



2019

Sustainability Review

Stock Code: 00002



Chairman and CEO message

Chairman The Honourable Sir Michael Kadoorie (right) and CEO Richard Lancaster (left)



From significant movements in global environmental and trade issues, through to local circumstances experienced in the Hong Kong and Australian markets, the complexities we faced in 2019 certainly made it one of the most challenging years in our recent memory.

However, we recognise that the nature of our business subjects us to continuous changes and we must be prepared for adaptation. At CLP, we have for years taken a long-term view on our investments as well as our shared environment. To stay ahead of challenges, we will continue driving change within the Company to build a sustainable business fit for the future.

Our long-standing commitment to maintaining high corporate governance standards and sustainable practices underpins our approach to business. We are pleased to see increasing interest in environmental, social and governance issues in society, particularly among investors and regulators. Properly addressing these issues requires vision and a commitment to manage with a long-term view, two things which have always been a hallmark of CLP.

Following a thorough review of transformative global megatrends, we identified decarbonisation and digitalisation as our long-term drivers of change and have strategies in place to take on the resulting opportunities and challenges.

These megatrends, together with intensifying demographic and labour supply issues as well as social and political uncertainties, present significant opportunities and risks for our workforce. There is no single solution: it requires a coordinated and integrated range of strategic initiatives to build an agile, inclusive and sustainable workforce for the future.

Decarbonising our portfolio

Against the backdrop of accelerated climate change, decarbonisation continued to be a key priority of CLP in 2019 as we transition to a Utility of the Future. Late last year we released our updated Climate Vision 2050. At its heart are our pledges to phase out our existing coal-based assets by 2050, at the latest, and not to invest in any additional coal-fired generation assets. This latest edition is a foundation stone of our business strategy, which provides a roadmap for the decarbonisation of our portfolio in alignment with, and being sensitive to, local policies in each of our markets.

We have also pledged to revisit and strengthen our decarbonisation targets at least every five years as technologies advance and cost structures change, while tracking our progress against the goals of the Paris Agreement.

Our pledges can also be seen in another context. We have been investing in renewable generation technologies since the mid-1990s and are well placed to help position renewable power at the heart of the energy transition. On an ongoing basis, we are actively pursuing further investment opportunities in low-carbon electricity generation, transmission and distribution, as well as in new energy services such as those emerging from the development of "smart cities".

Accelerating our digital transition

Our Group's electricity value chain is increasingly supported by smart energy services. To fully unlock the potential of the future energy system, we need to develop a robust digital transformation strategy with bespoke energy services solutions for each of the local markets in which we operate.

The launch of Smart Energy Connect is a prime example of our recent efforts. As the first online energy app store in Asia, it offers a range of innovative and practical applications to help businesses and organisations in the region manage energy use in a greener and smarter way.

As for our operations, we will continue replacing and enhancing our digital systems and processes to enable our business to deliver improved results, leveraging innovation to facilitate our people in making better decisions while placing importance on cyber resilience and data protection. Over the past year, we made good progress in building up internal expertise and enhancing the awareness of cyber security across our organisation. Going forward, we will continue being vigilant and keep strengthening our cyber resilience.

At CLP, we have for years taken a long-term view on our investments as well as our shared environment. To stay ahead of challenges, we will continue driving change within the Company to build a sustainable business fit for the future.

Addressing the utility workforce challenge

Industry, regional, demographic, social and political drivers are bringing unprecedented change to CLP and are redefining our people agenda. Attracting and retaining skilled resources to meet the needs of energy transition is a key priority. We continued developing leaders of the future, recruiting for new-to-CLP skills, and creating opportunities for our people to gain experience in low-carbon and innovation projects.

Digitalisation requires new skills and ways of working. We commenced providing accredited data analytics training while design thinking began to take hold at CLP for advancing our services and driving people-centric innovation.

We believe that supporting diversity and inclusion is critical to business performance as well as addressing future employment needs. Hence, we continued investing in increasing women's participation in engineering through mentoring and strengthening female engineering networks.

Safeguarding our people

Safety remains an absolute priority for the Group and our target is one of zero harm for everybody. Sadly, we do have to report the work-related death of a team member of one of our subcontractors in Hong Kong. The Board, on behalf of everyone at CLP, expresses its condolences to the individual's family. This regrettable event has further increased our resolve to improve the safeguarding of our people moving forward.

Outlook

In the past months, nowhere was the risk of a changing climate more vividly displayed than by the bushfires in Australia. We have taken steps to consider the resilience of our Climate Vision 2050 against possible climate-related scenarios and will continue refining our analysis to help integrate climate risks and opportunities into long-term business planning. To ensure our transparency, we have also advanced our disclosure in accordance with the recommendations by the Task Force on Climate-related Financial Disclosures and will continue disclosing reliable and consistent information to stakeholders.

All markets go through transition periods and any country with a legacy of coal generation assets will require its private sector energy partners to be ready for the challenge of decarbonisation. We see ourselves as a ready, willing and highly capable partner in the transition to a low-carbon energy future.

