CLP 中電

120 years 同行望遠 of shared vision

# 2020

# Sustainability Report

Stock Code: 00002

# Contents

# Chairman and CEO message

"Change remains a constant in the energy sector, and even more so during a global health crisis. As the world around us changes, we continue our transition towards a Utility of the Future with diversified, strategic investments in new business models and technologies."

Chairman The Honourable Sir Michael Kadoorie (right) and Chief Executive Officer Richard Lancaster (left)

We look back on 2020 as one of the most extraordinary years in living memory – a year of challenges and changes with profound impacts on the way we live and work.

In the fight against COVID-19, we are all immensely grateful to healthcare professionals and support staff who have devoted themselves to keeping our communities safe. As an energy supplier, our focus has been on keeping the lights on and providing support for local communities and our customers during tough times. Our thoughts remain with all those affected by the pandemic.

This unprecedented crisis has undoubtedly tested the sustainability of the health system and the economy in every country around the world. It has at the same time reinforced the importance of sound governance as a core corporate value, and crisis preparation as a key governance practice.

As a robust company of 120 years standing, we have demonstrated resilience in the midst of challenge thanks to the remarkable efforts of our people. CLP adapts to the changing environment with sustainability at the heart of our business. Over the past year, we made progress in decarbonising and digitalising our operations, as well as transforming our workforce for the company's transition to a Utility of the Future. These drivers will remain central to our business as we continue to respond to climate change and unlock the benefits of digitalisation.

## Accelerating climate action

The pandemic notwithstanding, the pace of climate action has accelerated around the world. By the end of 2020, more than 110 countries have committed to becoming carbon neutral by mid-century. China has targeted to reach the goal by 2060 and Hong Kong by 2050.

2021 is the year of the 26th United Nations Climate Change Conference where the world will be looking for countries to strengthen their commitments made under the Paris Agreement. More leadership and ambition from Governments will enable businesses to accelerate their contributions and we look forward to further policy clarity in support of decarbonisation. For CLP, we have already

exceeded the 2020 carbon intensity target laid out in our Climate Vision 2050. While our clean energy targets have yet to be met, CLP remains committed to strengthening our Climate Vision targets at least every five years and we plan to honour that promise as part of our current review.

In line with our strategy, we are facilitating the energy transition in different parts of Asia Pacific. In Hong Kong, we are taking steps to serve the city with lower-carbon energy by commissioning a highly-efficient natural gas-fired generating unit at Black Point Power Station in 2020 and embarking on the construction of another similar facility on the same site. We are also making significant progress on the development of the territory's first offshore liquefied natural gas terminal to help diversify the region's gas supplies to these developments. In Mainland China, with the commissioning of Laiwu III Wind Farm in Shandong province, this three-stage project has now become the largest operating wind farm across the CLP Group.

## Unlocking the benefits of digitalisation

CLP's growing capabilities in digitalisation and innovation ensure we are ready for new opportunities and challenges. During the pandemic, we managed to put in place flexible work arrangements to strengthen the protection of our employees while ensuring reliable operations with the help of information technology.

Our ongoing investments in digitalisation have also supported us in delivering more user-centric and smart energy services. In Hong Kong, we rolled out an upgraded mobile app that brings to our customers a host of new and easier to use helpful functions. Our online energy app store Smart Energy Connect, meanwhile, has helped more businesses and organisations improve energy efficiency and automation with its offerings of energy management solutions.

Recently, we also joined China Southern Power Grid Co., Ltd (CSG) to invest in the CSG Energy Innovation Equity Investment Fund, which targets innovative energy developments, new energy infrastructure, and smart energy in the Guangdong-Hong Kong-Macao Greater Bay Area – one of the world's largest markets by gross domestic product. CLP will continue to build on our existing partnerships and operating experience in the region to capture the opportunities in a market that is close and adjacent to our Hong Kong business.

## Keeping people safe and well

The safety of our employees is always our priority and the unusual circumstances created by the pandemic have accelerated our digital workplace transformation. We rapidly enabled our employees and contractors to adopt flexible work arrangements and introduced a host of other measures to safeguard their wellbeing.

We also remained focused on developing a diverse and inclusive workforce. We continued to foster an agile and sustainable work environment in different regions with a focus on building our capacity in innovation and leading the energy transition. One notable achievement was greater diversity at the Board level with female representation further improving to just below 30%.

Another important piece of work was the refresh of *CLP's Value Framework*, in which we have fully integrated our Sustainability Principles, reaffirmed respect for all internationally recognised human rights relevant to CLP's operations as a core belief, and embedded human rights in the promises made to our stakeholders about how we uphold our values.

Throughout the year, we not only demonstrated care to our workforce, but also to our customers and the communities in which we operate. In Hong Kong, we have rolled out a range of relief measures and community support programmes totalling more than HK$200 million in 2020, with another HK $160 million set aside for 2021. In Australia, we have supported customers with initiatives ranging from freezing debt collection to dedicated payment plans. While we cannot solve all the challenges that people face, we are committed to playing our part in relieving some of their immediate financial burdens and supporting the revival of the economy when the current health crisis eases.

## Building a sustainable business for the future

Change remains a constant in the energy sector, and even more so during a global health crisis. As the world around us changes, we continue our transition towards a Utility of the Future with diversified, strategic investments in new business models and technologies. Throughout our history, CLP has recognised the need to re-evaluate and realign our activities in the face of changing external circumstances and policies. With our readiness to take responsibility for our people and communities as a sustainable business, CLP remains resilient in a world of change.

2021 is our 120th anniversary year. Twelve decades ago, with just a single generating unit, CLP started providing power to Hong Kong, beginning a century of resilience, passion and creativity. Today, we are right at the heart of the city's energy system as another new era begins. As we mark this significant milestone, our shared vision of an even-better tomorrow and a sense of deep responsibility to our communities is as much a part of our DNA as it was when our Company first flickered into life in 1901.

**The Honourable Sir Michael Kadoorie**
**Chairman**

**Richard Lancaster**
**Chief Executive Officer**

Hong Kong, 22 February 2021

# About this report

# Welcome to the CLP 2020 Sustainability Report

**In 2020, CLP Holdings Limited (the Group) continued to make progress in its journey to become a Utility of the Future. This is a transformation which demands a keen understanding of changes occurring in the energy sector, the global economy and society more broadly.**

There were indeed many changes in the last year – the commencement of a global pandemic, widespread bushfires, floods and tropical cyclones across our markets, large scale protests in some parts of the world, and an escalation of geopolitical tensions. Some of the impacts such as the economic downturn were felt immediately across all our markets, others such as the longer-term shifts in the way we work, live and do business will take more time to unfold and, ultimately, may be more consequential.

Despite the uncertain circumstances, the Group's unwavering focus on creating value for shareholders, customers, employees and the wider community in the long term continues. The Group is committed to deliver service while keeping an eye on its peoples' physical and mental health and well-being. This will be achieved by upholding a set of enduring CLP values which provide guidance on how results are obtained.

The 2020 Sustainability Report reviews how the operating environment has changed over the last year. It continues to focus on the four material topics first identified in 2018, which remain as valid today as they did then. Discussion around climate change more closely aligns with the recommendations by the Task Force on Climate-related Financial Disclosure (TCFD). The Group also continues to disclose its management approach and performance in relation to a set of secondary topics in the Standard ESG disclosure section.

Feedback on this report is welcome, and can be sent through the online survey or via email (srfeedback@clp.com.hk). As a token of CLP's appreciation, each stakeholder who sends feedback on or before 30 June 2021 will receive four CLP Carbon Credits, which can be used to offset their own individual carbon footprint.

# Materiality Assessment

The material sustainability topics identified by the Group in 2018 were expected to be valid in the medium- to long-term. Given the unprecedented turbulences in 2020, the earlier results warranted a review to understand if and how CLP's underlying strategic objectives have been affected.

GRI reference: 102-44, 102-46

CLP's materiality assessment was updated in 2018 to consider the operating environment and the Group's strategy in the medium- to long-term. Building on that result, engagement with external stakeholders was broadened in 2019 to validate the results and to gauge feedback on the level and quality of disclosure.

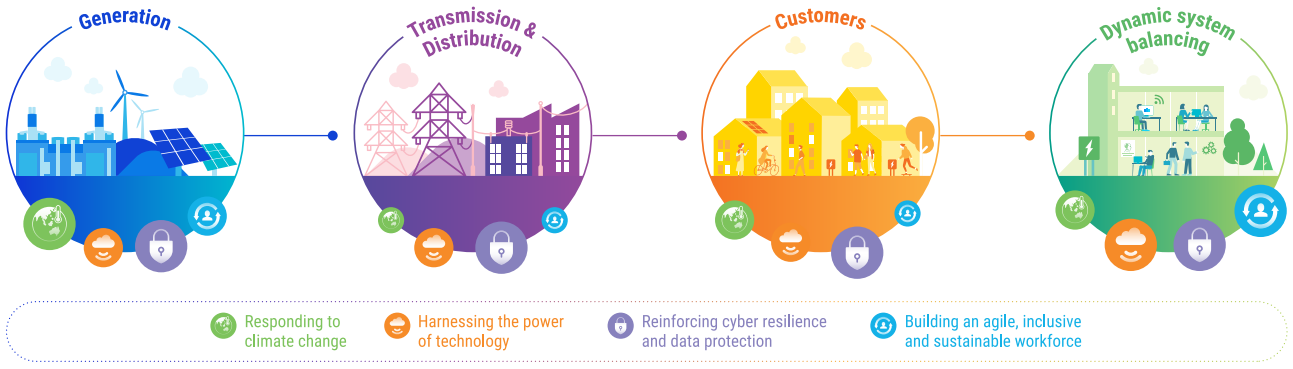
The tumultuous events of 2020 have emphasised the importance for management teams to not only identify business risks and opportunities, but also to understand how these risks and opportunities might interplay in unexpected ways. As a result, companies around the world need to retest the currency of their strategic priorities to ensure that shareholders and other stakeholders remain confident in their agility, adaptability and resilience in the face of change. The review process is outlined in the diagram below:


In 2020, an internal review assessed whether the material topics identified continue to be valid and to evaluate the impacts of the external environment on the Company. While CLP's strategic priorities and the material topics had not changed, the urgency to tackle these challenges had accelerated. Moreover, the importance of good corporate governance was recognised. Guided by the CLP Value Framework, governance at CLP has provided clear direction and a solid foundation to respond promptly to the challenges arising from COVID-19.

Read more about CLP's materiality assessment process ›

The relative importance of each material topic to different parts of the Company's value chain is schematically represented below, showcasing the linkages to CLP's business model.

**Relative importance of material topics across CLP's value chain**



The table below further explains why the topic is material and outlines key concerns in the CLP context. Further discussions are included in the relevant sections in this report.

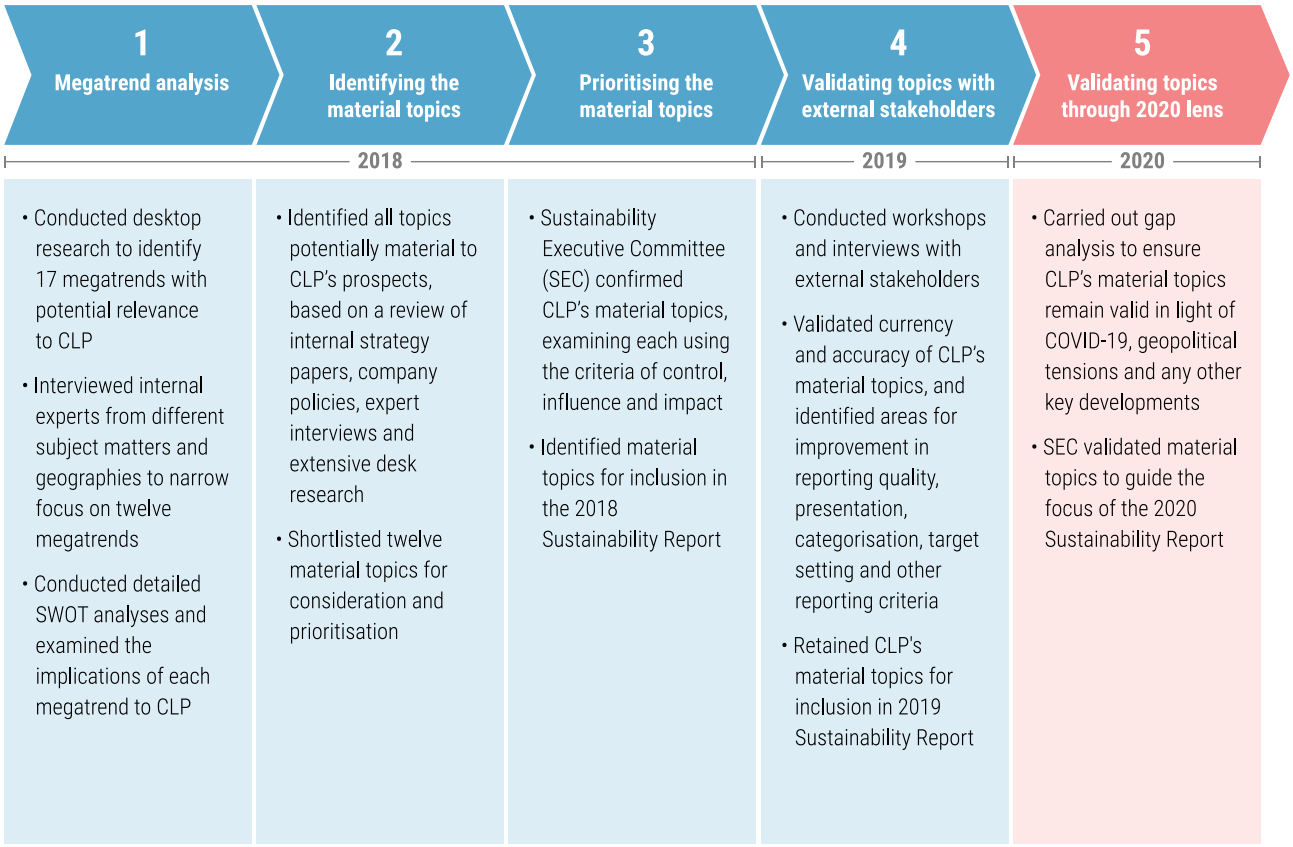
| Material topic | Why this is material | Key concerns in the CLP context |
|---|---|---|
| **Responding to climate change** | Climate change is unquestionably the biggest issue CLP is facing. The electric utility industry offers great opportunity to slow down climate change by coupling electrification and decarbonisation. For instance, the IEA WEO 2020 Sustainable Development Scenario (SDS) projects that the share of coal in the generation mix falls rapidly from 37% in 2019 to 5% in 2040. Renewable energy is projected to displace fossil fuel generation assets, and its share in global electricity generation grows from 27% to 72% over this same period. | · Accelerate the low-carbon transition<br>· Embrace renewables-led economic stimulus<br>· Manage policy uncertainty for investments and legacy assets<br>· Protect assets against physical changes in climate<br>· Respond to stakeholder demand for transparency and climate action<br>· Support electrification of transport and other economic activity |
| **Harnessing the power of technology** | Digital technologies including artificial intelligence, the Internet of Things (IoT) and big data offer energy companies new ways of enhancing performance and serving customer needs. As more renewable energy is introduced into the electricity system, its intermittent nature could pose challenges 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. | · Adapt technological innovations to enhance performance and safety<br>· Create opportunities for customer engagement via digital channels<br>· Develop new business offerings relating to energy management<br>· Build capacity and partnerships across the innovation ecosystem |
| **Reinforcing cyber resilience and data protection** | CLP's operations are becoming underpinned by digital solutions, with more information stored in cyber space. This makes the organisation more vulnerable to cyber attacks. Effective cyber defence becomes fundamental to protect the business. The Group is expected to detect and respond to any incident promptly, and have the ability to maintain normal operations and minimise inconvenience to its customers. | · Enable workforce decentralisation<br>· Respond to changing scale and sophistication of cyber attacks<br>· Enhance cyber detection and responsiveness |
| **Building an agile, inclusive and sustainable workforce** | Digitalisation and decarbonisation of the energy sector, together with intensifying demographic and labour supply issues and social and political uncertainties, present significant workforce opportunities and challenges. CLP must ensure business continuity through: managing generational knowledge transfer; attracting and retaining the new skills, talents and mindsets of a more diverse workforce; building greater organisational agility; and meeting higher social expectations as a responsible employer. | · Create safe, resilient workplaces<br>· Attract and retain tomorrow's workforce<br>· Build organisational agility and help CLP deliver its strategy<br>· Support diversity and inclusion |

# Ensuring continuity and validity of the materiality assessment results

The CLP materiality assessment process is guided by the *Applying enterprise risk management to environmental, social and governance-related risks* guidelines published by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and the World Business Council for Sustainable Development (WBCSD) in October 2018.

CLP's materiality assessment was updated in 2018 to consider the operating environment and the Group's strategy in the medium- to long-term. The validity of the results was confirmed in 2019 through external stakeholder engagement, and further reviewed in 2020 to closely consider the immediate challenges arising from COVID-19, geopolitics and other developments that unfolded throughout the year.

The process is summarised in the diagram below, with further details outlined in the following sections.



## Megatrends analysis

Topics that are material to a company reflect the continuously changing operating environment of the business.

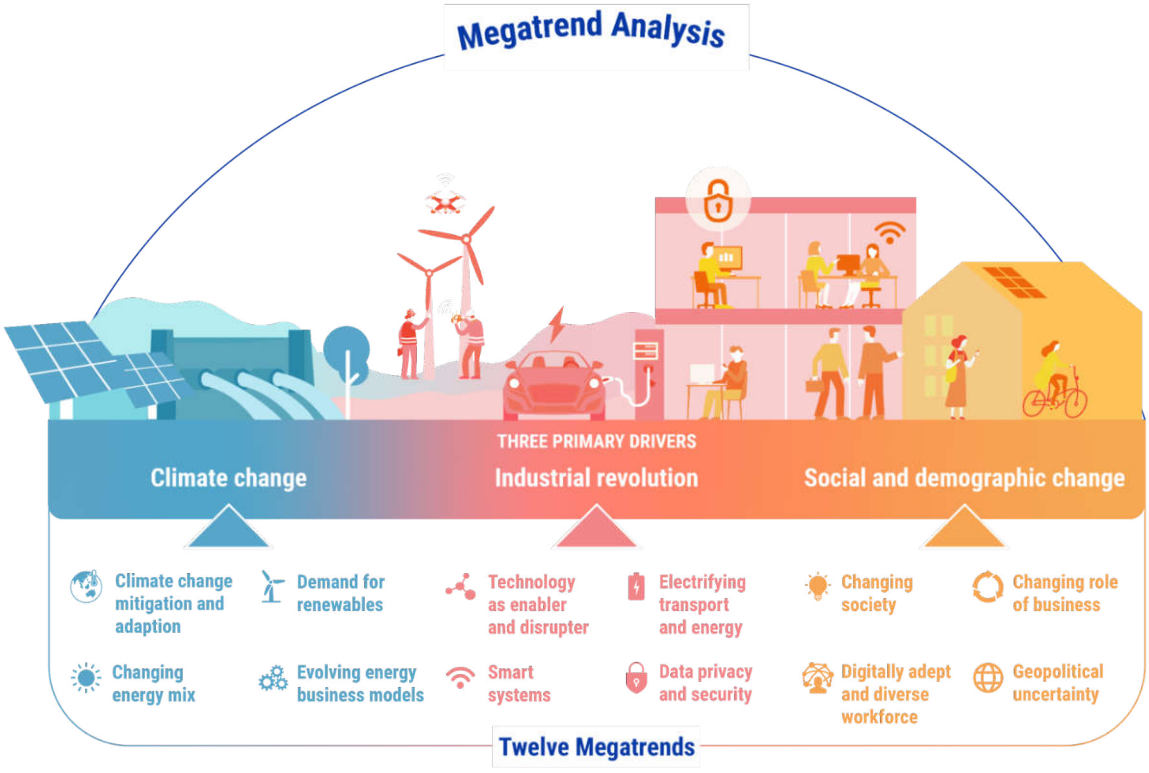
In 2018, the assessment began with a horizon scanning exercise, to deepen CLP's understanding of how broad changes in the environment, society, technology and governance were affecting its operating environment. This big picture approach provided the necessary context to review environmental, social and governance (ESG) risks and opportunities and prioritise the topics that CLP should be managing and reporting.

**Megatrends are large, transformative global forces that define the future by having a far-reaching impact on business, economies, industries, societies and individuals.**

**A megatrend is distinguished from other trends in that it cannot be stopped or significantly altered, even by powerful actors such as governments.**

Seventeen megatrends were identified as potentially relevant to CLP. Internal subject matter experts from across the Company were then interviewed to gauge how these megatrends impact CLP. The views of stakeholders from outside the organisation were also considered to help identify gaps between internal and external perceptions.

Based on this process, the initial list of 17 was rationalised into 12 megatrends. Recurrent themes allowed the 12 megatrends to be grouped under three primary drivers: *Climate change*, *Industrial Revolution 4.0* and *Social and Demographic change*. Each driver aligns closely with CLP's strategic priorities.



## Identifying and prioritising the material topics

Twelve megatrends sitting under three primary drivers provided a clear structure for identifying and grouping every topic that was conceivably material to CLP's current and future prospects.

Initially, 60 topics were identified as potentially material. These topics emerged from a comprehensive review of internal strategy papers, CLP policies, interview findings and extensive desktop research.

These topics were then grouped under the 12 megatrends and summarised using a simple phrase to facilitate discussion. Twelve material topics were then selected for further consideration. From these 12 topics, five material topics were chosen for inclusion in CLP's 2018 Sustainability Report. In evaluating the topics presented, three dimensions were considered:

- Control – How much control does CLP have over the management of this topic?
- Influence – How likely is this topic to influence the decisions and actions of CLP's stakeholders?
- Impact – What is the impact of this topic on people, the environment and/or the economy in CLP's markets?

## Validating topics with external stakeholders

In 2019, CLP validated the findings of the materiality assessment results with the help of external stakeholders from a broad range of backgrounds.

Focus group workshops and interviews were conducted with subject matter experts. The experts were selected for their knowledge in ESG reporting, finance and investment, industry, climate change, digital transformation, human rights, gender and sustainability.

Participants were probed on their views of the validity and accuracy of CLP's five material topics and asked to identify areas for improvement in reporting quality, presentation, categorisation, target-setting and other reporting criteria. Part of the engagement was focused on understanding the needs and expectations of investors.

CLP accepted stakeholders' suggestions to:

- Reframe the 2018 material topic 'increased expectations of business purpose' as an overarching concept rather than a standalone topic, and
- Retain all the material topics which support the overarching strategic ambitions of decarbonisation, digitalisation and workforce transformation.

This approach was continued in this 2020 report with CLP focusing on four material topics, where the level of reporting on each topic is reviewed each year to address stakeholders' concerns.

## Validating topics through 2020's lens

2020 was a year filled with turbulence. The global health emergency and economic downturn were immediate challenges that warranted a review of the validity of the four materiality topics first identified in 2018.

The review exercise included in-depth interviews with CLP senior executives and extensive desktop research based on internal documents, CLP policies and industry publications. Based on these findings, the Sustainability Executive Committee (SEC) considered each of the material topics in turn and confirmed that the topics remained valid. The Committee also agreed on the content under each topic, which guided the development of the Material Topics section of this report.

# Reporting frameworks and content indices

CLP recognises the diversity of methodologies used around the world to measure the sustainability performance of organisations. This report references several reporting guidelines and frameworks to ensure comparability. This approach aligns with international best practices.

## Global Reporting Initiative (GRI)

GRI reference: 102-55

- The GRI is an international independent organisation which provides widely used standards for sustainability reporting.
- This report has been prepared in accordance with the GRI Standards: Core option. It also reports on the GRI G4 Electric Utilities Sector Disclosures, covering key aspects of sustainability performance which are meaningful and relevant to the electric utility sector. CLP has been reporting with reference to the GRI reporting framework since 2007 and has adopted the GRI Standards since it was launched in 2016.

Download the GRI content index

## International Integrated Reporting Council (IIRC)

- The IIRC is a global coalition behind the International Integrated Reporting <IR> Framework, which has become a widely used guideline for integrated reporting.
- This report applies its guiding principles to illustrate how integrated thinking has been embedded in CLP. In particular, it adopts a forward-looking view and considers the material trends that affect the ability to create value over time.
- Since 2011, CLP's Annual Report has been prepared with reference to this guideline, and includes a focused discussion of how the Company creates value for stakeholders under different capital structures.
- The 2020 merger between the Sustainability Accounting Standards Board (SASB) and IIRC may have implications on how CLP intends to manage integrated reporting going forward. A separate study is underway to further assess potential implications on CLP's approach to financial and non-financial disclosure.

## Task Force on Climate-related Financial Disclosures (TCFD)

- The TCFD develops voluntary, consistent climate-related financial risk disclosure recommendations for use by companies in providing information to investors, lenders, insurers, and other stakeholders. The recommendations consider the physical, liability and transition risks associated with climate change and what constitutes effective financial disclosures across industries.
- The TCFD covers four main areas of disclosure: governance, strategy, risk management, and metrics and targets. CLP's climate-related disclosure references the *WBCSD TCFD Electric Utilities Preparer Forum Report* which was published in June 2019. Additional information is also available through, CDP – Climate Change.
- CLP has also taken into consideration the *TCFD Guidance on Risk Management Integration and Disclosure* and the *TCFD Guidance on Scenario Analysis for Non-Financial Companies*.

Read CLP's disclosure in accordance to TCFD

## The Stock Exchange of Hong Kong's Environmental, Social and Governance (ESG) Reporting Guide

- In 2019, the Stock Exchange of Hong Kong (HKEx) conducted a consultation on the *Review of the ESG Reporting Guide*, and the revised Guide was published in December of the same year. Companies listed on the HKEx are required to meet the updated ESG Reporting Guide disclosure obligations from financial years commencing on or after 1 July 2020.
- CLP's Annual and Sustainability Reports have adopted the new disclosure obligations since the 2019 reporting cycle. In particular, the materiality assessment process, as outlined under the mandatory disclosure requirements, has been applied to prioritise CLP's response to the "comply or explain" provisions of the Environmental and Social Aspects.

Download the HKEx content index

## Greenhouse Gas Emissions

- CLP's greenhouse gas (GHG) emissions inventory covers the six greenhouse gases initially specified in the Kyoto Protocol. The Group has also considered the seventh mandatory gas added under the second Kyoto Protocol compliance period, namely nitrogen trifluoride ($NF_3$), but has deemed it immaterial to operations.
- CLP's GHG emissions are reported with reference to: the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) GHG Protocol, the Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories (2006), the International Standard for GHG Emissions ISO 14064, and relevant local statutory guidelines where applicable.
- To facilitate implementation, in 2007 CLP developed the first version of the Group-wide GHG reporting guideline which referenced the guidelines above. This reporting guideline is reviewed in accordance with CLP practice at least every three years.
- In 2019, CLP enhanced its GHG disclosure to also include Scope 3 emissions. CLP's total Scope 3 emissions figure is assured for the first time in the 2020 reporting cycle.

## Financial data

All financial data in this report is consistent with the figures published in the audited financial statements of the 2020 Annual Report. These financial statements were prepared in accordance with the Hong Kong Financial Reporting Standards (HKFRS) issued by the Hong Kong Institute of Certified Public Accountants (HKICPA) and the requirements of the Hong Kong Companies Ordinance (Cap.622).

# Reporting scope and data verification

GRI reference 102-50, 102-51, 102-52

This report covers the CLP Group's sustainability performance for the calendar year ending 31 December 2020. It is published at the same time as the Annual Report. The previous CLP Sustainability and Annual reports were published in March 2020.

GRI reference 102-45, 102-48, 102-49

CLP reviews its reporting scope regularly to ensure the material impact of the Group's overall portfolio is covered. In 2020, the reporting scopes of the following data points have been adjusted:

- **Health and Safety, Environmental (HSE):** Any assets that have been operating during the year are included in the reporting scope. In 2020, additions to the reporting scope include: the new combined-cycle gas turbine (CCGT) generation unit (Unit D1) at Black Point Power Station and WE Station in Hong Kong, Laiwu III in Mainland China, Clean Solar Renewable Energy (CREPL) and Divine Solar Renewable Energy (DSPL) in India.

  Satpura Transco Private Limited (STPL) transmission network, acquired by CLP India in November 2019, was not included in the 2019 data points but has been included in the 2020 reporting cycle. Environmental data of the Paguthan power station, the power purchase agreements (PPA) of which expired in December 2018, were not included in the 2020 data points. Echo Group, a solar and LED lighting company, has been added to the safety scope since EnergyAustralia took full ownership of the business.
- **Operations:** To reflect CLP's growing investments in energy storage, an energy storage category was added to the Group's total generation capacity and total energy sent out breakdown by asset type. It encompasses pumped storage and battery storage. The 2020 data points for energy storage includes Guangzhou Pumped Storage Power Station, Ballarat battery storage and Gannawarra battery storage in Australia.
- **Climate Vision 2050:** While CLP continues to report on carbon intensity based on equity, the Group tracks its performance based on equity plus long-term capacity and energy purchase. This approach reflects more holistically on the developments of generation capacity from other sources. Starting from 2020, CLP also reports the total carbon dioxide emissions of the Group's generation and energy storage portfolio to provide more transparency to the calculation of the Group's carbon intensity.

See CLP's portfolio changes for the year 2020 >

GRI reference 102-56

Limited assurance is provided by PricewaterhouseCoopers (PwC) on a selected set of environmental, social and governance-related Key Performance Metrics for this report, in accordance with:

- The *International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements other than Audits or Reviews of Historical Financial Information,* and
- In respect of greenhouse gas emissions the *International Standard on Assurance Engagements 3410, Assurance Engagements on Greenhouse Gas Statements.*

Download the independent assurance report

Below is the definition of the Group's boundary for each of the main categories of data included in this report. Please refer to the *CLP 2020 Annual Report* for more details on the entities included in the consolidated financial statements.

| | |
|---|---|
| Governance | Includes people employed by CLP entities and their subsidiaries. This also includes CLP employees who are assigned to work in joint ventures, joint operations or associates. |
| Finance | Selected financial figures are extracted from the Annual Report and the consolidated financial statements of CLP Holdings Limited and its subsidiaries (the Group) which is in accordance with Hong Kong Financial Reporting Standards (HKFRS) issued by the Hong Kong Institute of Certified Public Accountants (HKICPA). For a detailed description of the financial reporting scope, please refer to the *Significant Accounting Policies – Consolidation and Equity Accounting* on pages 234-235 of the *2020 Annual Report*. |

| | |
|---|---|
| **People** | Includes people employed by CLP entities and their subsidiaries. This also includes CLP employees who are assigned to work in joint ventures, joint operations or associates. |
| **Safety** | Includes the Group's generation and energy storage portfolio, transmission and distribution infrastructure, coal mines, fuel storage facilities and offices that are:<br>· Majority owned by CLP or under CLP's operational control, defined as having full authority to implement CLP's operating policies; and<br>· Under construction or in operation during the reporting year.<br>100% of the performance data for in-scope assets is reported without adjustment based on CLP's equity share, unless otherwise stated. |
| **Operations**<br>**– Energy sent out, Fuel use**<br>**(on an operational control basis)** | Data are consolidated on an operational control basis. It includes the assets in the Group's generation and energy storage portfolio that are:<br>· Majority owned by CLP or under CLP's operational control, and where full authority is given to implement CLP's operating policies; and<br>· In operation during the reporting year.<br>100% of the performance data for in-scope assets is reported without adjustment based on CLP's equity share, unless otherwise stated. |
| **Environment**<br>**– Resource use, Air emissions and Environmental compliance** | Includes the Group's generation and energy storage portfolio, transmission and distribution infrastructure, coal mines and fuel storage facilities that are:<br>· Majority owned by CLP or under CLP's operational control, defined as full authority to implement CLP's operating policies;<br>· In operation during the reporting year; and<br>· Posing material impact to the environment.<br>100% of the performance data for in-scope assets is reported without adjustment based on CLP's equity share, unless otherwise stated. |

| | |
|---|---|
| GHG emissions<br>– CLP Group's total $CO_2e$ emissions<br>(on an equity basis) | Includes the Group's generation and energy storage portfolio, transmission and distribution, retail and other business activities where relevant, covering GHG emissions from Scope 1, 2 and 3.<br>**Scope 1 $CO_2e$**<br>Includes the Group's generation and energy storage portfolio, transmission and distribution infrastructure, coal mines and fuel storage facilities that are:<br>· Owned by CLP, where assets are included on an equity basis (i.e. accounts for the data according to CLP's equity share in the asset); and<br>· In operation during the reporting year.<br>**Scope 2 $CO_2e$**<br>Includes the Group's generation and energy storage portfolio, transmission and distribution infrastructure, coal mines, fuel storage facilities and offices that are:<br>· Owned or rented by CLP, where assets and offices are included on an equity basis (i.e. accounts for the data according to CLP's equity share in the asset); and<br>· In operation during the reporting year.<br>**Scope 3 $CO_2e$**<br>Includes indirect emissions (not included in Scope 2) that occur in the value chain of CLP. It includes emissions from the Scope 3 categories relevant to CLP. |
| GHG emissions<br>– CLP Group's generation and energy storage portfolio<br>($CO_2$ on an equity/ an equity plus long-term capacity and energy purchase basis ) | Data are consolidated on an equity basis with two variations:<br>1. **Equity basis** includes the assets in the Group's generation and energy storage portfolio that are:<br>· Owned by CLP, where assets are included on an equity basis (i.e. accounts for the data according to CLP's equity share in the asset); and<br>· In operation during the reporting year.<br>2. **Equity plus long-term capacity and energy purchase basis** adds onto (1) above and includes the assets in the Group's generation and energy storage portfolio whose capacity and energy are purchased by CLP to meet customer demand, and where:<br>· Purchase agreement duration is at least 5 years; and<br>· Capacity or energy purchase is no less than 10MW. |
| GHG emissions<br>– CLP Group's generation and energy storage portfolio<br>($CO_2$/$CO_2e$ on an operational control basis ) | Includes the Group's generation and energy storage portfolio, coal mines or fuel storage facilities that are:<br>· Majority owned by CLP or under CLP's operational control, defined as full authority to implement CLP's operating policies;<br>· In operation during the reporting year; and<br>· Posing material impact to the environment.<br>100% of the performance data for in-scope assets is reported without adjustment based on CLP's equity share, unless otherwise stated. |

| | |
|---|---|
| **Climate Vision 2050**<br><br>**Operations – Generation and energy storage capacity, energy sent out** | Data are consolidated on an equity basis with two variations:<br><br>1. **Equity basis** includes the assets in the Group's generation and energy storage portfolio that are:<br>· Owned by CLP, where assets are included on an equity basis (i.e. accounts for the data according to CLP's equity share in the asset); and<br>· In operation during the reporting year.<br><br>2. **Equity plus long-term capacity and energy purchase basis** adds onto (1) above and includes the assets in the Group's generation and energy storage portfolio whose capacity and energy are purchased by CLP to meet customer demand, and where:<br>· Purchase agreement duration is at least 5 years; and<br>· Capacity or energy purchase is no less than 10MW. |
| **CLP Power Hong Kong carbon emissions intensity of electricity sold** | Includes power generation assets involved with the delivery of electricity to CLP Power Hong Kong customers, where:<br>· The $CO_2$ and $CO_2e$ emissions are from generation assets owned or controlled by CLP Power Hong Kong/ CAPCO in Hong Kong only (as nuclear power generation does not result in significant carbon emissions); and<br>· The kWh is from the total electricity sales for CLP Power Hong Kong. |

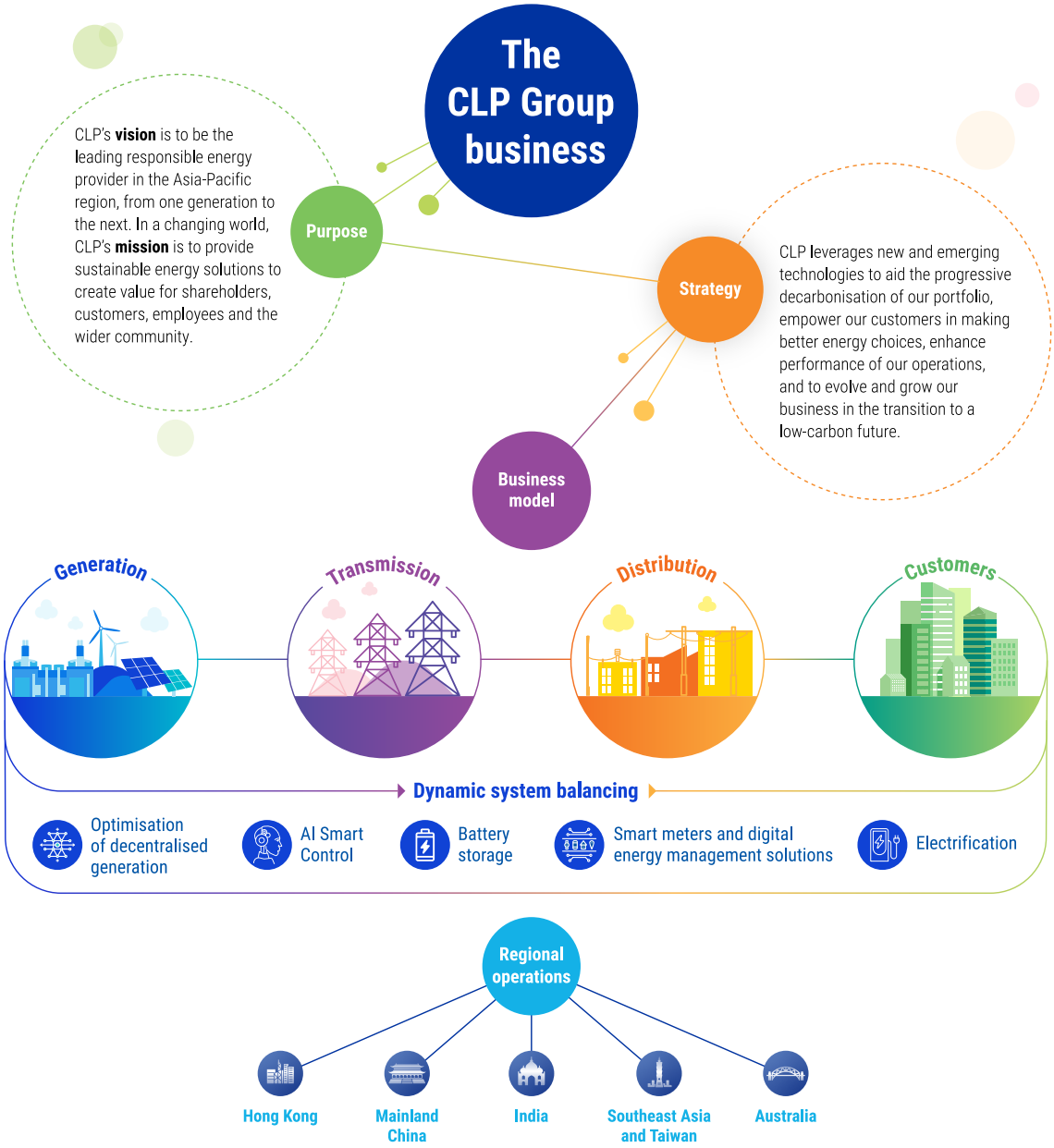
# The CLP Group business

# Overview

## Purpose

The history of CLP mirrors the economic development of Hong Kong and the growth of the Asia-Pacific region. CLP cares not only about shareholders, but also about the communities where it operates.

As an operator and investor in the energy sector in the Asia-Pacific for over a century, CLP has been at the forefront of major transformations in the industry and how it serves the markets of the region. CLP was incorporated in 1901 in Hong Kong where, to this day, it remains headquartered and serves its home market. As the Company enters 2021 – the 120th anniversary year for CLP – it is transforming into a Utility of the Future, with presence in major markets in the region, and participating in the traditional electric utility value chain as well as new energy services.



Although the circumstances and CLP's role in each of its markets differ, the Group has an unwavering commitment to its communities. In building a Utility of the Future:

**"CLP's vision is to be the leading responsible energy provider in the Asia-Pacific region, from one generation to the next. In a changing world, CLP's mission is to provide sustainable energy solutions to create value for shareholders, customers, employees and the wider community."**

In delivering services, the *CLP Value Framework* guides the Company's behaviour:

**"Our values guide us in fulfilling our mission and turning CLP's vision into reality. Our commitments are the promises that we make to our stakeholders about the way in which we will uphold our values."**

## CLP's Value Framework

*CLP's Value Framework* is a set of business principles and ethics that defines the Group's values, as well as its vision, mission, values, identity and action.

In December 2020, *CLP's Value Framework* was updated to fully integrate the Sustainability Principles into its values and commitments and to underscore the integral role of sustainability in CLP's long-term development.

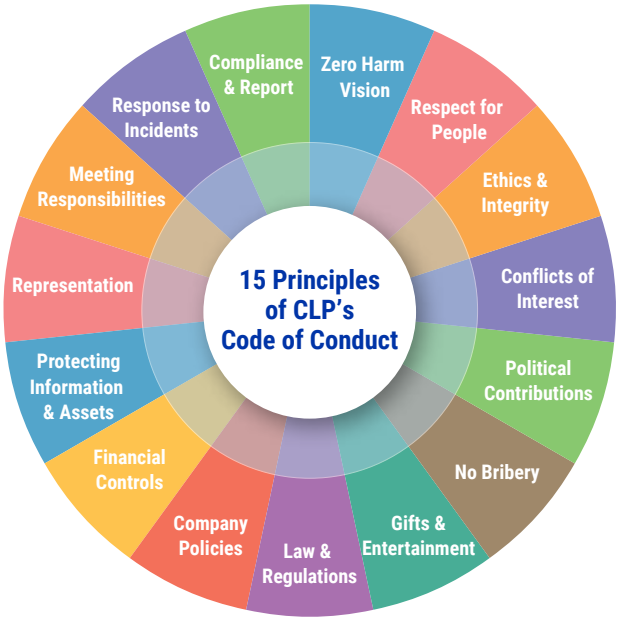
Download CLP's Value Framework

## Code of Conduct

*CLP's Code of Conduct* provides the guiding principles for all Company employees to do what is right, behave with integrity and honesty, treat people fairly, respect diversity, obey all laws, accept accountability, communicate openly, and always behave in a way that is beyond reproach.

