and fisheries experts, as well as representatives of fishermen's associations and the community. Meanwhile, a Marine Conservation Enhancement Fund and a Fisheries Enhancement Fund were established with HK\$100 million

available to support community initiatives that contribute to the enhancement of the marine environment and fisheries resources. The first round of applications attracted more than 40 entries from academics, non-governmental organisations, and fisheries organisations.

The Government is constructing Integrated Waste Management Facilities on an artificial island in southwest Hong Kong, and CLP is seeking approvals to lay submarine cables to connect the facilities to nearby Lantau Island so that it can supply power and export any surplus electricity from the waste treatment process to the power grid. Engagement meetings were arranged with major green groups, community leaders, district council members, and fishermen's associations to explain the process for cables laying.

Community Initiatives

Amid COVID-19, CLP launched a range of activities to help build a more caring society and to support the community fighting the pandemic. As well as distributing supplies of personal protective equipment, sanitisation products, and daily essentials, CLP paid special care to the disadvantaged groups in society.

CLP volunteers used video and online technologies to connect with elderly people and other groups isolated by the need to restrict social contact during the pandemic. COVID-19 also created a digital divide, which was a critical hurdle for students from low-income families when school classes were suspended. Laptops were therefore donated to 40 underprivileged families and basic computer training was provided to parents.



⊙ The commissioning of the CCGT unit at Black Point Power Station increased the use of natural gas to around 50% of CLP's fuel mix in Hong Kong in 2020.

Some of CLP's community works in 2020 are detailed below. For further details of individual programmes, please refer to the Social and Relationship Capital chapter of this report on pages 98 to 101.



Community Wellbeing

- Around **100,000 surgical masks** were given to underprivileged families through around **230 secondary schools**.
- **1 million surgical masks** were given to around **20,000 subdivided units families**; **10,000 surgical masks** and **hand sanitisers** were given to catering personnel through the Occupational Safety & Health Council.
- More than **180,000 bottles of disinfectant spray** were given to people in need and around **12,000 restaurants**.
- Surgical masks were donated to the Hospital Authority and, with support from business customers, clothes, personal care products, foods and drinks and disinfectant sprays were given to frontline medical staff in public hospitals.
- **200,000 POWER FOUR face shields** with energy saving tips cards were distributed to students in **1,000 kindergartens** and **special child care centres**.
- Four CLP Hotmeal Canteens have served more than **760,000 hot meals** since 2011.
- Around **400,000 residential customers** have signed up for the CLP Power Connect programme for embracing energy efficiency and conservation activities. Through the programme, subsidies were offered to relieve the electricity costs of some **40,000 underprivileged households**.
- Over **500 pieces of electrical appliances** have been donated to more than **400 households** living in transitional housing.
- **81 individual meters** have been installed for **22 subdivided units** since 2019.



Environment

- The Green Elites Campus Accreditation Programme reached around **10,000 primary students**, educating them about green living.
- Green Studio has diversified its service to schools by offering digital learnings. It welcomed over **9,600 visitors** in school visits, public outreaches and digital learning.
- The CLP Energy Innovation for Smart City Competition has **43 secondary school teams** shortlisted.



Volunteering

- About **1,800 CLP volunteers** contributed more than **8,000 hours** of services to the community.
- A greeting video recording by CLP volunteers and virtual meet-ups were arranged for **20 households** of elderly people with early signs of dementia.
- More than **10,000 goody bags** were given out to elderly people and the residents of subdivided flats.
- **5 virtual caring visits** were organised through the Sharing the Festive Joy programme to celebrate Tuen Ng festival with **230 elderly people**.
- Used laptops were given to **40 underprivileged families** and basic computer workshops were provided to parents by CLP volunteers.



Education and Development

- A CLP Graduate Internship Programme was launched to offer around **60 one-year internships** for fresh university graduates.
- Tailor-made education materials were provided to **85 primary schools** and **1,000 kindergartens**, supporting online teaching and learning when classes were suspended.
- Part-time programmes offered by the CLP Power Academy and its education institutions partners attracted more than **550 applications** for around **260 available places**.
- The fourth episode of 3D cartoon series, Power Kid Channel, was launched. Together with the first three episodes, the accumulated number of views has exceeded **16 million**.

Outlook

In the same way that CLP has supported the community through the pandemic in 2020, it will continue to support Hong Kong through the challenges that lie ahead; helping the city and its people go through the end of the pandemic and then recover from it, getting the economy back on track, and continuing the important transition to a lower-carbon future.

As we move into a new year with new targets and goals, CLP is reviewing the data for an offshore wind farm and conducting a detailed development study to determine whether this large-scale renewable energy project is viable.

In the meantime, CLP will roll out more smart meters, support customers in improving their energy efficiency and in electrifying their transport needs, and promote the increased use of renewable energy. It will also continue to bring more lower-carbon gas-fired power generation to

Hong Kong as part of the city's energy transition. CLP will focus on completing construction of the offshore LNG terminal and the second CCGT unit at Black Point, which are expected to go into service in 2022 and 2023 respectively. All these elements will help Hong Kong reduce its carbon footprint and significantly contribute to the city's strategy to achieve carbon neutrality by 2050.

Digitalisation will continue to be a major priority. Operational and business transformation will accelerate momentum towards automation and digitalisation, while the adoption of digital channels to engage customers will become increasingly mainstream. Looking ahead, smart operations enabled by digital technologies, big data analytics, and innovation will drive the Company's digital capabilities forward, and help CLP achieve its constant objective of meeting and exceeding customer expectations.

The Hong Kong Government has announced a target of making the city carbon neutral by 2050. As a utility company, what is CLP doing to decarbonise its business, and how can it help customers like us reduce our carbon footprint?

Mr Hoss Vetry

Regional Vice President & Managing Director
Rosewood Hong Kong



CLP believes in sustainable development and has long been a staunch supporter of climate action. We were the first Asian-headquartered power company to set carbon intensity reduction targets for our generation portfolio back in 2007, when we launched Climate Vision 2050. Today, as we transform into a Utility of the Future, we are progressively decarbonising our portfolio of generation assets and evolving our business model to support our customers to improve energy efficiency.

In Hong Kong, we are committed to helping the Government achieve its 2050 carbon neutrality target through increasing low-carbon electricity supply, and supporting our customers in lowering their carbon footprint.

On the generation side, in the near to medium term, we are adding more gas-fired generation, facilitating local renewable energy development and exploring the feasibility of developing an offshore wind farm in Hong Kong's waters. In the medium to longer term, we aim to introduce more zero-carbon energy to our city through regional cooperation. We will also utilise new technologies such as hydrogen or carbon capture and storage as and when they become more viable.

As we all know, decarbonisation requires efforts by everyone, including energy users. To assist our customers, CLP stands to provide the necessary tools and initiatives. We have a suite of programmes to help both commercial and residential customers improve their energy efficiency such as the Eco Building Fund and the Electrical Equipment Upgrade Scheme. To encourage community participation to support the development of more wind and solar projects, we also have the Feed-in Tariff scheme and the Renewable Energy Certificates.

Our decarbonisation strategy involves a holistic approach, reducing our dependence on coal while helping all our customers lower their power consumption and increase energy efficiency. Let's work together to make Hong Kong greener and more sustainable.