Going through the transition in 2019 was challenging and our results are a stark reminder of the changes in our industry. Nevertheless, we are striving to decarbonise, digitalise our operations, deliver on our investments and keep innovation at the heart of our ongoing development, all while continuing our collaboration with different sectors of the community to run our business with purpose and with an underpinning commitment to sustainability.



The Honourable Sir Michael Kadoorie
Chairman



Richard Lancaster
Chief Executive Officer

Hong Kong, 24 February 2020

Building a Utility of the Future

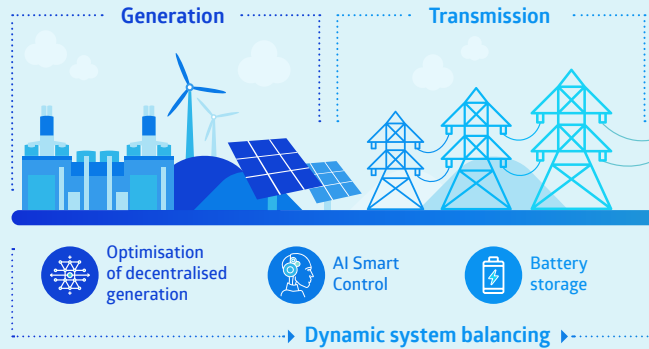
CLP's purpose

To power the sustainable development of communities in which CLP operates

CLP's strategy

Decarbonisation and digitalisation are at the core of CLP's business, and sustainability is fully integrated into this strategy

CLP's business model



Responding to climate change

0.62 kg CO₂/kWh
Carbon intensity*

13.7%
Renewable energy*
(percentage of total capacity)

24.9%
Non-carbon emitting energy*
(percentage of total capacity)

* On an equity plus long-term capacity and energy purchase basis

CLP's operating environment

- Transforming to a low-carbon portfolio
- Protecting existing assets from physical risks
- Seizing new opportunities for low-carbon energy



Building an agile, inclusive and sustainable workforce

0.11
Lost Time Injury Rate for employees and contractors combined
(per 200,000 manhours)

1
fatality for employees and contractors combined

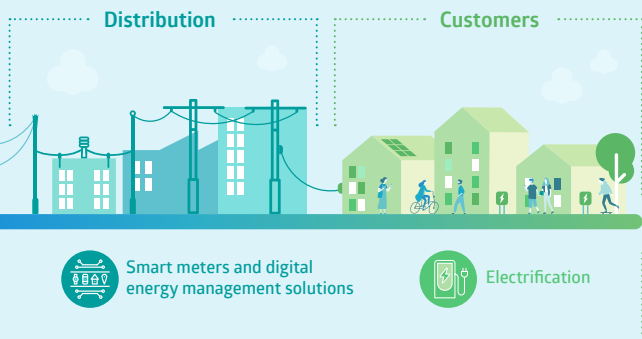
24.2%
Women in Leadership

11.4%
Women in Engineering

40.1
Average training hours per employee

- Supporting CLP's workforce to thrive in change
- Helping CLP deliver its strategy





Where CLP operates



Hong Kong



Mainland China



India



Southeast Asia and Taiwan



Australia



Harnessing the power of technology

Smart Energy Connect has identified more than **900,000kWh** of potential energy savings from its deployments

80 employees across the Group in innovation functions

Innovation investments in 2019 amounted to **HK\$127 million**



Reinforcing cyber resilience and data protection

Cyber Security Strategy and related improvement programmes approved by the Board

Appointed Senior Director, Group Information Security, implementing a unified cross-CLP cyber security organisation

Reviews of operational effectiveness for cyber controls lead to enhancements in operational technology and other areas

How CLP is delivering against the material topics



Responding to climate change

Climate change is unarguably the biggest threat the global community is facing. The industry CLP is in offers great opportunity to slow down climate change by coupling electrification and decarbonisation.

At CLP, mitigating the impact of climate change is firmly embedded within the Group's business strategy. Board and Senior Management oversight on climate issues is integrated into the governance and enterprise risk management system. Set in 2007, and recently updated, CLP's Climate Vision 2050 provides the Group with a clear trajectory to guide the transition towards a sustainable, low-carbon future.

TCFD and climate scenario analysis

The recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) state that businesses should consider the resilience of their strategies against climate-related scenarios. Responding to this, CLP has taken steps to consider the resilience of Climate Vision 2050 against a range of climate-related scenarios. These scenarios describe opposing outcomes to enable the CLP Group to carry out deeper analysis of potential physical and transition changes. CLP is committed to continuing to monitor the operational landscape to better understand the uncertainty that is embedded within these scenarios.

CASE STUDY: EV100

With numerous non-carbon sources for electricity generation, electrification will be the backbone of the global effort to decarbonise transportation. The shift to electric vehicles (EVs) has seen rapid growth already over the last few years. CLP is actively developing EV infrastructure in Hong Kong, for instance, by providing free charging facilities to the public, and helping individuals and commercial organisations to install relevant facilities. To demonstrate its commitment to EV development, in 2019 CLP joined the global EV100 initiative run by the international non-profit organisation The Climate Group, a first amongst Hong Kong companies.