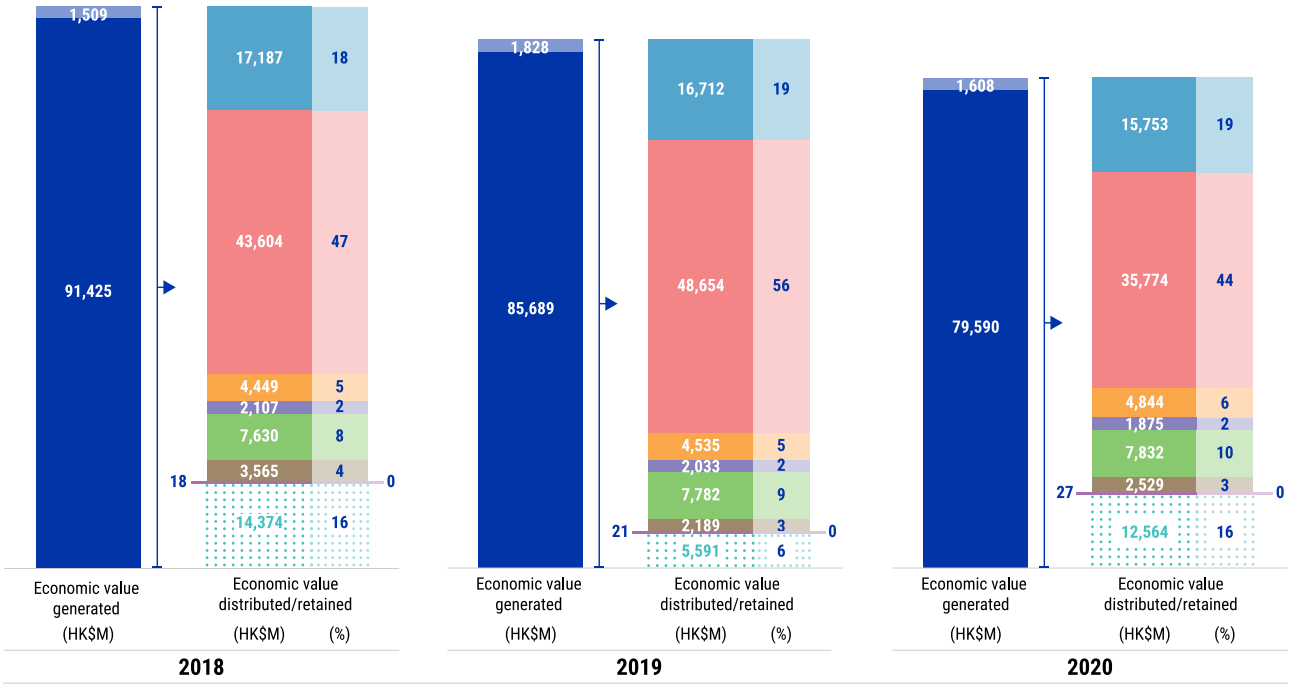
The Code was updated in May 2020 to ensure that it reflects global best practices and meets the expectations of all stakeholders.

Download CLP's Code of Condcut



Having access to electricity is fundamental to human development. According to the UN Economic and Social Council's *2020 Report on Progress towards the Sustainable Development Goals*, 90% of the global population already has access to electricity, whereas in South-East Asia, the access rate has reached 98%. With universal access almost achieved across CLP's markets, stakeholders expect more than simply the delivery of safe and reliable energy services. Concern has shifted to the electric utility sector's impact on climate change and the role the sector can play in transitioning to a low-carbon economy.

Bearing in mind different stakeholder interests, CLP emphasises value creation over the long term, and to do this in a way that helps serve the communities in which it operates. The value created by the Group is shared amongst different stakeholders in society. In 2020, 84.5% of the economic value generated was distributed to stakeholders, including employees, suppliers and contractors, lenders, shareholders, governments and the community at large. As shown in the chart below, and after excluding the impairment of retail goodwill in Australia of HK$6,381 million in 2019, this economic value distributed from the Group's businesses has been relatively stable in the last three years.




**Economic value generated**

- Revenue
- Share of profits of non-wholly owned entities[1]

**Economic value retained[6]**

- Economic value retained[6]

**Economic value distributed**

- Fuel costs (Suppliers)
- Other operating costs[2] (Suppliers and contractors)
- Staff expenses[3] (Employees)
- Finance costs[4] (Lenders)
- Dividends (Shareholders)
- Taxes[5] (Governments)
- Donations (Community)

1 Includes share of results (net of income tax) from joint ventures and associates netted with earnings attributable to other non-controlling interests, which represented CLP's share of economic value created together with its business partners.

2 Includes impairment provision and reversal.

3 Another HK$1,386 million (2019: HK$1,365 million) of staff costs incurred were capitalised.

4 Finance costs are netted with finance income and include payments made to perpetual capital securities holders. In addition, finance costs of HK$306 million (2019:HK$323 million) were capitalised.

5 Represents current income tax but excluding deferred tax for the year.

6 Represents earnings attributable to shareholders (before depreciation, amortisation and deferred tax) for the year retained.

# Strategy

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

GRI reference: 102-47

The Group will no longer invest in new coal generation assets and is committed to a gradual retirement of its coal assets by 2050. This evolution creates the need to replace the revenue from coal-based generation over time. To this end, CLP will continue to actively pursue opportunities in clean energy, transmission and distribution, as well as in new energy services.

To build a Utility of the Future:

**"CLP leverages new and emerging technologies to aid the progressive decarbonisation of our portfolio, empower our customers in making better energy choices, enhance performance of our operations, and to evolve and grow our business in the ongoing energy transition."**

Against a backdrop of an increasingly complex energy industry, CLP needs to be more responsive, resilient and reliable. From generations of experience, it is clear that it takes time and effort for corporations to build and maintain trusting relationships with their communities. This is reflected in CLP's evolving approach to its home and core market Hong Kong and its three major markets – Mainland China, India and Australia.

Each market has its own variations. In Hong Kong, it is a vertically-integrated electricity supply business and serves 80% of the territory's population. Mainland China's investments are predominately in renewables and nuclear, with the potential for more diversified opportunities within the Greater Bay Area in the coming years. CLP India's portfolio focuses on renewables and transmission. And EnergyAustralia is an integrated, customer-focused energy supplier.

Regardless of where the service is provided or the type of service, the Company seeks to make a contribution to society by leveraging the trust that has been built, and support and collaborate with like-minded organisations to find solutions to mutual challenges together. As part of the transition to a Utility of the Future, CLP has placed sustainability at the centre of its operations, ranging from decarbonisation, adoption of digital technology to talent attraction. As such, CLP does not have a stand-alone sustainability strategy but rather a business strategy to which sustainability is intrinsic.

# Business Model

## As a Group, CLP's main focus is on electricity services and its business model spans from power generation, transmission and local distribution, to gas and electricity retail services supported by smart energy services.

CLP Holdings Limited is headquartered in Hong Kong, where it is listed on the Stock Exchange of Hong Kong. Hong Kong is where the largest business operates under the brand of "CLP Power Hong Kong". There are additional business units in Mainland China, India (under the brand of "CLP India"), Southeast Asia, Taiwan and Australia (under the brand of "EnergyAustralia").

In these diverse markets, the Group's companies play different roles depending on local circumstances and market characteristics.

Hong Kong is the only market where the Company has an integrated operation from generation, transmission & distribution to retail. Much of the business outside Hong Kong lies in the production of electricity, and all of the business units own sizable generation assets. CLP's generation fleet has a balanced portfolio consisting of coal, gas, nuclear, wind, hydro and solar power facilities. The Group also operates flexible generation assets to manage intermittent and peak demand as well as storage solutions.

In 2019, CLP India entered into the power transmission sector. Through acquisition, as at the end of 2020, CLP India's portfolio now includes 240 km of transmission lines.

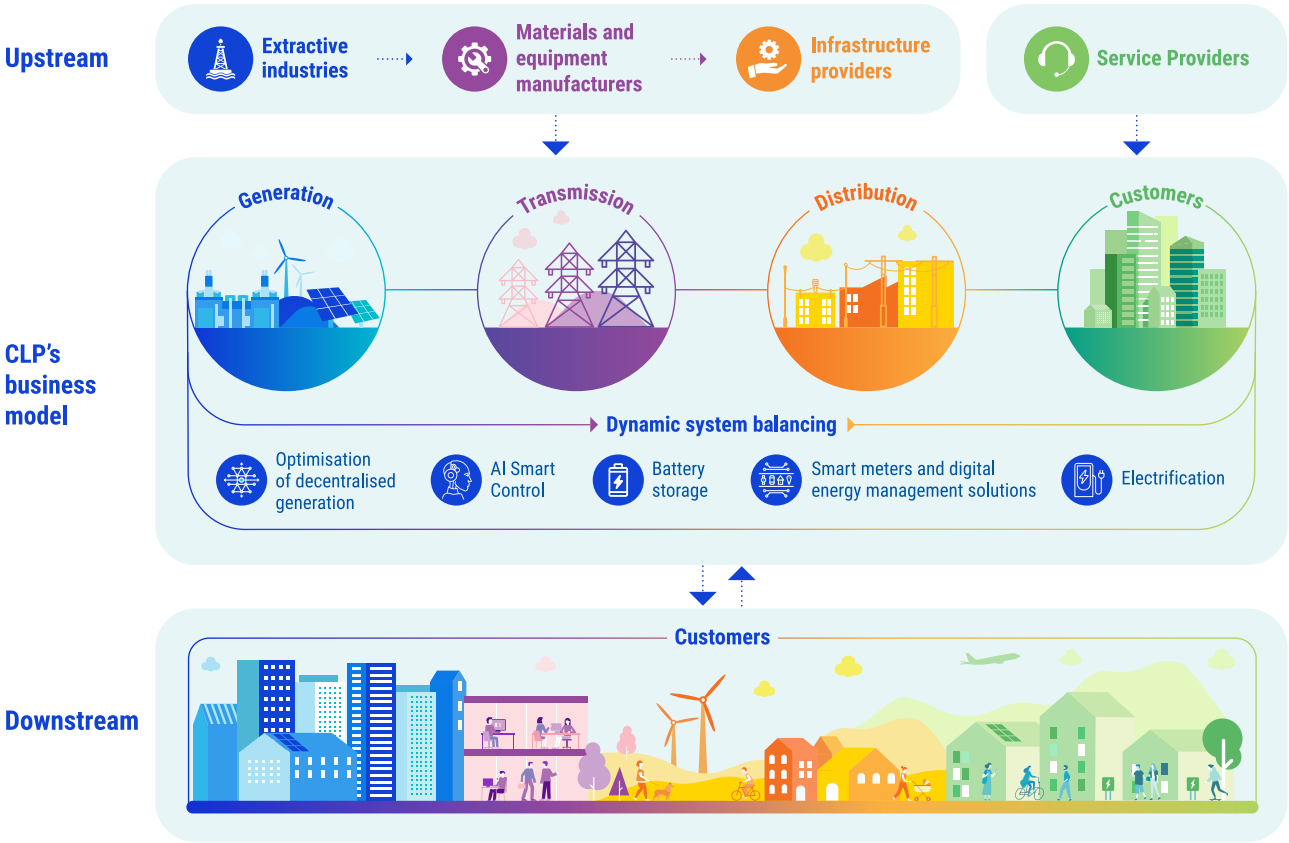
Through the retail businesses in Hong Kong and Australia, CLP serves both commercial and residential customers. Wholesale customers include grid companies in Mainland China and electricity distribution companies and intermediaries in India, which purchase power directly from generating assets.

Electrification and digitalisation are changing the electric utilities industry. To capture the opportunities they present, the Group is also deploying various energy services such as battery storage, smart meters and other digital energy management solutions that enable system balancing and the deployment of additional renewable resources.

The complete electricity value chain goes beyond the scope of CLP's operations. Downstream in the value chain, the distinction between an electric utility and its customers used to be clear. However, the boundary is blurring in modern electricity systems and customers are increasingly becoming "prosumers", where commercial and residential customers alike generate electricity through rooftop solar panels and sell this electricity back to the grid, while at the same time participating in demand response programmes to maximise efficiencies.

Upstream of CLP's operations are the extractive industries that provide different fuel sources that are used to generate electricity. They also provide raw materials to manufacture the vast array of equipment and infrastructure needed by the Company to support its activities across its business model, ranging from the electricity generation infrastructure, power grids, sensors and meters, to other equipment needs that support customer services. Other key service providers include freight and logistics providers, building contractors, maintenance contractors and office support service providers.

Although CLP focuses on its own operations, it is also mindful of its impact both upstream and downstream in the value chain. CLP's value chain and the scope of its business model are outlined in the diagram below.




Read more on the relative importance of the material topics along the value chain >

# Portfolio

As of 31 December 2020, the CLP Group companies had 8,060 full-time and part-time employees and a market capitalisation of HK$181 billion. Revenue in 2020 amounted to HK$79,590 million.

CLP's business comprises:

- Over 16,200 km of transmission and distribution lines;
- Energy retail activities that serve about 5.12 million electricity and gas customer accounts;
- A diversified portfolio of generation assets across five Asia-Pacific markets, using coal, gas, nuclear, wind, hydro and solar; and
- In addition to generation facilities where CLP holds equity interests, the portfolio includes long-term capacity and energy purchase arrangements.

**The equity generation capacity in operation and under construction across the Asia-Pacific region stood at 19,691MW as at the end of 2020, which was supplemented by an additional 5,005MW of long-term purchases.**

The Group's total electricity sent-out on an equity plus long-term capacity and energy purchase basis decreased to 85,937GWh in 2020 (from 88,573GWh in 2019). The total generation capacity increased from 19,238 MW in 2019 to 19,691MW in 2020 on an equity basis – and increased from 24,015MW to 24,696MW on an equity plus long-term capacity and energy purchase basis.

## Portfolio changes

Under the Climate Vision 2050, CLP is committed to growing its investment in non-carbon emitting energy projects across the Group. In 2020, the Group continued to make significant progress: Generation from non-carbon energy sources[1] comprised 17.5% of operating earnings (before unallocated expenses), amounting to HK$2,161 million, while capital investments (on an accrual basis) in non-carbon energy sources was 4% of total capital investment or HK$455 million.

In addition, non-generation related activity from transmission, distribution, retail and other activities delivered 47% of operating earnings, or HK$5,824 million, while capital investment in these asset types amounted to HK$4,815 million, representing 41% of total capital investment.

Listed below are the main changes in the portfolio this year:

- In Hong Kong, the first new 550MW gas-fired generation unit at Black Point Power Station went into operation in early-July 2020.
- In Mainland China, phase III of the Laiwu wind farm (50MW) was commissioned in September 2020, taking the total capacity of the project to 149MW. The Company has also committed to investing in phase III of the Qian'an wind project (100MW) in Jilin province.
- In India, the Company has acquired two solar projects in Telangana with a combined capacity of 80MW.
- In Australia, a turbine upgrade project at Mount Piper Power Station delivered an additional 30MW of generation capacity, which allows the plant to produce more energy with the same amount of coal. EnergyAustralia executed a binding long-term storage agreement with Genex Power to underpin the 250MW Kidston pumped hydro energy storage facility upon the project's financial completion and commissioning.

[1] Excluding landfill gas

A map of CLP's energy assets and services is featured below.


| | Current Operations | Potential Opportunities |
|---|---|---|
| Generation | ● | ○ |
| Transmission | ● | ○ |
| Distribution | ● | ○ |
| Retail | ● | ○ |
| Smart Energy Services | ● | ○ |

**Generation and energy storage assets**

- Coal
- Wind
- Gas
- Solar
- Oil
- Hydro
- Nuclear
- Energy Storage
- Waste to energy

Find out more about CLP's assets and services

View the list of CLP's assets in the Annual Report

# Approach to sustainability

## Sustainability governance overview

A strong governance framework is key to ensuring that the sustainability issues that CLP faces are incorporated into the corporate agenda.

The CLP Board has overall responsibility for CLP's environmental, social and governance (ESG) strategy and reporting.

As shown in the diagram below, the governance of sustainability is integrated into the corporate governance structure. Two of the Board Committees, the Sustainability Committee and the Audit & Risk Committee, have separate but complementary roles in ESG management.


## Board oversight

For CLP Group, sustainability governance has been embedded in the corporate governance structure – from Board-level committees to management-level Group functions and business units.

As one of the Board Committees, the Sustainability Committee has a primary role in overseeing the management of the Group's sustainability issues and is supported by the Sustainability Executive Committee. The Audit & Risk Committee retains oversight and responsibility for material risks, as well as ensures the assurance of the sustainability data is appropriate.

Read about our Corporate Governance >

In 2020, the Sustainability Committee as well as the Board spent significant time in considering the longer term issues impacting CLP, with particular focus on:

- **Innovation and digitalisation** – Management provided an overview of the impact of digitalisation and the associated changing competitive landscape along with a review of the actions being taken and investments made by CLP in this area. Potential business opportunities in the areas of energy-related services and the critical success factors for developing data centres were discussed.
- **Climate change and Climate Vision 2050** – The Sustainability Committee had the benefit of a briefing from a leading external expert on climate change which included a comprehensive update on developments in climate change and provided the Committee an external perspective on how CLP was performing and progressing on climate action. The expert session was complemented by management's briefing on the broader climate action landscape and the Committee and management had an open dialogue on the directional approach that CLP should be taking in line with the Climate Vision 2050 and the updating of CLP's decarbonisation targets.

## Sustainability Committee

The Sustainability Committee oversees positions and practices on sustainability issues, principally in relation to social, environmental and ethical matters that affect shareholders and other key stakeholders.

The Committee's objective is to oversee management and advise the Board on matters required to enable:

- The CLP Group to operate on a sustainable basis for the benefit of current and future generations;
- Sustainable growth by maintaining and enhancing CLP Group's economic, environmental, human, technological and social capital in the long term; and
- The effective management of CLP Group's sustainability risks.

A key focus of the Committee's work this year was in overseeing the longer-term emerging sustainability issues and the impact on the Group's strategy. The Committee had extended meetings with dedicated deep dive sessions on Innovation and Digitalisation as well as on Climate Change.

Terms of Reference of the Sustainability Committee

Between 1 January 2020 and the date of this report, the Committee met four times (including three times in 2020 and once in 2021). Below is a summary of how the Committee spent its time during this period.

Read the full report on the Sustainability Committee's activities for this period

Looking ahead, the Committee will continue its focus on longer-term emerging sustainability issues concerning the Group. Following on from its deep dive session on Climate Change in 2020, the Committee is well positioned as the Group prepares for a review of the targets set out in the Climate Vision 2050. In addition, the pandemic has brought a sharp focus on ESG issues and the Committee, with the support of management, will need to stay closely attuned to the evolving issues of ESG and sustainability.

### Overview of work conducted by the Sustainability Committee in 2020 and up to the date of this Report

| | 2020 | | | 2021 |
|---|---|---|---|---|
| | February | October | November | February |
| Sustainability matters – risks, opportunities and emerging issues | | ✓ | ✓ | |
| Sustainability reporting / Indices performance | ✓ | ✓ | ✓ | ✓ |
| Health, Safety, Security and Environment | | | | ✓ |
| Community, charitable and environmental partnerships and initiatives | ✓ | | | ✓ |

## Audit & Risk Committee

A key responsibility of the Audit & Risk Committee (ARC) is to maintain oversight of CLP's financial control, risk management and internal control processes, by ensuring that adequate systems are in place and followed.

Terms of Reference of the Audit & Risk Committee

Risks are managed at both the strategic and operational levels to support the long-term sustainability of growth objectives, while at the same time supporting the operational needs of the current business.

In relation to sustainability issues, the ARC is responsible for ensuring the data in the Sustainability Report is appropriate. Independent oversight is maintained through robust internal control systems, and assurance of the accuracy of metrics and reporting that follows appropriate accounting principles and reporting practices. CLP's independent auditor is also responsible for assuring key ESG data, and their findings and observations are presented to senior management and the Board through the ARC.

Read the full report on the ARC's activities in this period

# Management roles

## Sustainability Executive Committee

The Sustainability Executive Committee (SEC) has the strategic responsibility to assess and manage sustainability issues.

The SEC is chaired by the Chief Executive Officer (CEO) as part of the role's executive-level responsibility for economic, environmental and social matters. Set up in 2016, it comprises the corporate senior management team of:

- Mr Richard Lancaster (CEO), Chairman, also Chairman of the Sustainability Committee;
- Ms Quince Chong (Chief Corporate Development Officer), also a member of the Sustainability Committee;
- Mr Geert Peeters (Chief Financial Officer (CFO));
- Mr Nicolas Tissot (Deputy Chief Financial Officer), who was appointed in September 2020;
- Mr David Smales (Chief Operating Officer);
- Mr David Simmonds (Group General Counsel & Chief Administrative Officer); and
- Ms Eileen Burnett-Kant (Chief Human Resources Officer).

Full biographies of the members are set out on the Group's website

The SEC steers the sustainability strategy of the Group and approves relevant deliverables. The CEO and CFO also hold management responsibilities for the assurance of ESG data, and jointly sign off the General Representation Letter connected with the assurance process.

In 2020, the Committee convened six times, including before each Sustainability Committee meeting. These meetings provide a platform for the executive team to initiate or develop strategic sustainability projects, shape and receive progress updates on current projects and to engage in strategic discussions on emerging issues.

Five of the meetings in 2020 reviewed and advised on strategic sustainability projects, and the other was a special topic workshop to deep dive into emerging issues. The meetings are facilitated by the CLP's Director – Group Sustainability.

Key themes discussed in 2020 included:

- Climate Vision 2050 and the Group's strategy in decarbonisation, and the roadmap for strengthening climate change-related targets;
- Climate change-related risks and opportunities, and CLP's response to the TCFD recommendations, including the development of climate scenarios for further analysis;
- Enhancement of labour practices amongst the workforce and supply chain;
- Preparation and review of the CLP Value Framework;
- Performance on key sustainability indices and how benchmarking results can drive improvements in operational performance;
- The Group's response to ESG-related public consultations;
- Enhancement of the Group's ESG data management and reporting; and
- Preparation and development of the Sustainability Report, including materiality assessment, reporting standards and the assurance of key metrics.

## Group Sustainability Department

The Director-led Group Sustainability Department regularly reports to and seeks guidance from the Sustainability Committee and SEC.

The department aims to embed sustainability into existing practices by informing the development of the business strategy and planning processes. It monitors sustainability issues and updates the Sustainability Committee and SEC on emerging risks and opportunities. It also leads corporate sustainability reporting and facilitates in identifying areas for improving operational performance.

The department, meanwhile, manages the Group's climate change strategy. It includes reporting and reviewing progress on its Climate Vision 2050 and TCFD implementation, as well as monitoring changes in stakeholder expectations and their implications to the Company.

Furthermore, the Group Sustainability Department is committed to developing capacity on ESG reporting and performance management as well as exchanging experience across organisations, sectors and countries. It supports and organises sustainability-related events and works closely with different stakeholder groups. For instance, the department facilitates various Group functions and business units across regions to meet regularly on a forum call and share experience and insights on how to move sustainability forward.

# Alignment with the Sustainable Development Goals

## CLP has prioritised four of the 17 Sustainable Development Goals (SDGs) considered most relevant, and where the Group can make a significant impact.

Following the announcement of the United Nations SDGs in 2015, CLP developed its set of Sustainability Principles to guide the Group's activities and better align business objectives with value creation. It has also prioritised four of the 17 SDGs that are considered as most relevant to the business and where CLP is expected to make the biggest impact.

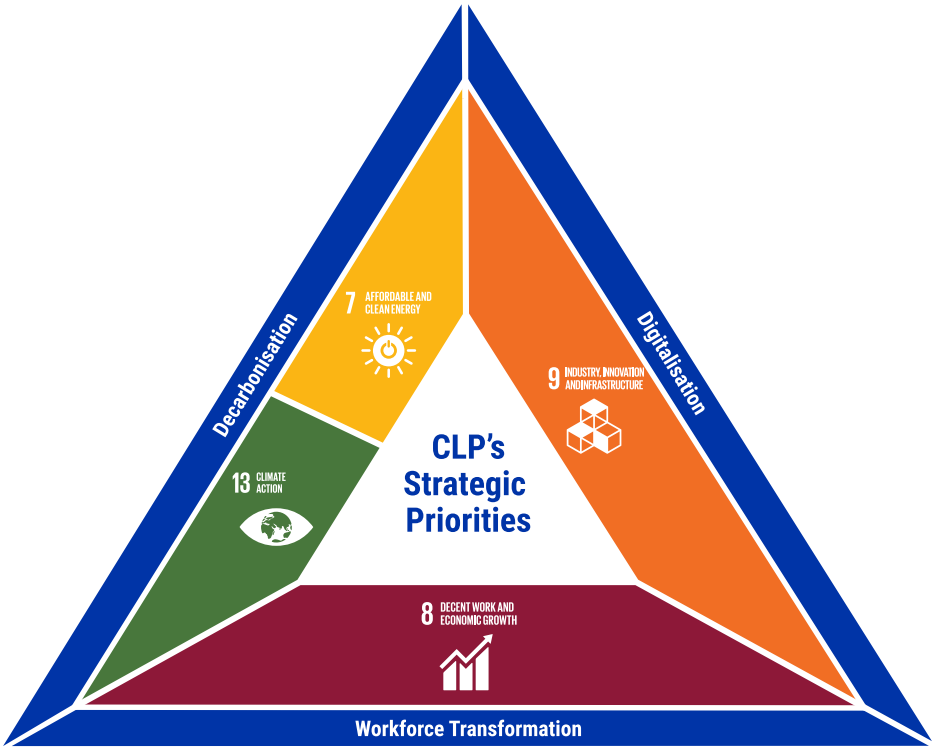
The four SDGs prioritised by the Group are:

- Climate Action (SDG13)
- Affordable & Clean Energy (SDG7)
- Decent Work & Economic Growth (SDG8), and
- Industry, Innovation & Infrastructure (SDG9).

Their relationship with CLP's business strategy is outlined in the diagram below:

In the latest review of the CLP Value Framework, the Sustainability Principles were fully integrated into CLP's Values and Commitments to underscore how integral sustainability is to the Group's long-term development. Along with the prioritised SDGs, CLP's Value Framework sets a foundation for articulating the Group's sustainability priorities in support of its longer-term business strategy.

In 2019, CLP joined the World Business Council for Sustainable Development SDG Sector Roadmap Working Group for electric utilities. This project aims to establish the priority SDGs for the sector, identify key opportunities to contribute to the SDGs, and encourage stakeholders in the sector to take collective actions for greater impact. CLP's priority SDGs are in line with the preliminary recommendations from the Working Group. Further information will be available in the final report, which is expected to be released in mid-2021.



## SDG 13 – Climate Action and SDG 7 – Affordable & Clean Energy

The decarbonisation and clean energy targets set out in Climate Vision 2050 are in support of SDG 13 and SDG 7 respectively.

Decarbonisation is one of CLP's top priorities when it comes to addressing the climate emergency. CLP's Climate Vision 2050 is the Group's commitment to responding to climate change, summarised as follows:

- **Decarbonisation targets:** a set of decadal carbon intensity reduction targets spanning out to 2050;
- **Clean energy targets:** renewable and non-carbon emitting capacity targets for 2020 and 2030.

Find out more about Climate Vision 2050

Read more on Responding to climate change

## SDG 8 – Decent Work & Economic Growth

CLP aims to build and equip its workforce with the necessary talents in innovation and technology to support its transition into a Utility of the Future. In alignment with SDG 8, CLP supports internal gender diversity

To support internal gender diversity, the Group has developed a set of targets to help widen the pipeline of female employees to support the Group's future business strategy. Those targets include:

- **Women in Leadership target:** To achieve gender balance in leadership positions by 2030 against a 2016 baseline of 22%;
- **Women in Engineering target:** For 30% of engineers to be female by 2030 compared to a 2016 baseline of 9%;
- **Ensuring equal pay for work of equal value** is maintained in all CLP Group businesses, that any gender pay equity gap is eliminated, and that CLP meets all relevant local compliance and disclosure standards.

Read more on Building an agile, inclusive and sustainable workforce

## SDG 9 – Industry, Innovation & Infrastructure

Digitalisation is core to the CLP business strategy and its transition to becoming a Utility of the Future, and confirms the Group's commitment to Innovation under SDG 9.

As CLP's digitalisation journey evolves and the Group Innovation function begins to capitalise on the investments made into the changing global energy industry, the Group continues to review relevant metrics and targets measuring progress in support of SDG 9.

Read more on Harnessing the power of technology

# Key sustainability ratings and ESG recognitions

## Key sustainability ratings

CLP has maintained its standing in key sustainability ratings. The performance scores received in 2020 were based on 2019 calendar year performance data.

### CDP

CDP, formerly known as the Carbon Disclosure Project, runs a global disclosure system for companies, cities, states and regions to measure and manage their environmental impacts. CLP has provided data for CDP – Climate Change scoring since its launch in 2002, and currently discloses on the CDP Climate Change and Water Security disclosure initiatives.

| – | 2020 | 2019 | 2018 |
|---|---|---|---|
| CDP Climate Change – CLP's score | B | B | B |
| CDP Water Security – CLP's score | B- | B- | B |

### Dow Jones Sustainability Asia Pacific Index

The Dow Jones Sustainability Index (DJSI) is a globally recognised index which includes companies from a wide spectrum of industries. Inclusion in DJSI is based on a company's score in the Corporate Sustainability Assessment. CLP has been a constituent of the Dow Jones Sustainability Asia Pacific Index (DJSI Asia Pacific) and Dow Jones Sustainability Asia Pacific 40 Index (DJSI Asia Pacific 40) since the launch of both indices in 2009. CLP's scores over the past three years are featured in the table below. Each category is scored out of 100.

| | 2020 | 2019 | 2018 |
|---|---|---|---|
| CLP's score | 77 | 73 | 69 |
| Electric utilities industry average score | 43 | 45 | 46 |
| Asia-Pacific average score | 69 | 64 | 60 |

### FTSE4Good

The FTSE4Good Index Series is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. CLP has been included in the FTSE4Good Index since June 2018.

| | 2020 | 2019 | 2018 |
|---|---|---|---|
| CLP's Overall Score (0-5) | 3.6 | 3.7 | 4.0 |

Hang Seng Corporate Sustainability Index Series Member 2020-2021

## Hang Seng Corporate Sustainability Index

The Hang Seng Corporate Sustainability Index helps the market better understand CLP's sustainability performance relative to other Hong Kong and Mainland Chinese companies listed on the Stock Exchange of Hong Kong. CLP has been listed on the Hang Seng Corporate Sustainability Index and Hang Seng (Mainland and HK) Corporate Sustainability Index since their inception in 2010. Also, a Hang Seng ESG 50 Index was launched in 2020 to reflect the performance of the top 50 ESG leaders with relatively high market-capitalisation listed in Hong Kong, with CLP as one of the constituents.

| | 2020 | 2019 | 2018 |
|---|---|---|---|
| CLP's HKQAA Rating | AA- | AA- | AA- |

2020 MSCI ESG Leaders Indexes Constituent

## MSCI ESG Leaders Indexes

The MSCI ESG Leaders Indexes (previously MSCI Global Sustainability Indexes) target companies that have the highest ESG rated performance in each sector of the parent index. CLP has qualified as a constituent of the index since 2015.

| | 2020 | 2019 | 2018 |
|---|---|---|---|
| CLP's Overall Score | AA | AA | AA |

SUSTAINALYTICS
a Morningstar company

## Sustainalytics Company ESG Risk Ratings 2020

Launched in 2020, Sustainalytics' ESG Risk Ratings aim to help companies and investors identify ESG issues that pose potential financial risks. They measure the degree to which ESG issues are putting a company's entire value at risk. The lower a company's rating, the lower their overall risk of experiencing material financial impact due to ESG factors. While CLP's management of ESG material risks was considered as strong, due to the industry's risk exposure being indicated as high, CLP's overall risk rating was assessed as "medium".

This rating aligns with the majority of global electric utilities which are identified as having medium to higher risk ratings.

| | 2020 |
|---|---|
| CLP's Overall rating | 29.9[1] |
| (scale of severity 0 - 40+) | Medium Risk |

1 Last updated: 15 February 2021

Learn more about CLP's credit ratings

# Key ESG awards and recognitions

In addition to being benchmarked by global sustainability indices, CLP has also received awards and recognition over 2020 for its sustainability reporting and performance. These are the key awards which recognised CLP.

## Australasian Reporting Awards 2020 – Sustainability Report of the Year and Gold Award for Sustainability Reporting

**Australasian Reporting Awards**

CLP's 2019 Sustainability Report received the much coveted 2020 ARA Sustainability Report of the Year Award. It also won a Gold Award for Sustainability Reporting for the second consecutive year since this award was introduced in 2019.

## ESG Report of the Year – Best in ESG and Best in Reporting

**BDO ESG Awards 2021**

CLP won the ESG Report of the Year, Best in ESG and Best in Reporting awards in the Large Market Capitalisation category of the BDO ESG Awards 2021.

## Best Corporate Governance Awards 2020 – Sustainability and Social Responsibility Reporting Award

**Hong Kong Institute of Certified Public Accountants**

For the tenth successive year, CLP received a Sustainability and Social Responsibility Reporting Award in the Best Corporate Governance Awards presented by the Hong Kong Institute of Certified Public Accountants.

## Best Annual Reports Awards 2020 – Sustainability Reporting Award

**The Hong Kong Management Association**

The Hong Kong Management Association's Best Annual Reports Awards encourage the publication of timely, accurate, informative and well-presented annual reports for stakeholders. CLP was bestowed with the Sustainability Reporting Award in the general category for the ninth successive year since the award was introduced in 2012.

## IR Magazine Awards, Greater China 2020 – Best ESG Materiality Reporting (Large Cap)

**IR Magazine**

The IR Magazine Awards recognises the achievement of companies that produce clear investor-facing communications about ESG issues that are material to their business. CLP won the Best ESG Materiality Reporting (Large Cap) Award for the second consecutive year.

## Ranked 6th among the world's 100 most sustainably managed companies

**The Wall Street Journal Sustainable Management Ranking**

The ranking evaluates the leadership and governance practices of companies for their ability to create value for shareholders over the long term. More than 5,500 publicly traded businesses were assessed based on a broad range of ESG metrics. In the US newspaper's latest ranking released in February 2021, CLP Holdings was ranked sixth globally with an overall score of 78.1.

# Material topics

# Building a Utility of the Future

The COVID-19 pandemic in 2020 slowed down the pace of development around the world, and in many areas exacerbated the gap between rich and poor. The immediate human and economic loss was severe, and the exposed economic fragility and societal divisions could have long-lasting impacts on society and businesses alike.

GRI reference: 102-44, 102-47

The United Nations Development Programme has observed setbacks in the areas of education, health and living standards of varying degrees in different parts of the world, but at the same time there is a notable acceleration in the adoption of digital technology, especially in businesses.

Despite the challenges, CLP has continued its journey of becoming a Utility of the Future. In 2020, the Group achieved its decarbonisation target for 2020 set under the Climate Vision 2050, and a review to further tighten targets was initiated. Enhanced data analytics capacity and digital innovations enabled the Group to integrate new products and services in its operations and offerings to customers. Underpinning these changes is CLP's continued transformation into an organisation that strives to build an agile, inclusive and sustainable workforce.

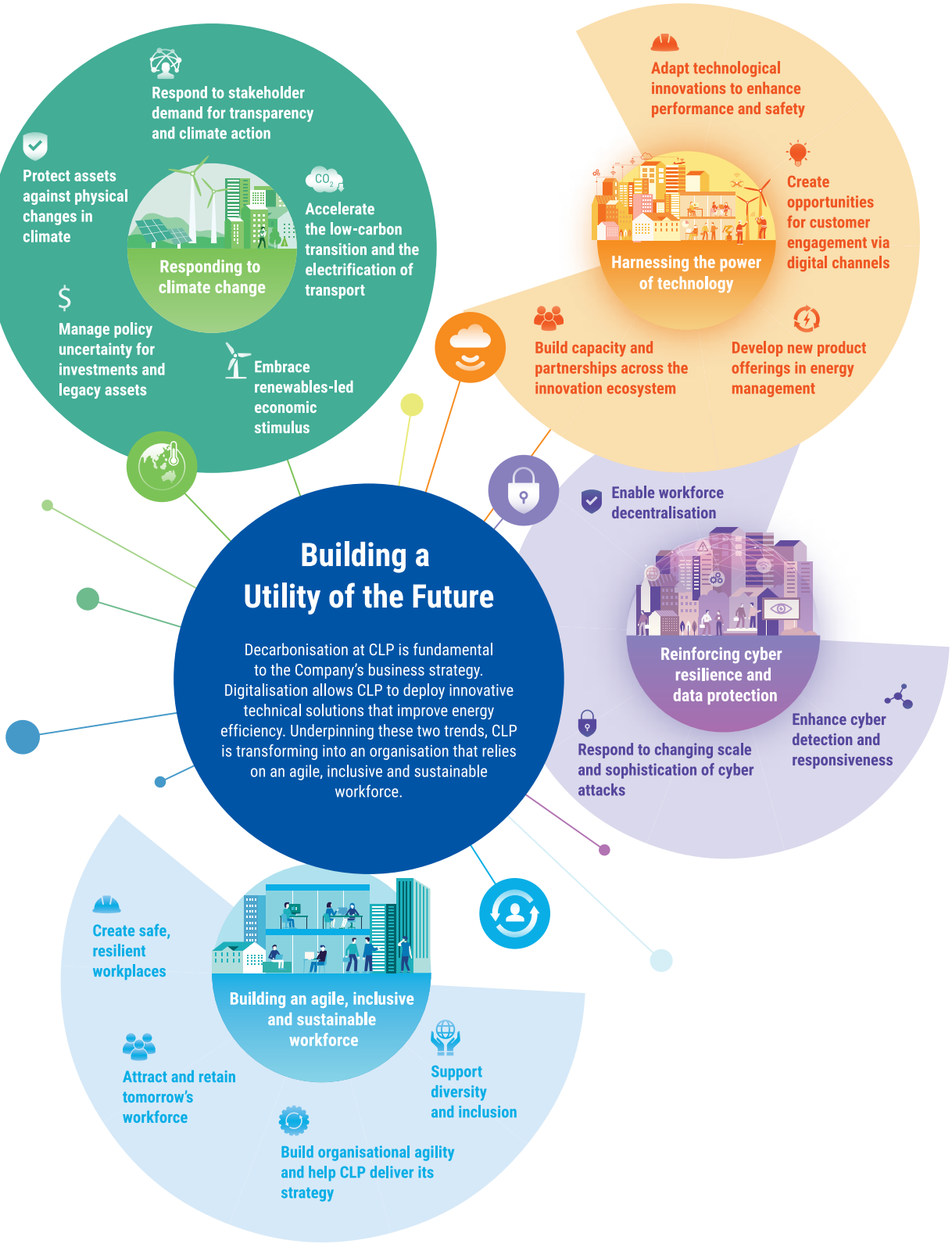
CLP's business strategy is based on strong governance and strives to create long-term value for stakeholders. Understanding the megatrends and preparing for the material topics that shape the current and future socio-economic and technological context is fundamental. Furthermore, the robust crisis planning established many years ago has prepared the Company for disruptions. As a result, in the uncertain environment of 2020, CLP's material topics which can affect the business remain valid and relevant. This was confirmed by the Group's materiality assessment exercise conducted in 2020.

Another key to CLP's resilience is its ability to respond to changes promptly. Over one year has passed since the Company raised its readiness posture to "Emergency" and implemented its Infectious Diseases Response Plan. At the time of writing, the same status applies. During this dramatic time, an enormous amount of experience has been gained in regard to the best ways to continue operating in order to deliver optimum service to customers whilst keeping our staff safe. Likewise, when personal interactions with customers should be minimised during the pandemic, digital channels were made more user-friendly so that no customer was denied access to standard services.

Using an ever-evolving plan that offers a series of graduated response measures, employees can be well protected whilst working. These measures are ongoing and include, amongst others, work from home, restrictions on assembly, increased security awareness, self-quarantine and reporting, reduction on business travel and the provision of endorsed health and hygiene advice. As ever, the key lies with the provision of regular and trusted communication to all which is timely and proportionate, proposing sensible measures and knowledge which impart confidence to the staff.

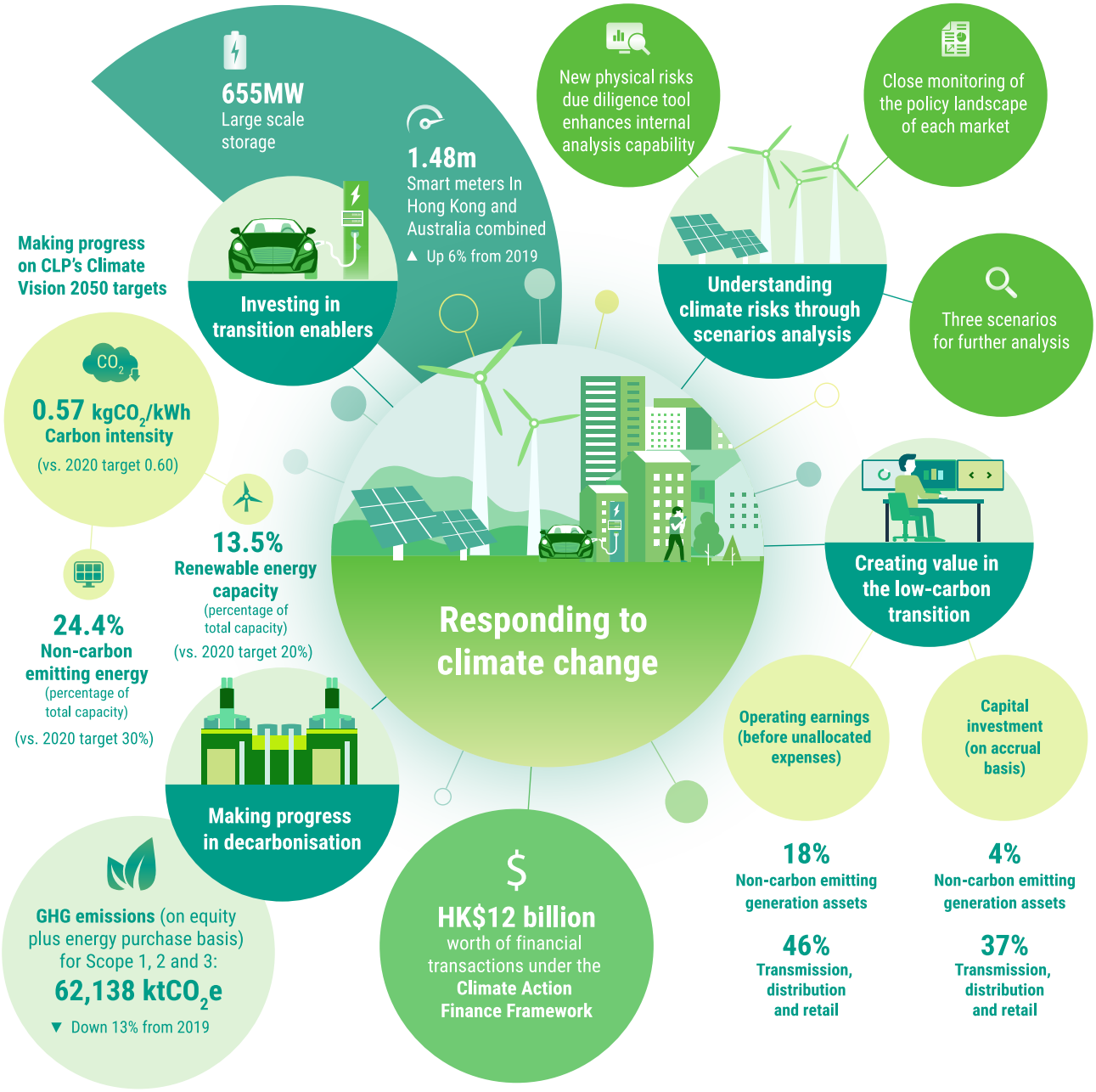
CLP understands that its business needs to be reliable and cannot thrive in isolation. In response to the current crises stemming from COVID-19, the Company has been supporting local communities by providing medical supplies and other hygiene products, and by offering assistance to retailers and vulnerable customers during these difficult times.