TK Chiang

Managing Director, CLP Power Hong Kong





© Xundian I Wind Farm

Mainland China

Growing a diversified portfolio of low-carbon generation assets while pursuing opportunities in innovative energy developments.

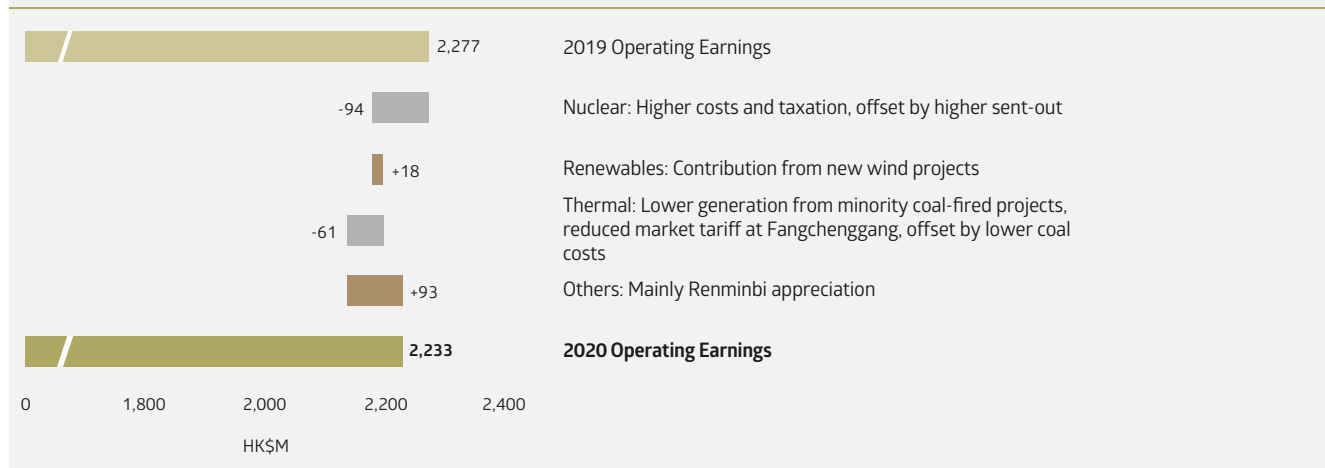
Financial and Operational Performance

Overview

China was the first country to experience the devastating impact of COVID-19, an unprecedented global challenge in 2020. Thanks to the Government's strong effort to contain the pandemic, the Chinese economy was one of the first to reopen, giving it a head start in recovery. Reflecting the comparatively early rebound in industrial activity, power consumption was up 3% during the year.

In these difficult circumstances all areas of CLP's operations in Mainland China performed well, resulting in a decrease in operating earnings limited to 1.9% to HK\$2,233 million. The performance of the business in 2020 is summarised below:

Operating Earnings	2020 HK\$M	2019 HK\$M	Change %
Nuclear Energy	1,594	1,688	(5.6)
Renewable Energy	565	547	3.3
Thermal Energy	203	264	(23.1)
Operating and Development Expenditure	(129)	(222)	41.9
Total	2,233	2,277	(1.9)



Nuclear Energy

Nuclear energy projects continued to be the main contributor of CLP's operating earnings in Mainland China, accounting for about two-thirds of the total. While operation of Daya Bay Nuclear Power Station remained stable, earnings from the nuclear portfolio decreased 6% mainly because of lower contribution from Yangjiang Nuclear Power Station as a result of higher costs including taxes and despite increased generation.

Sent-out from Yangjiang was approximately 3% higher than in the previous year, largely due to the commissioning of its sixth and final operating unit in July 2019. However, the amount of sent-out was affected by unplanned outages and indirect impact of COVID-19 in the first half of the year.

Yangjiang won three national awards for engineering excellence, demonstrating the high standards of construction in CLP's nuclear portfolio. Daya Bay also received top-level

certification from the Norwegian assurance and risk management company DNV GL for its outstanding safety, health, and environmental performance.

Renewable Energy

CLP's portfolio of renewable energy projects performed steadily in 2020, helped by improvements in wind and solar resources.

As part of its strategic focus on the development of renewable projects, CLP commissioned Laiwu III Wind Farm in Shandong province in September. With a total generation capacity of 149MW, this three-phase project is the largest operating wind farm across the CLP Group.

Laiwu III contributed to increased total generation by CLP's wind portfolio in Mainland China, which also benefitted from the full-year operation of Laizhou II Wind Farm in Shandong commissioned in June 2019 and record levels of generation by Sandu Wind Farm in Guizhou.

CLP also committed to invest in the 100MW Qian'an III Wind Farm in Jilin province. Construction is expected to start in the first half of 2021, and the plant will be the Company's first grid-parity project in Mainland China. Investing in grid-parity projects will allow CLP to reduce its dependence on national subsidy payments from the Chinese Government, delays in which continued to affect the cash flow of CLP's wind and solar projects. As of 31 December 2020, the total receivables relating to the unpaid national subsidies increased to HK\$1.77 billion (2019: HK\$1.27 billion).

The performance of the solar portfolio remained stable and sent-out from the Jinchang plant in Gansu province increased thanks to lower grid curtailment. Most hydro projects reported better performance except Huaiji Hydro Power Stations in Guangdong, which suffered from lower water resources. Some generation units at the plant also encountered unplanned outages because of landslides caused by flooding in June.

Thermal Energy

The performance of CLP's only majority-owned coal-fired project in Mainland China, Fangchenggang Power Station in the Guangxi Zhuang Autonomous Region, remained good as the plant benefitted from lower coal costs in the first three quarters of the year combined with higher output and demand. However, these benefits were more than offset by lower average tariffs received. An electricity retail company was set up to facilitate market sales and act as the plant's interface with customers.

Fangchenggang was named 2018-2019 Outstanding Enterprise and one of 2020's Top 100 Enterprises by the regional Government in recognition of its outstanding performance in a range of areas including corporate governance, sustainability, innovation, finance, safety, environmental protection.

Minority-owned coal-fired projects in CLP's portfolio in Mainland China reported lower output, mainly because of the impact of COVID-19 in the first quarter.



CLP China's donation of anti-virus supplies to local schools in Yunnan province in the fight against COVID-19 in early 2020.