Harnessing the power of technology

Digital technologies including artificial intelligence, the Internet of Things (IoT) and big data offer energy companies new ways to enhance performance and serve customer needs. As more renewable energy is introduced into the system, its intermittent nature could pose challenge to system stability and reliability. Digital platforms offer a solution by balancing dynamic customer demand against different generation profiles to optimise cost efficiency, reliability and environmental performance.

CLP's technology innovation journey reached important milestones in 2019. Big data and artificial intelligence continue to help improve the performance of Group assets. For instance, more reliable predictive maintenance solutions and early fault detection through machine learning models improve the safety performance; more accurate load forecasting advances smart grid developments; and robotic process automation solutions automate manual business processes, thereby improving productivity. Going forward, CLP believes its new capability coupled with its deep industrial knowledge and geographical footprint will help the Group pursue new opportunities in the low-carbon economy. In particular, CLP sees strong potential in the areas of data centres and smart grid developments.

CASE STUDY: Smart Energy Connect

The launch of Smart Energy Connect (SEC) in the first quarter of 2019 showcases CLP's capability in developing new lines of business, and more importantly offers a suite of digital products to help customers save energy, cost and time, thereby advancing their sustainability agenda.



Please view a video from CLP to see how **Smart Energy Connect** may help customers save energy, cost and time.



More information on CLP's decarbonisation strategy is available in its updated **Climate Vision 2050**.



Reinforcing cyber resilience and data protection

CLP's operations are becoming more digital and more information is stored in the cyber space. This increases vulnerability to cyber attacks. Effective cyber defence becomes fundamental to protect the business. CLP is also expected to detect and respond to any incident promptly to resume normal operations as soon as possible.

CLP has had no instances of lost production or an operational shutdown due to cyber-attack. However, in common with all companies in the Energy Sector it faces attacks on a daily basis, from criminals and other threat actors. In 2019, CLP stepped up its governance on cyber security. Cyber security is not a separate issue that is the sole responsibility of a dedicated department; but a business risk that needs to be managed holistically and integrated into daily operations. CLP's enhanced Group Cyber Security team acts as an in-house advisor and reviewer to help raise awareness amongst staff, and establish the system and tools required to protect information and systems against cyber risks.



Building an agile, inclusive and sustainable workforce

The introduction of new technologies presents both opportunities and risks. New skillsets and mindsets are required in the CLP workforce, as well as at an organisational level to ensure the Group can manoeuvre in the rapidly changing operating environment.

Over 18,000 employees and contractors contribute their energy, talent and shared values to CLP's customers, investors and stakeholders every day. They power the Company's success. The priority is safety: providing a safe, healthy and productive work environment for CLP's people, complemented with necessary training, equipment and support. With safety as the foundation, the agenda is to build an agile, inclusive and sustainable workforce, addressing the significant opportunities and challenges presented by digitalisation and decarbonisation of the energy sector, together with intensifying demographic and labour supply issues.

CASE STUDY: Being a CLP Big Data Pioneer: Data Analytics Programme

To support the development of skills for a digitally-enabled future, CLP partnered with Decoded, a technology educator, to launch a one-year data analytics programme in Hong Kong in 2019. Over 30 employees across the Hong Kong business gained a rich understanding of data and mastered cutting-edge data analysis tools and techniques to leverage CLP's data in new and insightful ways.

CASE STUDY: Supporting Women in Engineering

To transform CLP's business into a Utility of the Future, the Group needs talented, diverse engineers on board. As part of this, CLP has committed to significantly increasing the number of female engineers in all of its businesses over time, and to developing a strong network of female engineers across the Group.

CLP launched a mentoring programme in Hong Kong in 2015 to provide opportunities for female engineering students from local universities to better understand the engineering profession and the power industry, and to support them to pursue a career in engineering. Over 200 women have participated in the programme to date, as mentees or mentors, with over 80% of mentees indicating an increased interest in an engineering career.



Please read CLP's **Sustainability Report** online for a complete account on how it is delivering against each of the material topics.



About CLP

CLP Holdings Limited, a company listed on the Stock Exchange of Hong Kong, is the holding company for the CLP Group, one of the largest investor-owned power businesses in Asia Pacific. Through CLP Power Hong Kong Limited, it operates a vertically-integrated electricity supply business providing a highly-reliable supply of electricity to 80% of Hong Kong's population.

Outside Hong Kong, CLP holds investment in the energy sector in Mainland China, India, Southeast Asia, Taiwan and Australia. Its diversified portfolio of generating assets uses a wide range of fuels including coal, gas, nuclear and renewable sources. CLP is one of the largest external investors in the Mainland's renewable energy sector. In India, it is one of the biggest renewable energy producers and among the largest foreign investors in the electricity sector. In Australia, its wholly-owned subsidiary EnergyAustralia is one of the largest integrated energy companies, providing gas and electricity to 2.47 million households and businesses.

CLP is included in the Global Dow – a 150-stock index of the world's leading blue-chips, the Dow Jones Sustainability Asia Pacific Index (DJSI Asia Pacific), the Dow Jones Sustainability Asia Pacific 40 Index (DJSI Asia Pacific 40), Hang Seng Corporate Sustainability Index Series and MSCI ESG Leaders Indexes.



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