The following sections discuss how the material topics relate to the Company's value proposition despite the immediate challenges, how and why their importance has evolved over the last year, and how CLP is seeking to address these challenges. For a discussion of how CLP makes use of the different capitals – financial, manufactured, intellectual, human, social and relationship, and natural – to address the challenges and opportunities outlined here, please refer to the Capitals section of the Annual Report.


Building a Utility of the Future
Decarbonisation at CLP is fundamental to the Company's business strategy. Digitalisation allows CLP to deploy innovative technical solutions that improve energy efficiency. Underpinning these two trends, CLP is transforming into an organisation that relies on an agile, inclusive and sustainable workforce.
Responding to climate change
Respond to stakeholder demand for transparency and climate action
Protect assets against physical changes in climate
Accelerate the low-carbon transition and the electrification of transport
Manage policy uncertainty for investments and legacy assets
Embrace renewables-led economic stimulus
Harnessing the power of technology
Adapt technological innovations to enhance performance and safety
Create opportunities for customer engagement via digital channels
Build capacity and partnerships across the innovation ecosystem
Develop new product offerings in energy management
Reinforcing cyber resilience and data protection
Enable workforce decentralisation
Respond to changing scale and sophistication of cyber attacks
Enhance cyber detection and responsiveness
Building an agile, inclusive and sustainable workforce
Create safe, resilient workplaces
Attract and retain tomorrow's workforce
Support diversity and inclusion
Build organisational agility and help CLP deliver its strategy

MATERIAL TOPICS

# Responding to climate change



# Year in review

**The COVID-19 pandemic has presented many new challenges this year, but it has not altered CLP's commitment to climate action. The pace of change has expedited around the world, underscoring the importance for CLP to accelerate its transition to a low-carbon economy.**

Recent years have seen high-impact climate events including typhoons, floods, droughts, heatwaves and bushfires around the world, often in the markets where CLP has a presence. The bushfires in Australia over the summer of 2019/2020 burned over 24 million hectares, with the largest losses in the eastern states. In Mainland China, the worst flood in over two decades occurred in the 12 provinces of central and southern China during the year's rainy season.

There is ample evidence that the impacts from climate-related events are costly. The insurance damage from the top 10 climate disasters is estimated to have amounted to over US$150 billion in 2020.

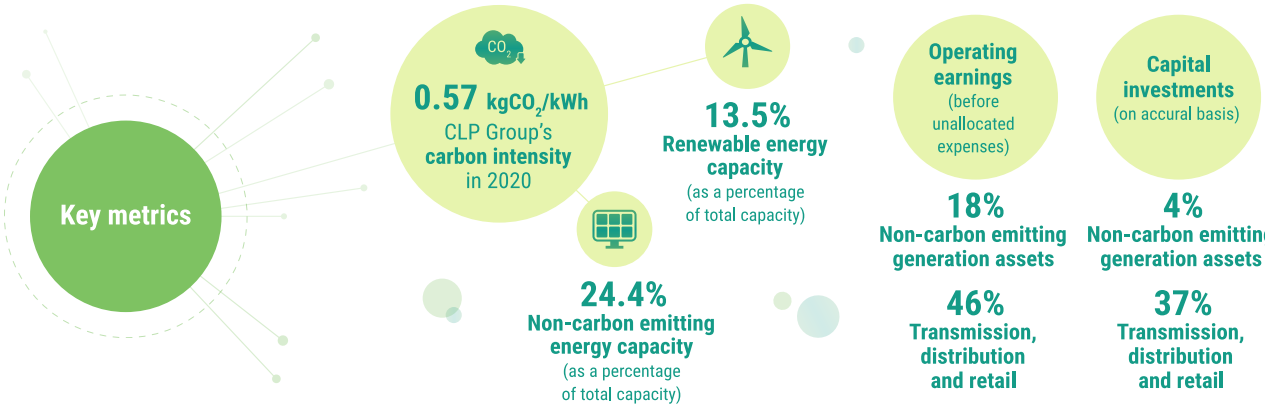
In response to the economic damage caused by the COVID-19 pandemic, the concept of 'build back better' has emerged, where government economic stimulus efforts are being directed towards climate action. Governments and businesses have prioritised spending to accelerate the delivery of clean power, enable clean mobility and ensure that recovery policies align with net-zero greenhouse gas (GHG) emissions to achieve a green recovery. For CLP, decarbonisation remains a strategic priority and it aligns with the Company's commitment to **SDG 7 – Affordable and clean energy** and **SDG 13 – Climate Action**.

The year 2020 is a milestone under CLP's Climate Vision 2050. The Company is pleased that its carbon intensity has reduced to 0.57kg$CO_2$/kWh, surpassing the 2020 decarbonisation target of 0.6kg$CO_2$/kWh.

Due to portfolio changes and evolving market circumstances the clean energy targets for 2020 were not met. A review of CLP's decarbonisation targets to 2050 is now underway, in line with the Company's commitment to strengthen them at least every five years.

This year, the Group has further enhanced its disclosure. It has followed the Task Force on Climate-related Financial Disclosure (TCFD) recommendations to provide transparent and credible climate-related information to stakeholders, including investors and capital providers. CLP business units have also strengthened analyses on the risk and opportunities from climate change specific to their markets.

The Group's progress on its key climate change metrics, as at 31 December 2020, is outlined below.



# Outlook

**Both governments and capital providers are prioritising low-carbon investment as a means of economic stimulus. As a lead-up to COP26, a continued acceleration of country pledges towards carbon neutrality by 2050 is expected.**

At the international level, there were keen expectations of the 26th United Nations Climate Change Conference of the Parties (COP26), originally scheduled to take place in November 2020 in Glasgow, UK. Under the Paris Agreement, 2020 was to be the year when countries stepped up their ambition and enhanced their Nationally Determined Contributions (NDCs) to slow or reverse growth in GHG emissions. COP26 was postponed to November 2021 due to the COVID-19 pandemic.

Despite the COP26 deferment, during 2020, nations continued with their pledges towards carbon neutrality. The EU in March and the UK in June announced their ambitions to become carbon neutral by 2050. China followed suit in September with a pledge to become carbon neutral by 2060. Both Japan and South Korea made announcements in October for carbon neutrality by 2050. The same commitment for carbon neutrality was announced by Hong Kong in November. Immediately after taking office, US President Joe Biden signed an Executive Order for the US to rejoin the Paris Agreement. A US national commission is expected to be appointed to accelerate domestic action and international leadership on climate change.

As countries step up their respective commitments, companies are also expected to raise their ambition and accelerate decarbonisation efforts. Investors, especially those focusing on the long term, recognise the value of climate change risk management, and increasingly take these into consideration when reviewing their portfolios.

This convergence of external investor pressure, government support for carbon neutrality and TCFD disclosure is clearly being felt by companies in carbon-intensive sectors. While roadmaps on how to achieve carbon neutrality are yet to be determined, further details are expected to emerge ahead of and during COP26. CLP will continue to monitor the policy landscape and development of different performance standards, and feed this information into its 2021 review and strengthening of CLP's Climate Vision 2050 targets.

## Climate Vision 2050

The publication chronicles how CLP's Climate Vision 2050 has evolved over the years. It is integrated into CLP's strategies on asset portfolio management, guiding the Group in managing climate-related opportunities and risks.

Read more

## Response to TCFD

As part of CLP's participation in the WBCSD TCFD Preparer Forum for Electric Utilities, the Company has undergone a comprehensive review of how the recommendations are met and has adjusted its disclosure accordingly.

Read more

# Highlights

CLP's climate disclosure follows the TCFD recommendations. The Company's disclosure outlines progress against the CLP Climate Vision 2050, climate-related risks and opportunities, and investments facilitating the transition to a low- carbon economy.

## Climate-related financial disclosure

CLP continued to enhance its disclosure by following the recommendations from the TCFD. Throughout 2020, focus was placed on enhancing climate-related risk assessment and developing bespoke climate scenarios for the markets where the Group is present.

Through its annual Sustainability Reports, CLP seeks to disclose transparent, reliable and consistent climate-related information to our stakeholders, including capital providers. CLP's disclosure continues to follow the *TCFD Implementation Guide* of the TCFD Electric Utilities Preparer Forum, published by the World Business Council for Sustainable Development (WBCSD) in July 2019. CLP was amongst the six electric utilities companies to participate in the Forum.

Read more on CLP's working group on climate scenario analysis ›

Action on climate change is embedded in the CLP business strategy and reflected in the governance and management processes of the Company. The index table below outlines where to find the core elements of how CLP responds to the TCFD recommendations in this report.

| Core element | Location of CLP response |
|---|---|
| **Governance** | · Approach to sustainability |
| **Strategy** | · CLP Climate Vision 2050 (see publication)<br>· Understanding climate risks through scenario analysis<br>· Investing in transition enablers<br>· Creating value in the low-carbon transition |
| **Risk management** | · Risk Management Report – How CLP identifies, assesses and manage climate change risks (See page 151 of the 2020 Annual Report)<br>· Preparing for the transition to a low-carbon world<br>· Building resilience to physical climate risks |
| **Metrics and targets** | · Progress towards CLP Climate Vision 2050 targets<br>· Investing in transition enablers<br>· Creating value in the low-carbon transition |

In November 2020, the UK Government announced that climate risk reporting will become mandatory for large companies and financial institutions in the UK. This mandatory reporting, based on TCFD guidelines, will come into effect for some companies as early as 2021. It is likely that other governments will demand mandatory climate risk reporting in the coming years.

Building on the previous engagement in 2019 in the WBCSD TCFD Electric Utilities Preparer Forum, CLP will continue to work with WBCSD and industry peers to advance the sectors' and its own TCFD disclosure. In 2020, CLP focused on improving its climate risk assessments and risk reporting through its working group on climate scenario analysis.

# Progress towards CLP Climate Vision 2050 targets

CLP's carbon intensity was 0.57kg$CO_2$/kWh in 2020, surpassing the target of 0.6kg$CO_2$/kWh set under the CLP Climate Vision 2050. The commissioning of the new combined-cycle gas turbine unit in Hong Kong was one of the key contributing factors for the lowered emissions in 2020.

CLP's progress towards its Climate Vision 2050 targets is summarised in the table below. Performance is tracked on an equity plus long-term capacity and energy purchase basis to represent the Company's decarbonisation effort comprehensively. Performance on an equity basis continues to be disclosed for comparison.

| | 2020 targets | 2020 performance | |
|---|---|---|---|
| | On an equity plus long-term capacity and energy purchase basis | On an equity plus long-term capacity and energy purchase basis | On an equity basis |
| Carbon intensity (kg$CO_2$/kWh) | **0.60** | 0.57 | 0.65 |
| Renewable energy capacity (percentage of total capacity) | **20%** | 13.5% | 12.8% |
| Non-carbon emitting energy (percentage of total capacity) | **30%** | 24.4% | 20.9% |

Climate Vision 2050 is CLP's foundation to guide the overall business strategy, providing clear direction to manage climate-related risks and opportunities. First launched in 2007, it is integrated into CLP's strategies for asset portfolio management, including acquisitions and divestments. Over the years, the targets have been reviewed and strengthened in response to changing policy drivers and technological advancements. CLP's key pledges include:

- Not adding new coal-fired generation assets;
- Progressively phasing out the remaining coal-based assets before 2050; and
- Revisiting and strengthening the Company's decarbonisation targets at least every five years.

Download the Climate Vision 2050 publication

In 2020, the Group further reduced its carbon intensity to 0.57kg$CO_2$/kWh down from the 2019 level of 0.62kg$CO_2$/kWh. The reduction was achieved by:

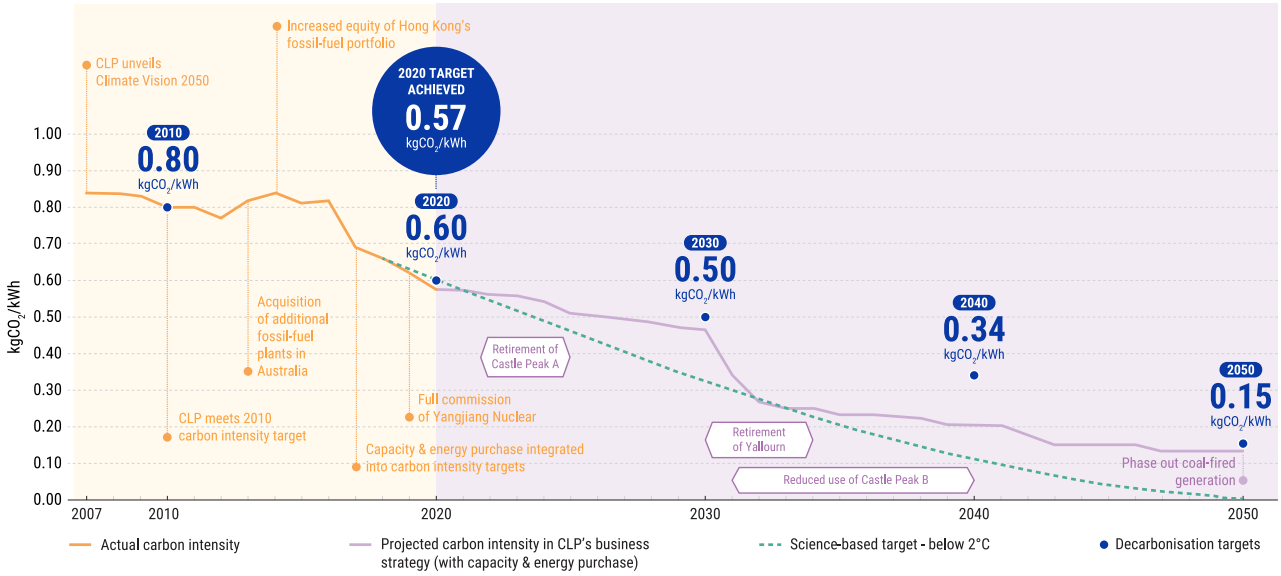
- Operation of the new combined-cycle gas turbine (CCGT) unit in Black Point Power Station in Hong Kong as a baseload unit since July 2020, reducing output from the coal-fired Castle Peak Power Station by almost 60%.
- A close to 25% decrease in output from coal-fired Jhajjar Power Station in India. Output from thermal assets in Australia was also reduced slightly as a result of the combined impact of COVID-19, asset outages, and the planned outage and upgrade of Mount Piper.
- Some increase in nuclear power generation at Daya Bay and Yangjiang.
- Higher total output from renewable assets and those under long-term contracts at EnergyAustralia through power purchase agreements.

There were several major capital investments in 2020 that contributed to the growth of the Group's renewable and non-carbon portfolio. This brought each portfolio closer to the 2020 targets of 20% and 30% of the Group's total portfolio respectively. However, these investments were not enough to allow CLP to catch up on the Company's slow growth in the renewables market in prior years, which has resulted in CLP not being able to meet its 2020 clean energy targets.

Read more on CLP's portfolio here

The trajectory of the Group's reduction in carbon intensity has been updated, in line with the current business plan and long-term decarbonisation strategy. As in the previous year, it is presented alongside the Sectoral Decarbonisation Approach (SDA) trajectory of the Science Based Targets initiative (SBTi) in the graph below. This transparent comparison helps ensure CLP remains on course with its decarbonisation target.

## CLP Group's carbon intensity




Note: The plant retirement timeframes are indicative only.

CASE STUDY

## A review of CLP's progress in decarbonisation over the last decade

**2020 is a milestone year for CLP's Climate Vision 2050 targets. Looking back over the last decade, CLP has been actively investing in renewable and non-carbon energy generation to decarbonise its portfolio.**

CLP has made strategic investments to decarbonise its power generation over the years, despite the fact that the Company's carbon intensity temporarily increased:

- In 2013 when CLP acquired the Mount Piper and Wallerawang Power Stations as part of the NSW electricity privatisation process; and
- In 2014 when the equity share of Hong Kong's fossil-fuel portfolio increased from 40% to 70%.

Irrespective, the Company remained focused on growing the share of renewable and nuclear energy, including purchasing renewable energy capacity through long-term power purchase agreements. Combined with operational efficiency measures, the Group's carbon intensity declined by 28% from 0.80kg$CO_2$/kWh in 2010 to 0.57kg$CO_2$/kWh in 2020 .

The clean energy targets set back in 2010 were based on high growth assumptions. By 2011, the initial renewable target of 5% of total capacity was met at 11.3%, and by 2012, it reached an encouraging 20.2%, which at the time already surpassed the 2020 renewables capacity target. However, changes in the Group's ownership of its subsidiaries in the past few years has reduced its renewable and non-carbon capacities to 13.5% and 24.4% respectively.

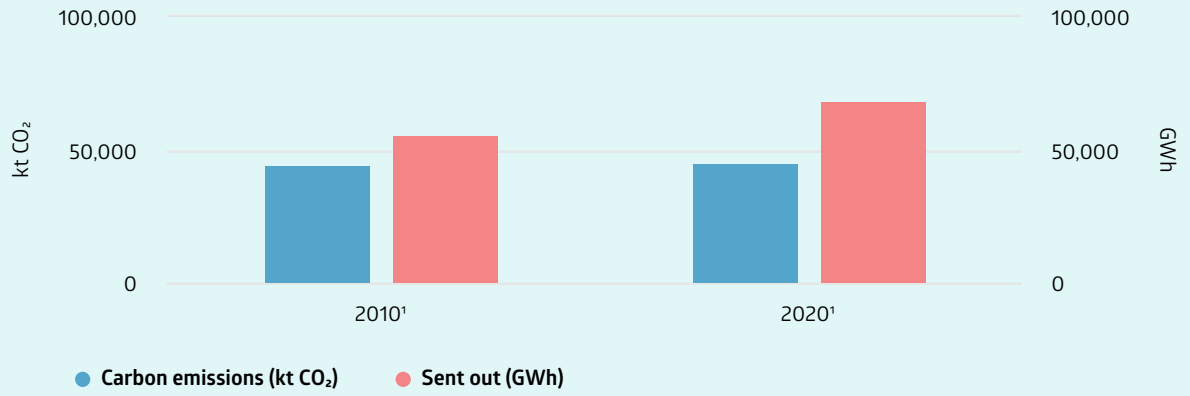
Most notably, in 2018, the Canadian pension fund Caisse de dépôt et placement du Québec (CDPQ) took a 40% equity share in CLP India, which included 1,094MW of gross renewables capacity at the time. This strategic partnership with CDPQ is based on the premise of expanding CLP India's low-carbon business in the long-term. An additional 400MW of renewable capacity has been added by CLP India, since this partnership with CDPQ has been formalised.

Over the last three years, market-based support mechanisms for renewables projects have in many cases been halted, often due to expectations that the levelised cost of energy (LCOE) has dropped to such a level that subsidies are no longer required. As an additional complexity for CLP's existing renewable assets, receivables for national subsidies in China and receivables for revenues in India have reached a total of HK$2.5 billion in 2020. This combination of factors has made the addition of renewable investments into the CLP portfolio more challenging. Nevertheless, besides the additional renewables capacity in India, CLP's businesses in Mainland China and Australia continue to support renewables in their portfolios.

As the Company takes stock of its performance in the last decade, CLP's current target review will need to balance the different expectations from stakeholders, government policies, technologies and market realities.

## 2010 vs 2020 carbon emissions and energy sent out from CLP's generation and energy storage portfolio

Between 2010 and 2020, on an equity basis CLP's carbon emissions increased by only 2% while the energy sent out increased by 24%.




1 On an equity basis.

Find out more on CLP's 2020 portfolio and energy sent-out

CASE STUDY

## Helping Hong Kong achieve its decarbonisation goal

**In 2020, the GHG intensity of the electricity sold by CLP Power in Hong Kong reduced by 26%, down to 0.37kg$CO_2$e/kWh, compared to 0.50kg$CO_2$e/kWh in 2019.**

CLP continued with its commitment to decarbonise Hong Kong's electricity generation and made progress in key capital projects. The reduced GHG intensity is due to:

- The increase in share of natural gas-fired generation.
- The operation of the landfill gas power generation units in the West New Territories (WENT) Landfill of Hong Kong.
- The addition of distributed solar generation from the Feed-in Tariff Scheme.
- Reduced output from the coal-fired Castle Peak Power Station by almost 60%.
- The first new 550MW combined-cycle gas turbine (CCGT) unit (D1) at Black Point Power Station went into operation in 2020. This 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 in 2020.

Plans are in place to further lower the city's GHG emissions. For Black Point Power Station, the early civil works for the second new gas-fired generation unit (D2) have already begun. The engineering, procurement, and construction contract for the project has been awarded and the unit is targeted to start operation by the end of 2023. These two CCGT units will contribute to the gradual phasing-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.

The offshore liquefied natural gas (LNG) terminal is another mega project crucial to enhancing the diversity and security of natural gas supply for power generation in Hong Kong. Construction of the offshore LNG terminal commenced this year after engineering, procurement, and construction contracts were awarded in January for the offshore jetty facility and subsea pipelines.

Meanwhile, enhancement of the Clean Energy Transmission System connecting the CLP grid to Guangdong is progressing, with completion expected by 2025. The system will enable CLP to access more zero-carbon electricity from Mainland China.

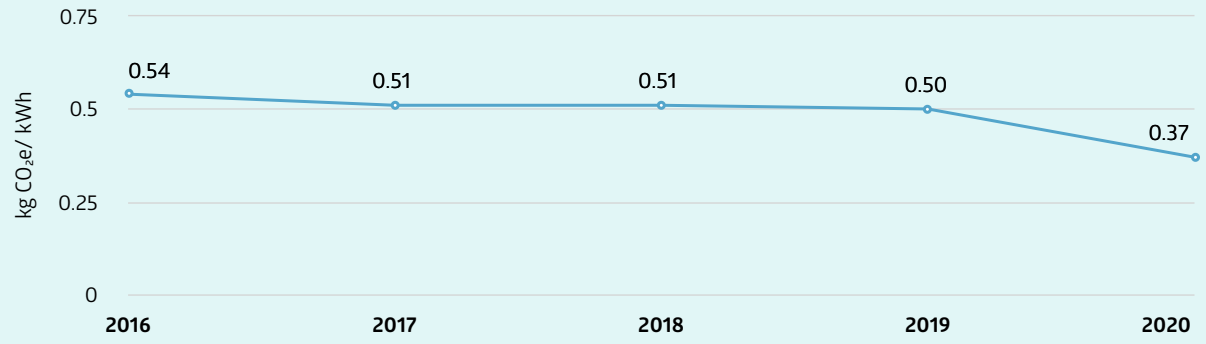
In parallel, CLP will continue to develop local renewables through the Feed-in Tariff Scheme, connect with further waste-to-energy projects from the Government, and study other potential renewable energy sources such as offshore wind. Under consideration is the feasibility of constructing an offshore wind farm in the south-eastern waters of Hong Kong. Recent advances in the technology of offshore wind turbines and an increasingly mature supply chain in the region have made it appear more feasible.

Find out more about Hong Kong's decarbonisation plan ›

Read more on CLP Power's effort in providing cleaner electricity

### GHG emissions intensity (scope 1) of CLP Power Hong Kong's electricity sold

The new CCGT unit at Black Point Power Station has led to significant reduction in CLP Power's GHG intensity in 2020.



## CLP's greenhouse gas profile for 2020

Reporting greenhouse gas (GHG) emission based on an equity and long-term capacity and energy purchases basis reflects CLP's investment in decarbonisation more comprehensively. In 2020, the Group's total emission was 62,318 $ktCO_2e$ , a 13% decrease from the previous year.

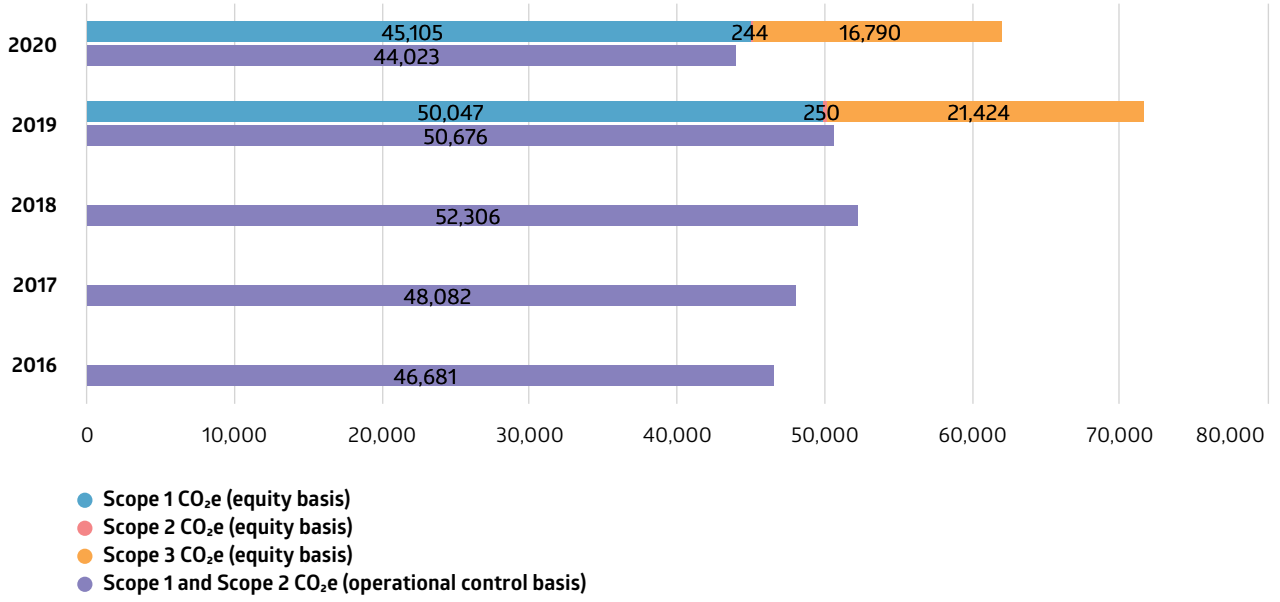
Starting in 2019, CLP reported its Scope 1 and Scope 2 GHG emissions on two bases – operational control as well as equity and long-term capacity and energy purchases – to provide a transparent overview of its decarbonisation efforts and progress.

Scope 3 emission is reported on an equity basis. Seven out of the 15 Scope 3 categories are considered relevant to CLP. 'Fuel- and energy-related activities', 'use of sold products' and 'purchased goods and services' are the three categories contributing the biggest carbon footprint to CLP under Scope 3.

Read more on the compilation of CLP's GHG profile >

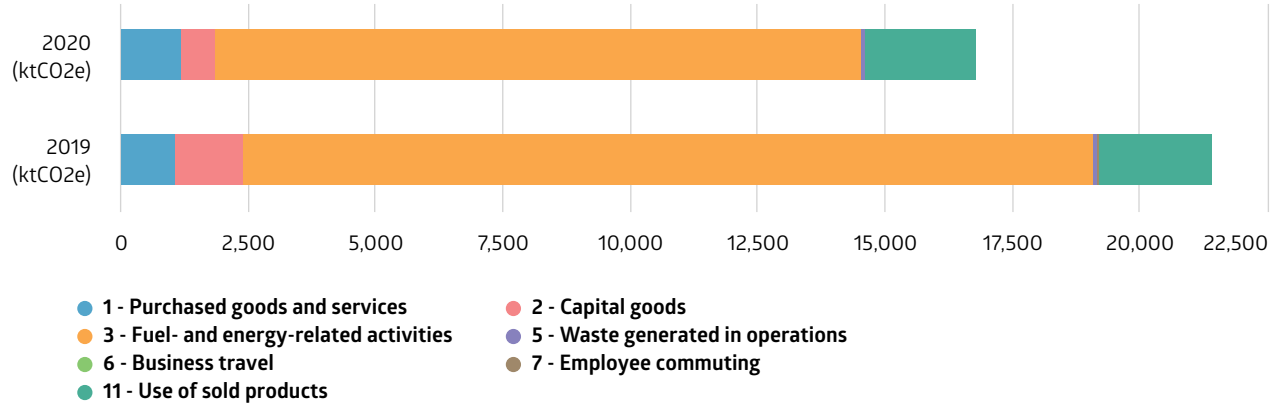
### GHG emissions (operational control and equity bases)

In 2020,CLP's total Scope 1 and Scope 2 GHG emissions have reduced to 45,349 $ktCO_2e$ on an equity basis, and to 44,023 $ktCO_2e$ on an operational control basis.



## Scope 3 GHG emissions by category

CLP's Scope 3 GHG emissions reduced by 21% in 2020. There were significant reductions from Category 3 - Fuel- and energy-related activities, which is also the most material category, and from Category 2 - Capital goods.




| | 2020 (ktCO2e) | 2019 (ktCO2e) |
|---|---|---|
| 1 - Purchased goods and services | 1,210 | 1,093 |
| 2 - Capital goods | 685 | 1,347 |
| 3 - Fuel- and energy-related activities | 12,690 | 16,671 |
| 5 - Waste generated in operations | 63 | 101 |
| 6 - Business travel | 1 | 8 |
| 7 - Employee commuting | 2 | 4 |
| 11 - Use of sold products | 2,138 | 2,200 |

Read more on CLP India's GHG emission in its Sustainability Report

## Understanding climate risks through scenario analysis

Building on the scenario analysis commenced in 2019, CLP further developed both global and country specific scenarios to better understand the impacts of associated climate risks and opportunities.

The TCFD has recently published additional guidance on scenario analysis for non-financial companies, which CLP is using to guide its own approach. The TCFD recommendations call for businesses to consider their strategic plans against two or more climate scenarios. These scenarios offer differing views of the future over a typical horizon of 20 to 30 years. By exploring multiple scenarios, the Group can carry out deeper analysis of the potential physical changes to the climate and changes to the operational landscape that may occur alongside the transition to a lower-carbon economy. CLP has taken steps to consider the resilience of its Climate Vision 2050 against the climate-related scenarios outlined below.

The three scenarios cover:

- A 'business-as-usual (BAU)' view of the future, in that limited additional progress is made to decarbonise energy systems and global warming exceeds 3°C by 2100.
- A 'low carbon' case where emissions growth is reduced or reversed (depending on location) and warming is limited to 1.5-2°C by 2100.
- A third scenario added in 2020, which tracks a path from high to low carbon, but over a compressed timeframe, resulting in some expected disruption to the operational landscape. This 'Deferred Transition' scenario is in line with the recommendations of The United Nations Principles for Responsible Investments (UNPRI) and the Network for Greening the Financial System (NGFS).

CLP will continue to monitor signpost indicators, such as carbon pricing and cost of renewables, to better understand the uncertainty that is embedded within these scenarios.

| Scenario | Example trends[1] |
|---|---|
| **Warming of 3-4°C by 2100**<br>(based on Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathway 8.5 and IEA Stated Policies Scenario (STEPS)) | · Emissions continue to rise, peaking after 2040 and resulting in warming reaching 3-4°C by 2100.<br>· In Australia, the highest monthly rainfall over a 10-year period decreases by 0.7mm by 2050 compared to historic averages.[2]<br>· In India, the number of extreme hot days with temperatures above 40°C increases by 23 days per year by 2050 compared to historic averages.<br>· Renewables have a 47% share of global electricity generation by 2040.<br>· Carbon pricing reaches US$35 per $tCO_2$ by 2040.[3] |
| **Warming of 1.5-2°C by 2100**<br>(based on IPCC Representative Concentration Pathway 4.5 and IEA Sustainable Development Scenario (SDS)) | · Emissions decline from 33 gigatonnes (Gt) in 2020 to less than 10 Gt by 2050, in line with the Paris Agreement to limit warming to 1.5-2°C by 2100.<br>· In Australia, the highest monthly rainfall over a 10-year period increases by 10mm by 2050 compared to historic averages.<br>· In India, the number of extreme hot days with temperatures above 40°C increases by 16 days per year by 2050 compared to historic averages.<br>· Renewables have a 72% share of global electricity generation by 2040.<br>· Carbon pricing reaches US$125-140 per $tCO_2$ by 2040 . |
| **Deferred Transition scenario**<br>(based on the UNPRI's Inevitable Policy Response and NGFS climate scenarios, where a late or deferred transition from the 3-4°C pathway to the 1.5-2°C pathway occurs) | · Most climate-related scenarios assume a gradual transition from the BAU to a lower carbon economy, with actions on reducing emissions starting today and significant deviation from the base case happening over the following few years.<br>· The Deferred Transition scenario takes an alternative approach, in which no significant changes in policy or technology occur in the near-term future, and the emissions trajectory follows the BAU case.<br>· As the effects of climate change become more apparent, governments will be forced to urgently revise their climate policies, leading to a sudden transition toward the goals of the Paris Agreement and a net-zero carbon economy. Technology advances such as battery storage and electric vehicles are also expected to contribute to the sudden change in energy demand and supply pathways.<br>· Such a deferred transition scenario could be expected to have disruptive impacts on the operational landscape, making it particularly important to include business resilience testing. |

1 Physical climate event figures averaged across CLP Markets of Hong Kong, Mainland China, Australia and India.
2 Historic average references years 1986 to 2005.
3 Mainland China only.

When developing these scenarios, CLP has identified a set of tailored climate-related risks and opportunities relevant to its assets and services across key markets. This exercise referenced third party energy and climate models to understand the scenarios under which these risks and opportunities may be most significant.

These transition and physical risks are discussed in the sections below. Opportunities and how CLP responds are discussed throughout the report. The table below provides easy reference to the relevant sections:

| | Risks | Opportunities |
|---|---|---|
| **Short term** (0-1 year) | · Physical risks from extreme weather events<br>· Securing the skills and capability required to implement climate strategy | · New products and services to help communities decarbonise<br>· Technologies to enhance the performance of generation and transmission assets |
| **Medium term** (1-5 years) | · Implementation of low-carbon policies for the power sector | · Transitioning to low-carbon energy across CLP markets to meet government decarbonisation targets<br>· Opportunities arising from transition enablers<br>· Energy management solutions to enhance efficiency at a systemic level, for instance in building smart cities |
| **Medium to long term** (5+ years) | · Potential stranded fossil fuel assets | · Growing the non-carbon portfolio to reach the CLP Climate Vision 2050 targets |

CASE STUDY

## CLP's working group on scenario analysis

**To help implement the TCFD recommendations, CLP has established a cross-functional working group to analyse and manage the climate risks and opportunities of the Group's key markets.**

This working group is coordinated by the Group Sustainability Department with participation from fleet management, renewable energy, financial planning, risk management and investor relations. A broad range of other business functions are also engaged in the process, including business development and planning, legal and policy, innovation, health and safety, environment, human resources, and representatives from each business unit.

In 2020, this working group focused on deepening the analysis on the implications of a range of climate scenarios for CLP's business units.

The Sustainability Executive Committee (SEC) reviewed the material climate risks and opportunities across all key markets and selected scenarios. The SEC and the Board Sustainability Committee have considered the various scenarios put forward in updating the carbon intensity targets for the years 2030, 2040 and 2050, including the deliberation of setting a net-zero target for 2050. How the financial impact of the climate risk and opportunities could be assessed in the analysis of these scenarios was also discussed, and the working group's study on climate scenario analysis will continue to inform the discussions in the coming year.

CASE STUDY

## EnergyAustralia's scenario analysis

### EnergyAustralia has conducted scenario analysis focused on the specifics of its market.

In 2020, EnergyAustralia undertook a review of climate risks, by considering different policy and regulatory scenarios. In line with the CLP Group Risk Management process, EnergyAustralia has a robust risk management process in place. However, it was recognised that climate change could impact the entire EnergyAustralia business. Consequently, an in-depth assessment was conducted to supplement the standard risk management plan, and ongoing risk evaluation cadence.

The identified risks cover three areas:

- Transitional risks considering different levels of policy and regulatory changes and plausible market reactions to such changes.
- Physical risks impacting the operations across multiple commodities and the safety of on-site workers, with financial impacts felt across physical output and wholesale positions.
- The impacts of extreme weather events on customers who may be less able to pay their bills, and on the customer service teams.

The review was led by the EnergyAustralia executive team with participation from across the Company. Cross-functional workshops were also held with senior management participation. The results were endorsed by the Group's Executive Risk Management Committee.

EnergyAustralia has set a goal to be carbon neutral by 2050. Read their statement here.

*The large battery at Gannawarra, underpinned by EnergyAustralia, is an example of the changing technologies shaping the energy system.*

# Preparing for the transition to a low-carbon world

Increased electrification, low-carbon policies for the power sector, and disruption from new market entrants are the most significant transition risks to CLP.

If the world continues on the current business-as-usual trajectory of GHG emissions, transition will occur only to the extent defined by currently implemented government policies, as well as policy announcements and targets which are likely to arise. Transition risks and opportunities are not significant under such a scenario.

However, a deeper and faster transition requires significant development in government policies and regulation, technology and the renewable and low-carbon market.

For CLP, three transitional trends have been identified to be most significant. They pose risks to the current business model as they erode the Company's existing value proposition. However, they present opportunities if the Company responds accordingly.

## 1. Increased electrification of energy consumption

Technology developments in electric vehicles (EV) and heat pumps will drive down costs and increase their competitiveness against incumbent, fossil fuel-based technologies. Overall demand for electricity will increase. In tandem, the market for providing energy services to the building sectors is also expected to grow.

The electrification of energy consumption could lead to increased corporate customer demand for renewable power purchase agreements from CLP. It could present opportunities to diversify from the current centralised generation business model towards an asset-light business model, for example, by providing EV charging infrastructure, energy services, and demand-side management and demand response.

Find out how CLP harnesses the power of technology to capture these opportunities >

## 2. Disruption from new market entrants

Technology improvements and government policies will increase the attractiveness of low-carbon electricity generation business models including both large-scale renewables and battery storage, as well as distributed assets such as rooftop solar and virtual power plants.

There is also potential for increased competition in the energy services market due to technology improvements and the emergence of new business models, in particular in the digital space. New market entrants could be from non-traditional electric utility companies, causing disruption to current markets and increasing competition.

A possible outcome for CLP is a smaller market share in electricity generation due to competition from disruptive new market entrants. This is most likely to be material in China, India and Australia where the electricity market is open. Increased competition may also reduce the tariff received from renewable energy in the competitive renewable auctions held in these markets.

## 3. Implementation of low-carbon policies on the power sector

Regulatory intervention could take a number of forms. New low-carbon policies could have significant financial impacts on high-emitting assets, especially if they are enforced suddenly and without warning. On the other hand, policies could also subsidise low-carbon generation assets.

The risks to CLP arise if these interventions are not anticipated and effectively managed in asset planning. These risks include regulatory pressure to phase out legacy coal and gas assets; and increasingly stringent climate policies such as emission standards or carbon pricing requiring increased capital expenditure and operational expenditure on thermal generation plants to meet regulations.

CLP is closely monitoring the policy landscape in its markets. The government policy updates listed below are expected to impact on the operating environment in the near term:

## Hong Kong

In November 2020, the Hong Kong Council for Sustainable Development recommended that Hong Kong should progressively advance to net-zero carbon emissions by 2050. Following from these recommendations, the Chief Executive of Hong Kong committed the city to strive to achieve carbon neutrality before 2050 in the 2020 Policy Address.

Some of the proposed initiatives will have a direct impact on CLP's business, these include: securing interim lower carbon options (e.g. LNG); ramping up local renewable energy production and storage; and sourcing zero-carbon energy regionally and locally including potentially green hydrogen, for example, as and when available. CLP Power will continue to use its expertise to work with the Government and community in delivering a stable and reliable electricity supply solution for the city. Read CLP Power's response here.

## Mainland China

During the UN General Assembly in September 2020, China's President Xi Jinping announced that China will aim to peak carbon emissions before 2030 and reach carbon neutrality before 2060. To this end, China will accelerate electrification, enlarge the scale of renewable energy, implement major enhancement on abatement technologies, and establish a well-functioning national carbon market.

Since the announcement, there has been further development on the national carbon market. The Ministry of Ecology and Environment (MEE) released the final national carbon market regulatory framework effective in February 2021, marking the operational launch of the nationwide emission trading system (ETS). The latest allocation plan (power generation sector) adopts benchmarking as the main allocation approach and includes processes for pre-allocation and ex-post adjustments. The scope of the scheme will cover 2,225 asset types including coal and gas plants.

The Government is in the process of developing a 2030 carbon emissions peaking plan, where the national ETS is expected to be one of the key policy instruments to realize the country's climate ambition.

## India

India submitted its Nationally Determined Contribution (NDC) in 2015 for implementation of the Paris Agreement in the post-2020 period. The NDC has eight goals including three quantitative targets:

- Reduce emissions intensity of Gross Domestic Product (GDP) by 33% to 35% by 2030 from 2005 levels;
- Achieve about 40% cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030; and
- Create an additional carbon sink of 2.5 to 3 billion tonnes of $CO_2e$ through additional forest and tree cover by 2030.

In 2020, the Government of India established a new taskforce to coordinate different policies required for its emissions target under the Paris Agreement, as well as international and domestic carbon market activities. Renewable energy continues to be the dominant form of energy added to India's electricity system and policy initiatives are moving to address issues of storage and firming capacity as penetration of renewables continue to rise. The Government is planning to issue guidelines for domestic and international rules for carbon pricing, market mechanisms, and other instruments. Establishment of domestic emissions trading schemes for both particulates pollution and GHG emissions are also being studied. These initiatives are expected to facilitate the launch of a domestic carbon market in India, which would be on a voluntary basis in the initial stage.

## Australia

The Federal Government has confirmed that its 2030 target under the Paris Accord will remain at the 26% to 28% emissions reduction target already promised on 2005 levels and has not set a firm date for carbon neutrality. The State Governments have moved ahead with ambitious policies and support for decarbonisation. All States have separately confirmed targets for reaching carbon neutrality by 2050.

Of note, the State of New South Wales recently announced its Electricity Infrastructure Investment Roadmap to drive investment in up to 12GW of renewable energy and 2GW of long-duration energy storage over the next decade. The plan will accelerate the design and formation of large-scale renewable energy zones.