The table below shows the performance of CLP's renewable energy and thermal energy projects in Mainland China:

	Installed Capacity Equity MW	Electricity Sent Out ¹ GWh		Availability %		Utilisation %	
		2020	2019	2020	2019	2020	2019
Renewable Projects							
Wind	934.6	1,885	1,793	99.0	98.1	24.1	24.4
Wholly-owned	543.5	1,168	1,052	98.8	97.2	26.3	25.9
Qian'an I & II	99	257	261	99.4	99.3	30.6	30.6
Penglai I	48	89	93	99.4	99.6	21.6	21.9
Laiwu I, II & III ²	149 ²	171	160	99.7	99.4	17.7	18.9
Xundian I	49.5	151	154	99.6	99.7	35.4	36.2
Sandu	99	279	203	95.7	88.1	32.9	24.0
CLP Laizhou I & II ³	99	222	181	99.0	99.8	26.2	27.0
Minority-owned	391.1	717	741	99.4	99.2	21.0	22.6
Solar⁴	328.3	590	581	99.99	99.9	20.6	20.3
Jinchang	85	181	162	100	99.8	24.5	21.9
Sihong	93.4	137	139	100	100	16.7	17.0
Xicun	84	167	174	100	100	22.8	23.7
Huai'an	12.8	19	20	100	99.9	17.3	17.9
Lingyuan	17	34	33	99.8	100	23.7	23.5
Meizhou ⁵	36.1	52	52	100	99.7	16.3	16.4
Hydro	489.3	1,879	1,758	94.2	93.1	44.2	41.4
Dali Yang_er	49.8	147	134	92.5	93.0	33.9	30.9
Huaiji	109.5	284	436	92.4	88.4	31.0	46.9
Jiangbian	330	1,448	1,187	95.0	94.6	50.1	41.1
Thermal Projects							
Majority-owned							
Fangchenggang I & II	1,806	7,947	7,720	89.2	95.8	52.7	51.7
Minority-owned	2,147.2	8,459	9,272	93.6	91.6	48.3	53.1
Shiheng I & II	370.4	813	1,246	93.8	90.1	27.3	41.8
Heze II	176.4	852	907	92.0	91.0	59.1	62.9
Liaocheng I	352.8	1,487	1,649	98.5	87.3	51.5	57.2
Panshan	206.7	871	810	92.1	91.2	51.3	47.8
Sanhe I & II	219.5	923	1,008	95.7	97.0	51.2	56.1
Suizhong I & II	564	2,185	2,368	89.8	93.7	47.1	51.1
Zhungeer II & III	257.4	1,329	1,284	95.1	91.3	64.8	63.1

Any minor discrepancies in totals are due to rounding of figures.

Notes:

- 1 Indicates CLP equity sent out.
- 2 Laiwu III (50MW) was commissioned in September 2020. The data of Laiwu I, II, and III has been combined to align with reporting practices in Mainland China.
- 3 CLP Laizhou II was commissioned in June 2019. The data of CLP Laizhou I and II has been combined to align with reporting practices in Mainland China.
- 4 Alternate Current (AC) capacity is used to align with the calculation method for other power plants in the CLP portfolio.
- 5 The project was acquired in January 2019.

New Opportunities and Innovation

CLP joined China Southern Power Grid Co., Ltd and other investors in November to establish the CSG Energy Innovation Equity Investment Fund with the aim of capturing investment opportunities in innovative energy developments, new energy infrastructure, and smart energy in the Greater Bay Area.

The incremental distribution network (IDN) in Fangchenggang Hi-Tech Zone, CLP's first investment in the distribution grid in Mainland China, went into service in January and began supplying electricity to customers in April.

In Sihong Solar Power Station in Jiangsu, the use of robots to regularly clean its solar panels improved the panels' efficiency while eliminating safety risks in the cleaning process. The power station subsequently deployed 62 automatic cleaning robots from September onwards to clean solar panels with a combined output of 10MW.

CLP has successfully trialled the use of smart glasses at Fangchenggang Power Station for remote consultation on construction, repair, and maintenance works. It plans to expand the application to other projects, in particular renewable energy farms in remote locations. Drones and robotic devices have also been experimented with to inspect and monitor the conditions of wind turbine structure and blades. Other new technologies such as virtual fencing are also being examined to improve project safety and productivity.

Environmental Performance

Environmental Regulatory Compliance

All assets under CLP's operational control in Mainland China maintained full compliance with environmental regulations in 2020.

Air Emissions

Since the completion of the emissions control retrofit project at Fangchenggang by the end of 2018, its sulphur dioxide (SO₂) emission intensity remains at a low level. In 2020, although output slightly increased when compared with 2019, emission intensity for SO₂, nitrogen oxides (NO_x) and particulate matter (PM) were still low.

Social Performance

Stakeholder Engagement

As the outbreak of COVID-19 prevented many face-to-face meetings, online meetings and conferences as well as written correspondence were used to maintain effective communication with CLP's stakeholders, including government officials, industry organisations, and business partners.

Community Initiatives

CLP made donations and provided support for COVID-19 medical relief, promoting hygiene in the communities and benefitting approximately 350,000 people. The support spanned across regional head offices and regional businesses with priority given to providing medical relief in the vicinity of CLP assets.

The initiatives rolled out included the donation of medical ventilators to hospitals in Hebei and Sichuan provinces, temperature detectors in Sichuan, a water purifying system for a school in Jiangsu, and medical supplies to frontline medics and communities. CLP also distributed to residents and schoolchildren caring kits containing medical supplies, sanitisers, and a leaflet to remind people to maintain good hygiene to guard against the pandemic.

A Guangxi Ethnic Minority Community Project launched in 2019 continued to preserve the unique culture and enhance the wellbeing of minorities in two of the region's counties, supporting groups such as the Yao, Miao, and Zhuang clans.

Some of CLP's key initiatives in Mainland China are detailed below. For more information about individual programmes, please refer to the Social and Relationship Capital chapter of this report on pages 98 to 101.



Community Wellbeing

- Supported COVID-19 relief efforts by donating medical supplies, water purifiers and caring kits to hospitals, frontline personnel, residents and students, benefitting **350,000 people**.
- Paid caring visits to elderly's homes and the underprivileged, and donated daily necessities, fitness equipment and water purifiers to close to **16,000 residents** in Guangdong, Guangxi, Sichuan, Yunnan, Jiangsu, Shandong and Jilin.
- Provided a safer and more hygienic environment to close to **7,000 local residents** by sponsoring construction of roads, bridges and water purifying system.



Environment

- Published books on environmental protection in Chinese, Miao and Zhuang ethnic languages to promote environmental awareness among ethnic minorities.
- Organised a talk on environmental protection in Sichuan, attracting **2,300 participants**.
- Organised tree planting in Jilin to improve the environment and enhance environmental awareness of local residents.
- Installed solar lights at the playgrounds in a village in Guangxi to provide a safe and environmental-friendly venue for **4,000 villagers**.



Volunteering

- CLP volunteers contributed almost **1,200 hours** on caring visits and community activities.



Education and Development

- Around **1,600 students** from **22 schools** in Guangdong, Guangxi, Yunnan, Guizhou and Sichuan benefitted from CLP's "Support-A-Student" and "Support-A-School" programmes.
- Sponsored over **350 underprivileged students** in Yunnan, Guizhou and Guangxi, and awarded **10 teachers** in Guangxi for their outstanding performance.
- Organised talks on safety to residents in Guangdong and Guangxi, and conducted safety check of electricity usage, reaching out to over **12,000 people**.
- Volunteers from Guangxi initiated to teach English in a primary school for one academic term, and bring to students knowledge on environmental protection and safety.

Outlook

China aims to achieve carbon neutrality by 2060. To meet this goal, the country has committed to a number of 2030 targets, including cutting carbon intensity by more than 65% from 2005 levels, nearly tripling the capacity to generate electricity from wind and solar to more than 1,200GW, and increasing the ratio of non-fossil fuels in primary energy consumption to around 25%.

In support of this policy and CLP's own decarbonisation strategy, CLP will continue to focus on developing low-carbon projects in the coming years. Following the investment in Qian'an III Wind Farm, CLP will continue to explore other grid-parity project development opportunities. CLP is also pursuing opportunities to increase the adoption of rooftop solar power generation, and selective investment in offshore wind projects.

The Chinese Government has a mission to transform the Greater Bay Area into an international business hub by 2035 with an integrated economy and a strong focus on technology. CLP will pursue opportunities in this important emerging region, with new energy infrastructure and smart energy solutions as its priorities. CLP is committed to drawing on its core capabilities and partnerships to contribute to the sustainable growth and long-term development of the electricity sector in China.

CLP has incorporated a holding company in the Qianhai Free Trade Zone in Shenzhen. This will provide a platform for investment in clean energy and smart energy projects which look certain to play an increasingly important role in China's future growth and development.

The development of digital infrastructure to support cities and businesses continues to grow, particularly in China and the Greater Bay Area, which in turn is creating new business models and market players. Energy infrastructure is a critical enabler for this to continue. How do you envisage the Greater Bay Area developing in this aspect, and in particular the roles that energy market players can play in creating these new digital infrastructure projects?



Mr Charles Lee

Founder and Chief Executive Officer
OneAsia Network Limited

The Greater Bay Area is an innovative hub and home to some of the world's most successful emerging businesses. As this economic powerhouse develops, intelligent and effective energy services are essential for it to achieve its potential.

The growth of the Greater Bay Area offers immense opportunity, and energy players need to be intensely focused on customers and their needs.

They must provide new business and commercial models and adopt a service mindset across the life cycle of projects and assets, including the possibilities of co-investment.

Given the energy intensity of data centres, we are in a strong position to add value by offering efficiency, advanced design, low-carbon power, and cost-effective solutions. Power accounts for around 40% of data centres' operating costs, so energy players have a vital role to play in helping manage this.

Sustainability is essential as the scale and number of data centres increases, consuming more energy. A central role for energy providers will be to provide a path to sustainable data centres by drawing on their renewable energy development expertise.

SH Chan

Managing Director, China





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India

Exploring non-carbon opportunities in dynamic power sector, building on operational excellence.

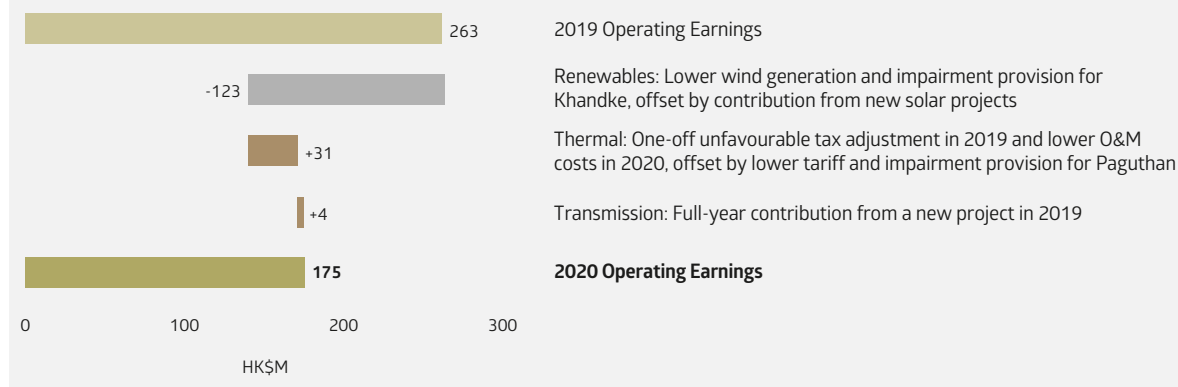
Financial and Operational Performance

India is one of the countries most severely affected by the COVID-19 pandemic, recording more than 10 million cases and 150,000 deaths by the end of 2020 and enduring a nationwide lockdown for the majority of the year. Despite this, the operations of CLP India, which is co-owned by CLP and Caisse de dépôt et placement du Québec (CDPQ), maintained a high level of safety and availability, while protecting the health and wellbeing of employees.

During the year, CLP India maintained very high levels of availability at Jhajjar Power Station. While poor wind resources coupled with the impact of severe weather events resulted in relatively low wind power generation, this was partially offset by higher generation from the expanded solar portfolio.

As a result, CLP's operating earnings in India dropped 33.5% to HK\$175 million. The financial performance of the business, which was also affected by impairment charges associated with the Paguthan plant and the Khandke wind farm for a total of HK\$52 million after tax, is summarised below:

Operating Earnings ¹	2020 HK\$M	2019 HK\$M	Change %
Renewable Energy	104	227	(54.2)
Thermal Energy	66	35	88.6
Transmission	5	1	400
Total	175	263	(33.5)



Note:

¹ Net of CDPQ's share

Renewable Energy

The performance of CLP India's wind projects was affected by poor wind resources across all locations due to an erratic summer monsoon. In June, Andhra Lake Wind Farm in Maharashtra was out of service for nearly a month after its transmission system was damaged by Cyclone Nisarga. Flooding in Samana Wind Farm in Gujarat, meanwhile, prevented access and restoration of some turbines for nearly ten days in July, while gales at the Bhakrani Wind Farm in Rajasthan brought down a transmission tower and put the project out of service for five days.

The commencement of construction of the Sidhpur wind project in Gujarat was delayed by COVID-19. Nevertheless, CLP India pushed ahead with preparation work for land development and application for necessary regulatory approvals. The execution of the engineering, procurement, and construction contracts was completed in December.

The solar portfolio of CLP India fared better as all operational activities were managed effectively during the pandemic. In addition, CLP India took full ownership of the operation and maintenance activities of all its solar assets in 2020, giving it greater operational control. In February, CLP India agreed to acquire three solar projects in Telangana with a combined capacity of 122MW. Two of the projects, with capacities of

30MW and 50MW, were transferred to CLP India in early 2020. Both assets quickly adapted to CLP safety systems and operating procedures and performed well, despite repeated flooding in the monsoon season. The purchase of the third project, with capacity of 42MW, was terminated by mutual agreement in September after the pandemic delayed the process.

Despite the COVID-19 situation, outstanding receivables from local distribution companies relating to the purchase of renewable energy reduced 4.2% to HK\$771 million by the end of the year. CLP India also received HK\$50 million of delayed payment charges and generation-based incentives.

Thermal Energy

The Jhajjar coal-fired power station in Haryana reported an exceptional operational performance due to a record commercial availability of 97.3%. It also won a number of awards for its outstanding safety performance, including

a certificate of merit from the Frost & Sullivan Safety Awards 2020 and a Silver Award from the Royal Society for the Prevention of Accidents in the UK. With its flue gas desulphurisation (FGD) facilities, Jhajjar is the only power plant in the National Capital Region to successfully keep sulphur dioxide (SO₂) emissions within compliance levels.

CLP India continued to explore alternate uses for the Paguthan plant in Gujarat, which ceased operations upon the expiry of its previous power purchase agreement in December 2018. The site has been well monitored and maintained since with functional tests conducted periodically. CLP India is currently evaluating a number of options for the asset, including potentially participating in bids to supply “round-the-clock” power using a combination of renewable energy and thermal energy, and the possible sale of the plant.

The table below shows the performance of CLP’s renewable energy and thermal energy projects in India.