In Victoria, the Government is advancing complementary policies targeting emission reductions across sectors to meet its 2025 and 2030 targets. The Victorian Government is planning further support for new renewable energy assets, has committed to support the construction of a major utility-scale battery in Moorabool, and has announced mechanisms to drive electricity usage reduction through energy efficiency.

CASE STUDY

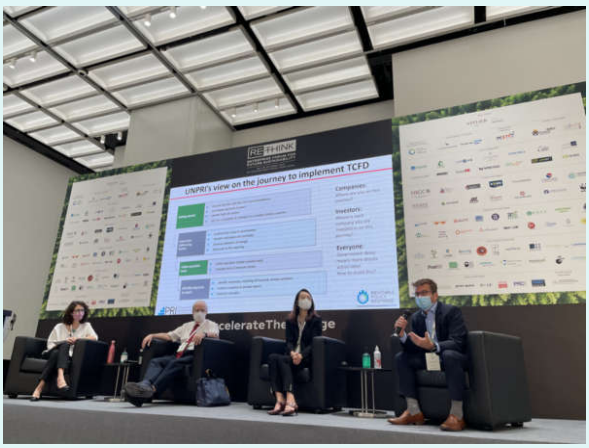
## Setting climate ambition together

**Under the Paris Agreement, 2020 was to be the year when countries stepped up their ambition. For the corporate sector, science-based targets (SBTs) provide companies with a clearly-defined decarbonisation path in line with the Paris Agreement goals.**

The electric utilities sector faces several challenges in setting SBTs. The challenges range from technical ones such as reporting emissions from their value chains, defining appropriate scopes and boundaries, to strategic ones such as ensuring a just transition away from fossil fuel-based power generation, or abating certain sources of value chain emissions.

Together with four other peer companies from the sector, CLP participated in a World Business Council for Sustainable Development (WBCSD) working group to share its experience and develop solutions to these challenges. The working group's findings were summarised in the report Setting science-based targets: A guide for electric utilities, published in June 2020.

In Hong Kong, CLP is a signatory to the Business Environment Council's Low Carbon Charter which was first launched in 2019. Initially focused on the property and construction sector, the Charter was expanded in 2020 to companies from all sectors. Signatory companies collectively contribute towards Hong Kong's long-term decarbonisation by pledging to set and achieve carbon reduction targets, and report their progress on an annual basis.




*Hendrik Rosenthal, Director - Group Sustainability (right), speaks at a panel themed "Mitigation, Adaption and Building Resilience". The Company actively participates in local and international organisations and events that promote climate action.*

Read more on CLP's participation in other organisations that seek to promote climate actions >

## Building resilience to physical climate risks

Physical climate risks have the potential to compromise the integrity of CLP's assets or disrupt service delivery. CLP already has a range of measures in place to enhance the reliance of its plants and operations. It is currently building capacity to assess future physical climate risk at an asset level.

Evidence suggests that, under the 1.1°C of average global temperature rise recorded to date, significant climate-related risks are already emerging.

Under a business-as-usual scenario, the average global temperature rise is projected to be around 3 to 4 °C. Considering CLP's assets and geographical presence, the following climate trends have been identified to be of more significant impact:

1. **Higher mean temperature and more heat events** – A range of direct and indirect impacts could arise from higher mean temperatures.The impacts could be related to short-term, extreme heat such as heatwaves and wildfire, or to chronic temperature increases leading to water stress and drought, as well as other events.
2. **Increased water scarcity and drought** – Thermal and hydro assets are prone to the impact of such temperature events. The occurrence will be particularly acute in regions where demand for water increases and rainfall patterns see a trend towards greater extremes, for instance in India and Australia.
3. **More intense and frequent storms and floods** – Storms also include typhoons which occur across a significant area of CLP's operating regions and drive some of the most significant climate hazards. CLP has experienced super-strong typhoons in Hong Kong in recent years bringing serious damage across the city. Flooding is a widespread event type, occurring in all countries to an extent.

These events can cause physical damage to CLP's assets or reduce operational efficiency, which in turn, can result in reduced output, increased repair and maintenance costs, and service disruptions for customers. The Company's operations could also be affected indirectly by these events, for instance damage to assets along the supply chain, in particular the procurement of fuel, may affect the Group's ability to reliably deliver electricity.

Weather pattern changes will not be experienced uniformly around the world in relation to either the extent or rate of change. Even within the same country, considerable geographical variance is present especially for countries with large terrains such as Mainland China, India and Australia. It is therefore important to assess climate risk asset-by-asset. This helps CLP incorporate climate adaptation measures into its plant design for new build projects, and ensures its systems are resilient to withstand extreme conditions, thereby minimising disruption and facilitating faster recovery for its affected communities.

*Michael Starkey, a civil engineer at EnergyAustralia's Mount Piper Power Station, was one of four volunteer firefighters who joined an epic battle against Black Summer, Australia's worst ever bushfire season in 2019-2020.*

Throughout the years, a range of measures were put in place along CLP's value chain to help the Company prepare for climate events. The tailored measures are deployed for the different geographies, taking into account the asset type, location and relevance. These are summarised in the table below:

| Relevant part of the value chain | Protection measures |
|---|---|
| **Supply chain** | Diversify fuel supply from multiple sources. Find out how the offshore liquefied natural gas terminal would help CLP Power diversify the natural gas supply in Hong Kong in this case study. |
| **Generation** | · Monitor and inspect assets regularly<br>· Maintenance of a Bushfire Mitigation Plan in Australia<br><br>**To address extreme heat and increased temperature:**<br>· Maintain cooling equipment in good condition<br>· Refurbish cooling towers to improve efficiency<br><br>**To address the risk of water shortage and drought for thermal plants:**<br>· Sea water cooling to mitigate risks from water shortage<br>· Under permissible circumstances, work with the local authority to construct water transfer pipelines from nearby sources and water treatment facilities to secure water supply<br><br>**To address flooding risks:**<br>· Build protection walls for coal yards and run-off water storage<br>· Deploy anti-flooding measures suitable for the assets, including ground-level drainage systems, sea walls along power station shorelines, flood gates and flood barriers<br>· Put in place additional coverage with tarps, grass planting and drainage works to avoid soil erosion<br>· For assets that are downstream of dams, continually control and monitor river rate flow, and maintain regular communication with the local authority on its flood discharge schedule and flowrate |
| **Transmission and distribution** | · Have in place operational guidelines that take into account operations under high temperatures (of up to 45°C)<br>· Strengthen the structure of transmission towers and the foundations of overhead lines<br>· Strengthen foundations of towers and the slope nearby with soil nails and deflection walls<br>· Enhance vegetation management to minimise wildfire risk from overgrown vegetation<br>· Install line arresters to minimise voltage dips caused by lightning strikes on exposed overhead lines<br>· Use smart meter supply interruption data to proactively contact customers and prioritise recovery |
| **Retail** | · Through engagement events, inform customers of the initiatives already undertaken to increase system resilience |
| **Service recovery** | · Enact emergency management procedures and response plans across all parts of the operations, and conduct regular drills<br>· Establish a typhoon response protocol and coordinating system, and conduct regular drills and post-typhoon reviews to ensure smooth execution of contingency plans<br>· Utilise the CLP System Control Centre, providing round the clock surveillance of the network status, to enable prompt mobilisation in the event of power outages<br>· Utilise the emergency restoration system, enabling rapid construction of temporary masts that can shorten the restoration of power supply |

| Relevant part of the value chain | Protection measures |
|---|---|
| | · Enhance the communication capacity of customer services, in particular post-incident customer communication<br>· Establish in-house Unmanned Aerial Vehicle (UAV) Teams for post-typhoon surveillance inspection |

CLP is developing a physical climate risk tool for application during the investment due diligence process to help enhance its preparedness for such risks. Using bespoke characteristics related to CLP's asset types and data specific to its operating regions, the tool will assess trends in physical climate from present day to 2080 to account for the long lifetime of electric utility assets. The screening style assessment will identify possible risks and recommend next steps for CLP expert personnel, including engineers, to assess further. Overall the tool and accompanying approach will ensure any physical climate risks to assets are identified at an early stage, and effective resilience is planned in those assets.

CASE STUDY

## Climate Adaptation Assessment in Hong Kong

*Extreme weather events such as typhoons pose significant risks to the operation and structure of overhead lines in Hong Kong.*

### CLP Power is undertaking a highly detailed climate change risk assessment of all its generation, transmission and distribution assets in Hong Kong.

The Generation and Power System business groups are renowned for completing assessment work at the cutting edge of international best practice, particularly in relation to extreme events such as typhoons, flooding and heatwaves. The detailed assessment currently underway will benefit from industry-leading datasets specific to Hong Kong, including downscaled climate projections throughout the 21st century from the Hong Kong Observatory. A purpose-designed methodology has been prepared for the assessment, engaging technical input from across CLP. The overall outcome will see the generation and transmission business fully aligned in its risk assessment methodology, with a set of focused adaptation measures for deployment across assets.

## Investing in transition enablers

Investment in a broad range of transition enablers is required to transform the energy system. CLP is investing in innovative projects and seeding new technologies within the energy economy.

Decarbonisation of the generation portfolio cannot only be achieved by simply replacing generation plants that use fossil fuel with those that use non-carbon energy sources. A range of transition enablers are needed to transform the energy system, these include: decentralised generation and smart energy services; transmission and distribution systems; battery or other energy storage solutions; and electric vehicle charging facilities. Digital technologies are also providing new tools for customers to interface with the energy system.

CLP's investment in transition enablers is focused on the Hong Kong and Australian markets, where CLP is engaged in retail business. Below are a few examples of these enablers.

### Smart meters

- In Hong Kong, under the seven-year rollout plan approved by the Government in 2018, over 843,000 smart meters have been connected to date. This is more than double the number connected in 2019 and is equivalent to a 30% coverage of CLP Power's service area. More details on the mass rollout plan are available here.
- In the Australian States where CLP operates, the number of smart meters installed has reached over 636,000 with coverage of over 30%.

### Electric vehicle (EV) development

CLP is actively developing EV infrastructure in Hong Kong by providing free charging facilities to the public and helping individual and commercial organisations install relevant facilities. To date:

- Over 160 charging points have been installed for customers across Hong Kong; in addition, there are over 340 charging points at Company premises to support greater EV adoption across CLP operations.
- In support of the Government's newly-launched EV-charging at Home Subsidy Scheme, CLP Power is launching an advanced service, Eco Charge 2.0, which will provide one-stop technical support and customer service to applicants eligible to apply for funding EV charging-enabled infrastructure in the car parks of private residential housing blocks.
- Smart Charge (HK) Limited, a joint venture between CLP and HKT, has been actively offering and deploying EV charging solutions in private and public car parks in Hong Kong. There are a number of projects in the construction pipeline which will be completed in the coming year.
- By the end of 2020, EnergyAustralia had installed EV charging facilities at their head office, and Yallourn and Mount Piper Power Stations. There was a delay to other sites due to COVID-19 restrictions but it is expected that all sites will be completed in 2021.

To demonstrate CLP's commitment to EV development, in 2019, the Company joined the global EV100 initiative run by the international non-profit organisation The Climate Group. CLP is the first Hong Kong company to do so. Read more here.

### Demand response programmes

- In Hong Kong, around 1,900 commercial and industrial customers signed up for the *CLP Demand Response Programme.* Together with residential customers, the total demand reduction reached approximately 105MW.
- EnergyAustralia's demand response contracted capacity now stands at over 110MW. This includes more than 360,000 household customers who are part of the *EnergyAustralia PowerResponse Programme*.

| | |
|---|---|
| **Customer solution sales** | · The Feed-in Tariff Scheme in Hong Kong had seen a significant increase in interest. By the end of 2020, more than 13,000 applications had been received, of which around 87% (representating a combined capacity of 175MW) have been approved or connected to the grid.<br>· EnergyAustralia has over 220,000 business and residential customer accounts with solar panels installed. |

As more renewable energy is being introduced to the grid, the challenges posed by its intermittent nature, which does not necessarily follow the local load profile, requires enhanced grid connectivity and a system balancing solution on a larger scale.

| | |
|---|---|
| **Transmission and distribution infrastructure** | · Satpura Transco Private Ltd. is CLP India's first transmission asset. It is an intra-state project located in Madhya Pradesh that was acquired by CLP India in 2019, marking CLP India's entry into a new segment of the country's electricity value chain. Another 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.<br>· The Clean Energy Transmission System connecting the CLP grid to Guangdong is planned to be enhanced by 2025. The system will improve accessibility to zero carbon energy resources and help further reduce fossil fuel use in Hong Kong. |
| **Large scale storage** | · In 2020, EnergyAustralia executed a binding long term storage agreement with Genex Power to underpin the 250MW Kidston pumped hydro energy storage facility upon the project's financial completion and commissioning. Under this 30-year agreement, EnergyAustralia controls the market operations of the facility, and holds a right to acquire equity in the project. If successful, this facility will be the first of its kind in the National Electricity Market in almost 40 years, and with 7.5 hours of storage, this will be a key project for EnergyAustralia to lead the integration of renewable energy into the grid.<br>· EnergyAustralia continues to operate the Ballarat and Gannawarra battery storage facilities in Victoria. The facilities have a combined capacity of 55MW and have been operating since the summer of 2018/19, providing peak energy demand and ancillary services. |

Read more on how CLP's digitalisation effort is greening the energy system ›

Find out how CLP supports its customers in the energy transition ›

# Creating value in the low-carbon transition

Decarbonising and diversifying CLP's asset portfolio are key approaches to lowering the Group's GHG emissions and reducing reliance on revenue from fossil fuel-based generation. Investing in smart energy systems also presents new opportunities.

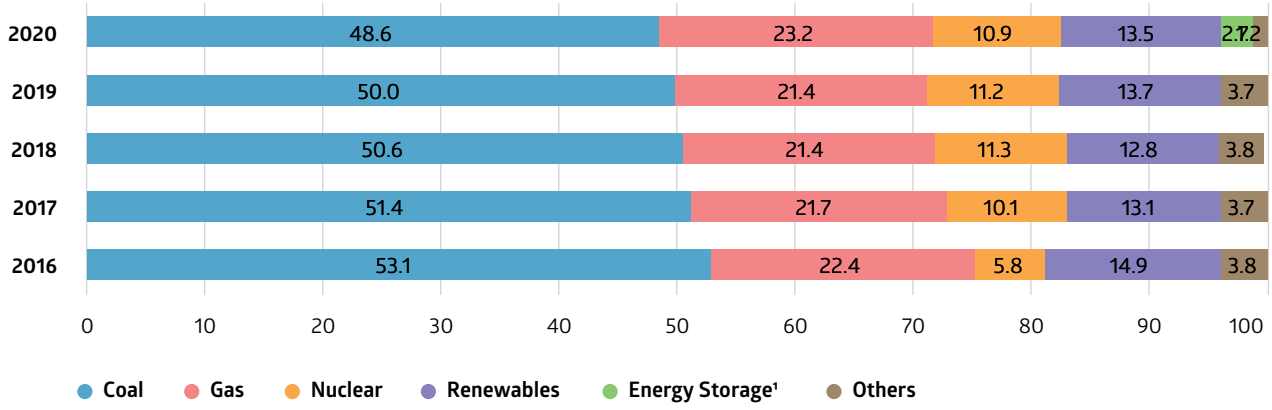
The following charts demonstrate how CLP has diversified its investment, portfolio and operating earnings to include a broad range of fuel type and non-generation business activities.

## Generation capacity (on an equity plus long-term capacity and energy purchase basis) by asset type

The renewable and non-carbon generation capacity in operation and under construction increased in 2020:

- Renewable generating capacity now stands at 2,517MW, supplemented by an additional 825MW of long-term capacity and energy purchase; together they account for 13.5% of the portfolio.
- Non-carbon generating capacity now stands at 4,110MW, supplemented by an additional 1,907MW of long-term capacity and energy purchase; together they account for 24.4% of the portfolio.

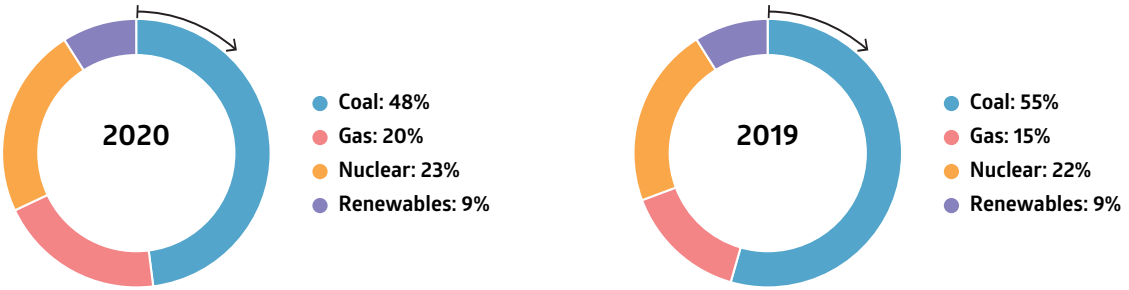
The portfolio percentages are shown in the graph below.




1 Energy storage was categorised under Other prior to 2020.

## Energy sent out (on an equity plus long-term capacity and energy purchase basis) by asset type[1]

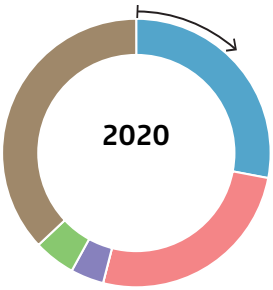
CLP's coal-based generation decreased by 7% as the new natural gas generation unit at Black Point Power Station went into operation. Percentages of energy sent out from renewable and non-carbon sources remain at similar levels as in 2019.



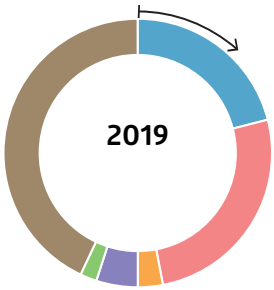

1 Percentage figures have been subject to rounding. Only the major asset types are shown here. For details, please refer to operations data table.

## Capital investments (on accrual basis) incurred by asset type

CLP continues to invest most in transmission, distribution and retail. In 2020, the investments in coal assets included maintenance, upgrades and efficiency improvements only.



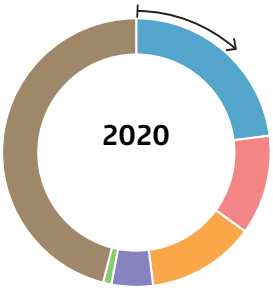

- Coal: 28%
- Gas: 26%
- Nuclear: 0%
- Renewables: 4%
- Others: 5%
- Transmission, distribution and retail: 37%



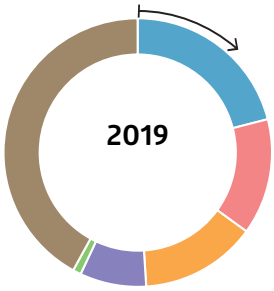

- Coal: 21%
- Gas: 26%
- Nuclear: 3%
- Renewables: 5%
- Others: 2%
- Transmission, distribution and retail: 43%

## Operating earnings (before unallocated expenses) by asset type

Operating earnings from non-carbon generation assets represented 17% of Group operating earnings in 2020, supplemented by 46% of operating earnings from transmission and distribution and retail-related activity.




- Coal: 23%
- Gas: 12%
- Nuclear: 13%
- Renewables: 5%
- Others: 1%
- Transmission, distribution and retail: 46%




- Coal: 21%
- Gas: 14%
- Nuclear: 14%
- Renewables: 8%
- Others: 1%
- Transmission, distribution and retail: 42%

## Promoting systematic changes for climate actions

No single business or country can mitigate climate change alone. CLP continues to join other like-minded organisations to promote the systematic changes required and mutual operational business interests.

Sound public policies are required to balance social, economic and environmental needs and support the long-term development of communities. CLP participates in a range of industry and professional bodies to discuss the major issues deemed important to the energy sector's ongoing viability and success, in particular climate change and energy.

When joining any organisation, the respective Public Affairs teams act as a control point and consider the appropriateness of membership. The CLP Group CEO or CLP Managing Director gives final approval for membership to ensure the position of the organisation supports CLP's mission, in particular its ambition towards decarbonisation.

In response to the economic damage caused by COVID-19, there has been demand for economic stimulus efforts to be directed towards climate action. During the early days of the pandemic, the We Mean Business coalition became a strong advocate of this notion and lobbied governments primarily in Europe and North America via its extensive business network. The Energy Transitions Commission advocated for similar economic recovery packages. CLP is a supportive member of both organisations.

As part of CLP's ongoing engagements, the Company also participates in organisations active in climate change and broader energy market policies. Following is a list of organisations to which CLP devotes significant resources through membership, sponsorship, and other contributions including active participation by senior management. CLP has contributed annually over HK$250,000, in cash (or equivalent) over the last three years to the organisations listed below (by alphabetical order).

| Organisation | Description of organisation | CLP contributions and engagement |
|---|---|---|
| Australian Energy Council (AEC) | The AEC represents 21 major electricity and downstream natural gas businesses operating in competitive wholesale and retail energy markets in Australia. | EnergyAustralia is represented on the Board of the AEC and is an active participant in its various working groups which cover a range of competitive energy market issues. These include reviews of wholesale market operation, competitive retail markets and emissions reduction policies. |
| Business Council of Australia (BCA) | The BCA is a CEO-led industry association, representing over 100 of Australia's largest businesses. They support transitioning to a more carbon efficient economy with a goal of net-zero emissions by 2050. | The Managing Director of EnergyAustralia is a Director of the BCA. The BCA advocates for a national, bipartisan energy and climate change framework that can deliver against reliability, affordability and sustainability objectives, consistent with EnergyAustralia's position. |
| Business Environment Council (BEC) | An independent, charitable organisation established by the business sector in Hong Kong, the BEC promotes environmental excellence by advocating for the uptake of clean technologies and practices. | The CLP CEO has been a Director of BEC since 2012 and is currently Chairman of its Board of Directors. CLP actively participates in or sponsors events, public consultations and working groups organised by BEC. It is also a signatory of the BEC Low Carbon Charter. |
| Energy Transitions Commission (ETC) | The ETC supports energy system transition by showing what it will take to create credible, accelerating transitions towards universal, clean energy systems across the world. It aims to inform decision-makers in both the public and private sectors and support leaders to undertake more rapid deployment of low and zero-carbon solutions. | Having joined in August 2018, the CLP CEO is one of a diverse group of leaders from the public, private and NGO sectors in the ETC. |
| Free Electrons | An accelerator programme for electric utilities, Free Electrons enables startups to work closely with utilities to develop digital solutions to overcome challenges arising from the increase of renewable energy and decentralisation of energy systems. | CLP first participated in Free Electrons during 2018, and has identified collaboration opportunities through the programme. In 2019, CLP hosted Free Electrons in Hong Kong for a week-long module. CLP participated again in the 2020 programme. |
| International Solar Alliance (ISA) | The treaty-based, inter-governmental organisation, ISA, was established in December 2015 at COP-21. In June 2016, ISA entered into an agreement with the World Bank to raise US$1 trillion by 2030 to meet the Paris Agreement objectives. | CLP is supporting the Indian Government's plan to deploy solar technology across the country. |
| World Business Council for Sustainable Development (WBCSD) | A global, CEO-led organisation of over 200 businesses, WBCSD is working to accelerate the transition to a sustainable world. It targets the realisation of its Sustainable Development Goals through six work programmes including Circular Economy, Cities and Mobility, Climate & Energy, Food & Nature, and Redefining Value and People. | CLP is participating in various initiatives, such as the Climate & Energy Program Board, TCFD Electric Utilities Preparer Forum, the Energy Solutions Project, the Natural Climate Solutions Project and the Redefining Value Programme. |

## Climate Action Finance

CLP has issued HK$12 billion worth of financial transactions under the Group's Climate Action Finance Framework (CAFF), since creating its first Climate Action Bond in July 2017.

In June 2020, the Group updated its CAFF to reflect the commitments it made in the latest CLP Climate Vision 2050 and to enable a broader range of financial transactions under which CLP can raise funds.

Read more on CLP's Climate Action Finance Framework

Subsequently, CLP, through its intermediary CAPCO, entered into a series of energy transition finance transactions for the construction of an offshore LNG terminal in Hong Kong waters and its associated subsea pipeline and gas receiving station. This new terminal will allow CLP to purchase gas directly from more diversified sources for its gas-fired electricity generation facilities, thereby enabling the gradual phasing out of existing coal-fired generation units in the CLP supply area.

The transactions in 2020 were as follows:

- In June 2020, CAPCO issued its second Energy Transition Bond in the amount of US$350 million with a coupon of 2.20% and a tenor of 10-years. The bond has been selected as the best energy transition bond in The Asset Magazine's Country Awards 2020.
- In June and September 2020, CAPCO executed an inaugural HK$3.3 billion medium-term Energy Transition Loan facility and a HK$2.0 billion long-term Sinosure-covered Energy Transition Loan facility respectively with a syndication of banks.

CLP has also joined the Sustainable and Green Exchange (STAGE) established by the Hong Kong Exchange and Clearing Limited as one of the inaugural members in August 2020. STAGE is an online repository of information for sustainability, green and social bonds listed in The Stock Exchange of Hong Kong Limited. By joining the STAGE, CLP will display the associated information and post-issuance reports of its Energy Transition Bonds on the platform which can be assessed by global investors.

Download CLP's 2020 Climate Action Finance Report

Download the Independent Assurance Statement for the 2020 Climate Action Finance Report

MATERIAL TOPICS

# Harnessing the power of technology

# Year in review

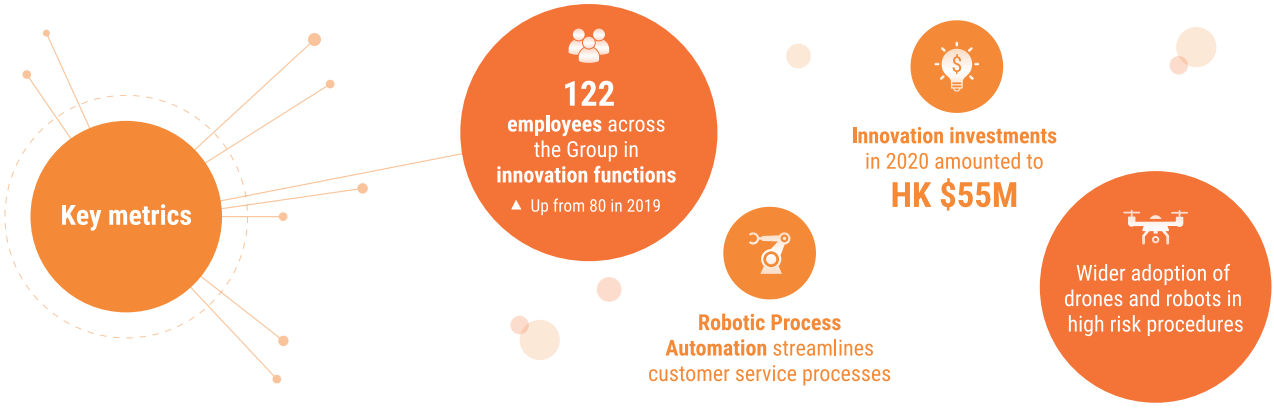
**With close collaboration across the organisation, CLP has become well-positioned to deploy existing and emerging technologies to tackle challenges and opportunities presented by the pandemic.**

Prior to the onset of COVID-19, utility companies already faced an array of transformative trends, such as the rapid rise of renewables, the electrification of transport and the adoption of smart energy services. In an operating environment marked by rapidly shifting changes to customer needs in energy demand and related services, the traditional sector approaches are starting to give way to new technologies and emerging business models.

The pandemic has revealed sector-specific challenges arising from the need to maintain large physical infrastructure networks, accelerating the scale and pace of change already underway. Many utility companies have brought forward plans to implement the right combination of technology solutions to respond to opportunities and challenges that they might have reasonably considered to defer into the future.

The CLP Group Innovation team was set up in 2016 to spearhead CLP's journey to become a Utility of the Future. As the sector's value chain becomes less linear and more complex, electric utilities have a unique role to contribute to SDG 9 – Industry, Innovation and Infrastructure, by for example investing in system efficiency, flexibility solutions, and system balancing technologies. The benefits from digitising assets, operations, back-office functions and the customer experience across business lines and geographies were apparent in 2020, allowing CLP to improve operational safety and efficiency, and maintaining business continuity during the pandemic. The Company also leveraged on its competence and explored opportunities in adjacent areas, with a focus on "energy as a service" and providing energy infrastructure to, or develop in partnership with, customers.

To maintain its competitiveness in the fast-paced technology world, CLP will continue to build research and innovation capacity across the organisation, work with start-ups and progressive utilities across the world, and invest in potentially disruptive solutions through active engagement.



# Outlook

**CLP has established foundational capabilities, frameworks and an innovation ecosystem to identify and nurture new energy service businesses. A "scout, scan and engage" strategy will continue to be deployed to capture relevant value-adding opportunities on the global energy landscape.**

CLP will continue to deploy innovative technologies across existing assets to make operations safer and more efficient. In addition, the Group is targeting to invest in vanguard technologies that will enhance the new digital energy business model. Focus will be on building partnerships in strategic growth areas, while pursuing a digital transformation agenda through in-house data science capabilities. Smart Energy Connect is expected to expand and commercialise the Company's digital product development capabilities, while supporting innovation leadership through accelerator and incubator programmes.

The Group is also pursuing other areas where it sees potential for growth and demand from customers. For instance, corporate power purchase agreements (CPPAs) for renewable energy are one of the fastest growing power asset classes, with annual volumes of new contracts increasing 40-80% per annum globally since 2015. Companies which have set Science-based targets (SBT) or made commitments to RE100 have shown particularly keen interest. Likewise, the green finance space is expanding rapidly in its ability to provide new instruments for supporting renewable energy as part of corporate finance solutions. Following customer demand, the evolution of electricity market instruments and green financing are converging to create favourable conditions for greater renewable procurement by major customers in Asia Pacific.

Data Centres are another key element of a digital future as the demand for secure, reliable and green-powered information and communication technology (ICT) infrastructures continues to grow. CLP is partnering with data centre developers and operators, leveraging on its presence in multiple markets across the region, its experience in permits, regulations and government processes, as well as its expertise in delivering reliable and green energy.

CLP's business will increasingly be comprised of hallmark energy expertise coupled with digital and AI capabilities that give businesses and consumers choice and control over how energy is consumed, when it is used, how it is shared and most importantly where it comes from. To this end, CLP will continue to connect customers with solutions, electricity with data, and digital technologies with engineering DNA.

*CLP offers user-friendly one-stop solutions dedicated for powering data centres in Hong Kong.*

# Highlights

Examples of how technology helps CLP improve its performance and develop new business opportunities to advance the sustainability agenda.

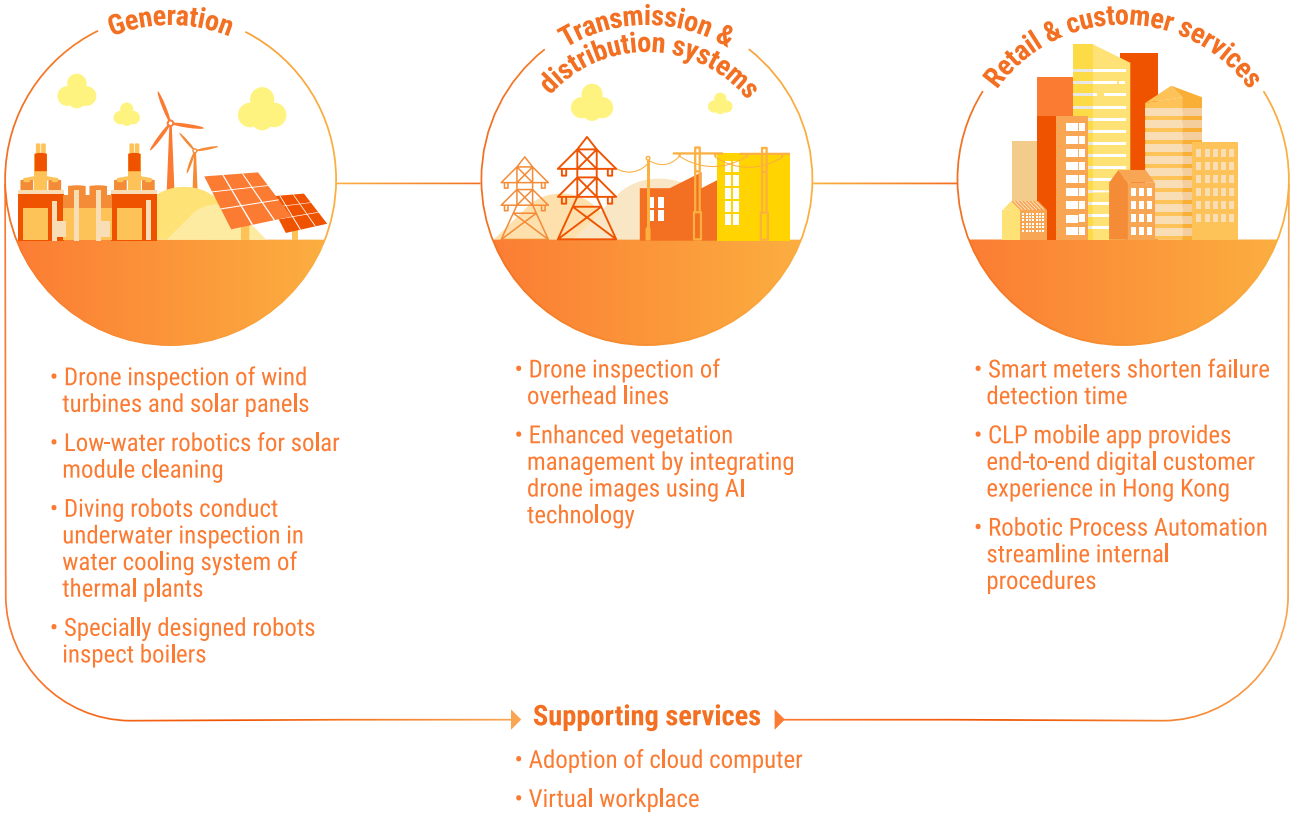
## Enhancing performance

CLP has deployed a range of digital solutions based on big data, artificial intelligence (AI) technology, cloud computing and robotics, improving safety and efficiency, and enhancing CLP's remote operational capacity.

As the onset of the pandemic turned many CLP employees to work-from-home (WFH), CLP's prior adoption of cloud computing, which commenced in 2018, underpinned business continuity. In 2020, a virtual workplace was rolled out to make remote access more convenient and to facilitate collaboration. This provided CLP with the agility to respond quickly during periods of business disruption by enabling seamless access and updates to IT applications for its employees. The enhanced IT capacity has also had the additional benefit of enabling CLP to hold large scale meetings online, such as the Group's annual general meeting and CLP Power's annual Staff Communication Session, where nearly 1,500 employees participated.

Following a review of its IT operating model, CLP is continuing to source more technology services through cloud computing options. This is essential as the Company naturally expands into the big data, machine learning and AI domains.

On the operational side of the business, CLP has been expanding deployment of technologies in different activities over the last few years. Unmanned technologies such as drones and robots improve work safety and enhance operational efficiency, especially when they replace humans in challenging and dangerous working conditions – be it underwater equipment used at generation facilities, or for work being conducted on transmission lines 50 metres above ground. It also helps improve power reliability and customer service even though the technology employed may only be visible behind the scene.



For its renewable generation assets, the Company continued to deploy drones for managing its solar assets and for the inspection of wind turbine blades. After a successful trial at the Sihong solar plant in Mainland China, waterless robotics and solar reflectors will be installed in the Huai'an solar farm to improve cleaning procedures and to increase plant efficiency. CLP India has also been trialling the use of low-water robotics for the cleaning of solar modules in Veltoor.

CLP continues to install secondary monitoring and analytics engines across its wind and solar assets in India and China in 2020 and will have full coverage across around 2GW of renewable assets by mid-year 2021. Big data and AI technologies enable remote monitoring and smart network management. The Company has established cloud connections to capture all its renewable data in India and Mainland China, in accordance with data localisation regulations and robust cyber-security solutions to ensure the protection of the operating assets and data.

For the transmission and distribution system, overhead line towers are usually located in remote areas and are prone to damage by nearby vegetation during a typhoon. Using drones, rather than employees, to carry out visual inspections of overhead lines and towers to check their structural integrity and assess the risks posed by any damaged trees nearby is a safer approach. CLP's engineering team has also been working on the integration of the image data captured by drones using AI technology to enhance vegetation management. The AI algorithms make tree classification easier. By analysing such information together with power asset locations, CLP has established a vegetation management inventory, which allows the Company to identify hazardous trees near power lines, as well as monitor and mitigate the related risks.

The CLP engineering team aims to expand the deployment of these technologies in more aspects of its operations, and has been working with universities to develop new applications for robots and drones. The advanced research and development capability of academics and the practical industrial expertise of CLP engineers are creating synergies to ensure the safety and reliability of CLP's electricity services.

Beyond its own operations, CLP will focus on the benefits of adopting digital technologies in managing its supply chain, especially data analytics for improved insights into suppliers' performance and supply chain management. Digitalisation will help deepen CLP's collaboration with strategic suppliers, enhancing the Group's access to resources and capabilities in support of business objectives.

CASE STUDY

## Using robots to eliminate high risk diving activities

**For thermal assets, the cooling water system and boilers need to be inspected regularly. The use of robots prevents technicians from being exposed to high risk environments.**

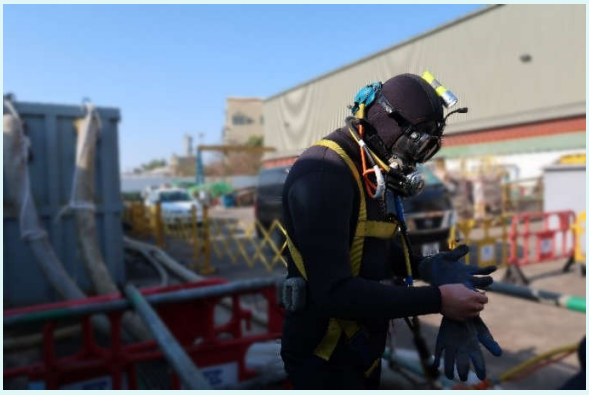
A combustion boiler is a key component of a thermal asset, which produces steam at high pressure to drive the turbo-generator. A combustion boiler is about 70 metres tall, equivalent to a 22-storey building, and its interior is a confined environment where regular human access is difficult. CLP is now using robots for inspection of some of its boilers. These robots are specially designed to adapt to the conditions of different boilers: some are like spiders that climb on vertical boiler tubes, others have wheels that can navigate the varied terrain. These robots can quickly detect any faults such as surface cracks, significantly reducing the time needed for inspections while improving work safety.

*Robots are specially designed to adapt to the conditions of different boilers.*

Cooling water culverts, the underwater structures that supply sea water to power generation units for cooling, are another key component that requires regular inspection and cleaning. Traditionally this was done through diving, which is a potentially high-risk activity. CLP took the initiative to use Remotely Operated Vehicles (ROVs) to replace divers for the inspection and cleaning of cooling water facilities in power plants in Hong Kong, Mainland China and Australia. The adoption of ROVs has already eliminated about 30 manned diving hours each year across the Group, in addition to shortening inspection time and reducing asset downtime.

ROVs deploy advanced technology including LED strobe lighting, imaging, underwater GPS positioning, altimeter and echosounder. CLP has worked with consultants and the Hong Kong University of Science and Technology (HKUST) to fine-tune the configurations of ROVs for application at power plants by considering water current, visibility, marine growth and complexity of works. Risk assessments were also conducted to ensure the safe use of ROVs.

Plans are now in place to further reduce or eliminate various manned diving for inspection, cleaning, maintenance, repairs and equipment installation of CLP's marine works projects, floating solar projects, hydro plants and thermal plants by advancing ROV design changes and operational practice in the coming two years. This effectively minimises the deployment of manpower into highly hazardous underwater environments.



*The inspection of underwater cooling water culverts was traditionally done by professional divers.*

*ROVs are used for inspecting the cooling water inlet tower in the Mount Piper thermal plant in Australia.*

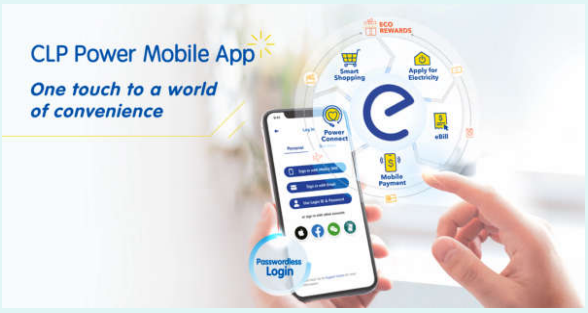
CASE STUDY

## Technology improves customer services behind the scenes

### Customer services are increasingly provided digitally. Application of Robotic Process Automation (RPA) helps CLP Power provide better customer experience and increased internal operational efficiency.

Customer service needs to take new forms. 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.

During the COVID-19 pandemic, as a series of social distancing restrictions were enacted, and many of CLP's customer service centres were not able to maintain the usual opening hours. A new mobile app was launched in April, providing customers with an end-to-end digital experience, covering services ranging 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.




Supporting these digital services is a number of automated robotic processes to enhance its operational efficiency. RPA technology utilises computer software robots to automate rule-based, repetitive and high transaction volume business processes with high efficiency, accuracy and consistency. CLP has been applying RPA over the last few years to enhance customer experience and satisfaction, as well as uplift the internal workforce efficiency.

One of the success cases is the streamlined digital payment deferral request process. CLP Power understands the difficulties and hardship customers have been going through under the economic downturn and pandemic, and have therefore established an electronic submission channel to help customers make payment deferral requests. Upon receiving the electronic requests, the RPA will automatically handle the subsequent data processing, customer identity verification, eligibility validation, requests for approval, and notifications to the customers upon completion. These automated processes are handled by RPA without human intervention, providing a more timely and accurate service, while also enhancing employee productivity.

Since the implementation of this automated process, the RPA has processed over 45,000 payment deferral requests and the associated manhour savings have been re-deployed to provide other value-added services to our customers.

## Advancing smart energy solutions

Technology could make the energy system smarter and more efficient and sustainable. CLP is leveraging on its core competence in the energy sector to provide energy as a service, as well as smarter infrastructure solutions.

Smart Energy Connect was launched in 2019 as a platform to accelerate the adoption of energy management solutions and digital energy innovations for businesses. In 2020, Smart Energy Connect introduced new solutions including Energy Connect Campus and Energy Connect Workspace. The Energy Connect Campus solution is focused on addressing both the energy saving and educational needs of schools where a range of IoT sensors may be deployed on a premise, and the solution and data can be used to support STEM education needs. The Energy Connect Workspace solution helps users save energy in large office environments by automating the usage of electrical equipment (e.g. lighting, cooling, appliances) based on environmental data provided by various sensors.