	Installed Capacity Equity MW	Electricity Sent Out ¹ GWh		Availability %		Utilisation %	
		2020	2019	2020	2019	2020	2019
Wind	554.5	927	1,046	95.6	95.8	19.6	21.5
Andhra Lake	63.8	103	129	93.8	95.7	18.9	23.1
Bhakrani	61.4	84	84	93.9	94.6	15.6	15.6
Chandgarh	55.2	96	106	98.5	98.3	21.1	22.0
Harapanahalli	23.8	48	55	96.5	95.9	23.9	26.4
Jath	36	58	73	97.5	97.8	19.3	23.0
Khandke	30.2	50	58	93.5	91.1	19.4	22.0
Mahidad	30.2	46	59	87.1	92.1	17.8	22.1
Samana I	30.2	45	58	93.9	93.8	17.6	22.0
Samana II	30.2	51	63	94.7	93.4	19.7	24.0
Saundatti	43.2	71	81	98.6	97.9	19.1	21.4
Sipla	30.2	50	49	96.9	96.1	18.8	18.5
Tejuva	60.5	118	121	98.1	97.6	22.4	22.6
Theni I	29.7	54	56	96.4	95.7	21.2	21.5
Theni II	29.7	53	54	96.9	97.9	20.8	20.7
Solar	150	267	182	96.4	96.8	21.9	22.8
CREPL ²	18	23	–	99.5	–	19.2	–
DSPL ³	30	38	–	99.4	–	20.4	–
Gale	30	57	54	86.8	96.4	21.5	22.7
Tornado	12	25	22	93.7	85.0	22.7	20.8
Veltoor	60	123	106	99.2	99.3	23.4	23.3
Coal							
Jhajjar	792	2,629	3,465	97.8 ⁴	89.8 ⁴	40.6	53.8

Any minor discrepancies in totals are due to rounding of figures.

Notes:

- 1 Indicates CLP equity sent out.
- 2 The project was transferred to CLP India in March 2020.
- 3 The project was transferred to CLP India in April 2020.
- 4 Technical availability. Jhajjar’s commercial availability was 97.3% in 2020 and 89.2% in 2019.

Transmission

CLP India has broadened its non-carbon business by agreeing to acquire a portfolio of transmission projects. The first project – Satpura Transco Private Limited in Madhya Pradesh – was successfully transferred to CLP India in November 2019. It has maintained 100% availability since and contributed positively to CLP India's 2020 earnings. Transaction of the second project with Alipurduar Transmission Limited was terminated after certain conditions precedent could not be fulfilled. The third project – Kohima Mariani Transmission Limited, spanning three north-eastern states – was commissioned in November 2020 and will be taken over by CLP India following the completion of conditions precedent, including obtaining approval from the Federal Government.

Environmental Performance

Environmental Regulatory Compliance

There was one minor licence limit exceedance for nitrogen oxide (NO_x) at Jhajjar in March 2020 but it did not result in any action by the local authorities.

Air Emissions

Thanks to the full operation of FGD units since February 2019, Jhajjar's SO₂ emission continued to fall from 0.74 kg / MWh in 2019 to 0.63 kg / MWh in 2020.

Particulate matter emission in 2020 was 0.12 kg / MWh, slightly decreased when compared with 2019. The

combustion optimisation carried out in 2018 continued to help reduce NO_x emissions to 1.01 kg / MWh in 2020, compared with 1.36 kg / MWh* in 2017.

* Restated by using electricity sent-out, instead of gross output, to calculate the intensity

Social Performance

CLP India entered into a strategic partnership for the use of solar energy for community benefits in 2020. An agreement was signed with Selco Foundation for solar energy-based community development and livelihood opportunities. In addition, the company launched a programme in partnership with the School of Vocational Education at the Tata Institute of Social Sciences to train 2,000 young people in renewable energy and healthcare skills.

Timely support was extended to communities near CLP India's plants during the pandemic, and the company continued to supply midday meals to around 25,000 school children near the Veltor and Saundatti plants and the children were given takeaway boxes with food and hygiene kits when classes were suspended.

The impact of COVID-19 affected many community projects. However, CLP India was able to successfully expand a crop residue management project in Haryana. The company also launched a project to plant 50,000 trees in Alwar, Rajasthan. In addition, significant progress was made in ensuring water security for communities near the Gale / Tornado solar plants and the wind farms in Samana, Mahidad, and Khandke.



● CLP India's first transmission project has maintained 100% availability since its acquisition in 2019.

Below are some of CLP India's major social projects in 2020. For further details of individual programmes, please also refer to the Social and Relationship Capital chapter of this report on pages 98 to 101.



Environment

- A crop residue management project in Haryana was expanded to cover **16 villages** and about **23,000 acres of farmland**. A study showed that it achieved an **80% reduction** in stubble burning for the first year, thanks to the provision of technological tools and behaviour change training to farmers.
- Launched a project to plant **50,000 trees** in Alwar, Rajasthan. This project will benefit nearby communities by providing sustainable income through job creation, water recharge and biodiversity conservation. Also, employees are presented with e-Tree certificates on their birthdays and special occasions to raise environmental and sustainability awareness.



Education and Development

- Timely support was extended to communities near CLP India's plants during the pandemic. The company continued to supply midday meals to around **25,000 school children** near the Veltoor and Saundatti plants and **10,000 children** near Veltoor plant were given takeaway boxes with food and hygiene kits when classes were suspended.
- Invested in energy efficiency and facility improvement measures at the Nawabpet centralised kitchen.
- A school infrastructure improvement project in villages near the transmission project site in Seoni-Malwa, Madhya Pradesh, benefitted **400 students**. A school computer laboratory in Theni for **600 students** was restored and fitted with new equipment.



Community Wellbeing

- COVID-19 relief support reached **80,000 individuals** and distributed **200,000 meals**. District council and municipal corporation officials in Chandgarh presented an appreciation plaque to CLP India for its community work during the pandemic.
- COVID-19 resilience building projects were launched, led by around **200 women**. These initiatives will benefit around **300,000 individuals** over a one-year period.
- A milk cooperative project near the Chandgarh site helped around **2,000 women** develop leadership and entrepreneurial capabilities. Another **600 women** were supported by a women empowerment project. A three-year project to aid women was also launched in Jhajjar.
- Initiatives to supply drinking and household water to communities around Khandke, Samana, Mahidad, Gale and Tornado project sites helped about **10,000 villagers**.
- A mobile medical van project provided healthcare services to around **27,000 people** in **56 villages**.
- Around **400 young people** in Jhajjar and Mumbai joined in CLP India sports initiatives.



Volunteering

- Employees and their families contributed over **580 hours** to volunteer work. CLP India also conducted a volunteering survey and offered virtual volunteering options to employees.

Outlook

CLP India continued to focus on operational excellence, explore new initiatives and partnerships, and give steadfast support to communities surrounding its sites across the country throughout 2020. Throughout the darkest months of the pandemic, CLP India remained true to its principles and continued to connect with communities and build for a brighter and more sustainable future.

CLP India has been seeking clarification from the Government on new foreign direct investment rules announced in April and will continue to work with Indian ministry officials to

allow for future investment and overcome uncertainties in approval timelines. Meanwhile, the Indian energy market is evolving rapidly with tariffs for renewable energy projects reaching historic lows amid intense competition from participants from the public and private sectors and lower funding costs.

Despite these issues, CLP India remains firmly committed to the market and its strategy of focusing on decarbonisation and renewable energy projects remains unchanged. It will continue to aspire to operational excellence and to explore new opportunities in India's dynamic power sector.

What inspired CLP India to join hands with the CII Foundation to help farmers in north-west India reduce crop residue burning?



Ms Seema Arora
CEO, CII Foundation

The smoke from crop burning contributes significantly to the thick blanket of smog that chokes north-west India, particularly Delhi, every winter. It not only produces harmful emissions but also depletes essential nutrients from the soil.

As a responsible corporate citizen, CLP India constantly seeks to address the challenges faced by the communities it serves. CLP India therefore teamed up with the CII Foundation in 2019 for a two-year programme to educate communities and encourage 6,000 farmers with more than 9,000 acres of farmland to minimise stubble burning in the state of Haryana. In its first year, it reduced the practice in the project area among the farmers by around 80%, and more than half of the villagers in surrounding areas reported an improvement in air quality. The project has since been expanded to cover 16 villages and 23,000 acres of farmland.

CLP India has meanwhile pressed ahead with steps to reduce its impact on the environment. To control emissions, Jhajjar Power Station installed flue gas desulfurisation (FGD) technology during its construction in 2012, five years before FGD became mandatory for all thermal power plants in India. This makes Jhajjar the first and only plant in the National Capital Region to have installed and operationalised FGD so far. In addition, we have planted approximately 350,000 trees of different varieties, attracting more than 50 different species of birds and enhancing its biodiversity.

Rajiv Mishra
Managing Director, CLP India





© Lopburi Solar Farm

Southeast Asia and Taiwan

Keen to invest in renewable energy generation
to support global carbon reduction efforts.

Financial and Operational Performance

Overview

Thanks to its high availability and lower coal prices, Ho-Ping Power Station in Taiwan recorded strong financial results in 2020. Lopburi Solar Farm in Thailand also operated smoothly during the year. However, its financial performance was affected by the expiry of tax exemption.

In line with the Group's undertakings under the updated Climate Vision 2050, CLP withdrew from the legacy Vung Ang II coal-fired development project in Vietnam in October 2020. Exit from the Vinh Tan III project is underway.

In 2020, operating earnings in Southeast Asia and Taiwan increased 15.2% to HK\$386 million, which also reflects the impact of an impairment provision at Lopburi resulting from a step down in tariff as from December 2021 and the recovery of development expenses in Vietnam. CLP's performance in the market is summarised below:

Operating Earnings	2020 HK\$M	2019 HK\$M	Change %
Renewable Energy	(60)	80	N/A
Thermal Energy	366	272	34.5
Operating and Development Expenditure	80	(17)	N/A
Total	386	335	15.2



Outlook

Looking ahead, CLP will focus on maintaining safe and reliable operation of Ho-Ping and Lopburi and exploring investment opportunities in renewable energy in the Southeast Asia and Taiwan markets.



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Australia

Focusing on improving customer experience and providing clean, modern energy solutions.

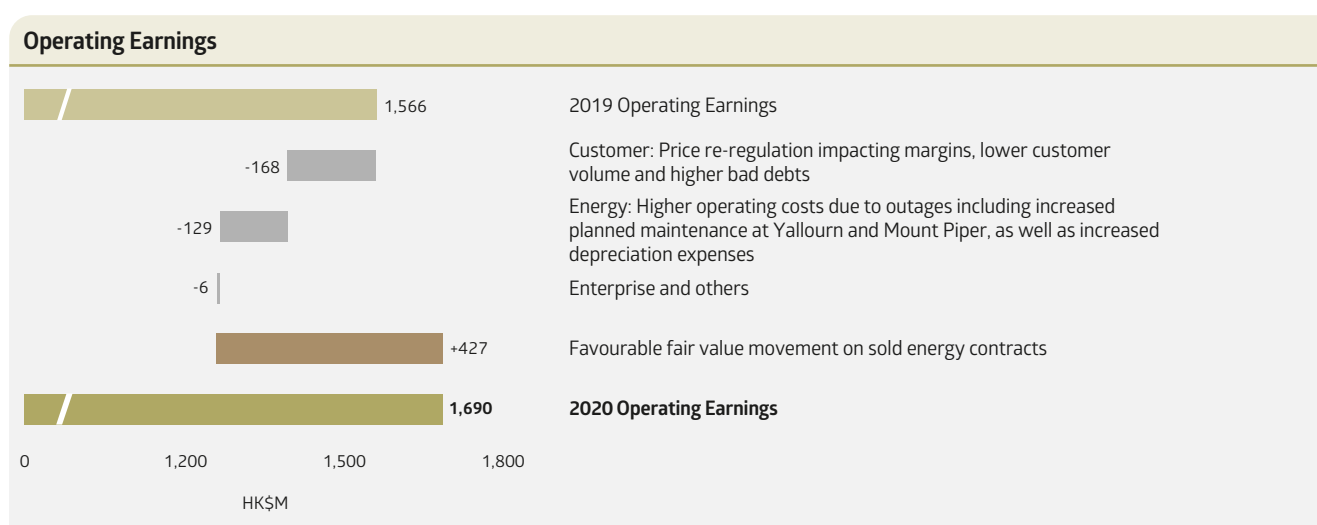
Financial and Operational Performance

Overview

In 2020, devastating bushfires in the early part of the year followed by the COVID-19 pandemic-imposed hardships across Australia tipped the country's economy into its first recession for nearly three decades. In response, EnergyAustralia's focus has been on the health, safety and wellbeing of its employees and customers together with the reliable supply of electricity to the communities it serves.

The combined effects of COVID-19, retail price regulation introduced in July 2019, and ongoing competition from new and existing energy suppliers placed considerable pressure on retail margins in the Customer business. Falling wholesale prices, meanwhile, affected margins in the Energy business. Under these influences EnergyAustralia's underlying operating earnings were lower than in 2019. However, including the favourable impact of non-cash fair value changes in energy hedging contracts, operating earnings increased 7.9% year-on-year to HK\$1,690 million.

EnergyAustralia's performance in 2020 is summarised below:



Focusing on Customers

The EnergyAssist hardship programme was expanded at the beginning of March under the impact of bushfires, COVID-19 and the emerging recession. Additional support staff were assigned to ensure vulnerable households received uninterrupted access to power and tailored assistance, such as payment extension schemes. Since then, EnergyAustralia has set up more than 40,000 new payment plans and arranged almost 200,000 payment extensions for residential customers and has referred tens of thousands to information on government grants. The Rapid Business Assist programme was meanwhile launched in April 2020 to provide support to small businesses.

The impact of the pandemic on customers' capacity to pay necessitated an increase in provision for bad and doubtful debts charged to the income statement to A\$91 million (HK\$491 million) for the year, up from A\$65 million (HK\$352 million) in 2019.

EnergyAustralia recorded an improved Net Promoter Score as a higher proportion of retail customers said they were willing to recommend the company to others. Market churn reduced across all states from the beginning of the COVID-19 pandemic and EnergyAustralia's churn reduced in line with market trends. Mass market customer accounts decreased by just over 1%, or around 28,000, over the course of the year with the bulk taking place in the first half. The company's focus on continuous improvement in customer service helped stabilise customer numbers in the second half.