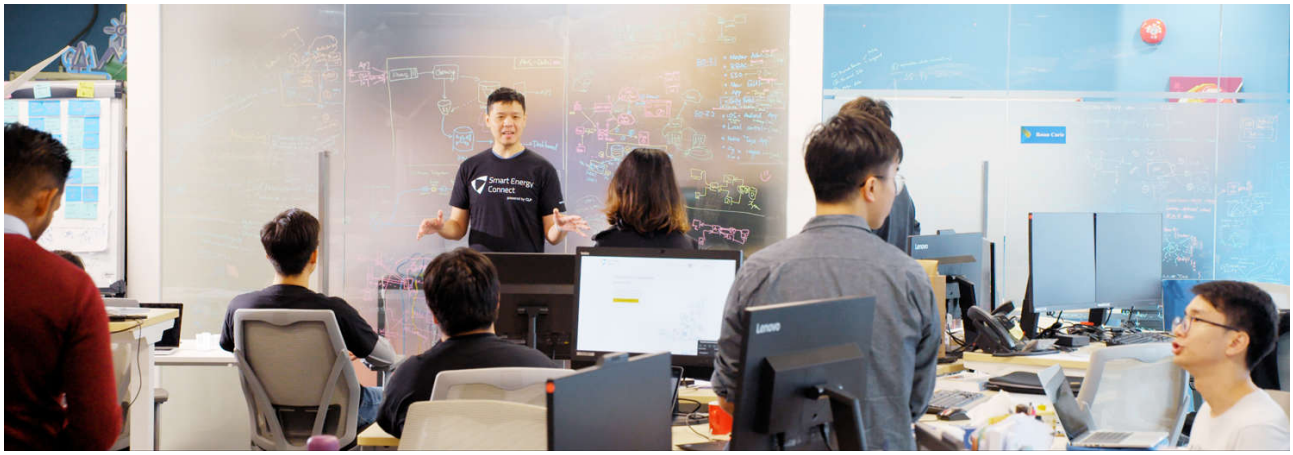
The Smart Energy Connect building AI and analytics platform was deployed in multiple sites in 2020 to help identify equipment faults, energy saving potentials, and to streamline the work of facility managers. The AI platform has helped CLP identify fault detections on a real-time basis including fan-coils, lighting, and chiller systems.

Smart Energy Connect also successfully deployed a chiller optimisation solution for a customer's existing buildings, which works by continuous adjustment of chiller settings based on data collected by environmental sensors and equipment conditions. The solution was deployed at a large retail complex in Hong Kong, improving energy efficiency and ensuring shoppers receive precisely the right level of air-conditioning. In addition, this was also deployed at one of CLP's largest offices in Hong Kong. In a matter of months, energy savings of 25% were generated and 45 hours per month of activity was saved, with a financial payback period of under one year.

Smart Energy Connect also continued to offer the existing CLP Carbon Credits platform, which was utilised in 2020 by two major players in the maritime industry, namely Wah Kwong Maritime Transport Holdings and Pacific Basin Shipping Limited to offset their activities in support of sustainability objectives. Read more here.

Read more on other demand-side management offerings from CLP ›

Smart Energy Connect commissioned a white paper on the trends in smart building solutions in Hong Kong and the Greater Bay Area. Find out more.




*Smart Energy Connect provides a comprehensive portfolio of integrated, high-end and low-cost solutions for customers.*

CASE STUDY

## Pursuing business opportunities in the Greater Bay Area

**The Guangdong-Hong Kong-Macao Greater Bay Area (GBA) comprises the two Special Administrative Regions of Hong Kong and Macao, and nine municipalities in the Guangdong Province. The GBA covers a total area of 56,000 km², and at end-2019 the total population was over 72 million with a GDP close to US$1,680 billion.**

Developing the GBA is accorded the status of key strategic development area in China's development blueprint. In view of China's commitment to achieve carbon neutrality by 2060, this presents opportunities for energy provision as well as smart energy services. CLP is actively pursuing opportunities from marketisation and smart energy development in Mainland China, with initial focus on district cooling, smart energy services, EV charging and data centres.

In November 2020, CLP invested in the new "CSG Energy Innovation Equity Investment Fund" set up by China Southern Power Grid (CSG). The fund focuses on new smart energy and innovation-related opportunities in the GBA. As the sole Hong Kong investor, CLP will collaborate with innovative energy technology developers and contribute its experience from Hong Kong.

In response to "The Outline Development Plan for the GBA" released by the Central Government in 2019, CLP has proactively formulated a strategy to pursue emerging opportunities in the area. In 2020, CLP China formed a new holding company based in the Qianhai free trade zone in Shenzhen. The new holding company is intended to facilitate financing for investments in smart energy and clean energy opportunities.

In close vicinity of the GBA, through TUS-CLP Smart Energy Technology Co. Ltd. (TUS-CLP), CLP's joint venture with TUS-Holdings which is affiliated to Tsinghua University, CLP participated in building and operating an incremental distribution network (IDN) at the Fangchenggang Hi-Tech Zone. The project started to supply electricity to the Hi-Tech Zone and will serve as a reference case for CLP's future expansion into similar opportunities in southern China as reform of the electricity sector continues.


*CLP Holdings joins China Southern Power Grid (CSG) in investing into the CSG Energy Innovation Equity Investment Fund, which targets innovative energy developments, new energy infrastructure, and smart energy in the Guangdong-Hong Kong-Macao Greater Bay Area.*

## Building an innovation ecosystem

CLP is systematically scanning, scouting and assessing new technologies for investment and co-development opportunities. The Company selectively invests in venture capital funds that provide key market insights and deal flow relevant to the energy sector.

Disruptive innovations often come from outside of a sector, sometimes blurring the lines between traditionally separated industries. To be better prepared for these disruptions, or to drive them, CLP understands that it needs to look beyond its own sector. By collaborating with, and disciplined investment in, promising entrepreneurs and start-ups, the Company is able to harness cutting-edge technology, agility and digital capabilities. Co-developing new products and services can then be scaled via CLP's presence in various geographies. For instance, more than 10 energy management solutions on the Smart Energy Connect platforms were discovered through CLP's participation in various innovator 'accelerator' programmes.

Following past successes, CLP continues to support different accelerator programmes:

- **Free Electrons** completed another successful year to deliver cutting-edge digital innovations to the global electricity industry, connecting CLP and other leading utilities with the world's best start-up companies. Amid the pandemic, the 10 participating utilities and 15 start-ups collaborated virtually in the year-long programme in the quest to make energy smarter and more sustainable. Vyntelligence, a London-based start-up company focused on AI and video analytics technologies, was announced the winner of Free Electrons 2020. The UK company is currently running exciting pilot projects with several participating utilities including CLP.
- **JUMPSTARTER** is the annual accelerator programme organised by Alibaba Entrepreneurs Fund, and is the world's largest online pitching competition with more than 2,000 applicants globally. CLP was among the judges for JUMPSTARTER 2020 , and start-up companies from the US, UK, Singapore, Mainland China and Hong Kong have been selected for the top-20 list in the year. The Company's support is continuing in 2021.
- **CYZone** supports the growth of technology innovators from Mainland China, by scouting for promising smart energy technologies and sustainable energy services. CLP formed a partnership with CYZone in 2020. Out of 120 participating companies, 11 were selected based on innovative technologies and business models covering areas including energy management, e-mobility, smart buildings and storage applications. CLP will continue its collaboration with these start-ups and potentially run smart energy pilot projects with them.

CLP's Investment & Ventures portfolio serves as a catalyst for growth through the pursuit of investments and partnerships that aim to enhance the Company's energy businesses, generate opportunities in growth markets, and deliver strategic value. In 2020, CLP exercised a prudent portfolio management approach, especially during a pandemic year, through in-depth analysis and proactive management to fully understand present difficulties and plans of its portfolio companies.

CLP has has invested HK$55 million in 2020, totalling over HK$300 million thus far, in creating a portfolio that consists of: venture capital (VC) funds based in innovation hubs such as Silicon Valley, Tel Aviv and the Greater Bay Area, a joint venture with *Other Sources Energy Group*, which has a proven investment track record in clean energy technologies in Israel, as well as direct equity investments in various companies.

In 2020, CLP invested in R&B Technology Holding Co. Ltd (R&B ). R&B is a company specialised in energy management solutions powered by artificial intelligence technologies. Its solutions help facility managers, businesses and building owners optimise energy consumption and manage the condition of their properties. The technologies allow CLP customers to identify potentially faulty and underperforming equipment, enabling improved management of workplace energy assets across multiple locations. Machine-learning algorithms help deliver better accuracy and insights as usage increases over time . The investment deepens the collaboration between CLP and R&B on innovative digital solutions for smart, sustainable buildings in Hong Kong, Mainland China and other Asia-Pacific markets.

## Building internal capacity

To become a Utility of the Future, CLP requires a culture of innovation. CLP has established a strong foundation to cultivate this culture and build internal capacity for innovation.

CLP's active process of "innovation" engagement is led by the Group Executive Committee and Innovation Governance Council (IGC). Both parties guide the strategic areas of focus for the Company as they relate to decarbonisation, digitalisation and electrification of the broader economy. The IGC is chaired by the Group CEO. The Council provides leadership, guidance and approval for activities, initiated across the Company, which aim to transform CLP into a "Utility of the Future".

Whilst innovation is facilitated by all parts of our business, in support of this, across the Company, 122 employees sit within dedicated innovation functions, spearheaded by the Group Innovation team. They work collaboratively with other functions to leverage broader CLP expertise. CLP's existing power expertise in the supply of energy is a core asset that is the foundation of many of its new services. In strategic growth areas, CLP takes a parallel approach to innovation. Internally, it selectively grows talent in its core competency areas of energy management, digitisation, and customer experience while in other areas it works with selected external partners, such as hardware technology providers.

Find out how CLP attract and retain tomorrow's workforce >

The CLP Research Institute (CLPRI) complements the work of the Group Innovation team, and focuses on technologies that are still under research and development and often years away from full commercialisation. CLPRI is tasked with strengthening CLP's knowledge on emerging trends in technology and the energy market in the medium to long term. The current focus is on 12 technological areas under six core themes covering generation, transmission and distribution, energy storage, energy retail, climate science, and resources and materials.

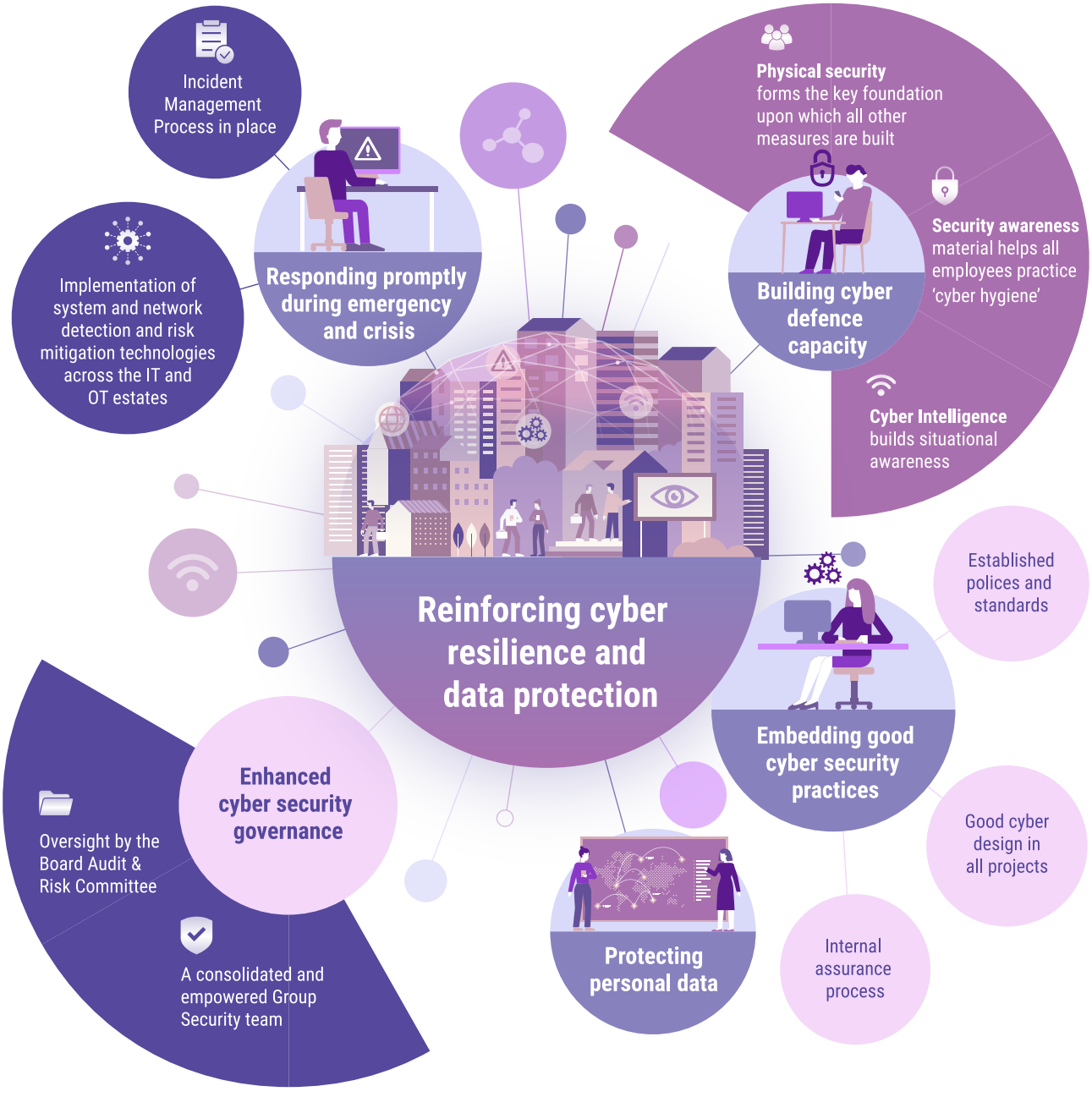
Every technology presents new opportunities but their relevance and potential for the power sector in each market varies. CLPRI tracks, researches and prioritises topics and trends of significance, and develops insights on potential implications to CLP's business. Most notably, the CLPRI Technology Classification Framework was developed to help the Company monitor the development of technologies that are still at the research and development stage. The framework assists the Group Innovation team's focus on finding market-ready technologies.

CLPRI is the Company's internal expert on researching emerging technologies. Insights and findings are shared across the Company through regular briefings to senior management, monthly newsletters to all staff, monthly expert seminars, and by maintaining a knowledge hub on the intranet. These insights are also shared externally through speaking engagements and relevant communications channels.

Read more on CLP's Innofinity platform.

MATERIAL TOPICS

# Reinforcing cyber resilience and data protection



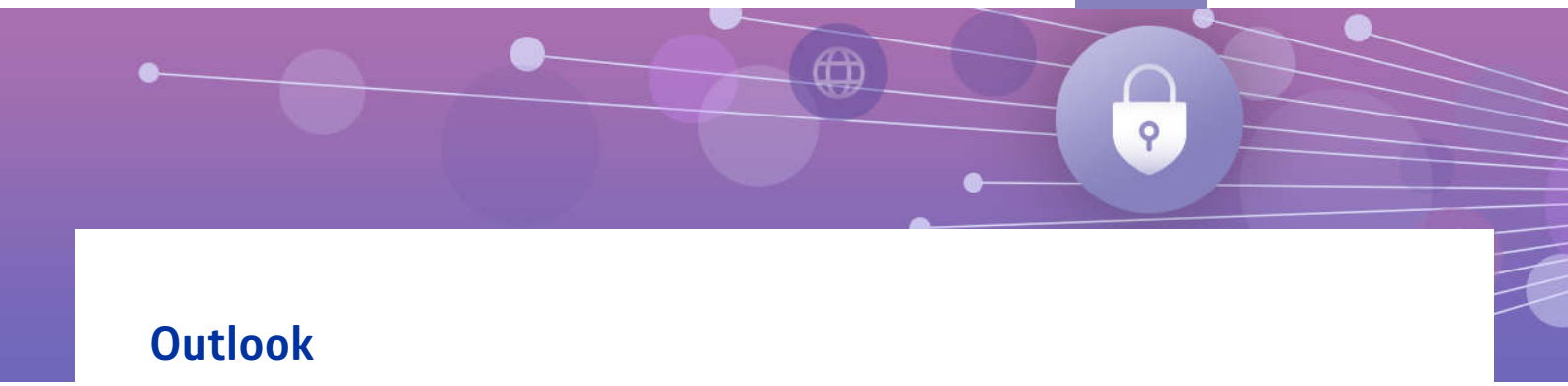
# Year in review

**The electric utility sector is particularly vulnerable to cyber threats and the wide adoption of digital technology raises additional concerns around data privacy. The COVID-19 pandemic further compounded such challenges with remote working becoming commonplace, creating additional channels for cyber attacks.**

As CLP transforms into a Utility of the Future, the Group previously recognised the critical need to reinforce its cyber resilience. It is focused on developing its security risk management strategy to deliver holistic, coordinated protection to the Group's operations, and to apply new leading techniques and technologies as appropriate. Integrating the management of cyber security and physical security into a single organisation, CLP Group Security further strengthened its capability, reach and responsiveness.

Appointments of senior global subject matter experts in the past year have strengthened CLP's cyber security planning and organisational capabilities, allowing the Group to implement an integrated, joined-up approach to counter rapidly evolving threats across its assets in the Asia-Pacific region.

This has been a record year for cyber attacks on industries across the globe and CLP monitors and investigates all suspicious incidents that are relevant to its operations. CLP has reinforced its preparations for any increase in cyber activity against its corporate infrastructure, and is poised to respond to any change in its threat landscape. In addition to the monitoring of live cyber threats, the Group continues to enhance its security assurance capabilities so that it can quickly identify any potential cyber risks to the Group's business and operational processes, thereby seeking to mitigate these risks in concert with the relevant business functions. Comprehensive security awareness and training programmes were delivered throughout the year, thus building a cyber risk-aware culture and encouraging staff to play their part in protecting the Group's physical and digital assets.



# Outlook

**Given its prominence as a provider of energy infrastructure and the technology-dependent nature of the electric utility sector, CLP's vulnerabilities to cyber risks are likely to remain. A structured approach to prevention, detection, reaction and enabling will help CLP continue to effectively manage and reduce cyber risks.**

A 2020 McKinsey report highlighted the nature of cyber risks faced by electric utility companies. The report points out that increasing numbers of cyber threat actors find utilities to be an attractive target. Cyber criminals have been known to try holding utility companies to ransom using a variety of cyber techniques to disrupt energy supply. Similarly, "Hacktivists" have also been using such attacks to raise the profile of the special causes they are advocating.

Since any disruption to a power supply can have widespread and high-profile consequences, the report finds that nation states will naturally be attracted to cyber attack capabilities that offer them deterrence or retaliatory options.

The security situation for the majority of electric utility companies is exacerbated as energy assets are geographically dispersed across many sites and maintaining cyber visibility across both information technology and operational technology systems can be very challenging. CLP's further expansion into distributed renewable energy will mean that this trend will only increase due to the broad footprint necessary to support these generation systems. The greater adoption of decentralised generation, feed-in-tariffs and other consumer-facing devices, especially those that are beyond the ownership and therefore control of the Company, has the potential to increase CLP's vulnerability and the overall security of its energy system if not managed appropriately.

In 2021, CLP Group Security will further implement effective controls and supporting policies to help all regions apply robust cyber defence measures. A major review of cyber intelligence and security awareness resources will help the team understand where continual improvements and enhancements can be made. Opportunities will also be taken to improve cyber-culture, employee behaviours and to further expand cyber intelligence assessment and reporting.

Several other influential cyber improvement projects have also been approved, including: real-time vulnerability scanning, automated threat hunting, deployment of a single CLP-wide zero-trust solution, further enhancement of the cyber detection toolset and initiatives related to compliance with the regulatory rules in EnergyAustralia. Further recruitment is also planned to enhance the specialist and deeply technical capabilities of the team.

# Highlights

CLP has enhanced its cyber security governance, built internal capacity in the area and improved its information protection.

## Enhancing cyber security governance

The Group Security team was established in 2020 to ensure cyber and physical security capabilities and efforts complement each other. The team reports to the Group Chief Operating Officer and provides regular reports to the Board's Audit and Risk Committee.

At CLP, one of the key responsibilities of the Board Audit & Risk Committee (ARC) is to seek assurance that adequate risk management is in place and followed, and that appropriate remedial action is taken where needed. Cyber security continues to be one of CLP's top-tier risks and is regularly assessed and reported to senior management through the risk management process.

In 2019, the ARC reviewed an analysis and road map for the enhancement of the Group's mitigation measures against potential threats. Closer collaboration between Group Internal Audit and the Group cyber security function was recommended. Following these recommendations, an integrated single Group Security function was established in early 2020, with the mission to bring together existing capabilities into one integrated team in order to ensure CLP secures its assets to a level commensurate with the level of cyber and physical risk.

Read more from the 2020 Audit & Risk Committee Report

Drawing on security professionals from across the Company and recruiting from wider industry, the Group Security team delivers a holistic and complementary security service to CLP by offering physical, personnel and cyber security capability and expertise. This team is led by the Senior Director – Group Security who reports directly to the Group Chief Operating Officer.

Read more on CLP's management approach to security

*The integration of cyber security and defence into daily operations is central to operational resilience.*

## Building cyber defence capacity across the organisation

Every employee and associate of the Group is an important cyber defence asset and therefore needs to be equipped with relevant knowledge and vigilance.

The fundamental – often highly effective – form of security is physical security, which maintains the integrity of sensitive locations such as data centres, control rooms or transmission and distribution sites. Safeguarding physical assets and company personnel embraces a range of activities including the provision of professional physical and personnel security advice for staff business travel, for CLP's operating sites (in particular its critical assets), as well as auditing all potential projects and acquisitions from a security and social impact perspective. It also includes maintaining, delivering and improving the Group's crisis management capability.

Learn more about social due diligence for potential projects and acquisitions ›

Find out more about CLP's emergency and crisis management ›

With the COVID-19 pandemic generating a drive towards large-scale remote working, the resulting technological changes have presented criminality and nation state actors with an unprecedented opportunity to exploit the situation. With so many communication, business and personal interactions moving online, cyber attacks have increased to levels previously unseen. They have involved: malware, where malicious software is secretly installed in systems; data theft, which is then ransomed; or denial of service.

No industry sector has been immune and there is every indication that this trend will continue to surge upwards, with potentially huge financial rewards for cyber criminals and further consequential costs to businesses as they try to operate in spite of attack, repair reputational damage, pay regulatory fines and upgrade their infrastructure and procedures, all while still facing the challenges of COVID-19.

CLP recognises the critical need to continually adapt and enhance its security posture to defend its operations against a complex and dynamic threat spectrum. Insight into the capability and intent of cyber attackers will help CLP develop situational awareness and give direction on what measures need to be taken to mitigate associated risks. Moreover, since prevention is better – and more economical – than cure, bringing focus to cyber security awareness, training and education will help prepare employees practise good "cyber hygiene".

The Group has been developing its cyber intelligence and security awareness capability throughout the year. There has been an enhanced understanding of threat actors and their techniques, ensuring that the business gets the option to prioritise software patching or introduce other mitigation measures in a timely and effective manner. Security awareness activities at the employee level have included: simulated phishing emails, internal broadcast campaigns, briefings, videos and a popular cyber gamified competition.

## Responding promptly during emergency and crisis

Attacks on information or operation systems or CLP's physical assets could have dire consequences. It is essential to detect any incursion in real time, every time, and remediate the incident before harm results.

The Group Crisis Management Plan is in place to help respond to emergencies and crises that may cause business disruptions. The plan is continually reviewed and enhanced to ensure it is in line with operational changes or the broader operating context.

Read more on CLP's emergency and crisis management approach ›

Cyber security incidents are unique in that the attack occurs in a virtual space and may not cause immediate disruption, as in the case of data leaks, making them difficult to detect or trace. CLP continually monitors its IT systems and networks and seeks out threats to its Operational Technology (OT), which controls plant machinery and environmental systems. If suspicious activity is detected anywhere in the vicinity of approaching the IT or OT network environments, immediate actions are taken to investigate it and, if necessary, isolate the threat and lead the recovery action. State of the art detection and remediation systems have been employed, supplemented by constant research on threat types to support both IT and OT professionals to secure CLP systems.

As the first line of defence, when an incident arises the Incident Management Process (featured below), found in the Group Crisis Management Plan, is followed.


## Embedding cyber security practices

With technology changing at a rapid pace and cyber threats constantly evolving, setting a robust, future-proofed cyber defence strategy is essential.

Setting the standard and having relevant and consistent policies is necessary to provide CLP project managers with a cyber reference point. Building from a strong established foundation, the Group is consolidating the associated policies and standards and has established a professional security architecture to support all corporate regions and entities.

Since it is more effective (and considerably cheaper) to incorporate security into the design of new projects than to add such measures as an afterthought, a dedicated team was set up to provide internal cyber consultancy services to guide departments from across the Group on how to adopt good cyber practice for their systems. For instance, as cloud-based applications are becoming more common, cloud security principles have been established to ensure that externally hosted services meet the security standards that CLP demands. The cloud architecture process provides a simple and clear checklist to help CLP's service providers to understand the cyber security expectations of the Company.

With the policies and systems in place, an independent team within the Group Security Department helps verify that these measures are followed consistently and that associated cyber security risks are suitably mitigated. The department's evidence-based reporting provides an important feedback loop that enables the Company to pursue continuous improvement. In addition, the team helps project managers and business leaders understand cyber security risks in the context of CLP's business, and offers guidance on risk mitigation strategies.

Throughout 2020, the analysis of IT and OT risks has continued to improve, and the company now has a cross-regional picture of the cyber health of its critical and unique assets.

## Protecting personal data

The increased use of smart meter and digital devices necessitates heightened data protection. Any data loss would jeopardise the trust customers and other key stakeholders place in the Company.

Electric utilities have access to a large amount of customer information, such as billing and itemised usage data. In addition to customer information, the term "personal data" includes information about: employees, both current and former employees and prospective job applicants; contractors and service providers; as well as business partners, shareholders, visitors and members of the public as they interact with the Company.

The CLP Privacy Principles set out the Company's commitment and approach to protecting personal data. The accompanying CLP Personal Data Protection Compliance Manual provides guidance to business units with operations in Hong Kong on what these principles mean in practice. Both documents are updated periodically to ensure they meet the latest regulatory requirements and continue to reflect the expectations of CLP stakeholders.

Read the CLP Privacy Principles

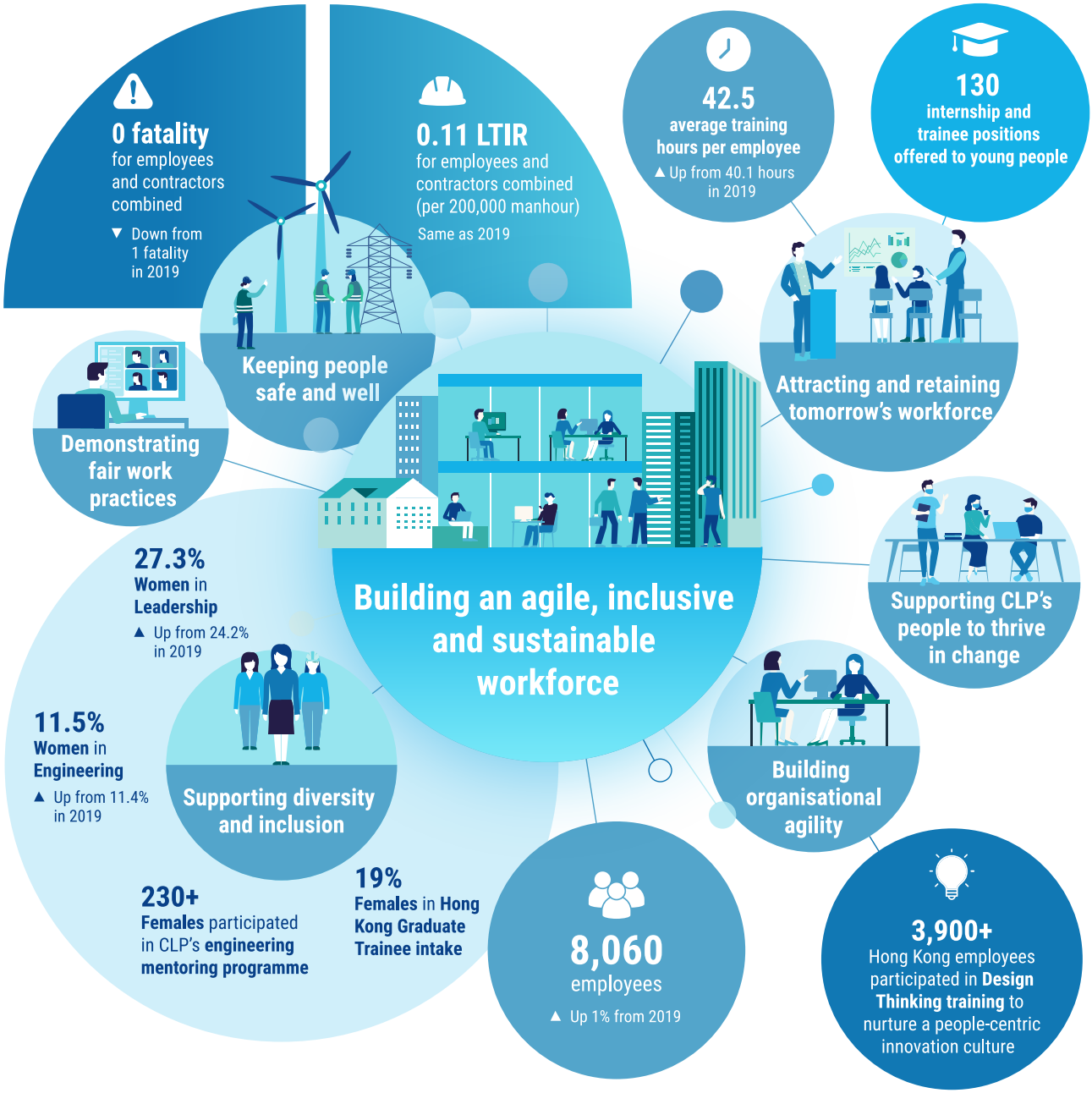
Whilst the retail business of CLP Power Hong Kong had no customer data loss cases reported in 2020, the Company did become aware that a party was fraudulently using CLP's name (among others) in email correspondence with some of its service providers. Fortunately, this was quickly detected, and the incident was reported to the Cyber Security Team in accordance with the established cyber security incident reporting process. In line with CLP's commitment to protecting personal data, the Company quickly informed its service providers, other companies also targeted by the scam, as well as the general public in case of any further attempts. The notice to the public also provided advice on how people can verify any correspondence from CLP if they are uncertain as to its authenticity.

EnergyAustralia reported to the Office of the Australian Information Commissioner (OAIC) nine privacy breaches in relation to customer personal information during the 2020 calendar year, in accordance with its mandatory reporting obligations under the Australian *Privacy Act 1988*. The breaches did not result in any penalty or sanction. EnergyAustralia has investigated the causes of the breaches and identified additional controls to prevent recurrence. This includes additional password protections for customers before accessing accounts and account information.

A key focus to further reinforce rules to protect customer information was on the prevention of unauthorised disclosures to malicious attackers or impersonators. Specific awareness activities, including communications, quality assurance assessment, coaching and additional training for front line staff, were carried out. Company-wide communications, employee training and briefing sessions with leadership were also conducted to ensure all staff understand current privacy and data management obligations. A Data Breach Response Plan is also in place, which establishes a Data Breach Response Team to ensure the business has the capability and procedures in place to respond swiftly to such incidents.

MATERIAL TOPICS

# Building an agile, inclusive and sustainable workforce



# Year in review

**Last year, COVID-19 brought unique workforce and work environment challenges to CLP's operations. CLP's response safeguarded people's wellbeing, enabling continued progress in building an agile, inclusive and sustainable workforce to address global energy transition.**

In 2020, the impacts of COVID-19 were felt across the world. In response to the COVID-19 outbreak, all of CLP's businesses rapidly introduced a comprehensive range of measures to safeguard the wellbeing of employees and contractors to ensure continued safe and reliable operations and help impacted customers. CLP has not needed to stand down any employees due to the pandemic.

With health and safety as the foundation, this year, CLP continued to focus on addressing the significant opportunities and challenges presented by digitalisation and decarbonisation of the energy sector, together with intensifying demographic and labour supply issues and social and political uncertainties.

New and refreshed programmes at different career levels were introduced in Hong Kong to accelerate development of pipelines of future general managers and engineering leaders in preparation for energy transition and digitalisation, and to address future skills shortages.

Employment branding was strengthened to enhance CLP's attractiveness to younger and non-traditional talent. CLP continued to resource innovation and energy-transition-related activities. Recognising the challenges faced by students graduating during the COVID-19 outbreak, CLP more than doubled the work opportunities for university and vocational college graduates in Hong Kong.

Despite COVID-19 challenges, CLP maintained its efforts to increase gender diversity. Female representation at all levels was maintained or increased, and CLP set an aspirational target to achieve gender balance over time in its Hong Kong Graduate Trainee intake in order to address significant under-representation of women in operational professional and leadership roles.

The complexities of energy transition, digital evolution and increasing social and political uncertainties and expectations in CLP's markets drive the need for greater organisational agility. Implementation of action plans to upskill and empower employees to respond rapidly to changing customer needs, provide work environments that facilitate collaboration, and equip employees to leverage new technologies gathered pace. COVID-19 accelerated digital workplace transformation and implementation of tools and policies supporting remote and flexible working.

An engaged workforce is critical for CLP to deliver value. In 2020, CLP conducted employee engagement surveys across its Hong Kong, Mainland China and EnergyAustralia workforces. Pleasingly, response rates were high and employee engagement scores improved. While there is more to do to develop CLP's culture to support and enable transformation into a Utility of the Future, the improvement over the past three years is proof that the actions taken are making a difference.

As a company working across hundreds of sites in the Asia-Pacific region, ensuring that everyone who works for CLP is safe, secure, treated fairly and with respect, is at the core of how CLP works, and underpins long-term success. In 2020, *CLP's Value Framework* was refreshed, expressing respect for all internationally recognised human rights relevant to CLP's operations as a core belief, and embedding human rights in the promises made to stakeholders about how CLP upholds its values. CLP became a signatory to the World Business Council for Sustainable Development's (WBCSD) *Call to Action for Business Leadership on Human Rights*. Due diligence continued in preparation for progressively embedding labour standards into procurement requirements.

# Outlook

**Industry, regional, social and demographic drivers are bringing unprecedented change to CLP and are redefining the people agenda. There is no single solution to meeting these challenges – it requires a coordinated and integrated range of strategic initiatives to build an agile, inclusive and sustainable workforce.**

While conventional energy needs will reduce in significance, the resourcing needs of low-carbon energy, new energy solutions businesses and digitised operating models will increase, together with addressing labour market challenges of an ageing workforce and increased competition for science, technology, engineering and mathematics (STEM)-qualified people.

In 2021, millennials will make up around 44% of CLP's employees; this is expected to increase to 67% by the end of 2025. This digital-native generation of employees brings different expectations of work and how CLP should engage and support them. In this context, CLP must find ways to attract and retain a more gender and culturally diverse, multi-generational workforce and share talent effectively across the Group portfolio of businesses. Facilitating youth development, strengthening organisation capability to support CLP's new businesses in Hong Kong and the Greater Bay Area, equipping leaders to lead transformation under increasingly complex social and political influences, and accelerating gender diversity progress are key priorities in 2021.

Energy transition, digital evolution and increasing social and political uncertainties and expectations in CLP's markets are driving the need for greater organisational agility: the ability to adapt and succeed in a rapidly changing environment. Early steps in CLP's path to agility are upskilling and empowering employees to respond rapidly to changing customer needs and drive breakthrough improvements, providing physical and virtual work environments that facilitate collaboration, and equipping employees to leverage new technologies. In 2021, cultural change efforts to encourage idea generation, experimentation and ownership will accelerate, along with helping employees adapt to structure and process changes over time.

As the energy industry evolves, CLP is committed to supporting its people to thrive in change. This means helping them embrace change, strengthening their wellbeing and resilience and developing more inclusive workplaces. In 2020, CLP invested in tools and resources to support employees' physical and mental wellbeing and also enhanced flexibility policies as part of its COVID-19 response. This focus will continue in 2021 as employees return to the workplace.

CLP is mindful that it operates in a social context where there is increasing concern over inclusive growth, and the preservation of basic rights and freedoms in the workplace along with equality of income and opportunity. Consequently, employees and other stakeholders expect CLP to demonstrate values-based management in dealing with potentially divisive social issues. The Group is focused on providing competitive, fair and sustainable benefits and support to employees in need. Work to operationalise CLP's commitments to respecting internationally recognised human rights through the application of Group labour standards continues.

# Highlights

A Utility of the Future needs a Workforce of the Future. This section discusses CLP's strategies and progress in safeguarding the health and safety of employees and developing the organisation capability to enable business transformation and growth.

## Keeping people safe and well

The Group's focus on the health, safety and wellbeing of its people continued to increase over 2020, primarily guided by progressing its Health, Safety and Environment Improvement Strategy and associated plans.

Starting in January 2020, country- and site-specific pandemic plans were enacted encompassing special access controls to ensure business continuity and special work arrangements, including work-from-home, flexible working hours and reduction of non-essential works. CLP provided necessary protective equipment to the workforce, increased deep cleaning and temperature testing at work sites, offered physical and mental health and wellbeing support and assistance to all employees, and also provided special leave for purposes of self-isolation, care and family reunion. Proactive communications with employees and their families continue.

The Company is pleased to advise that 2020 was the first year since 2015 that was fatality free for both employees and contractors. The teams have engaged widely with employees and contractors on innovative ways to promote and accelerate health and safety priorities, with a significant focus on high consequence, low probability events. Global history in high risk industries shows that as time passes after a catastrophic event, improvements in driving health and safety can dissipate. A chronic sense of unease is maintained in these high risk workplaces, knowing that complacency can creep into any work. Consequently, CLP is continuously looking for ways to energise and engage its teams on health and safety.

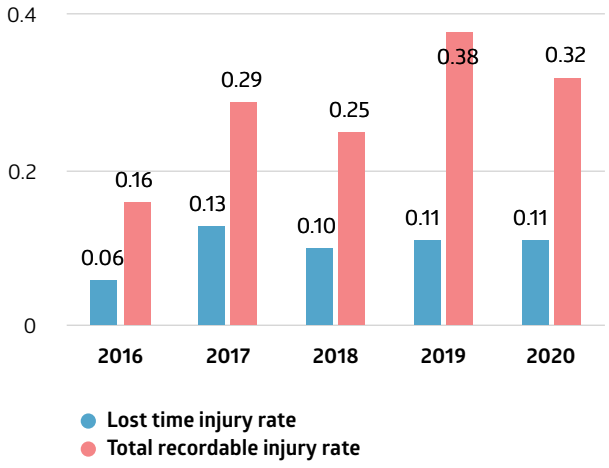
There is an observable improvement in several key measures when comparing the Group's 2020 performance against 2019. The improving 'lagging' measures include: fatalities; overall lost-time injuries (LTI's); restricted work injuries (RWI's); medical treatment injuries (MTI's); and first aid injuries (FAI's). The most significant difference from 2019 to 2020 has been the reduction in injuries on major projects, noting there has also been a reduction in major project activity. This will be a focus as further major project activity ramps up in 2021.

Whilst CLP acknowledges what the Group has achieved, it is not nearly enough. The Company has more work to do to reduce the potential for serious harm within its work.

Read more on the HSE Improvement Plan progress >

### Lost time injury rate and total recordable injury rate of CLP Group (employees and contractors combined)[1]

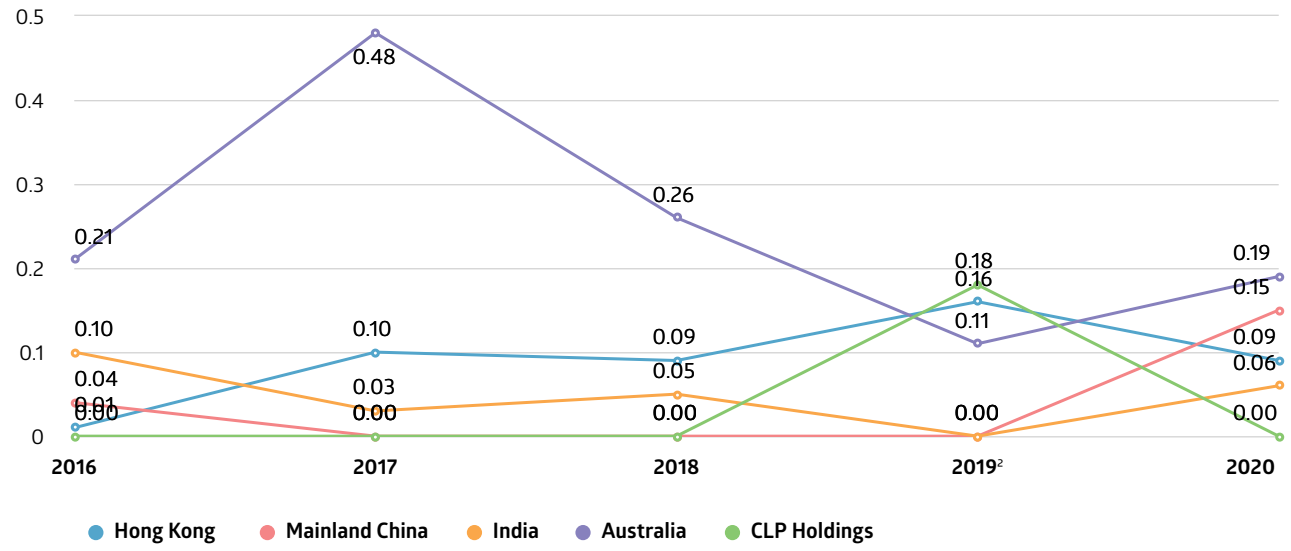
The total recordable injury rate is one of the safety measures that have improved in 2020.




1 All rates are normalised to 200,000 worked hours, which approximately equals to the number of hours worked by 100 people in one year.