EnergyAustralia operates in an environment of increasing regulatory scrutiny and engagement, requiring faster responses to regulator requests and the ability to understand and act upon significant regulatory changes. At the same time, regulators are more vigorous in enforcing compliance.

🇦🇺 Australia

The Australian Energy Regulator (AER) began proceedings against EnergyAustralia in November 2019 for self-reported non-compliance with hardship disconnection rules in relation to eight customers. EnergyAustralia paid a penalty of A\$1.5 million.

A number of incidents were self-reported to the AER by EnergyAustralia in 2019 regarding the registering of life support needs for some of its customers. The AER launched proceedings which were ongoing at the time of this report going to press. EnergyAustralia has made a number of changes which have improved compliance materially in this respect and is diligently responding to the proceedings.

Ensuring asset reliability

To help ensure the long-term reliability of supply to customers, EnergyAustralia's generation assets underwent major maintenance works in 2020 ahead of the summer peak demand period anticipated in early 2021. These included a large maintenance programme at Yallourn Power Station in Victoria with one of the power station's units being taken out of service in July for several months. The program was significantly adjusted to ensure the health and safety of the workforce as they undertook this critical and complex project during the COVID-19 outbreak. A similar outage is scheduled for another unit in 2021.

Mount Piper Power Station in New South Wales (NSW) produced substantially more energy in 2020 than in the previous year following the restoration of its full coal supply in late 2019. Major planned maintenance work was meanwhile carried out on one of its units, putting it out of service from late September to late December. The work included a turbine upgrade to deliver an additional 30MW of generation capacity. This extra generation capacity is achieved without requiring the burning of any additional coal, thus reducing overall emissions intensity. The other unit at Mount Piper will undertake a major outage of similar length in the coming year.

EnergyAustralia's gas-fired power facilities in NSW, Victoria, and South Australia operated with a high degree of reliability throughout the year, supporting the company's generation portfolio through a variety of market conditions. EnergyAustralia currently has the dispatch rights to two grid-scale batteries in Australia, and these were used during periods of high volatility to help ensure stable frequency in the National Electricity Market.

Average wholesale spot prices were significantly lower than in 2019. This was a result of increased renewable energy generation combined with a decrease in business and industrial activity as the country experienced its first recession in nearly 30 years.



- 🇦🇺 Agreement with Genex Power Limited gives EnergyAustralia full dispatch rights to the Kidston Pumped Storage Hydro project in Queensland when it becomes operational in 2024.

The table below shows the performance of EnergyAustralia's renewable energy and thermal energy generation projects:

	Installed Capacity Equity MW	Electricity Sent Out ¹ GWh		Availability %		Utilisation %	
		2020	2019	2020	2019	2020	2019
Wind							
Cathedral Rocks	32	73	85	79.3	90.4	26.7	31.0
Gas	1,595	1,268	2,758	91.1	82.1	9.4	21.0
Newport	500	310	1,176	93.1	89.8	7.8	29.0
Jeeralang	440	75	227	90.7	84.2	2.0	6.0
Hallett ²	235	27	33	85.8	84.6	1.4	1.9
Tallawarra	420	856	1,322	92.1	69.5	23.7	36.6
Coal	2,880	14,725	13,309	71.7	78.7	63.2	57.4
Mount Piper	1,400	6,346	4,355	71.4	83.1	55.2	38.4
Yallourn	1,480	8,378	8,954	72.0	74.6	70.8	75.3

Any minor discrepancies in totals are due to rounding of figures.

Notes:

1 Indicates CLP equity sent out.

2 Capacity at the plant increased 32MW in early 2020 following successful upgrade works.

Towards a Low-Carbon Future

The energy industry is in a period of transition, and EnergyAustralia continues to believe that a stable, national policy framework is advisable to guide the investment needed to integrate renewable energy into a modern energy system.

EnergyAustralia has committed to power purchase agreements representing a cumulative total of more than 820MW. The performance of those renewable energy projects where EnergyAustralia is an offtaker is set out in the table below:

	Offtake for EnergyAustralia MW	Electricity Sent Out GWh	
		2020	2019
Wind			
Boco Rock	113	379 ¹	365 ¹
Bodangora	68	212 ¹	163 ¹
Gullen Range	165.5	463 ¹	491 ¹
Mortons Lane	19.5	63 ¹	66 ¹
Taralga	107	284 ¹	312 ¹
Waterloo Stage 1	55.5	146	153
Solar			
Coleambally	105	219	249
Gannawarra	50	87	88
Manildra	46	96	109
Ross River	93	223	216

Note:

1 Publicly available data from the Australian Energy Market Operator.

To accelerate the integration of solar and wind power into the National Electricity Market, EnergyAustralia continued to assess potential investments in new, flexible generation and storage projects.

EnergyAustralia signed an energy storage services agreement with Genex Power Limited in March 2020 for full dispatch rights to the 250MW Kidston pumped storage hydro project in Queensland. The project is expected to reach financial close during 2021 and, subject to these final approvals, will begin operation in 2024. EnergyAustralia also received conditional planning approval in April from the NSW Government to expand its gas-fired Tallawarra Power Station. An economic assessment is being conducted before a decision is made on the investment in the first half of 2021.

Federal and State Governments announced a number of measures which have potentially far-reaching impact on the industry and EnergyAustralia. The Federal Government's Technology Investment Roadmap affirms EnergyAustralia's focus on investing in flexible capacity to allow for the integration of more renewable energy. In addition to emissions reductions, the discussion paper promotes technologies and industries that support job creation and regional economic growth, as well as Australia's research and development sector. EnergyAustralia will continue its constructive dialogue with Government officials on the future share of the industry.

The NSW Electricity Infrastructure Investment legislation announced in November 2020 is an ambitious plan to create an environment for significant generation and network capacity. It is a significant reform on many levels, setting renewable energy targets, creating renewable energy zones and forming a trustee to represent consumers' interests. EnergyAustralia is in the process of examining the implications of the framework for its business and its customers.

EnergyAustralia is also contributing to the Energy Security Board's post-2025 market design work and a range of significant Australian Energy Market Commission rule change processes.

New Business

In September, EnergyAustralia acquired the remaining 51% equity of solar and LED lighting company Echo Group, following an initial investment in 2019. This acquisition supports EnergyAustralia's commitment to offer customers clean, modern energy solutions.

"Go Neutral", EnergyAustralia's leading electricity carbon offsetting programme, was expanded to include residential gas customers in September, enabling them to offset all their household energy emissions at no extra cost. A quarter of a million EnergyAustralia electricity customers have already signed up to "Go Neutral", which is the largest carbon offset product of any energy retailer or generator in Australia, and one of the largest certified carbon offset products in the country.

In November, EnergyAustralia began work with one of its sustainable icons, the Melbourne Cricket Ground, to install solar panels on the roof of a spectator stand. Energy generated by the panels will be used to help run the water recycling facility, with excess electricity transferred to lighting and power in other areas of the venue.

"On by EnergyAustralia" was launched in late 2019 to rapidly test new products and services with customers to help shape future offerings. Following the launch of its first product in 2019 which allows customers to pay a flat monthly "subscription" fee for energy, two further products were introduced in 2020: a solar and battery plan to make household solar more affordable and accessible, and an innovative offering where eligible customers pay nothing for their home electricity on Saturdays for a year in lieu of traditional discounts.

EnergyAustralia's partnership with the Startupbootcamp programme, which fast-tracks new energy-related start-up businesses, continued into its third year despite the challenges brought about by the pandemic. Nine start-ups chosen from an initial pool of 1,000 applicants pitched their concepts from home in a live-streamed demo day held in September and EnergyAustralia has been working with five of the companies on testing and piloting their ideas.

Environmental Performance

Environmental Regulatory Compliance

EnergyAustralia was not subject to any fines or prosecutions arising from environment-related regulatory non-compliances in 2020.

However, three environmental licence non-compliances were reported. At Newport Power Station, there was one minor chemical spill incident of ferrous sulphate in January. At Mount Piper Power Station, there was a minor brine waste leakage incident in March 2020. The Environment Protection Agency (EPA) was notified and no fines or penalties were imposed. In addition, there was an administrative breach with the water quality monitoring requirements under the new licence at Mount Piper. Corrective actions have been taken to prevent a repeat of these incidents.

Air Emissions

Overall carbon dioxide emissions intensity from EnergyAustralia's power stations were comparable with 2019. Yallourn saw a 8% reduction in emissions after output dropped by 6%. Emissions from Mount Piper increased 32% after output rose 46% while those at Tallawarra were 33% lower as output decreased 35%. Generation at Hallett was 19% lower, resulting in a 40% decrease in emissions. Jeeralang and Newport, which started reporting emissions data from 2019, saw a 65% and 67% reduction in emissions after output dropped by 67% and 74% respectively.

Social Performance

The widespread bushfires and the COVID-19 pandemic caused hardship for many Australians in 2020. Employees of EnergyAustralia responded to the crises, supporting each other and customers throughout a highly challenging year.

EnergyAustralia worked especially closely with the communities around its power stations. A dedicated team of experienced and locally-based community relations specialists was created to improve communication between EnergyAustralia and its stakeholders in different parts of the country.

In September, EnergyAustralia published its second report under the Energy Charter, of which it is a founding member, highlighting measures it has taken and changes it has introduced to improve customers' experience.

EnergyAustralia's Workplace Giving programme has one of Australia's highest participation rates, with almost A\$1million raised since its launch in 2018. At the Workplace Giving Excellence Awards in 2020, the project won silver prize in the best overall programme category after being recognised as the best launch programme a year earlier. EnergyAustralia was also named as one of GoodCompany's Top 10 Workplaces to Give Back in 2020.

We are grateful for the hardship programmes introduced by EnergyAustralia. What are the benefits for your company and have the programmes been as effective as you expected?

Mr Robert Faldon
Business Owner, Surfcoast
Aluminium and Glass

With the Australian economy suffering first from the bushfires then from the COVID-19 pandemic in 2020, some households and businesses inevitably ran into financial difficulties. At EnergyAustralia, we are delighted to have been able to offer a helping hand to them.

While we have the EnergyAssist programme for our residential customers in financial distress, we have also launched Rapid Business Assist for small businesses with two core objectives: To help customers get back to business as quickly as possible, and to strengthen our relationship with them by giving them the support they need at a hugely challenging time. This approach benefits us by giving customers a reason to stay with us, and reducing the risk of bad debts.

Last year, we devised over 13,000 payment extensions, more than 2,000 payment plans, helped around 1,000 small businesses with cash flow and provided advice on lowering energy consumption and guidance on government energy relief subsidies. As an essential service provider, EnergyAustralia stands ready to continue to reach out to customers with support initiatives as the people of Australia continue to work their way together through these most challenging of times.

Catherine Tanna
Managing Director, EnergyAustralia



Some of EnergyAustralia's other initiatives over the course of the year are detailed below. For further details of individual programmes, please also refer to the Social and Relationship Capital chapter of this report on pages 98 to 101.



Community Wellbeing

- Community grants programme invested more than **A\$170,000** toward local projects, concentrating on education and social inclusion.
- Committed to increasing Aboriginal and Torres Strait Islander supplier partnerships by joining Supply Nation, a non-profit organisation that encourages the growth of indigenous businesses. In 2020, over **A\$286,000** was spent with Supply Nation businesses.
- More than **A\$300,000** was donated by EnergyAustralia, CLP and their people to support communities impacted by the bushfires.



Education and Development

- **20 students** received mentoring on design thinking, resilience and adaptability, skills required in their future work.
- Berry Street Schools used donations from Workplace Giving programme to provide educational materials, breakfast and therapy dogs to help trauma-affected students.
- Supported projects including mentoring young students to reach their potential, helping to connect local Aboriginal culture through school-based curriculum, and researching the health of local platypus populations.



Environment

- Entered a **5-year partnership** to provide energy saving initiatives to help Berry Street, Victoria's largest independent provider of child and family services, reduce its energy bills. Savings will be used to provide emergency accommodation to women and children suffering family violence.
- Funded **50% of the project cost** to install **141 solar systems** for social housing residents, in partnership with the New South Wales Land and Housing Corporation.
- 2020 was the final year of a partnership with the Sydney Opera House, which has seen a number of highly successful projects, including the Opera House achieving carbon neutrality five years ahead of schedule.



Volunteering

- **97 volunteering opportunities** contributed over **500 hours** of charity work.
- Delivered **63 opportunities** totalling over **370 hours** to support emergency relief efforts for the bushfires.
- Mount Piper employees volunteered to help restore a local rock art site which had been impacted by bushfires and graffiti.
- Volunteers supported students with online mentoring on career advice and future workforce skills through partnering with the Australian Business Community Network and Launch Housing.

Ensuring a Safe Workplace

EnergyAustralia reacted swiftly to COVID-19 and implemented a coordinated response plan that prioritised the health and safety of its employees. In a year that saw a pandemic and large-scale maintenance works, it recorded one of its best safety performances.

WorkSafe Victoria completed its investigation into the 2018 fatal incident at Yallourn. It decided it would not pursue proceedings against EnergyAustralia however, as is allowable under the *Occupational Health and Safety Act 2004*, WorkSafe's decision will be referred to the Director of Public Prosecutions for consideration, and so is subject to revision.

Outlook

EnergyAustralia will continue to face challenging market conditions as the economy emerges from COVID-19. The level of customer hardship, the speed of demand recovery, the intensity of retail competition, and the longer-term outlook for price regulation will all have a significant impact on the Customer business. The Australian Energy Market Commission expects residential electricity prices and bills to decrease until 2021-22 in line with wholesale cost reductions before increasing as supply-demand conditions tighten.

Margins in the gas business are going to be under pressure as legacy gas supply contracts expire. In addition, the continuing decline of forward prices in the wholesale market and other regulatory changes will put pressure on margins in the Energy business.

EnergyAustralia's focus will remain the optimisation of a diversified generation portfolio, enhancing asset reliability. It will continue to work to ensure an adequate fuel supply for Mount Piper Power Station in the long term. It will also continue to develop and integrate flexible capacity options, including pumped hydro, gas-fired generation, and batteries. Such projects have the potential to safeguard and enhance the power system's reliability and security as Australia moves towards a low-carbon future.

In response to the competitive market in which EnergyAustralia operates, the focus on improving customer experience remains. EnergyAustralia continues to invest in measures which will improve the speed and performance of the business, enhancing its competitiveness and efficiency.