## Lost time injury rate by region (employees and contractors combined)[1]

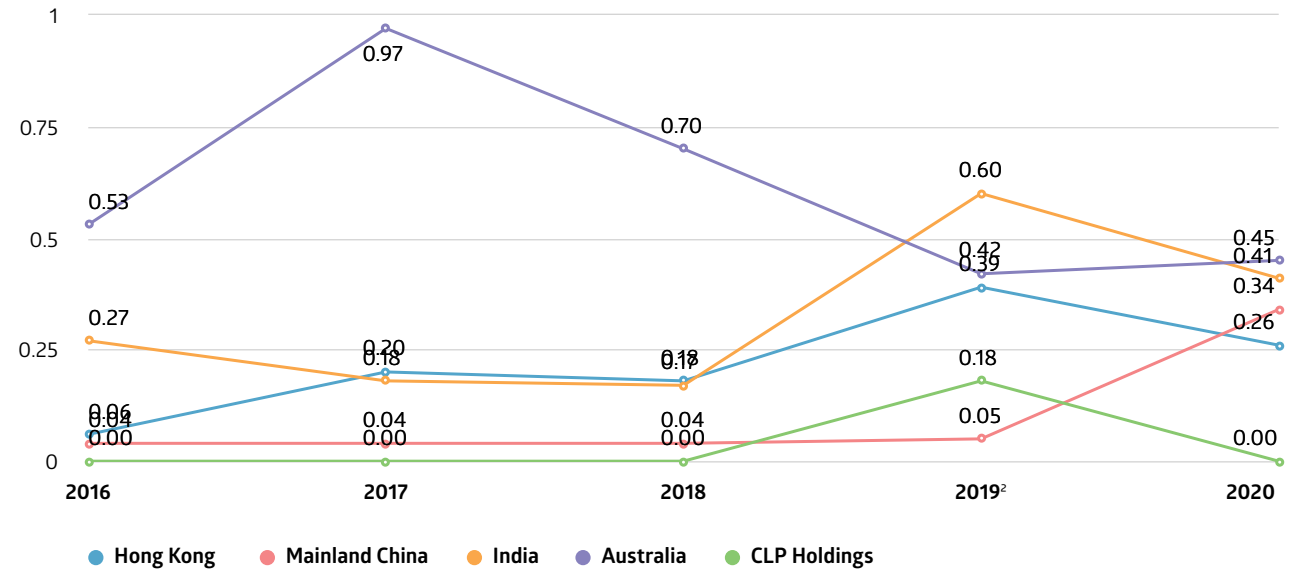
The increased LTIR in 2019 was largely due to the performance in Hong Kong. Construction of the additional gas-fired generation unit exposes the Company to a new risk profile.




1 All rates are normalised to 200,000 worked hours, which approximately equals to the number of hours worked by 100 people in one year.
2 Starting from 2019, CLPe Solutions is reported under CLP Holdings to align with a change in internal reporting. Before that, it was reported under Hong Kong.

## Total recordable injury rate by region (employees and contractors combined)[1]

The decreased TRIR in Hong Kong and India can predominantly be attributed to a reduction in overall manhours on major projects and overall increased frequency of reporting.




1 All rates are normalised to 200,000 worked hours, which approximately equals to the number of hours worked by 100 people in one year.
2 Starting from 2019, CLPe Solutions is reported under CLP Holdings to align with a change in internal reporting. Before that, it was reported under Hong Kong.

CASE STUDY

## Recognition of CLP China's support to employees during COVID-19

**In 2020, the impacts of COVID-19 were felt across the world. CLP China introduced a comprehensive range of measures to safeguard the wellbeing of employees and families and ensure continued safe and reliable operations.**

The outbreak of COVID-19 first impacted CLP China's operations early in 2020. The response to COVID-19 required many employees to remain on site in remote locations for extended periods. To encourage and support employees to stay healthy and well, CLP China management delivered supportive messages via letters and videos, visited local sites when possible, distributed anti-epidemic kits, and organised dialogue between management and employees on wellbeing matters.

CLP China launched its *Work-Life Coaching Programme* in May 2020, providing training and resources on physical, mental, social and financial health issues for employees, and additional resources for managers on leadership and change management. The programme also offers counselling and advisory services to employees and their immediate families on work-related and personal challenges. Very positive feedback has been received since its launch, with employees sharing that access to timely and professional counselling support helped them resolve their issues during challenging times. CLP China was pleased to receive external recognition of its efforts to promote sustainable development of enterprises and health management of employees under normalisation of epidemic prevention and control, winning the "Health Management Innovation Case" national award at the 2020 People's Workplace Health Management Forum.


*Manager – Human Resources (China) Pamela Wang receives the "Health Management Innovation Case" national award as CLP's representative.*

## Managing the workforce responsibly

CLP is openly addressing the fundamental and challenging issue of what constitutes the company's real workforce. Increasing transparency over the broader workforce, including flexible and contingent workers, ensures CLP is taking a responsible approach to managing costs and risks.

At the end of 2020, CLP had 8,060 full-time and part-time employees, compared with 7,960 in 2019. A total of 3,910 employees were engaged in the Hong Kong regulated electricity business, 417 in Hong Kong non-regulated electricity-related businesses, 609 in Mainland China, and 2,762 by the businesses in India, Southeast Asia, Taiwan and Australia, with the remaining 362 employed by CLP Holdings in Hong Kong. Total remuneration for the year ended 31 December 2020 was HK$6,368 million compared with HK $6,054 million in 2019, including retirement benefit costs of HK$606 million compared with HK$593 million in 2019.

CLP engaged over 17,000 employees and contractors on a full-time equivalent basis at the end of 2020. Utilisation of contractors was maintained at similar levels reflecting the ongoing work in major construction projects and major planned outages in Australia, while the lower contractor usage in Hong Kong compared to 2019 was due to the completion and commissioning of the first new generation unit (Unit D1) in mid-2020. Tracking of temporary manpower supply resources was introduced in Hong Kong to strengthen governance and improve utilisation. Over 30 key contractors participated in a forum organised by CLP to share best practices and advocate for good employment practices across the sector.

### Employees and contractors by region

| | Employees | | | Contractors | | Total | |
|---|---|---|---|---|---|---|---|
| | Average FTE (a) | Permanent % | Fixed-term contract % | Labour supply (b) | Service contractor (c) | Total workforce (a)+(b)+(c) | Contractors in total workforce |
| Hong Kong | 4,643.5 | 85% | 15% | 1,261.8 | 3,688.1 | 9,593.4 | 52% |
| Mainland China | 606.8 | 75% | 25% | 13.8 | 347.4 | 968.0 | 37% |
| India | 455.5 | 98% | 2% | 65.2 | 2,404.9 | 2,925.6 | 84% |
| Australia | 2,207.0 | 94% | 6% | 83.1 | 1,843.4 | 4,133.5 | 47% |
| **Group total** | **7,912.8** | **88%** | **12%** | **1,423.9** | **8,283.8** | **17,620.5** | **55%** |

## Attracting and retaining tomorrow's workforce

Retaining the wealth of knowledge amongst CLP's employees, together with transferring skills to a new generation of managers and team members is essential to CLP's long-term success, as is developing skills for a low-carbon, digitally-enabled future.

Investing in building pipelines of skilled engineers and technicians in preparation for energy transition and to address future skills shortages continues to be a key priority.

A suite of new and refreshed development programmes targeted at Graduate Trainee and early- to mid-career levels launched in Hong Kong in 2020, focused on building future leadership capabilities and technical competencies and accelerating the readiness of young engineers to take up leadership positions. These programmes aim to progressively develop technical, innovation, project, commercial and change leadership skills at different career stages and to increase exposure to different cultures through experiences in CLP's operations in Mainland China and further afield.

32 Graduate Trainees and 27 Leaders of the Future management trainees commenced programmes in 2020. In addition, 16 high-potential engineers successfully concluded their participation in a cross-business engineering development programme. CLP continued to strengthen resourcing of innovation, major projects, business development and energy transition-related activities and projects, recruiting 32 senior hires in 2020 into critical roles. The Group's careers website was relaunched to enhance attractiveness to candidates interested in the new careers and opportunities that energy transition presents.

CLP's Executive Development Programme, targeted at enterprise leaders, was refreshed to strengthen development of the skills required to lead transformation under complex social and political influences. The programme combines leadership, energy transition and business simulation elements, and is conducted in partnership with the International Institute for Management Development (IMD), École Polytechnique Fédérale de Lausanne (EPFL), and Tilt Global.

In order to be ready for the opportunities provided by the Greater Bay Area development, CLP continued to provide cross-cultural training opportunities for staff in 2020 through virtual delivery of programmes focused on national affairs, business leadership and management, offered by institutions including the Tsinghua School of Economics and Management and Ivey Business School. Over 70 professional and managerial staff participated in programmes this year. Staff based in Hong Kong and Mainland China continue to participate in cross-border secondment opportunities.

Recognising the challenges faced by students graduating during the COVID-19 outbreak, 59 graduate interns joined CLP in Hong Kong to gain work experience, half of which were in environmental fields. In total, CLP more than doubled the work opportunities for university and vocational college graduates in Hong Kong for 2020, compared to 2019.

In 2020, CLP's employees received on average 42.5 hours of internal and external training and development, compared with 40.1 hours in 2019. This reflected a strong focus on delivering critical health and safety, operational and compliance training together with pivoting to virtual delivery wherever possible.

### Employee training

| | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Average training hours per employee (hours)[1] | **42.5** | 40.1 | 46.1 | 46.9 | 49.2 |

1 Numbers from 2019 onwards include full-time and part-time employees. Numbers in the previous years include full-time employees only.

CASE STUDY

## Recognition of CLP Power's efforts to nurture engineering talent

**CLP Power places great emphasis on people development and skills transfer, and is committed to nurturing talent to meet the needs of the energy industry in Hong Kong.**

*Simulated training with enhanced practical experience is made available to trainees.*

Evolving from CLP's first corporate training school established more than half a century ago, the CLP Power Learning Institute (CLPPLI) was established in Hong Kong with a mandate to develop engineering talent at all levels, from skilled technicians to experienced qualified engineers. CLPPLI's Technician Trainee Programme supports young people to develop technical skills in construction, operation and maintenance of the power generation and supply network, as well as whole-person development to equip them to succeed in a rapidly changing industry. Technologies such as virtual, augmented and mixed reality are applied to enhance practical skills training, together with job rotation.

In 2020, CLPPLI's efforts were recognised externally by the Hong Kong Management Association, including awards for "Best in Career Development" and "Excellence in Technician Trainee Career Development". Two of the Institute's trainers also won Outstanding New Trainer Awards. In addition, two employees won prestigious apprenticeship awards: the Sir Edward Youde Memorial Outstanding Apprentice Award, and the Vocational Training Council's Outstanding Apprentice Award. One of the awardees is CLP Power's first female apprentice.

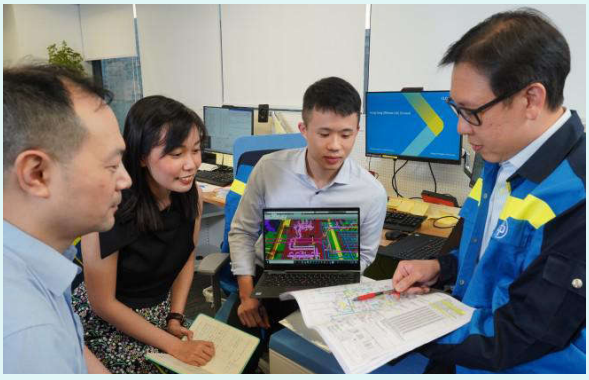
CASE STUDY

## Accelerating the development of future leaders

**CLP's talent development programmes accelerate the readiness of future leaders to support business transformation and growth.**

CLP's talent development programmes aim to provide leaders with the future-focused skills and experiences required to address future strategic challenges and support CLP to become the Utility of the Future. Participants develop technical, innovation, project management, commercial and change leadership skills through stretch roles, coaching and mentoring support, structured training and visits to CLP's operations in Mainland China and further afield.

CLP encourages mobility of high potential staff between Business Units and Groups to gain experience in adapting to different cultures and exposure to different technologies, business models and regulatory contexts. Talent programme participants have gained experience in Smart Grid, Innovation, Procurement, Internal Audit, Renewables projects in India and Mainland China and mega construction projects.



*Jane Huynh, talent programme participant and Process Engineer in CLP's Hong Kong Offshore Liquified Natural Gas (LNG) Terminal project.*

## Supporting diversity and inclusion

A diverse workforce and an inclusive culture support high performance and CLP's ability to operate effectively in the many communities in which it operates.

CLP has set several Group-wide gender diversity targets which support the United Nations Sustainable Development Goals (SDG), particularly the commitment to SDG 8 – Decent Work & Economic Growth. Female representation at all levels was maintained or increased in 2020. CLP's Women in Leadership percentage increased to 27.3%, while Women in Engineering increased to 11.5%. This progress reflects the Group's commitment and efforts in attracting and developing female employees, and the focus on creating a diverse and inclusive workplace.

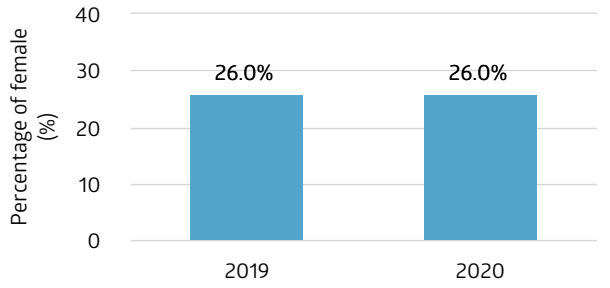
Increasing female representation in Graduate Trainee Programmes, ensuring that women are well-represented in development programmes, and retaining experienced female staff are key priorities.

In 2020, CLP set an aspirational target to achieve gender balance over time in its Hong Kong Graduate Trainee intake (19% female in 2020) in order to address significant under-representation of women in operational professional and leadership roles. Efforts to develop women continued across the Group in 2020, including the mentoring programme for more than 40 female engineering students in Hong Kong to provide exposure to CLP's operations and help them become more work-ready, the annual Female Engineer Networking event with 26 female engineers participating from across the Group, and establishing a local Diversity and Inclusion Council in India. To date, seven female engineers have progressed from mentoring into CLP's Graduate Trainee Programme.

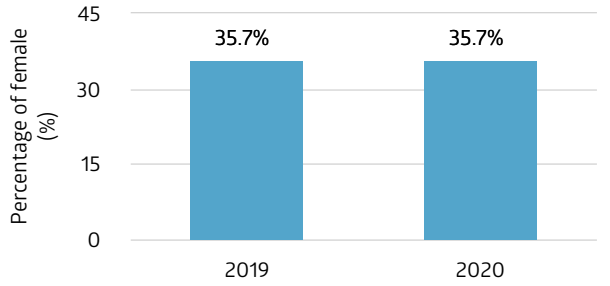
Inclusion is an essential ingredient that unlocks progress. Recognising this, EnergyAustralia established Gender Affirmation guidelines and new LGBTIQ+ community groups, receiving recognition for its efforts at the 2020 Australian Workplace Equality Index Awards. EnergyAustralia's comprehensive gender affirmation guide contains information about gender, gender affirmation, and available support and guidance for leaders and co-workers who may be supporting employees undergoing transition.

Following certification of CLP's Hong Kong operations as a Fair Wage Employer in 2018, follow-up assessment was conducted in 2020 and confirmed extended recognition for another year.

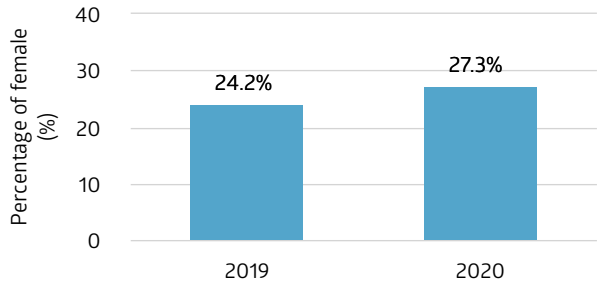
### Total employees



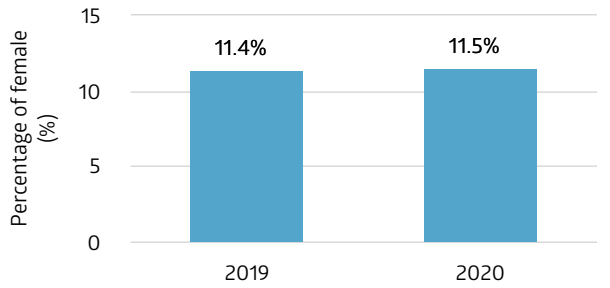

### Group Executive Committee (GEC)




### Women in Leadership




### Women in Engineering



CASE STUDY

## Encouraging female engineers through mentoring

*The mentors and mentees have attended a retrospective workshop to work on a team building task together, review their mentoring progress and plan the way forward.*

### CLP mentors female engineering students to strengthen its talent pipelines and support development of the engineering profession in Hong Kong.

Since 2015, CLP's Mentoring Programme has provided opportunities for female engineering students from Hong Kong universities to better understand the engineering profession, gain exposure to the energy industry and promote CLP as a preferred employer for female engineers. Over 230 women have participated in the programme to date as mentees and mentors. Over 80% of the mentees expressed increased interest in an engineering career post programme.

Mentees from the 2017/18 and 2018/19 programmes, Rosa Tam and Debbie Lui, have both joined CLP as part of the 2020 Graduate Trainee intake after graduation from university. Through the mentoring programme, Rosa and Debbie broadened their horizons through sharing sessions and visits to CLP assets. Currently, they are undertaking various job rotations in different business units to build their technical knowledge and leadership competence. Rosa shared, "CLP's Learning Institute provides training for graduates on technical and communication skills, and provides opportunities to put knowledge into practice. They not only care about my knowledge, but also about my learning and progress. I can strive for excellence and make great improvements at CLP".

## Building organisational agility

The complexities of the energy transition, digital evolution and increasing social and political uncertainties and expectations in CLP's markets drive the need for greater organisational agility – the ability to adapt and succeed in a rapidly changing environment.

In response to these developments and trends, CLP is developing and implementing action plans to upskill and empower employees to respond rapidly to changing customer needs and drive breakthrough improvements, provide physical and virtual work environments that facilitate collaboration, and equip employees to leverage new technologies. Looking ahead, cultural change efforts to encourage idea generation, experimentation and ownership will accelerate, along with helping employees adapt to structure and process changes.

More than 3,900 Hong Kong employees have now participated in Design Thinking training since launch in early 2019. The programme nurtures a people-centric innovation culture in CLP Power, providing practical problem-solving frameworks for product and service development with users' needs in mind. To date, employees have applied Design Thinking in projects spanning across digital transformation, productivity, safety and customer service.

Across the Group, more agile team structures and working environments were established in Hong Kong and Australia to encourage collaboration and speed up decision-making. COVID-19 accelerated ongoing digital transformation and adoption of new ways of working to facilitate collaboration, with implementation of tools and policies supporting remote and flexible working.

Find out more how technology enabled work-from-home arrangements >

In 2020, over 30 employees gained professional accreditation in data analytics skills, building their capability to leverage technology and data in new and insightful ways to enhance the customer experience and operation excellence. During the year, data analytics training was extended with over 300 employees completing courses ranging from awareness to advanced analytics skills.

CASE STUDY

### Defining the Future of Flexibility at EnergyAustralia

**Workplace flexibility at CLP is a business issue, helping CLP to attract and retain a more diverse workforce and complementing workplace digitisation initiatives.**

In 2020, EnergyAustralia trialled a new workplace flexibility approach called "Energise", providing employees with more choice on leave including choosing Public Holidays, offering two "Recharge Days" and removing the mandatory office closures.

Following the success of the trial, EnergyAustralia identified an opportunity to re-design work structures, providing teams with flexibility in how, when and where they work. "Energise" was re-launched in November, offering team-based protocols to flexible working. Under this approach, leaders are empowered to make decisions, balancing operational needs with the individual needs of their team members. Teams will develop their own "Energise" plans aligned to the guiding principles, considering flexible work solutions that work for customers and other stakeholders.

*EnergyAustralia's "Energise" initiative empowers teams to develop effective workplace flexiblity plans.*

## Supporting people to thrive in change

As the energy industry evolves, CLP is committed to supporting all its people to thrive in change. In CLP, this means engaging and helping people to embrace change, strengthening their wellbeing and resilience, and developing more inclusive workplaces.

In 2020, CLP conducted employee engagement surveys across its Hong Kong, Mainland China and EnergyAustralia workforces. Pleasingly, response rates were high and employee engagement scores improved. While there is more to do to develop CLP's culture to support and enable CLP's transformation into a Utility of the Future, the improvement over the past three years is proof that actions taken are making a difference.

This year, CLP Power Hong Kong entered international human resources firm Randstad's Hall of Fame as one of the world's 12 most attractive employers in 2019, after having won 'Most Attractive Employer in Hong Kong three times in five years.

Through its Boost Health and Wellbeing programme in Hong Kong and similar programmes in India, Mainland China and Australia, CLP provided resources and training to support employees' long-term physical, mental, financial and social wellbeing and address additional stresses and challenges brought by COVID-19.

CLP provided mental health first-aid training, online mental health wellbeing resources on how to stay mentally well during COVID-19, and training for over 300 managers in dealing with mental health and emotional issues in the workplace. CLP was recognised as a "Mental Health Friendly Supreme Organisation" by the Advisory Committee of Mental Health and Department of Health in Hong Kong for its ongoing efforts to promote mental health awareness and employee resilience. Additionally, an enhanced support programme for employees with long-term injuries or illness was launched in Hong Kong, providing individualised rehabilitation support to assist recovery and return to work.

CLP continued to help employees in Hong Kong to address housing affordability issues through its Home Loan scheme, which provides additional financial support for employees seeking to buy a first home. Since the scheme was launched in early 2019, 74 employees have received assistance. Company support for employees to undertake advanced degree studies was also enhanced.


*CLP Power is the first Hong Kong company recognised as one of the world's twelve most attractive employers in 2019 and named a member of the Hall of Fame for 2020/2021 by Randstad, after receiving Hong Kong's Most Attractive Employer Award in Randstad Employer Brand Awards in 2019, 2018 and 2016.*

## Demonstrating fair work practices

CLP recognises business' fundamental responsibility to social sustainability, particularly in the context of the global energy transition underway. Embedding respect for human rights in the workplace and demonstrating fair work practices improves the lives of everyone who works with CLP, their families and the communities in which CLP operates, and ensures that no one is left behind as the energy industry evolves.

As a company working across hundreds of sites in the Asia-Pacific region, ensuring that everyone who works for CLP is safe, secure, treated fairly and with respect, is at the core of how CLP works, and underpins long-term success. The Group's human resources policies and procedures are intended to ensure compliance with all local laws and regulations in relation to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, non-discrimination and harassment and those covering benefits and welfare in the markets in which it operates. CLP takes immediate action to investigate and address any suspected breaches or issues that are brought to its attention and carries out independent audits to identify any risks of legal non-compliance and to take remedial action if any risks are identified.

Beyond compliance, CLP recognises its responsibility to respect human rights at work, as laid out in international principles, standards and laws. In 2020, CLP refreshed its Value Framework, expressing respect for all internationally recognised human rights relevant to its operations as a core belief, and embedding human rights in the promises made to stakeholders about how CLP upholds its values.

CLP became a signatory of the World Business Council for Sustainable Development's (WBCSD) Call to Action for Business Leadership on Human Rights, and of the Good Employer Charter established by the Labour Department of Hong Kong, pledging to be an employee-oriented employer implementing good human resource management practices.

Human rights due diligence continued, with reviews of compliance with Group Labour Standards conducted in all business units, and with selected contractors in Hong Kong in preparation for progressively embedding CLP's standards into procurement requirements. Opportunities to strengthen controls on working hours in emergency and non-emergency situations were identified and are being addressed.

CLP prohibits the employment of child or forced labour in any of its operations. The steps it takes to prevent such practices included stringent checking and control procedures in selection and on-boarding processes, and training for key contractors who provide manpower or services to operations. CLP did not identify any operation or supplier as having a significant risk of child labour, young workers exposed to hazardous work or forced or compulsory labour in 2020. There was no breach of laws and regulations in relation to child and forced labour across CLP in 2020.

CLP monitors pay carefully to ensure that it is competitive and rewards employees for individual and company performance. It complies fully with any local legal requirements with respect to minimum wage, and in practice its remuneration and benefits often significantly exceed local legal requirements. Following certification of CLP's Hong Kong operations as a Fair Wage Employer in 2018, a follow-up assessment was conducted in 2020. This reaffirmed the certification, and recognised the market-competitiveness of CLP's remuneration, progress made in providing pay progression opportunities for technical staff that encourage multi-skilling, and in enhancing employment status and pay for technical trainees to encourage them to take up careers in the power industry.

Core employee benefits are reviewed regularly to ensure they are fit for purpose and sustainable. Recognising its efforts to provide sustainable retirement benefits, CLP again received Good Mandatory Provident Fund (MPF) Employer and e-Contribution awards from the MPF Schemes Authority in Hong Kong, and an award for the Best ORSO (Occupational Retirement) Scheme in the 2020 Best of the Best Country Awards granted by Asia Asset Management.

Read more on CLP's fair work practices management approach ›

# Standard ESG disclosures

# Key performance metrics

CLP continually improves by managing, monitoring and reporting its performance. These tables present a quantitative overview of the Group's 2020 financial and non-financial performance. The disclosures are selected from the GRI Standards, The Stock Exchange of Hong Kong's ESG Reporting Guide and TCFD Electric Utilities Preparer Forum, as well as other key performance data.

The 2020 data shaded in orange have been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.

Read the reporting scope

Download the independent assurance statement

| Governance | 2020 | 2019 | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| Convicted cases of corruption reported to the Audit & Risk Committee (cases) | **0** | 0 | 0 | 0 | 0 | GRI 205-3 / HKEx B7.1 |
| Breaches of Code of Conduct reported to the Audit & Risk Committee (cases) | **25** | 31 | 20 | 28 | 21 | |

| Financial information | 2020 | 2019 | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| **Total capital investments incurred by asset type (%(HK$M))**[1,2] | **100 (13,022)** | 100 (12,028) | 100 (12,851) | N/A | N/A | TCFD |
| Transmission, distribution and retail | **37 (4,810)** | 43 (5,229)[3] | 39 (4,953) | N/A | N/A | |
| Coal | **28 (3,638)** | 21 (2,473)[3] | 24 (3,040) | N/A | N/A | |
| Gas | **26 (3,445)** | 26 (3,146)[3] | 32 (4,098) | N/A | N/A | |
| Nuclear | **0 (0)** | 3 (352) | 0 (0) | N/A | N/A | |
| Renewables | **4 (462)**[4] | 5 (580)[3,5] | 5 (714) | N/A | N/A | |
| Others | **5 (667)** | 2 (248)[3] | 0 (46) | N/A | N/A | |
| **Total operating earnings by asset type (%(HK$M))**[6] | **100 (12,374)** | 100 (12,138)[3] | 100 (15,145) | 100 (14,189) | 100 (13,173) | TCFD |
| Transmission, distribution and retail | **46 (5,751)** | 42 (5,131)[3] | 49 (7,427) | 59 (8,392) | 59 (7,798) | |
| Coal[7] | **23 (2,871)** | 21 (2,503)[3] | 22 (3,370) | 28 (3,994) | 30 (3,905) | |
| Gas[7] | **12 (1,510)** | 14 (1,735)[3] | 10 (1,533) | | | |
| Nuclear | **13 (1,594)** | 14 (1,688) | 11 (1,720) | 7 (913) | 7 (863) | |
| Renewables | **5 (575)**[8] | 8 (1,016)[3,9] | 7 (924) | 4 (629) | 3 (455) | |
| Others | **1 (73)** | 1 (65)[3] | 1 (171) | 2 (261) | 1 (152) | |
| **Economic value generated, distributed and retained (HK$M)** | | | | | | |
| **Economic value generated** | | | | | | |
| Revenue | **79,590** | 85,689 | 91,425 | 92,073 | 79,434 | GRI 201-1 |
| Share of profits of non-wholly owned entities[10] | **1,608** | 1,828 | 1,509 | 609 | 791 | GRI 201-1 |
| **Economic value distributed** | | | | | | |
| Fuel costs | **15,753** | 16,712 | 17,187 | 15,473 | 12,785 | GRI 201-1 |
| Other operating costs[11] | **35,774** | 48,654 | 43,604 | 46,325 | 38,689 | GRI 201-1 |
| Staff expenses[12] | **4,844** | 4,535 | 4,449 | 4,195 | 3,892 | GRI 201-1 |
| Finance costs[13] | **1,875** | 2,033 | 2,107 | 2,278 | 2,371 | GRI 201-1 |
| Dividends | **7,832** | 7,782 | 7,630 | 7,352 | 7,074 | GRI 201-1 |
| Taxes[14] | **2,529** | 2,189 | 3,565 | 2,094 | 2,032 | GRI 201-1 |

| Financial information | 2020 | 2019 | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| Donations | **27** | 21 | 18 | 14 | 13 | GRI 201-1 |
| **Economic value retained**[15] | **12,564** | 5,591 | 14,374 | 14,951 | 13,369 | GRI 201-1 |

1 Capital investments include additions to fixed assets, right-of-use assets and intangible assets, investments in and advances to joint ventures and associates, and acquisition of businesses.
2 On an accrual basis.
3 Restated to conform with enhanced 2020 allocation model and methodology.
4 Includes HK$7 million from waste-to-energy, which is not considered as non-carbon emitting energy.
5 Includes HK$123 million from waste-to-energy, which is not considered as non-carbon emitting energy.
6 Before unallocated expenses.
7 Starting from 2018, operating earnings of coal and gas are reported separately.
8 Includes HK$8 million from waste-to-energy, which is not considered as non-carbon emitting energy.
9 Includes HK$5 million from waste-to-energy, which is not considered as non-carbon emitting energy.
10 Includes share of results (net of income tax) from joint ventures and associates netted with earnings attributable to other non-controlling interests, which represented CLP's share of economic value created together with its business partners.
11 Includes impairment provision and reversal. In particular, for 2019, amount included impairment of retail goodwill in Australia of HK$6,381 million.
12 Another HK$1,386 million (2019: HK$1,365 million) of staff costs incurred were capitalised.
13 Finance costs are netted with finance income and include payments made to perpetual capital securities holders. In addition, finance costs of HK$306 million (2019: HK$323 million) were capitalised.
14 Represents current income tax but excludes deferred tax for the year.
15 Represents earnings attributable to shareholders (before depreciation, amortisation and deferred tax) for the year retained.

| Safety | 2020 | 2019 | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| **Fatalities (number)**[1,2] | | | | | | |
| Fatalities - employees only | **0** | 0 | 1 | 0 | 0 | GRI 403-2 / HKEx B2.1 |
| Fatalities - contractors only | **0** | 1 | 1 | 4 | 3 | GRI 403-2 / HKEx B2.1 |
| **Fatality Rate (number per 200,000 manhour)**[1,2,3] | | | | | | |
| Fatality Rate - employees only | **0.00** | 0.00 | 0.01 | 0.00 | 0.00 | GRI 403-2 / HKEx B2.1 |
| Fatality Rate - contractors only | **0.00** | 0.01 | 0.01 | 0.03 | 0.02 | GRI 403-2 / HKEx B2.1 |
| **Lost Time Injury (number)**[1,4] | | | | | | |
| Lost Time Injury - employees only | **12** | 7[5] | 11 | 11 | 3 | GRI 403-2 |
| Lost Time Injury - contractors only | **10** | 19 | 11 | 16 | 10 | GRI 403-2 |
| **Lost Time Injury Rate (number per 200,000 manhour)**[1,3,4] | | | | | | |
| Lost Time Injury Rate - employees only | **0.13** | 0.07 | 0.13 | 0.13 | 0.04 | GRI 403-2 |
| Lost Time Injury Rate - contractors only | **0.09** | 0.14 | 0.09 | 0.14 | 0.07 | GRI 403-2 |
| **Total Recordable Injury Rate (number per 200,000 manhour)**[1,3,6] | | | | | | |
| Total Recordable Injury Rate - employees only | **0.25** | 0.19 | 0.19 | 0.21 | 0.11 | GRI 403-2 |
| Total Recordable Injury Rate - contractors only | **0.37** | 0.52 | 0.29 | 0.36 | 0.19 | GRI 403-2 |
| **Days Lost (number)**[1,4,7] | | | | | | |
| Days Lost - employees only | **443**[8] | 464[9] | 249 | 252 | 9 | GRI 102-48, 403-2 / HKEx B2.2 |

1 The system of rules applied in recording and reporting accident statistics complies with the International Labour Organization (ILO) Code of Practice on Recording and Notification of Occupational Accidents and Diseases. Each year's safety data cover the incidents that happened in that calendar year and are based on the latest information available at the time of publication.
2 A fatality is the death of an employee or contractor personnel as a result of an occupational illness/ injury/ disease incident in the course of employment.
3 All rates are normalised to 200,000 worked hours, which approximately equals to the number of hours worked by 100 people in one year.
4 Refers to an occupational illness/ injury/ disease sustained by an employee or contractor personnel causing him/ her to miss one scheduled workday/ shift or more after the day of the injury (including fatalities). A lost time injury does not include the day the injury incident occurred or any days that the injured person was not scheduled to work and it does not include restricted work injuries.
5 The health-related lost-time-injury in Australia was reported as lost time injury. It can also be categorised as occupational disease in Australia.

6 Total recordable injuries count all occupational injury incidents and illness other than first aid cases. They include fatalities, lost time injuries, restricted work injuries, and medical treatment.
7 Refers to the number of working days lost when workers are unable to perform their usual work because of an occupational accident or disease. A return to limited duty or alternative work for the same organisation does not count as lost days.
8 188 out of 443 days were carried forward from one incident in the past.
9 158 out of 464 days were carried forward from three incidents in the past.

| Environment | 2020 | 2019 | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| **Resource Use & Emissions**[1,2,3] | | | | | | |
| Nitrogen oxides emissions ($NO_x$) (kt) | **43.2** | 47.0 | 60.9 | 59.3 | 58.1 | GRI 305-7 / HKEx A1.1 |
| Sulphur dioxide emissions ($SO_2$) (kt) | **48.0** | 44.7 | 76.1 | 81.6 | 71.2 | GRI 305-7 / HKEx A1.1 |
| Particulates emissions (kt) | **6.9** | 7.7 | 8.5 | 8.3 | 8.5 | GRI 305-7 / HKEx A1.1 |
| Sulphur hexafluoride ($SF_6$) (kt) | **0.003** | N/A | N/A | N/A | N/A | GRI 305-7 / HKEx A1.1 |
| Non-hazardous liquid waste (kl)[4] | | | | | | |
| Produced | **3** | 59 | 52 | 103 | 84 | GRI 306-2 / HKEx A1.4 |
| Recycled | **3** | 57 | 52 | 103 | 84 | GRI 306-2 |
| Non-hazardous solid waste (t)[4] | | | | | | |
| Produced | **17,901** | 13,344 | 11,471 | 20,334 | 8,317 | GRI 306-2 / HKEx A1.4 |
| Recycled | **4,458** | 4,986 | 3,990 | 3,790 | 2,963 | GRI 306-2 |
| Hazardous liquid waste (kl)[4] | | | | | | |
| Produced | **1,091** | 1,578 | 1,685 | 1,420 | 1,251 | GRI 306-2 / HKEx A1.3 |
| Recycled | **1,069** | 1,536 | 1,648 | 1,384 | 1,149 | GRI 306-2 |
| Hazardous solid waste (t)[4] | | | | | | |
| Produced | **1,503** | 862 | 1,435 | 857 | 1,302 | GRI 306-2 / HKEx A1.3 |
| Recycled | **523** | 201 | 631 | 469 | 260 | GRI 306-2 |
| Ash (kt) | | | | | | |
| Produced | **2,624** | 3,032 | 3,419 | 3,005 | 2,121 | |
| Recycled and sold | **1,793** | 3,667 | 2,263 | 1,745 | 1,111 | |
| Gypsum (kt) | | | | | | |
| Produced | **334** | 441 | 253 | 156 | 136 | |
| Recycled and sold | **335** | 438 | 250 | 161 | 134 | |
| **Total water withdrawal ($Mm^3$)**[5] | **5,229.2** | 5,377.4 | 5,153.6 | 4,480.6 | 4,256.9 | GRI 303-3 / HKEx A2.2 |
| For cooling purpose | | | | | | |
| Water withdrawal from marine water resources | **5,183.5** | 5,319.3 | 5,087.3 | 4,421.7 | 4,202.3 | |
| Water withdrawal from freshwater resources | **35.1** | 45.7 | 53.3 | 47.6 | 43.8 | |
| For non-cooling purposes | | | | | | |
| Water withdrawal from freshwater resources | **5.7** | 5.8 | 6.0 | 4.9 | 4.2 | |
| Water withdrawal from municipal sources | **4.9** | 6.7 | 7.0 | 6.4 | 6.6 | |
| **Total water discharge ($Mm^3$)**[5,6] | **5,200.3** | 5,337.1 | 5,103.2 | 4,437.7 | 4,219.3 | GRI 303-4 |
| From cooling process | | | | | | |
| Water discharge to marine water bodies | **5,183.5** | 5,319.3 | 5,087.3 | 4,421.7 | 4,202.3 | |

| Environment | 2020 | 2019 | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| Treated wastewater to freshwater bodies | **0** | 0 | 0 | 0 | 0 | |
| Wastewater to other destinations | **0** | 0 | 0.02 | 0.05 | 0.06 | |
| From non-cooling processes | | | | | | |
| Treated wastewater to marine water bodies | **1.5** | 1.7 | 1.6 | 1.6 | 1.5 | |
| Treated wastewater to freshwater bodies | **13.7** | 14.4 | 12.3 | 12.3 | 13.7 | |
| Wastewater to other destinations | **1.6** | 1.7 | 1.9 | 2.0 | 1.7 | |
| Wastewater to sewerage | **0.03** | 0.03 | 0.03 | 0.02 | 0.01 | |
| **Environmental compliance**[1] | | | | | | |
| Environmental regulatory non-compliances resulting in fines or prosecutions (number) | **0** | 0 | 0 | 0 | 0 | GRI 307-1 |
| Environmental licence limit exceedances & other non-compliances (number) | **4** | 10 | 2 | 13 | 2 | GRI 307-1 |

1 Numbers include operating assets where CLP has operational control during the calendar year.
2 Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.
3 Since 2019, numbers at the asset level have been aggregated and then rounded.
4 Waste categorised in accordance with local regulations.
5 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.
6 Starting from 2019, Yallourn's "water discharged to third-parties", which was previously reported under "wastewater to sewerage", has been reported under "wastewater to other destinations".

| GHG emissions | 2020 | 2019 | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| **CLP Group**[1] | | | | | | |
| **Total $CO_2e$ emissions – on an equity basis (kt)**[2,3] | **62,138** | 71,720 | N/A | N/A | N/A | HKEx A1.2 |
| $CO_2e$ - Scope 1 (kt)[4] | **45,105** | 50,047 | N/A | N/A | N/A | GRI 305-1 / TCFD |
| $CO_2e$ - Scope 2 (kt) | **244** | 250 | N/A | N/A | N/A | GRI 305-2 / TCFD |
| $CO_2e$ - Scope 3 (kt) | **16,790** | 21,424 | N/A | N/A | N/A | GRI 305-3 / TCFD |
| Category 1: Purchased goods and services | **1,210** | 1,093 | N/A | N/A | N/A | |
| Category 2: Capital goods | **685** | 1,347 | N/A | N/A | N/A | |
| Category 3: Fuel- and energy-related activities | **12,690** | 16,671 | N/A | N/A | N/A | |
| Category 5: Waste generated in operations | **63** | 101 | N/A | N/A | N/A | |
| Category 6: Business travel | **1** | 8 | N/A | N/A | N/A | |
| Category 7: Employee commuting | **2** | 4 | N/A | N/A | N/A | |
| Category 11: Use of sold products | **2,138** | 2,200 | N/A | N/A | N/A | |
| **CLP Group's generation and energy storage portfolio**[3,4,5,6] | | | | | | |
| $CO_2$ – on an equity basis (kt) | **44,987** | N/A | N/A | N/A | N/A | GRI 102-48, 305-1, 305-2 / HKEx A1.2 |
| $CO_2$ – on an equity plus long-term capacity and energy purchase basis (kt)[7] | **48,621** | N/A | N/A | N/A | N/A | GRI 102-48, 305-1, 305-2 / HKEx A1.2 |
| $CO_2$ – on an operational control basis (kt) | **43,808** | 50,412 | 52,052 | 47,921 | 46,518 | GRI 102-48, 305-1, 305-2 / HKEx A1.2 |

| GHG emissions | 2020 | 2019 | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| $CO_2e$ – on an operational control basis (kt) | **44,023** | 50,676 | 52,306 | 48,082 | 46,681 | GRI 102-48, 305-1, 305-2 / HKEx A1.2 |
| **Climate Vision 2050**[3,4,5,6] | **2020** | **2019** | **2018** | **2017** | **2016** | **GRI/ HKEx/ TCFD** |
| **Performance against targets - on an equity basis** | | | | | | |
| Carbon dioxide emissions intensity of CLP Group's generation and energy storage portfolio (kg $CO_2$/ kWh) | **0.65** | 0.70 | 0.74 | 0.80 | 0.82 | GRI 305-4 / HKEx A1.2 / TCFD |
| Renewable energy generation capacity (% (MW)) | **12.8 (2,517)** | 12.8 (2,469) | 12.5 (2,387) | 14.2 (2,751) | 16.6 (3,090) | TCFD |
| Non-carbon emitting generation capacity (% (MW)) | **20.9 (4,110)** | 21.1 (4,069) | 20.9 (3,987) | 22.4 (4,350) | 19.2 (3,582) | |
| **Performance against targets - on an equity plus long-term capacity and energy purchase basis**[7] | | | | | | |
| Carbon dioxide emissions intensity of CLP Group's generation and energy storage portfolio (kg $CO_2$/ kWh) | **0.57** | 0.62 | 0.66 | 0.69 | 0.72 | GRI 305-4 / HKEx A1.2 / TCFD |
| Renewable energy generation capacity (% (MW)) | **13.5 (3,342)** | 13.7 (3,294) | 12.8 (3,039) | 13.1 (3,211) | 14.9 (3,551) | TCFD |
| Non-carbon emitting generation capacity (% (MW)) | **24.4 (6,017)** | 24.9 (5,979) | 24.1 (5,724) | 23.2 (5,699) | 20.7 (4,931) | |
| **CLP Power Hong Kong - carbon emissions intensity of electricity sold** | **2020** | **2019** | **2018** | **2017** | **2016** | **GRI/ HKEx/ TCFD** |
| $CO_2e$ emissions intensity of electricity sold by CLP Power Hong Kong (kg $CO_2e$/ kWh)[4,8] | **0.37** | 0.50 | 0.51 | 0.51 | 0.54 | |
| $CO_2$ emissions intensity of electricity sold by CLP Power Hong Kong (kg $CO_2$/ kWh)[4,8] | **0.37** | 0.49 | 0.51 | 0.50 | 0.54 | |

1 Refers to a range of businesses, including generation and energy storage portfolio, transmission and distribution, retail and others.
2 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.
3 Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.
4 In accordance with the Greenhouse Gas Protocol, WE Station, which makes use of landfill gas from waste for power generation, is not included in CLP's Scope 1 $CO_2$ emissions and reported separately in the Asset Performance Statistics. Its non-$CO_2$ GHG emissions (i.e. $CH_4$ and $N_2O$) is included in CLP's Scope 1 $CO_2e$ emissions.
5 Starting from 2020, the portfolio includes energy storage assets and generation assets. Energy storage assets include pumped storage and battery storage. In previous years, the portfolio included generation assets only.
6 $CO_2$ emissions of Yallourn and Hallet Power Stations have been used since 2018. Prior to 2018, $CO_2e$ emissions data of these assets were used.
7 Numbers include assets with majority and minority share, and those under "long-term capacity and energy purchase" arrangements with CLP. Starting from 2018, "long-term capacity and energy purchase" has been defined as a purchase agreement with duration of at least five years, and capacity or energy purchased being no less than 10MW.
8 "Electricity sold" is the total electricity sold to CLP Power Hong Kong's customers before adjustment of Renewable Energy Certificates.

| Operations | 2020 | 2019 | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| **Generation and energy storage capacity by asset type (% (MW))**[1,2] | | | | | | |
| **Total generation and energy storage capacity - on an equity basis** | **100 (19,691)** | 100 (19,238) | 100 (19,108) | 100 (19,395) | 100 (18,622) | TCFD |
| Coal | **54.7 (10,765)** | 56.0 (10,765) | 56.3 (10,765) | 58.8 (11,401) | 61.2 (11,396) | |
| Gas | **23.4 (4,600)** | 21.8 (4,194) | 21.7 (4,147) | 17.7 (3,434) | 18.4 (3,434) | |
| Nuclear | **8.1 (1,600)** | 8.3 (1,600) | 8.4 (1,600) | 8.2 (1,600) | 2.6 (492) | |
| Renewables | **12.8 (2,517)** | 12.8 (2,469) | 12.5 (2,386) | 14.2 (2,751) | 16.6 (3,090) | |
| Energy Storage | **0.0 (0)** | N/A | N/A | N/A | N/A | |
| Others | **1.1 (210)** | 1.1 (210) | 1.1 (210) | 1.1 (210) | 1.1 (210) | |

| Operations | 2020 | 2019 | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| **Total generation and energy storage capacity - on an equity plus long-term capacity and energy purchase basis**[3] | **100 (24,696)** | 100 (24,015) | 100 (23,705) | 100 (24,554) | 100 (23,781) | TCFD |
| Coal | **48.6 (11,997)** | 50.0 (11,997) | 50.6 (11,997) | 51.4 (12,633) | 53.1 (12,628) | |
| Gas | **23.2 (5,717)** | 21.4 (5,139) | 21.4 (5,084) | 21.7 (5,322) | 22.4 (5,322) | |
| Nuclear | **10.9 (2,685)** | 11.2 (2,685) | 11.3 (2,685) | 10.1 (2,488) | 5.8 (1,380) | |
| Renewables | **13.5 (3,342)** | 13.7 (3,294) | 12.8 (3,039) | 13.1 (3,211) | 14.9 (3,551) | |
| Energy Storage | **2.7 (655)** | N/A | N/A | N/A | N/A | |
| Others | **1.2 (300)** | 3.7 (900) | 3.8 (900) | 3.7 (900) | 3.8 (900) | |
| **Energy sent out by asset type (% (GWh))**[1,2,4] | | | | | | |
| **Total energy sent out - on an equity basis** | **100 (68,699)** | 100 (70,949) | N/A | N/A | N/A | TCFD |
| Coal | **57.4 (39,438)** | 62.9 (44,596) | N/A | N/A | N/A | |
| Gas | **18.0 (12,390)** | 14.1 (9,979) | N/A | N/A | N/A | |
| Nuclear | **16.3 (11,192)** | 15.3 (10,888) | N/A | N/A | N/A | |
| Renewables | **8.3 (5,678)** | 7.7 (5,487) | N/A | N/A | N/A | |
| Energy Storage | **0.0 (0)** | N/A | N/A | N/A | N/A | |
| Others | **0.0 (1)** | 0 (0) | N/A | N/A | N/A | |
| **Total energy sent out - on an equity plus long-term capacity and energy purchase basis**[3,5] | **100 (85,937)** | 100 (88,573) | 100 | 100 | 100 | TCFD |
| Coal | **47.8 (41,118)** | 54.8 (48,512) | 60 | 61 | 63 | |
| Gas | **20.0 (17,157)** | 14.8 (13,073) | 12 | 15 | 14 | |
| Nuclear | **23.2 (19,923)** | 21.9 (19,400) | 20 | 15 | 14 | |
| Renewables | **9.1 (7,855)** | 8.7 (7,699) | 8 | 9 | 9 | |
| Energy Storage | **-0.1 (-118)** | N/A | N/A | N/A | N/A | |
| Others | **0.0 (1)** | -0.1 (-109) | 0 | 0 | 0 | |
| **Total energy sent out (GWh) - on an operational control basis** | **58,918** | N/A | N/A | N/A | N/A | TCFD |
| **Fuel use**[4,6] | | | | | | |
| Coal consumed (for power generation) (TJ) | **403,379** | 485,453 | 521,568 | 471,976 | 453,904 | GRI 302-1 / HKEx A2.1 |
| Gas consumed (for power generation) (TJ) | **134,776** | 107,183 | 83,364 | 91,426 | 86,787 | GRI 102-48, 302-1 / HKEx A2.1 |
| Oil consumed (for power generation) (TJ) | **2,243** | 2,620 | 3,807 | 5,069 | 4,162 | GRI 102-48, 302-1 / HKEx A2.1 |

1 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.
2 Starting from 2020, a new "Energy Storage" asset category is added, under which pumped storage and battery storage are included. In previous years, assets under the "Others" category included oil-fired generation assets and pumped storage.
3 Numbers include assets with majority and minority share, and those under "long-term capacity and energy purchase" arrangements with CLP. Starting from 2018, "long-term capacity and energy purchase" is defined as a purchase agreement with duration of at least five years, and capacity or energy purchased being no less than 10MW.
4 Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.
5 Only percentages are available for the years 2016-18.
6 Numbers include operating assets where CLP has operational control during the calendar year.

| People | 2020 | 2019[1] | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| **Total employees by region (number)** | **8,060** | 7,960 | 7,634 | 7,542 | 7,428 | GRI 102-7 / HKEx B1.1 |
| Hong Kong | **4,689** | 4,604 | 4,538 | 4,504 | 4,450 | |
| Mainland China | **609** | 607 | 596 | 577 | 560 | |

| People | 2020 | 2019[1] | 2018 | 2017 | 2016 | GRI/ HKEx/ TCFD |
|---|---|---|---|---|---|---|
| India | **442** | 469 | 458 | 463 | 435 | |
| Australia | **2,320** | 2,280 | 2,042 | 1,998 | 1,983 | |
| **Total employees eligible to retire within the next five years (%)**[2] | **14.5** | 13.9 | 16.4 | 15.1 | 14.1 | GRI EU15 |
| Hong Kong | **20.4** | 19.5 | 20.0 | 18.6 | 17.3 | |
| Mainland China | **13.4** | 14.5 | 13.2 | 10.6 | 12.1 | |
| India | **5.1** | 4.8 | 4.0 | 2.4 | 0.9 | |
| Australia[3] | **5.7** | 5.4 | 12.8 | 12.2 | 11.4 | |
| **Voluntary staff turnover rate (%)**[4,5] | | | | | | GRI 401-1 / HKEx B1.2 |
| Hong Kong | **3.1** | 2.4 | 2.3 | 1.9 | 2.3 | |
| Mainland China | **1.3** | 2.0 | 4.7 | 3.0 | 3.4 | |
| India | **4.7** | 6.6 | 5.6 | 3.5 | 8.4 | |
| Australia | **7.7** | 12.9 | 13.6 | 13.8 | 12.6 | |
| **Average training hours per employee (hours)** | **42.5** | 40.1 | 46.1 | 46.9 | 49.2 | GRI 404-1 / HKEx B3.2 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.
2 The percentages given refer to permanent employees within each region, who are eligible to retire within the next five years.
3 There is no mandatory retirement age in Australia. Since 2019, retirement age assumption has been adjusted from 60 to 65 to reflect local norms, which led to a significantly lower percentage compared to previous years. Numbers in previous years adopting the adjusted retirement age for Australia are as follows: 2016 - Australia: 4.6% / Group total: 12.0%; 2017 - Australia: 4.8% / Group total: 12.9%; 2018 - Australia: 4.6% / Group total: 14.0%.
4 Voluntary turnover is employees leaving the organisation voluntarily and does not include dismissal, retirement, company-initiated termination or end of contract.
5 Includes permanent employees only except for Mainland China, which includes both permanent and fixed-term contract employees due to local employment legislation.

*The 2020 data shaded in orange have been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.*

# Corporate governance

## Corporate governance framework and code

### Management approach

Good corporate governance promotes and safeguards the interests of shareholders and other stakeholders. CLP is committed to maintaining a rigorous framework of corporate governance that upholds the Group's credibility and reputation.

Corporate governance is a matter of culture, driving CLP to continually make conscious decisions around correct behaviours. Over the years, the Company has developed and put in place a set of policies, procedures and systems that make up a unique CLP corporate governance structure. The table summarises how CLP manages corporate governance through the CLP Code, the CLP Corporate Governance Framework and a comprehensive set of policies and guidelines:

Download the CLP Code on Corporate Governance

The CLP Code was updated in 2019 to reflect new requirements under the Rules Governing the Listing of Securities issued by The Stock Exchange of Hong Kong Limited (HKEx) and CLP's current corporate governance practices. While embracing the terms set out within HKEx's Corporate Governance Code and Corporate Governance Report, the CLP Code seeks to go beyond this by advancing a structure that builds on CLP's own standards and experience.

The Board is CLP's highest governance body and actively promotes the success of the Group by directing and supervising all of its affairs in a responsible and effective manner. Some of these responsibilities are discharged through delegation to six Board Committees. The two committees most involved in sustainability-related matters are the Sustainability Committee and the Audit & Risk Committee.

Find out more about Sustainability Governance

### How CLP Holdings approaches corporate governance

| | |
|---|---|
| **CLP Code on Corporate Governance** | • Commitment of the Board and Senior Management to good standards of corporate governance<br>• Sets out common principles that must be adhered to across the Group |
| **Corporate Governance Framework** | • Identifies all key participants in good governance<br>• Guides CLP to uphold the Company's values and conduct affairs with different stakeholders in an ethical, transparent and accountable manner<br>• Defines the framework and process for monitoring the management of the Group<br>• Sets out common principles that must be adhered to across the Group |
| **Specific policies at Group or business unit level** | • Provides guidance on appropriate conduct in day-to-day work<br>• Must meet local regulatory requirements or local stakeholder expectations |
| **Systems and Standards, supported by procedures and manuals** | • Internal mandatory requirements that guide day-to-day operations and practices |
| **Standard Practices and Guidelines** | • Provides details for system/ standard implementation, or voluntary guidance on managing emerging issues and risks<br>• The voluntary guideline adopts a precautionary approach, particularly for environmental aspects, helping us to prepare for new regulations |

## Year in review

In 2020, the Board spent most of its time on strategy, governance and risk, followed by performance monitoring, leadership and people, as well as stakeholder engagement.

The Corporate Governance Report in the Annual Report discloses CLP's governance performance in detail. Below are the highlights from 2020:

- Updated the CLP Value Framework by fully integrating the Sustainability Principles into company values and commitments and to underscore the fundamental role of sustainability in CLP's long-term development.
- Conducted a hybrid AGM that allowed shareholders, whether present in person or online, to pose questions and to vote.
- Continued to follow-up on recommendations from the 2019 external Board Review.
- Actively monitored the increasingly challenging and complex risk environment.

Read the Corporate Governance Report in the 2020 Annual Report

The Human Resources and Remuneration Committee Report covers CLP's Remuneration Policy, including the non-financial metrics considered for executives' remuneration.

# Code of Conduct and anti-corruption

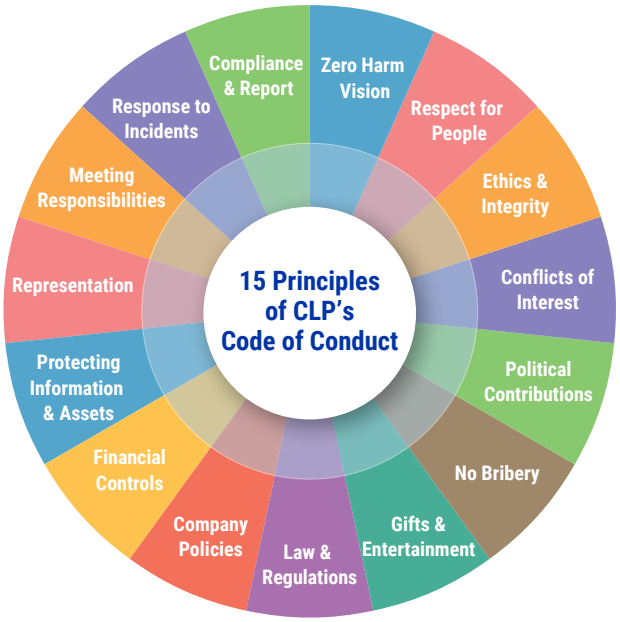
## Management approach

The CLP Code of Conduct specifies for employees how to act with integrity in all activities, and serves as a tool to guard against corruption within the Group.

CLP's Code of Conduct, updated in June 2020, is available to the public. It applies to the entirety of the Group, including CLP Holdings, its wholly owned subsidiaries, and joint ventures or companies in which CLP holds a controlling interest. All employees of CLP, irrespective of their position and function, are expected to fully adhere to the principles contained in the Code. In the case of joint ventures or companies in which CLP does not hold a controlling interest, the representatives are also expected to act in accordance with the Code and to make a concerted effort to influence those with whom they are working to follow similar standards of integrity and ethical behaviour. Likewise, contractors working for CLP are encouraged to follow the Code for the duration of their contract, and also encourage their subcontractors to do the same.

CLP's Whistleblowing Policy encourages employees and related third parties (such as customers and suppliers) who deal with CLP to raise concerns about any real or perceived misconduct, malpractice or irregularity through a confidential reporting channel.

### 15 principles of CLP's Code of Conduct




Download CLP's Code of Conduct

## Training and awareness

Code of Conduct training is mandatory for all staff after joining the Company. CLP promotes the Code of Conduct and Whistleblowing Policy to employees on a regular basis, by advising of any updates or revisions. In June 2020, as a proactive corporate governance measure, CLP and the Independent Commission Against Corruption (ICAC) in Hong Kong jointly hosted corruption prevention seminars for CLP staff. In addition, various CLP e-training programmes are in place to further strengthen employee awareness in the areas of Code of Conduct, anti-fraud, and internal control.

Every four years, the Company conducts a Business Practice Review (BPR) process for all employees in person to refresh a Company-wide understanding of the Code's principles, and help ensure business practices remain compliant. The last review was conducted in 2017 and the next review is planned for 2021. Any potential issues are raised and reviewed with management. A number of case studies based on past violations are included in the BPR to highlight how to properly handle potential and actual situations in which the Code has been violated. Contractors are encouraged to attend the BPR sessions alongside CLP employees.

## Monitoring and follow-up

The General Representation Letter (GRL) process is one of the means by which non-compliance with the Code can be reported. It requires leaders of areas of responsibility to annually sign a GRL addressed to the Group Chief Executive Officer (CEO) and Chief Financial Officer (CFO) outlining their area's adherence, or otherwise, to the Code of Conduct.

The process reinforces personal responsibility for good governance and sets controls at all levels within CLP. As part of the process, business practices are reviewed and fraud risks in different areas assessed, while irregularities or exceptions are reported for the attention of senior management. Managers in the Group are also required to sign a Code of Conduct Compliance Statement on an annual basis.

The CLP-wide reporting system for Code of Conduct violations applies to any alleged or potential breach. All CLP employees are expected to co-operate fully in the investigation of an alleged violation, and disciplinary action applies to any staff member found to be in breach of the Code. The number of breaches of the Code and any cases of corruption are reported annually to the Audit & Risk Committee, with the relevant data verified by a third party.

## Operational responsibilities

Potential violations of the Code of Conduct are reported to the Group Internal Audit (GIA) by employees, vendors, contractors and GIA auditors. Communications are received through means such as anonymous letters, emails or phone calls.

GIA regularly reviews compliance with the Code, and investigates any potential violations, except for those related to human resources, which are investigated by Human Resources (HR).

Non-compliance with the Code results in disciplinary action. The Group Code of Conduct Committee, which comprises the Executive Director & Chief Financial Officer, Group General Counsel & Chief Administrative Officer, and Chief Human Resources Officer, reviews and endorses any disciplinary measures taken.

For a quicker response to Code of Conduct violations in Australia, EnergyAustralia has been delegated the responsibility of managing and acting on violations committed by EnergyAustralia employees. EnergyAustralia will inform the CLP Holdings Audit & Risk Committee of cases involving senior EnergyAustralia employees.

For CLP India, a separate Internal Complaints Committee has been established to handle complaints of sexual harassment at the workplace in accordance with Indian law.

# Year in review

In 2020, CLP reviewed and updated its Code of Conduct, Whistleblowing Policy, and reporting procedures related to conflicts of interest and irregularities. Twenty-five breaches of the Code of Conduct were reported, though none were financially or operationally material to the Group.

Changes resulting from the review and update of the Code of Conduct, Whistleblowing Policy and reporting procedures are outlined below:

- ***Code of Conduct*** – Added a new section on "Our Zero Harm Vision" to emphasise that safety and zero harm are the Company's top priorities. The "Protecting our Information, Records and Assets" section was enhanced to emphasise the responsibilities of employees in upholding effective cyber security controls as a means to protecting the Company. Other changes include additional examples to enhance employee's understanding of various sections.
- ***Procedure on reporting of conflicts of interest*** – The conflict of interest assessment process was enhanced to clarify that the employee should first conduct a preliminary self-assessment when they face a potential conflict of interest situation.
- ***Whistleblowing Policy and procedure on the reporting of irregularities*** – Minor administrative updates on references and job titles were made to ensure the content is up to date.

In 2020, there were 25 breaches of the Code of Conduct, compared with 31 in 2019. While there were 14 cases of whistleblowing (compared with 20 in 2019), there were no convicted cases of corruption. None of the 25 breaches of the Code of Conduct in 2020 was material to the Group's financial statements or overall operations. Two of the reported Code of Conduct violations involved employees at the grade level of senior manager and above. The breaches were managed in accordance with CLP's handling process for Code of Conduct breaches.

The number of confirmed Code of Conduct breaches of the 15 principles are shown below. Between 2016 and 2020, CLP did not have any breaches related to six Code of Conduct principles, namely Political Contributions, Gift & Entertainment, Laws & Regulations, Representation, Response to Incidents, and Compliance & Report.

GRI reference: 406-1, 416-2, 417-2, 417-3

| Code of Conduct Principles | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Zero Harm Vision** | | | | | |
| · *Includes issues regarding health and safety, and alcohol and drug abuse.* | 0 | 0 | 1 | 1 | 3 |
| **Respect for People** | | | | | |
| · *Includes discrimination, harassment and other issues related to not respecting people.* | 8 | 17 | 7 | 12 | 9 |
| **Ethics and Business Integrity** | | | | | |
| · *Includes unethical business behaviour related to integrity, honesty and fairness.* | 1 | 13 | 8 | 6 | 6 |
| **Other Principles** | | | | | |
| · *Includes Conflicts of Interest, No Bribery, Company Policies, Financial Controls, Protecting Information & Assets, and Meeting Responsibilities* | 16 | 1 | 4 | 9 | 3 |
| **Total** | **25** | **31** | **20** | **28** | **21** |

# Legal compliance

## Management approach

The CLP Group operates in a number of different jurisdictions with different legal and regulatory requirements. Compliance with the requirements in the jurisdictions in which it operates is a basic requirement for maintaining the social licence to operate.

CLP's commitment to comply with laws and regulations is specified in the Code of Conduct. In addition to the Code of Conduct, there are policies, codes and guidelines that apply to its operations and practices to ensure compliance with the various laws and regulations applicable to CLP. These additional policies and guidelines assist CLP in ensuring compliance with laws and regulations relating to competition, personal data and privacy, intellectual property, health, safety, the environment, as well as employment and human resources amongst others.

CLP is prepared to forego opportunity or advantage in order to maintain the highest standards of corporate governance and integrity. Beyond compliance, CLP voluntarily follows other standards that reflect the Company's principles and values.

### Monitoring and follow-up

One of the responsibilities of the Board-level Audit & Risk Committee (ARC) is to review and monitor the Company's compliance with the Code of Conduct, as well as the Company's policies on compliance with applicable legal and regulatory requirements such as the Listing Rules, the Companies Ordinance and the Securities and Futures Ordinance. The Committee also reviews regulatory and legal issues. Every six months, Group Legal Affairs compiles a "CLP Group Key Regulatory and Legal Compliances Issues Report" for the ARC, which covers key regulatory compliance issues in addition to legal cases in which CLP is a named defendant.

CLP is often confronted with changes in the legal and regulatory regimes in the various jurisdictions in which it operates. The Company closely monitors emerging regulations and ensures that it is prepared for changes.

As CLP reviewed the new and amended laws and regulations which came into effect during the 2020 reporting year, it identified those which had or would have a significant impact on the business and would be relevant to include in the report. The threshold applied for assessing inclusion in the report was whether there was significant investment or expenditure required to ensure compliance. Laws and regulations pertaining to the following aspects informed this review, and the results are described in the relevant sections of this report:

1. **Emissions** – air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste
2. **Employment** – compensation, dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination and other benefits and welfare
3. **Health and Safety** – safe working environment and protecting employees from occupational hazards
4. **Labour Standards** – prevention of child and forced labour
5. **Product Responsibility** – consumer data protection and privacy
6. **Anti-corruption** – bribery, extortion, fraud and money laundering.

## Year in review

There was one new reportable case of breach in legal or regulatory compliance in 2020.

To uphold the spirit of transparency and accountability, CLP reports cases of legal non-compliance annually in the Sustainability Report. These include convicted criminal cases against CLP, and major breaches that resulted in significant fines (greater than HK$1 million) or non-monetary sanctions.

CLP's 2020 performance is summarised below, grouped and based on the GRI Standards and the HKEx ESG Reporting Guide.

The Company is also exposed to the risk of contractual disputes and litigation in the course of its normal operations. The Group considers each instance separately in accordance with legal advice and will make provision and/or disclose information as appropriate. Refer to Note 30 – Contingent Liabilities on page 276 of the 2020 Annual Report.

## Reportable cases of breach in legal or regulatory compliance in 2020

| | | Number of cases | Supplementary information |
|---|---|---|---|
| **Business practices** | Anti-corruption | No reportable case. | Read more in the Code of Conduct and anti-corruption section. |
| | Anti-competitive behaviour | No new reportable case in 2020. There is one existing and previously reported case involving Ho-Ping Power Station in Taiwan, in which the CLP Group has a 20% equity interest. | The Ho-Ping litigation is for alleged concerted action with other independent power producers (IPPs) in violation of the Taiwan Fair Trade Act. **The Taiwan Fair Trade Commission (FTC)** in 2013 ruled and fined nine IPPs for alleged cartel behaviour. The FTC's decision was eventually overruled by the Taipei High Administrative Court (THAC) in October 2014. However, the FTC successfully appealed the THAC's decision to the Supreme Administrative Court (SAC), and the case returned to the THAC for re-examination. In May 2017, the THAC ruled again in favour of Ho-Ping and rejected the FTC's decision. In June 2018, the SAC accepted FTC's further appeal and, for the second time, returned the case to the THAC for re-examination. Ho-Ping will continue to defend its position in the THAC.<br>In June 2020, the THAC ruled in favour of Ho-Ping for the third time, and the FTC once again appealed to the SAC. |
| **Employees and contractors** | Employment practices | No reportable case. | |
| | Labour standards (child and forced labour) | No reportable case. | |
| | Occupational health and safety | No reportable case. | |
| **Customer** | Customer privacy | No reportable case. | Read more in Customer privacy. |
| | Product and service information and labelling and marketing information | No reportable case. | |
| | Access to electricity | EnergyAustralia was fined AUD$1.5 million for wrongful disconnections.<br>Read more in Access to electricity. | |
| | Customer health and safety | No reportable case | |
| **Community** | Rights of indigenous people | No reportable case. | |
| **Environment** | | No reportable case. | Read more in Environmental regulations and compliance. |

# Risk management

## Management approach

Risk management is an integral part of all processes and the responsibility of everyone within CLP as it is critical to the long-term growth and sustainability of the Company.

### Risk Management Framework

Risk is inherent in CLP's operations and the markets in which the Group operates. CLP aims to identify risks early so they can be understood, managed, mitigated, transferred or avoided. This demands a **proactive** approach to risk management.

CLP's risk management framework comprises four key elements:

1. Risk management philosophy;
2. Risk appetite;
3. Risk governance structure; and
4. Risk management process.

CLP's overall risk management process is overseen by the Board through the Audit & Risk Committee. There is strong recognition that risk management is the responsibility of everyone within the Group. Risk management is integrated into all business and decision-making processes including strategy formulation, business development, business planning, capital allocation, investment decisions, internal control and day-to-day operations.

CLP's risk management objectives are two-tiered:

- **Strategic**
  At a strategic level, CLP focuses on the identification and management of the material financial and non-financial risks associated with the pursuit of strategic and business objectives. In pursuing growth opportunities, CLP aims to optimise risk and return decisions as defined and quantified through a diligent and independent review and challenge process.
- **Operational**
  At an operational level, CLP aims to identify, analyse, evaluate and mitigate all operational hazards and risks. This is done in order to create a safe, healthy, efficient and environmentally friendly workplace for its employees and contractors. Other considerations include ensuring public safety and health, minimising environmental impact, and securing asset integrity and adequate insurance.

### Risk management framework

## Megatrends and material topics

CLP recognises that certain external global trends could have a significant impact on its operating environment. These megatrends encompass significant political, economic, social, environmental and technological changes that could rapidly evolve and impact on the context in which the Company operates.

Following a thorough review of transformative global megatrends, we identified decarbonisation and digitalisation as our key long-term drivers of change. This process resulted in the definition of a set of material topics to be managed, of which the ones below are the most relevant for the Company:

- Responding to climate change
- Harnessing the power of technology
- Reinforcing cyber resilience and data protection
- Building an agile, inclusive, and sustainable workforce.

Read more about CLP's responses to these material topics and future outlook ›

Read more about the key drivers and megatrends affecting CLP ›

## Year in review

CLP categorises its risk profile into six key risk areas: Operational, Commercial, Regulatory, Financial, Market, and Human Resources. The CLP risk management process is also designed to capture medium- to long-term climate change risks.

Human Resources is now reported as a standalone key risk area underlining the importance of building a sustainable workforce for the successful execution of CLP's decarbonisation and digital transformation agenda, and realisation of current and potential opportunities. Specific risks identified under each material topic are assessed in the integrated risk management process.This includes medium- to long-term climate change risks.

Read more in the 2020 Risk Management Report in the Annual Report

Find out how CLP assesses climate risk through scenario analysis ›

CASE STUDY

## Holistic assessment of new investment projects

**The CLP Group Investment Committee is mandated to review and assess acquisitions, investments, project funding, restructures and disposals proposed by the Group. The Committee is made up of senior management and is chaired by the Chief Executive Officer.**

Before major investments receive funding approval from the Investment Committee, they are subject to a multidisciplinary review process which includes both financial and non-financial components. Non-financial considerations include safety, security, social, climate change and environmental risks. Early assessment enables a reduction in the business and reputational risks associated with a project and helps guide stakeholder engagement.

Some financial institutions have adopted the Equator Principles to set minimum standards for determining, assessing and managing environmental and social risk. In 2020, around 70% of CLP's new debt funding supporting the Group's investment projects with no recourse to CLP Holdings came from banks which have adopted the Equator Principles. This increased from around 50% in 2019.

Details of the non-financial review during pre-development and development of projects are summarised in the table below. For project execution and operation, on-going management is conducted in accordance with CLP operational standards and guidelines.

| | Pre-development | Development | Execution and operation |
|---|---|---|---|
| **Climate change** | **Pre-Investment Carbon Intensity Assessment**<br>· Assesses the proposed project's impact on the Group's portfolio carbon intensity levels, and confirms how the potential investment will fit into CLP's Climate Vision 2050. | N/A | |
| **Health & Safety (H&S)** | H&S reviews the risks associated with technology throughout the project lifecycle and industrial best practices with a focus on preliminary planning for mitigation of critical risks. | H&S reviews the onboarding of key contractors by evaluating contractor competence and capabilities, and reviewing the terms and specification in contracts. Through targeted interventions CLP challenges the risk exposure to its workforce, with a firm vision to achieving zero harm. | On-going management in accordance with CLP operational standards and guidelines |
| **Environment** | **Pre-Investment Environmental Risk Assessment – Environmental Due Diligence (EDD)**<br>· Is mandatory for any potential acquisition or project.<br>· Identifies the environmental-related risks that may be material to the proposed project. In 2020, development of a physical climate risk tool commenced. It takes into account future climate projections to facilitate the identification of potential physical climate risks to the proposed project for further analysis. | **Environmental Impact Assessment (EIA)**<br>· Mandatory prior to project construction and applicable to all projects over which CLP has majority ownership or operational control.<br>· Supported by a series of Health, Safety, Security and Environment standards and guidelines.<br>· Guided by the Biodiversity Impact Assessment Guideline on managing biodiversity risks where appropriate, and considers the IUCN Red List of Threatened Species and national | |

| | Pre-development | Development | Execution and operation |
|---|---|---|---|
| | · Proposes potential mitigation measures and recommendations (e.g. environmental impact assessments, environmental management systems) as part of the budget requirement for project execution. | conservation lists of threatened species. | |
| **Social** | **Social Due Diligence (SDD)**<br>· Is mandated for any potential acquisition or project to collect information about the impacts of the target investment or project on its surrounding community.<br>· Identifies potential red flags early and helps CLP develop and maintain a constructive relationship with the host community throughout the project's lifecycle and ensures the Group meets its policy obligations.<br>· Assesses the impacts of land acquisition, displacement and resettlement, restriction of access, community safety, influx (i.e. effect on local area services, supplies and infrastructure by the project or operational staff), working conditions and cultural heritage.<br>· Suggests mitigating solutions to any issues raised. | CLP works closely with the communities, NGOs and relevant stakeholders where CLP's investment and projects are located to develop social programmes and initiatives that address the needs of the people living or working nearby. This approach is in line with CLP's community initiative policy. | |

# Corporate Governance Data

## Code of Conduct and anti-corruption

| Code of Conduct | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Breaches of Code of Conduct reported to the Audit & Risk Committee (cases) | 25 | 31 | 20 | 28 | 21 |

| Anti-corruption | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Convicted cases of corruption reported to the Audit & Risk Committee (cases) | 0 | 0 | 0 | 0 | 0 |

*The 2020 data shaded in orange have been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.*

# Safety

## Occupational health and safety

### Management approach

Using the Group-wide Health, Safety and Environment (HSE) Improvement Strategy as its base, each business unit has developed its own HSE action plan for delivery.

The CLP Group's **HSE Improvement Strategy** is based on five pillars, they are:

- Uplifting the safety culture
- Rethinking risk
- Involving stakeholders
- Maintaining a healthy and engaged workforce
- Ensuring environmental sustainability.

Each pillar emphasises a key fundamental principle for effective HSE management. It aims to uplift the Group's safety culture across all operating regions, promote more proactive risk management, and engage employees, contractors and other key stakeholders in collectively implementing changes to improve safety performance.

As part of Enterprise Risk Management, consistent standards continued to be implemented across the Group for risk management, including the identification of risks and opportunities.

Read more on CLP's Health, Safety, Security and Environment management ›

Download an overview of the safety and environmental management systems for CLP's assets

### Goals and targets

CLP is committed to ensuring all activities and operations result in zero harm for employees, contractors, customers and the public. The Group's goal is zero fatalities and zero serious injuries for employees and contractors. CLP aspires to meet this target as part of its commitment to creating a healthy and safe workplace.

### Monitoring and follow-up

The CLP Safety Performance Monitoring and Reporting Standard sets out the safety performance indicators and requirements of safety data reporting. It utilises indicators to show trends which may require more attention to prevent an incident from occurring.

Safety performance is reported internally on a monthly basis. Safety performance data is collected and presented in the monthly meetings between the Group Operations Leadership Team and the Global HSE Team. The data is also reported on a quarterly basis to the Group Health, Safety, Security and Environment (HSSE) Committee Meeting which is chaired by the Chief Executive Officer.

CLP's revamped **Incident Management Standard** sets out the minimum requirements for the implementation and maintenance of a safety incident management system across the Group. In the event of a major incident, the CLP Group Incident Investigation Panel (IIP) and Investigation Report Format Standard are followed. The IIP, chaired by senior members of staff from outside the business unit in which the accident occurred, conducts a thorough investigation. The IIP's reports are critically reviewed by the Group Chief Operating Officer and the regional Managing Director. The intention is to identify root causes and contributing factors in relation to every incident and ensure they do not occur again.

### Training and awareness

Personnel will only be asked to do work in areas in which they are deemed capable and competent to perform their roles. This requires the careful selection, placement, training, ongoing competency assessment and authorisation of employees, with third-party independent assessment where appropriate. A system is in place to identify and deliver the training necessary to ensure an individual's competence and knowledge in understanding the hazards, risks and control measures associated with their work.

At the asset level, employees have the flexibility to structure their own Health and Safety organisations and to design more specific approaches in providing relevant health and safety training, as well as monitoring the percentage of contractors who have undertaken their training. Safety training requirements are in all contracts and all contractors are expected to undergo safety training relevant to their duties. Spot checks are conducted to ensure compliance.

### Continuous improvement

Thorough investigations are conducted into all incidents that have the potential to cause serious injuries. The aim is to identify the root causes. CLP is also committed to understanding how decisions and actions would be made by employees at a particular point in time of their work. CLP is committed to learning from those closest to the work, to understand their challenges and respond by maximising the use of passive systems of defence, where possible.

CLP is committed to ongoing efforts to find new and better ways of working, by learning from investigations into incidents, as well as the adoption of best practices. For instance, the Group conducted a significant overview of its operations which involve underwater diving, with the express goal of eliminating such activities where possible. Major progress has been made in both the adoption of technology and the use of redesigned systems and equipment. In addition, principles for Human and Organisational Performance were supported through both leadership training and through less formal channels to help support their uptake and set expectations for all levels of the organisation.

## Year in review

The Group is pleased to report that there were no fatalities in 2020. This marks the first time since 2015 that the Group has been fatality-free for both employees and contractors. There was also a significant reduction in injuries on major projects.

There was an observable improvement in several key safety metrics when comparing the Group's 2020 performance against 2019. This is summarised in the table below.

### Regional safety performance (employees/contractors)

| | CLP Holdings | Hong Kong | Mainland China | India | Australia | Total | Employees and contractors combined |
|---|---|---|---|---|---|---|---|
| Fatalities (number) | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0 |
| Fatality rate (number per 200,000 manhours) | 0.00/0.00 | 0.00/0.00 | 0.00/0.00 | 0.00/0.00 | 0.00/0.00 | 0.00/0.00 | 0.00 |
| Lost time injuries (number of cases) | 0/0 | 4/5 | 2/1 | 0/2 | 6/2 | 12/10 | 22 |
| Lost time injury rate (number per 200,000 manhours) | 0.00/0.00 | 0.09/0.10 | 0.19/0.10 | 0.00/0.07 | 0.25/0.11 | 0.13/0.09 | 0.11 |
| Total recordable injury rate (number per 200,000 manhours) | 0.00/0.00 | 0.21/0.30 | 0.19/0.49 | 0.00/0.46 | 0.46/0.44 | 0.25/0.37 | 0.32 |
| Days lost / Days charged (number) – employees only | 0 | 119 | 59 | 0 | 265 | 443 | 443 |
| Occupational disease (number) – employees only | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Read more on CLP's safety performance in 2020 >

## Improving HSE management

There are five pillars in the HSE Improvement Strategy, which emphasise key fundamental principles for effective HSE management. The critical theme across all pillars is a focus on reducing the number of serious incidents. Each pillar contains a number of elements which work together to deliver the Strategy in a cohesive manner. The Strategy is being implemented over a three-year period, with the focus initially on putting enablers in place, followed by the embedding and review of actions.

CLP has made progress towards achieving the necessary changes set out by the HSE Improvement Strategy. In 2020, CLP closed significant gaps in the implementation of the five-pillar approach. Some advanced areas of implementation in the regions began to focus on the effectiveness of the established groundwork. In this effectiveness stage, post-implementation work continues to realise the purpose of the Strategy.

The table below summarises the year's activities:

**Uplifting the Safety Culture**

Group-wide: Managers received training in leadership values and engagement skills to support them in driving cultural changes within their businesses. The “Engaging Minds” training workshop was further developed to a “train the trainer” approach to allow regional business units to take ownership. The workshop also targeted leaders of mega projects teams to support them in driving project success.

Hong Kong: The Hong Kong team created four tailor-made safety foundational courses titled: "Working Safely", "Supervising Safely", "Managing Safely" and "Leading Safely". The courses received accreditation from the Institution of Occupational Safety and Health for use at CLP Power.

Australia: The EnergyAustralia team implemented a new science-based safety programme called "Advanced Error Reduction in Organisations (AERO)". AERO provides tools to help employees understand their personality tendencies, so that they can more easily recognise and manage error traps associated with certain tasks.

**Rethinking Risk**

Various approaches are being adopted across the Group to bring fresh perspectives to removing risk.

Safety in Design (SiD) aims to identify and eliminate risks at the early design stage, as well as enable safer operational design features to be incorporated sooner, so as to minimise reliance on post-design mitigations. The approach is being adopted in phases, with Phase 1 and 2a completed in the year. Phase 1 established the Group framework for SiD and eight supporting tools. Phase 2a developed three training courses to support the framework implementation and utilisation by the regions. The teams in Australia, Hong Kong and China all started implementing SiD principles into their respective regional projects.

A bowtie risk assessment is a risk evaluation method used to demonstrate causal relationships for high-risk scenarios in a visual way, which clearly articulates plausible accident scenarios that could exist. A significant number of bowtie risk assessments were conducted across the regions.

The creation and rollout of an internal NEBOSH Process Safety course across the Group further enhanced CLP’s capability of rethinking risk.

CLP’s Data Science Team employed their analysis and data mining techniques to further improve incident reporting and investigation content. The team has built a damaging energy analytics tool to monitor damaging energy sources. It provides valuable risk insight, and allows CLP to better manage its resources in terms of time, people and investment.

**Involving Stakeholders**

Involving stakeholders is a top priority of CLP's multi-disciplinary team. Many contributors either make or influence decisions that have the potential to impact workers' safety. It is important that the interests of stakeholders are understood, and proper consultation and engagement processes are established. This can ensure that decisions made in response to key stakeholders' interests are consistent with the highest standards of safety. Work will continue to focus on establishing human and organisation performance capabilities within CLP, allowing clearer visibility on work performed while leveraging frontline knowledge to find solutions.

In Hong Kong, the team conducted a series of Safety Alignment Workshops for new contracts to align safety values and solicit safety leadership commitment from contractor partners.

In March 2020, EnergyAustralia started comprehensive peer-to-peer safety checks designed to keep people safe when working from home. Well over 1,000 Working from Home checks have been completed.

**Maintaining a Healthy and Engaged Workforce**

2020 marked a significant change with the onset of COVID-19 across the globe. Employee health and wellness was promoted through flexible working arrangements, equipment setups for remote working, regular communications, as well as health and wellbeing bulletins. Each region responded comprehensively in supporting their employees, particularly in respect to mental health and ergonomics.

In 2020, CLP also established its new online Health and Wellness portal, Virgin Pulse, for launch in 2021. The portal has significantly built CLP's capacity to deliver targeted work-related health programmes. By using the portal, employees can choose the personal wellness journey that suits them.

The Hong Kong team implemented a return to work (RTW) programme entitled '*Rehabilitation, Recovery*'. An external provider was appointed to equip Human Resources and HSE employees with the necessary knowledge and skills to support the programme.

An Employee Assistance Program has also been initiated across CLP's business in Mainland China to support staff and their families through channels including a consultation hotline, monthly health newsletters and quarterly thematic workshop.

**Ensuring Environmental Sustainability**

CLP is committed to operating in an environmentally responsible manner. Read more in the Environment section of this report.

## Ensuring employees' health and safety during the COVID-19 outbreak

CLP explored the best ways to continue operating in order to deliver optimum service to customers whilst keeping its employees safe during the COVID-19 pandemic. This is discussed in the Keeping people safe and well section of this report.

Different business units have also implemented tailored initiatives to cater for local needs. For instance, the Pandemic Response Team in EnergyAustralia conducted ergonomic and safety checks for employees working from home. In India, the '*Together@Home*' contest helped connect employees by encouraging them to share lockdown stories related to themes such as positivity, creativity and kindness.

# Safety around CLP's network

## Management approach

Customer health and safety concerns are largely related to electromagnetic fields (EMF) arising from the CLP power system. Measurements of EMF remain well below international guidelines.

While the Group's HSSE Management System Standard sets out an overarching approach to managing the safety risks in operations, responsibility is also taken for preserving public health and safety, including for people who work or live in proximity to electricity supply lines.

CLP operates a transmission and distribution network in Hong Kong, as well as transmission networks in Shenzhen, Mainland China and Madhya Pradesh, India. Working near electricity supply lines can pose safety concerns. The Hong Kong and Mainland China operations conduct regular construction site inspections and provide cable plans and safety talks to road work contractors and site management personnel to enhance safety awareness at all locations. The Fangchenggang Incremental Distribution Network project commenced operation in January 2020. There will be continuous HSSE-related training and monitoring conducted throughout the project in reference to CLP's safety philosophy and best practices.

EMF arising from power systems can be of public health concern. CLP power supply equipment fully complies with the guidelines issued by the International Commission on Non-Ionizing Radiation Protection. Regular EMF measurements of power supply equipment are carried out jointly with the Electrical and Mechanical Services Department of the Hong Kong Government. The measured EMF levels are well below the guideline limits.

Regarding customer health and safety, CLP Power has customer service centres conveniently located in its supply areas in Hong Kong to provide assistance in regard to product safety, as well as advice on energy efficient products, energy saving tips and other account management issues. In 2020, there were no reportable cases of CLP products affecting customer health and safety in Hong Kong.

CASE STUDY

### Community engagement on safe use of electricity

**As an electricity provider, CLP aims to provide sufficient information to users on how to use electricity safely and efficiently.**

Education is best started at young age, and CLP provides an education series for kindergartens covering three topics – energy saving, power safety, and electricity. The *POWER YOU Kindergarten Education Kit Programme* delivers education through audible story books, cartoons, song, and online games.

When face-to-face classes were suspended by COVID-19, CLP provided an online series of education materials, covering the topics of energy saving, power safety and power journey, to kindergarten and primary school teachers and parents to facilitate their teaching at home. It was adapted to encourage students to learn and adopt "green living" with family members in their home environment.

The format of community events was also switched to online mode. The annual CLP Power *Sharing the Festive Joy Programme* which encourages senior citizens to use power safely and realise energy savings, was presented online. Five online events for more than 200 people were hosted to celebrate the Tuen Ng Festival.

To engage our customers, CLP Power has a dedicated educational webpage to deliver electricity knowledge, provide tips and timely support for dealing with power interruptions, as well as educate the public on typhoon preparedness. Customers with smart meters also receive alerts about power outages caused by supply network issues through the CLP app, mobile SMS, or email.


*CLP volunteers celebrated the Tuen Ng Festival online and shared power safety knowledge with elderly guests.*

# Nuclear safety

## Management approach

CLP is the minority owner of two nuclear power stations in Mainland China. The power stations have adopted defence-in-depth principles to ensure multiple independent layers of safety protection.

Since 1985, CLP has held a 25% equity share in the Guangdong Daya Bay Nuclear Power Station (GNPS), which provides roughly one third of the electricity supplied to CLP's customers in Hong Kong. In 2017, CLP's nuclear portfolio was expanded with a 17% equity investment in Yangjiang Nuclear Power Co. Ltd. which operates Yangjiang Nuclear Power Station (YNPS) in Guangdong. Nuclear power has proved to be a reliable, cost-competitive and clean source of energy. CLP continuously seeks investment opportunities for new capacity in low-carbon energies, such as nuclear and renewables, to realise the Group's decarbonisation vision.

### Nuclear risk management

The safe and steady operation of the two nuclear power stations is always the top priority. The defence-in-depth principle is applied across a full spectrum of areas from design, site selection, operation, radiation protection, environmental monitoring, to emergency preparedness. The safety principle of "As Low As Reasonably Achievable" (ALARA) is also applied to ensure robust radiation protection.

The two nuclear power stations have achieved good safety performance over the years, with no reportable incidences occurring in 2020. This achievement is a result of:

- Adopting best international practices, including the IAEA Nuclear Safety Standards, in its operation;
- A well-trained and qualified workforce;
- Well-established safety practices and procedures; and
- Comprehensive risk analysis and mitigation.

Download HKNIC's "Understanding nuclear power" brochure

Learn more about the contingency plan of GNPS

### Nuclear waste management

GNPS follows national policy and international practices for nuclear waste management. The station stores its spent nuclear fuel onsite in dedicated storage facilities.

The back-end management of the fuel cycle remains on site for a number of years before being passed on to a service provider licensed by the Mainland Chinese Government for reprocessing. The service provider is supervised by the National Nuclear Safety Administration (NNSA) and its environmental impact is monitored by the Ministry of Ecology and Environment (MEE). The policy in Mainland China on reprocessing spent nuclear fuel is similar to that of a number of European countries.

As the minority owner of GNPS, CLP is not in a position to report the development of back-end management of the fuel cycle in China, including the status of the planned reprocessing plants for spent fuel.

Low- to intermediate-level solid radioactive waste is packed and stored in a dedicated facility on-site on an interim basis, and is secured to prevent unauthorised access. The waste is transferred to a final repository operated by a service provider, using the shallow burial method commonly adopted in the United States, France and the United Kingdom. The operation of the off-site repository is under the supervision of the national nuclear regulator and relevant nuclear safety regulations.

### Monitoring and follow-up

Radiation exposure for workers is closely monitored and managed by plant operators both collectively and at an individual level as part of operating protocols. Workers incur most of their radiation dosage during planned refuelling outages, when much of the work is undertaken at the nuclear generating units. The level of radiation dosage is typically associated with the number of planned outages carried out at the units, which require inspection and maintenance activities in radiation-controlled areas.

### Training and awareness

An on-site training school provides professional training on operational procedures for nuclear sites. The training aims to enhance nuclear safety and systematically minimise human error. There is a once-every-two-years requalification mechanism to ensure operator professionalism and competency in plant operation.

In line with good business practice, GNPS has also provisioned for the expenses associated with the future decommissioning of the plant as required by relevant laws and regulations.

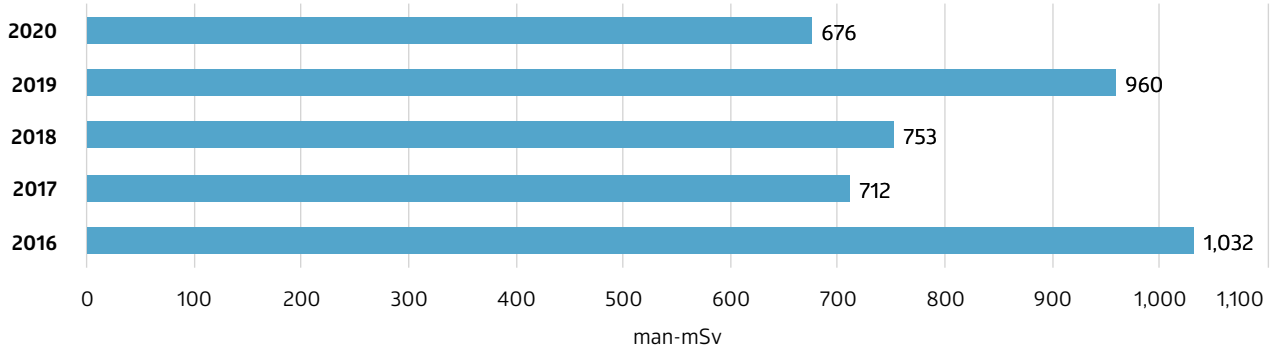
# Year in review

GNPS continued to operate smoothly in 2020. There was no Licensing Operational Event or reportable nuclear safety incidents in the year.

The total quantity of nuclear waste from GNPS was lower in 2020 than in 2019 due to one planned refuelling outage carried out in the year, as opposed to two outages in 2019. The average dose rate in 2020 was less than 0.4 mSv per person per year. For the purpose of comparison, the background radiation dose rate for Hong Kong is 2.4 mSv per person per year from the natural environment.

## Collective radiation dosage for workers

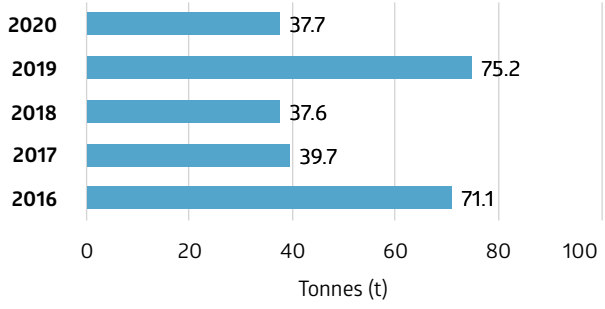
The collective radiation dosage for the year was 676 man-mSv, lower than the 2018 level of 753 man-mSv when there was also one planned refuelling outage.




The charts below show the amount of spent nuclear fuel and low- to intermediate-level radioactive nuclear waste from GNPS over the last several years. The amounts of both types of waste are related to the number of planned refuelling outages in each year.

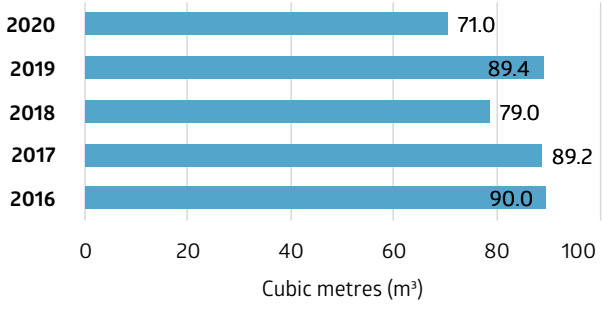
## Spent nuclear fuel

The amount of spent nuclear fuel in 2020 was at the expected level given the one planned refuelling outage, while there were two in year 2019.




## Solid radioactive nuclear waste

There was a decrease in low- to intermediate- level nuclear waste in 2020 due to only one planned refuelling outage.



# Safety Data

## Occupational health and safety

| Group safety performance | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Employees and contractors**[1] | | | | | |
| Fatalities (number) – employees[2] | **0** | 0 | 1 | 0 | 0 |
| Fatalities (number) – contractors[2] | **0** | 1 | 1 | 4 | 3 |
| Fatality Rate (number per 200,000 manhours) – employees[2,3] | **0.00** | 0.00 | 0.01 | 0.00 | 0.00 |
| Fatality Rate (number per 200,000 manhours) – contractors[2,3] | **0.00** | 0.01 | 0.01 | 0.03 | 0.02 |
| Lost Time Injuries (number of cases) – employees[4] | **12** | 7[5] | 11 | 11 | 3 |
| Lost Time Injuries (number of cases) – contractors[4] | **10** | 19 | 11 | 16 | 10 |
| Lost Time Injury Rate (number per 200,000 manhours) – employees[3,4] | **0.13** | 0.07 | 0.13 | 0.13 | 0.04 |
| Lost Time Injury Rate (number per 200,000 manhours) – contractors[3,4] | **0.09** | 0.14 | 0.09 | 0.14 | 0.07 |
| Total Recordable Injury Rate (number per 200,000 manhours) – employees[3,6] | **0.25** | 0.19 | 0.19 | 0.21 | 0.11 |
| Total Recordable Injury Rate (number per 200,000 manhours) – contractors[3,6] | **0.37** | 0.52 | 0.29 | 0.36 | 0.19 |
| Days Lost / Days Charged (number) – employees[7,8] | **443**[9] | 464[10] | 249 | 252 | 9 |
| Occupational Disease (number) – employees | **0** | 0 | 1 | 0 | 0 |
| **Employees and contractors combined**[1] | | | | | |
| Fatalities (number) | **0** | 1 | 2 | 4 | 3 |
| Fatality Rate (number per 200,000 manhours) | **0** | 0.00 | 0.01 | 0.02 | 0.01 |
| Lost Time Injuries (number of cases) | **22** | 26 | 22 | 27 | 13 |
| Lost Time Injury Rate (number per 200,000 manhours) | **0.11** | 0.11 | 0.10 | 0.13 | 0.06 |
| Total Recordable Injury Rate (number per 200,000 manhours) | **0.32** | 0.38 | 0.25 | 0.29 | 0.16 |
| Days Lost / Days Charged (number) – employees only | **443** | 464 | 249 | 252 | 9 |
| Occupational Disease (number) – employees only | **0** | 0 | 1 | 0 | 0 |

1 The system of rules applied in recording and reporting accident statistics complies with the International Labour Organization (ILO) code of Practice on Recording and notification of Occupational Accidents and Diseases. Each year's safety data cover the incidents that happened in that calendar year and are based on the latest information available at the time of publication.
2 A fatality is the death of an employee or contractor personnel as a result of an occupational illness/ injury/ disease incident in the course of employment.
3 All rates are normalised to 200,000 worked hours, which approximately equals to the number of hours worked by 100 people in one year.
4 Refers to an occupational illness / injury / disease sustained by an employee or contractor personnel causing him / her to miss one scheduled workday / shift or more after the day of the injury (including fatalities). A lost time injury does not include the day the injury incident occurred or any days that the injured person was not scheduled to work and it does not include restricted work injuries.
5 The health-related lost-time-injury in Australia was reported as lost time injury. It can also be categorised as occupational disease in Australia.
6 Total recordable injuries count all occupational injury incidents and illnesses other than first aid cases. They include fatalities, lost time injuries, restricted work injuries, and medical treatment. The number of total recordable injury refers to the number of personnel with recordable injuries.
7 An occupational illness / injury / disease sustained by an employee or contractor personnel causing him / her to miss one scheduled workday / shift or more after the day of the injury (including fatalities). A lost time injury does not include the day the injury incident occurred or any days that the injured person was not scheduled to work and it does not include restricted work injuries.
8 Refers to the number of working days lost when workers are unable to perform their usual work because of an occupational accident or disease. A return to limited duty or alternative work for the same organisation does not count as lost days.
9 188 out of 443 days were carried forward from one incident in the past.
10 158 out of 464 days were carried forward from three incidents in the past.

| Regional safety performance | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **CLP Holdings**[2] | | | | | |
| Fatalities (number) – employees | **0** | 0 | 0 | 0 | 0 |
| Fatalities (number) – contractors | **0** | 1 | 0 | 0 | 0 |
| Fatality Rate (number per 200,000 manhours) – employees | **0.00** | 0.00 | 0.00 | 0.00 | 0.00 |
| Fatality Rate (number per 200,000 manhours) – contractors | **0.00** | 0.24 | 0.00 | 0.00 | 0.00 |
| Lost Time Injuries (number of cases) – employees | **0** | 0 | 0 | 0 | 0 |
| Lost Time Injuries (number of cases) – contractors | **0** | 2 | 0 | 0 | 0 |
| Lost Time Injury Rate [LTIR] (number per 200,000 manhours) – employees | **0.00** | 0.00 | 0.00 | 0.00 | 0.00 |
| Lost Time Injury Rate [LTIR] (number per 200,000 manhours) – contractors | **0.00** | 0.48 | 0.00 | 0.00 | 0.00 |
| Total Recordable Injury Rate [TRIR] (number per 200,000 manhours) – employees | **0.00** | 0.00 | 0.00 | 0.00 | 0.48 |
| Total Recordable Injury Rate [TRIR] (number per 200,000 manhours) – contractors | **0.00** | 0.48 | 0.00 | 0.00 | 0.00 |
| Days Lost / Days Charged (number) – employees | **0** | 0 | 0 | 0 | 0 |
| Occupational Disease (number) – employees | **0** | 0 | 0 | 0 | 0 |
| **Hong Kong**[2] | | | | | |
| Fatalities (number) – employees | **0** | 0 | 0 | 0 | 0 |
| Fatalities (number) – contractors | **0** | 0 | 0 | 4 | 0 |
| Fatality Rate (number per 200,000 manhours) – employees | **0.00** | 0.00 | 0.00 | 0.00 | 0.00 |
| Fatality Rate (number per 200,000 manhours) – contractors | **0.00** | 0.00 | 0.00 | 0.07 | 0.00 |
| Lost Time Injuries (number of cases) – employees | **4** | 4 | 5 | 1 | 0 |
| Lost Time Injuries (number of cases) – contractors | **5** | 15 | 5 | 9 | 1 |
| Lost Time Injury Rate [LTIR] (number per 200,000 manhours) – employees | **0.09** | 0.09 | 0.10 | 0.02 | 0.00 |
| Lost Time Injury Rate [LTIR] (number per 200,000 manhours) – contractors | **0.10** | 0.21 | 0.08 | 0.16 | 0.02 |
| Total Recordable Injury Rate [TRIR] (number per 200,000 manhours) – employees | **0.21** | 0.19 | 0.15 | 0.08 | 0.00 |
| Total Recordable Injury Rate [TRIR] (number per 200,000 manhours) – contractors | **0.30** | 0.51 | 0.20 | 0.29 | 0.10 |
| Days Lost / Days Charged (number) – employees | **119** | 246 | 120 | 47 | 0 |
| Occupational Disease (number) – employees | **0** | 0 | 0 | 0 | 0 |
| **Mainland China**[2] | | | | | |
| Fatalities (number) – employees | **0** | 0 | 0 | 0 | 0 |
| Fatalities (number) – contractors | **0** | 0 | 0 | 0 | 1 |
| Fatality Rate (number per 200,000 manhours) – employees | **0.00** | 0.00 | 0.00 | 0.00 | 0.00 |
| Fatality Rate (number per 200,000 manhours) – contractors | **0.00** | 0.00 | 0.00 | 0.00 | 0.03 |
| Lost Time Injuries (number of cases) – employees | **2** | 0 | 0 | 0 | 0 |
| Lost Time Injuries (number of cases) – contractors | **1** | 0 | 0 | 0 | 2 |
| Lost Time Injury Rate [LTIR] (number per 200,000 manhours) – employees | **0.19** | 0.00 | 0.00 | 0.00 | 0.00 |
| Lost Time Injury Rate [LTIR] (number per 200,000 manhours) – contractors | **0.10** | 0.00 | 0.00 | 0.00 | 0.06 |

| Regional safety performance | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Total Recordable Injury Rate [TRIR] (number per 200,000 manhours) – employees | **0.19** | 0.10 | 0.00 | 0.00 | 0.00 |
| Total Recordable Injury Rate [TRIR] (number per 200,000 manhours) – contractors | **0.49** | 0.00 | 0.07 | 0.06 | 0.06 |
| Days Lost / Days Charged (number) – employees | **59** | 0 | 0 | 0 | 0 |
| Occupational Disease (number) – employees | **0** | 0 | 0 | 0 | 0 |
| **India**[2] | | | | | |
| Fatalities (number) – employees | **0** | 0 | 0 | 0 | 0 |
| Fatalities (number) – contractors | **0** | 0 | 0 | 0 | 2 |
| Fatality Rate (number per 200,000 manhours) – employees | **0.00** | 0.00 | 0.00 | 0.00 | 0.00 |
| Fatality Rate (number per 200,000 manhours) – contractors | **0.00** | 0.00 | 0.00 | 0.00 | 0.05 |
| Lost Time Injuries (number of cases) – employees | **0** | 0 | 0 | 0 | 0 |
| Lost Time Injuries (number of cases) – contractors | **2** | 0 | 2 | 1 | 4 |
| Lost Time Injury Rate [LTIR] (number per 200,000 manhours) – employees | **0.00** | 0.00 | 0 | 0.00 | 0.00 |
| Lost Time Injury Rate [LTIR] (number per 200,000 manhours) – contractors | **0.07** | 0.00 | 0.06 | 0.03 | 0.11 |
| Total Recordable Injury Rate [TRIR] (number per 200,000 manhours) – employees | **0.00** | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Recordable Injury Rate [TRIR] (number per 200,000 manhours) – contractors | **0.46** | 0.68 | 0.19 | 0.20 | 0.30 |
| Days Lost / Days Charged (number) – employees | **0** | 0 | 0 | 0.00 | 0.00 |
| Occupational Disease (number) – employees | **0** | 0 | 0 | 0 | 0 |
| **Australia**[2] | | | | | |
| Fatalities (number) – employees | **0** | 0 | 1 | 0 | 0 |
| Fatalities (number) – contractors | **0** | 0 | 1 | 0 | 0 |
| Fatality Rate (number per 200,000 manhours) – employees | **0.00** | 0.00 | 0.04 | 0.00 | 0.00 |
| Fatality Rate (number per 200,000 manhours) – contractors | **0.00** | 0.00 | 0.06 | 0.00 | 0.00 |
| Lost Time Injuries (number of cases) – employees | **6** | 3 | 6 | 10 | 3 |
| Lost Time Injuries (number of cases) – contractors | **2** | 2 | 4 | 6 | 3 |
| Lost Time Injury Rate [LTIR] (number per 200,000 manhours) – employees | **0.25** | 0.10 | 0.26 | 0.43 | 0.14 |
| Lost Time Injury Rate [LTIR] (number per 200,000 manhours) – contractors | **0.11** | 0.12 | 0.26 | 0.62 | 0.46 |
| Total Recordable Injury Rate [TRIR] (number per 200,000 manhours) – employees | **0.46** | 0.31 | 0.44 | 0.60 | 0.37 |
| Total Recordable Injury Rate [TRIR] (number per 200,000 manhours) – contractors | **0.44** | 0.62 | 1.09 | 1.85 | 1.06 |
| Days Lost / Days Charged (number) – employees | **265** | 218 | 129 | 205 | 9 |
| Occupational Disease (number) – employees | **0** | 0 | 1 | 0 | 0 |

1 Starting from 2019, CLPe Solutions has been reported under CLP Holdings to align with a change in internal reporting. Before that, it was reported under Hong Kong.

2 The system of rules applied in recording and reporting accident statistics complies with the International Labour Organization (ILO) code of Practice on Recording and notification of Occupational Accidents and Diseases. Each year's safety data cover the incidents that happened in that calendar year and are based on the latest information available at the time of publication.

| Nuclear Safety | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Workers** | | | | | |
| Collective radiation dosage for workers (man-mSv) | **676** | 960 | 753 | 712 | 1,032 |
| **Nuclear-related waste** | | | | | |
| Spent nuclear fuel (t) | **37.7** | 75.2 | 37.6 | 39.7 | 71.1 |
| Low- to intermediate-level radioactive nuclear waste ($m^3$) | **71.0** | 89.4 | 79.0 | 89.2 | 90.0 |

*2020 data shaded in orange have been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.*

# Environment

## Environmental management

### Management approach

CLP's Group-wide environmental management efforts align with the Health, Safety, Security and Environment (HSSE) Management System, which is driven by the new integrated Group HSSE Policy.

#### Strategies and procedures

The HSSE Management System states that the environmental risks associated with a project's operational life cycle should be appropriately managed.

The environmental aspects covered in the HSSE Management System include:

- Environmental impact assessments
- Environmental monitoring
- Environmental Management System (EMS) development
- Environmental due diligence
- Data management systems.

More about CLP's HSSE Management System >

As part of CLP's Pre-investment Environmental Risk Assessment, an Environmental Due Diligence (EDD) is conducted at the project planning stage, followed by a more detailed Environmental Impact Assessment (EIA) if needed. During the EIA, key environmental impacts such as air quality and biodiversity assessments are conducted where applicable.

CLP takes great care in conducting all EIAs and is committed to fulfilling the requirements and recommendations stipulated in EIA reports and local regulations. Processes are in place to ensure the EIA recommendations are implemented. Planning procedures extend beyond compliance in countries where regulations are not as stringent. For instance, CLP mandates an EIA for all major generation projects in India, even though it is not a statutory requirement for renewable energy projects in the country.

Read about how environmental aspects are considered in new projects >

CLP is currently refreshing its HSSE Management System, including the EMS contained within it. This is used as a management tool to identify and manage significant environmental risks arising from operations. The refresh will deliver specific environmental operational controls designed to provide a systematic approach to continually improving the environmental performance of assets. During the transition to the refreshed HSSE Managment System, certain environmental standards and guidelines from the existing EMS will continue to support daily operations.

Under its HSSE Management System, CLP requires power generation assets, of which it has operational control, to achieve third-party certification to the international standard, ISO 14001 environmental management systems, within two years from commencement of operation or acquisition. In 2020, all assets in this category have successfully certified their environmental management system to the ISO 14001: 2015 standard.

Download the environmental management systems of CLP's assets

#### Monitoring and follow-up

CLP recognises that the development of goals and targets can help monitor progress in using environmental resources efficiently. Since 2019, the Group started to develop environmental targets for key environmental performance indicators.

CLP has also developed an environmental monitoring process to be applied at project level. It specifies how environmental conditions should be assessed and assists with the design and implementation of suitable measures.

# Environmental regulations and compliance

## Management approach

CLP has developed voluntary standards and new investment assessment approaches that go beyond legal requirements.

It is fundamental that CLP fully complies with applicable environmental laws and regulations in the jurisdictions in which it operates. Established processes are in place to review relevant environmental requirements for new investments.

If an incident occurs at an asset under CLP's operational control, it is classified and recorded in a timely manner in accordance with the relevant internal process. Incidents managed through this process include notifications of any fines or prosecution from local authorities.

## Year in review

In the year ending 31 December 2020, there were no environmental regulatory non-compliances that resulted in fines or prosecution, and there was a decrease in licence exceedance.

A table outlining the Company's environmental regulatory performance is featured below.

### Environmental regulatory non-compliance and licence exceedances

| | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Environmental regulatory non-compliances resulting in fines or prosecutions | 0 | 0 | 0 | 0 | 0 |
| Environmental licence limit exceedances & other non-compliances | 4 | 10 | 2 | 13 | 2 |

In 2020, Jhajjar Power Station in India continued to implement enhanced control and monitoring processes to improve its emission performance, resulting in a reduction in the number of licence exceedances. There was one minor licence limit exceedance for nitrogen oxides ($NO_x$) at the plant in 2020 which did not result in any action by the local authorities. Jhajjar has successfully achieved 100% utilisation of the ash generated as well as the ash stored in the ash dyke up to December 31, 2020 and was compliant with the authority's ash utilisation requirements on thermal power plants in this regard.

At EnergyAustralia, a total of three environmental licence non-compliances were reported. There was a minor chemical spillage incident at Newport Power Station involving ferrous sulphate, and a minor brine waste leakage incident at Mount Piper. Environmental agencies were notified of the two incidents, and no fines or penalties were imposed. At Mount Piper, there was also an administrative breach with the water quality monitoring requirements under the new licence. Corrective action has been taken to prevent a repeat of these incidents.

Environmental regulatory requirements are becoming more stringent in many locations. CLP is monitoring these developments closely. A summary of the key upcoming environmental regulations that could affect business units are listed below. Emerging policy changes related to greenhouse gas (GHG) emissions can be found here.

For Mainland China, no key emerging environmental regulation updates that are considered relevant have been identified.

## Key emerging environmental regulations

### Hong Kong

- The emission allowances of CLP's power plants have been progressively tightened over time. Since the introduction of the first Technical Memorandum (TM) of the Air Quality Control Ordinance in 2010, the emission allowances for sulphur dioxide ($SO_2$), $NO_X$, and Respiratory Suspended Particulates (RSP) have been tightened by 71%, 44% and 44% respectively. In 2020, the emission allowance was tightened a further by 9% to 12% from the very tight base of 2019. CLP Power Hong Kong has fully complied with these targets. Discussion with the Government on the review of the latest TM has started. A new set of emissions caps for the power stations starting from 2026 is expected to be promulgated in 2021.

### India

- In October 2020, the revision of emission norms of $NO_x$ for Jhajjar Power Station under India's legal process was completed and formally gazetted. The power station was prepared to meet the revised limit.

### Australia

- Mount Piper Power Station is implementing measures and controls to ensure compliance with the tightened emission limits specified in its new licence. Environmental Protection Authority (EPA) Victoria released a draft licence for Yallourn Power Station. The licence covers various environmental matters, including tightened emission limits and monitoring requirements. Engagement is being carried out with EPA Victoria intending to finalise the licence in early 2021.
- Yallourn, Newport and Jeeralang Power Stations continued to implement measures to ensure compliance with the new environmental legislation in Victoria on managing environmental issues, such as waste and pollution avoidance. These changes have been deferred by 12 months from 1 July 2020 due to COVID-19. EnergyAustralia continued to monitor the Victorian Government's plans to introduce new legislation on GHG emissions reduction targets, which have also been deferred for finalisation in 2021.

# Air emissions

## Management approach

Air quality remains a challenge in many of the geographies in which CLP operates. As CLP expands its renewable and nuclear energy portfolio, air pollutant emission intensities have reduced. Nonetheless, further reductions on the net emissions from thermal power stations remain high on the Group's agenda.

### Strategies and procedures

CLP's Power Plant Air Emissions Standard stipulates that any fossil fuel-based power plant developed after the effective date of the Standard is required to operate within CLP's prescribed limits on sulphur dioxide ($SO_2$), nitrogen oxides ($NO_x$) and total particulate matter (total PM), or they must fully comply with local regulations, whichever is more stringent.

In addition to incorporating state-of-the-art air emissions mitigation measures into plant management processes, CLP also designs new gas-fired power stations with advanced generation technologies. These new technologies more efficiently produce electricity, and assist in further lowering emissions and greenhouse gases.

### Monitoring and follow-up

The Company continuously monitors air emissions ($SO_2$/$NO_x$ /total PM) from facilities under its operational control using a continuous emissions monitoring system and/or stack sampling and mass-balance calculation methodologies. CLP also regularly monitors mercury emission using stack sampling in accordance with local regulations.

## Year in review

CLP's total air emissions ($SO_2$, $NO_x$ and total PM) were maintained at around 98.1kt in 2020. There was an increase in $SO_2$ and a decrease in both $NO_x$ and total PM, while total electricity generation decreased in the year.

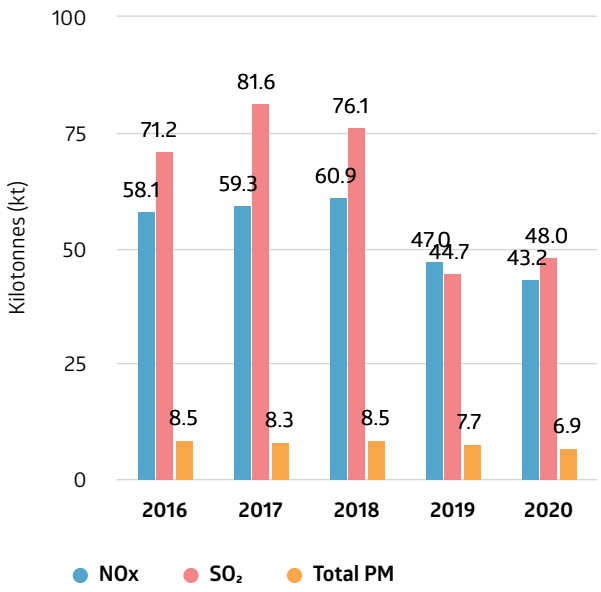
CLP has implemented different types of emission control measures in its thermal plants which are now a part of normal operations. Since 1990 electricity demand in CLP Power's service area in Hong Kong has grown by over 80%, but the Company has achieved more than 90% emissions reduction in $SO_2$, $NO_x$ and RSP during the same period. Air emissions have fallen as a result of various emission reduction efforts. In the Group's other assets, the emission control equipment for $SO_2$ and $NO_x$ in Fangchenggang Power Station, and the installation of flue gas desulphurisation (FGD) units in Jhajjar Power Station, which were fully implemented in 2019, achieved a 90% reduction in $SO_2$ since 2017.

In the year, Hallett Power Station in Australia completed the installation of a new fast-start gas-fired generator of 30MW. It was commissioned in April 2020. The new gas generator uses less fuel as compared with other generators on site. This will improve the overall generation efficiency of the plant, and also improve its emission performance of $NO_x$ and $CO_2$.

In Hong Kong, the new 550MW gas-fired generation unit at Black Point Power Station and another one of similar capacity planned for commissioning by 2023 will further reduce emissions. CLP Power is also aware of the high global warming potential of sulphur hexafluoride ($SF_6$), an insulating gas commonly used in switchgears and transmission lines, and is vigilant in the control of $SF_6$ leakage throughout the life cycle of electrical equipment. It has explored non-$SF_6$ gas equipment in the market and trialled 11kV non-$SF_6$ gas switchgears.

### Group-level air emissions

Emission control equipment upgrades in selected plants and reduced generation in CLP's coal-fired power stations contributed to an overall reduction in emissions since 2019. The increase in $SO_2$ in 2020 was mainly due to increased generation at Mount Piper Power Station.



# Waste

## Management approach

While the volume of solid and liquid waste generated by CLP operations is relatively small, projects involving demolition and construction do increase the amount of non-hazardous solid waste.

### Strategies and procedures

CLP endeavours to reduce both the hazardous and non-hazardous waste it produces, and works with qualified parties and partners to reuse or recycle whenever possible. All wastes are managed according to the waste management hierarchy (i.e. prevent, reduce, reuse, recycle, replace, treat and dispose). CLP seeks to avoid the use of hazardous materials and replace them with alternatives wherever possible. All hazardous and non-hazardous wastes are managed in accordance with local regulations, collected by licensed collectors, or sold for recycling.

At CLP's coal-fired power stations, coal ash from coal combustion and gypsum from the flue gas desulphurisation process constitutes the majority of generation by-products. The aim is to use them as a resource for construction and other applications in line with local regulations and practices rather than disposal.

### Monitoring and follow-up

CLP monitors its waste generation monthly by tracking solid and liquid forms of hazardous and non-hazardous waste produced and recycled at its facilities.

## Year in review

CLP's non-hazardous solid waste increased to 17,901 tonnes in 2020, compared to 13,344 tonnes in 2019. The increase was mainly due to the plant facility enhancement projects at Castle Peak Power Station and Black Point Power Station in Hong Kong.

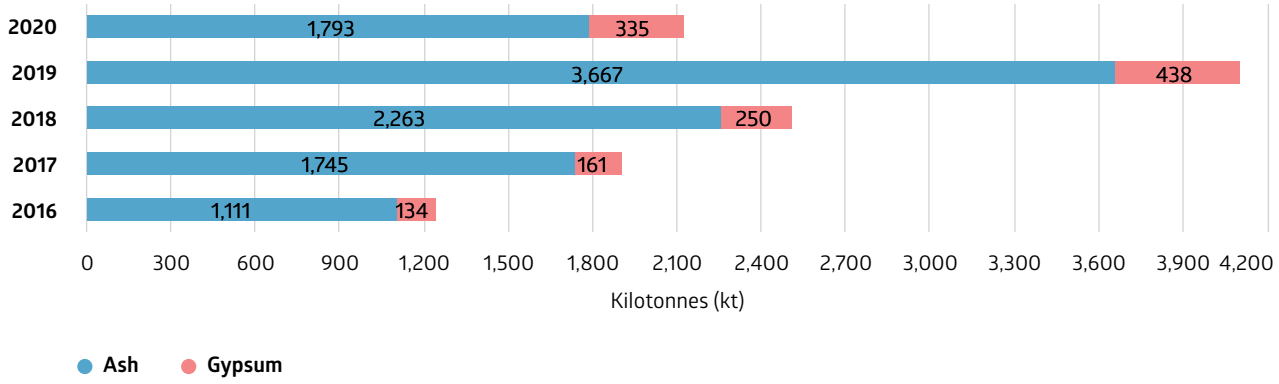
Generation of hazardous solid waste increased while hazardous liquid waste decreased in 2020, resulting from different plant maintenance activities across the Group. CLP continued to sell its generation by-products such as ash and gypsum for use in other industries where feasible.

The Group's power stations run different programmes to manage waste, and learnings are shared with both colleagues and contractors to raise awareness and build capacity. Key programmes in 2020 include:

- **Jhajjar Power Station:** Despite a country-wide lockdown, CLP India was able to achieve a 100% utilisation rate of ash generated in 2020. Apart from its enhanced ash handling systems, Jhajjar ensured that reuse and recycling contracts were in place with cement manufacturers, construction industries and various traders. CLP India also actively pursued opportunities such as using ash for brick manufacturing, as well as road and bridge construction projects.
- **Jinchang Solar Power Station:** CLP China continued to utilise the initiative from solar panel manufacturers to take back any damaged panels for recycling. The aluminium frames which account for a large part of the waste are reused, and other components such as silicon and silver embedded in the panels are recovered. Since 2017, over 2,000 solar panels have been returned for recycling.
- **Fangchenggang Power Station:** CLP continued its trial of using white mud, a by-product generated by a paper mill factory, to partially replace the use of limestone in the plant's flue gas desulphurisation process. In 2020, around 1,150 tonnes of white mud were used, reducing the use of limestone and recycling solid waste produced from the local paper mill.
- **CLP Power Hong Kong:** CLP actively encouraged employees to reduce their use of single-use plastics for take-away meals and home deliveries during the outbreak of COVID-19. Furthermore, an electronic meal ticket system was rolled out in the canteens of Castle Peak Power Station and Black Point Power Station. The electronic system replaces the issue of 260,000 paper tickets a year.

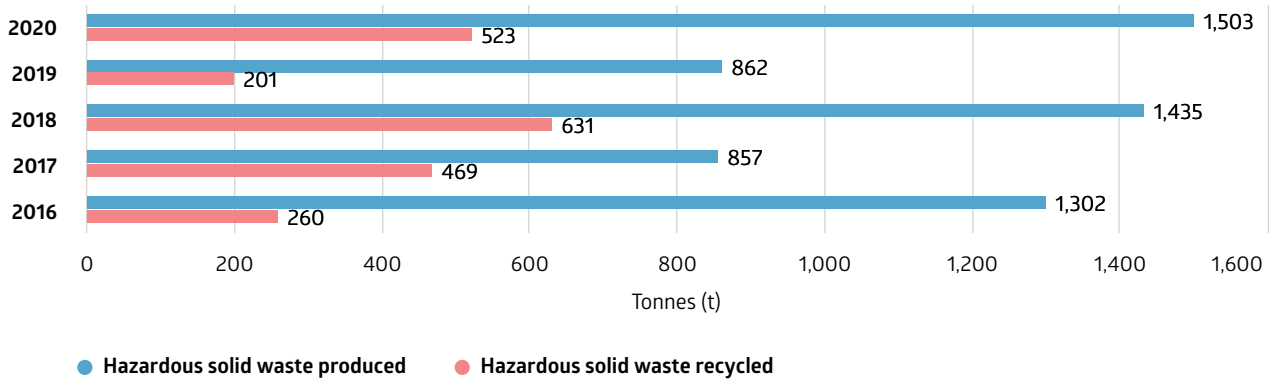
## Ash and gypsum by-products recycled or sold

Power generation at coal-fired power stations in Hong Kong and India reduced in 2020, resulting in a reduction in the total amount of ash and gypsum by-product recycled or sold.



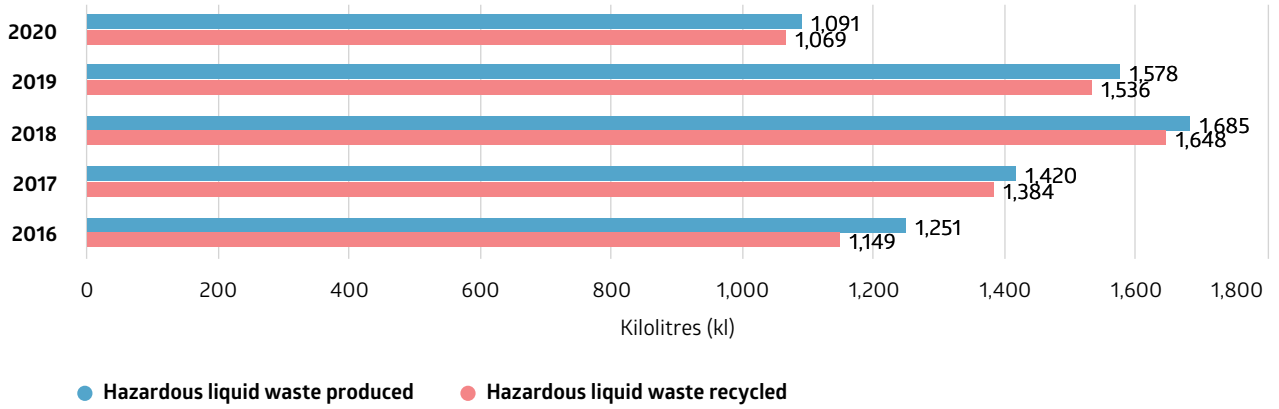

## Hazardous solid waste produced and recycled

The increase in total hazardous solid waste produced and recycled in 2020 was mainly from maintenance activities in Fangchenggang Power Station and Yallourn Power Station.



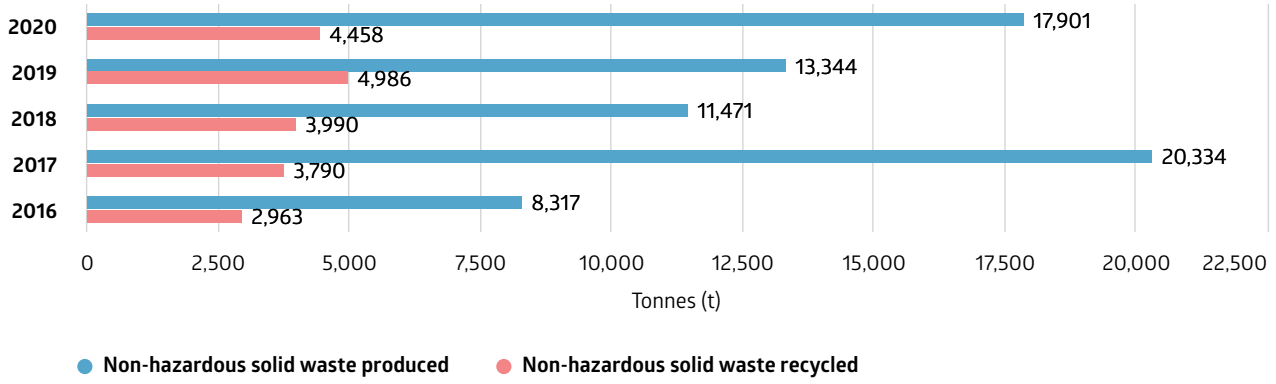

## Hazardous liquid waste produced and recycled

Hazardous liquid waste is mainly produced from maintenance activities. Year-on-year variations are in line with maintenance activities at each site during the year.



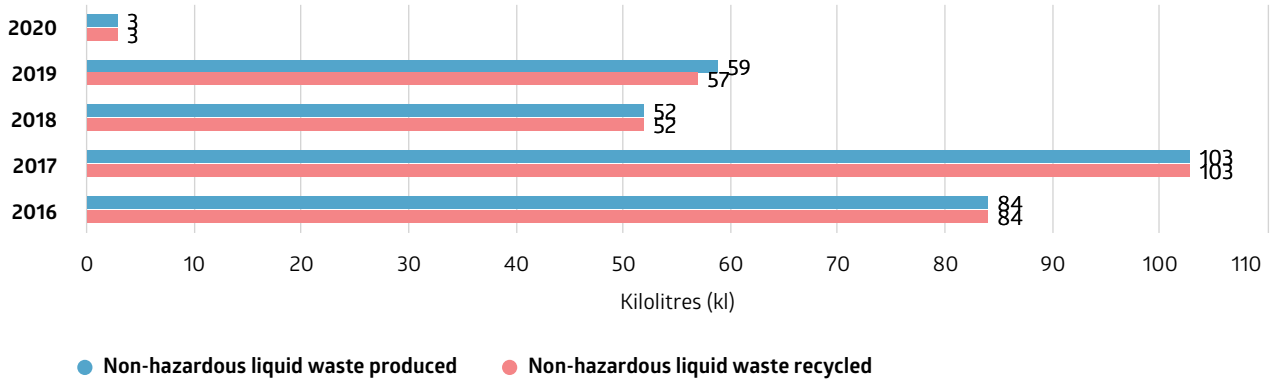
## Non-hazardous solid waste produced and recycled

Plant facilities' enhancements produced more construction waste from projects at Castle Peak Power Station and Black Point Power Station in Hong Kong, leading to an overall increase in non-hazardous solid waste produced in 2020.




## Non-hazardous liquid waste produced and recycled

The total amount of non-hazardous liquid waste produced and recycled decreased in 2020. The amount produced is considered immaterial as compared with the total waste produced in the year.



# Water

## Management approach

The CLP Group uses seawater cooling or water re-circulation processes in its power stations to minimise water consumption and environmental impacts.

### Strategies and procedures

The quantity of water withdrawal and discharge in CLP's operations is dominated by thermal plants using once-through seawater cooling. In this process, large quantities of seawater are used for cooling and returned to the sea with only a slight increase in water temperature. The total volume of water withdrawal and discharge is dependent on the total electricity generated.

Where freshwater is withdrawn for operations, CLP strives to reduce water use and reduce the freshwater intensity of the electricity generated. CLP's power stations carry out a range of water conservation initiatives depending on site conditions, operational situations and age. The amount of water which can be recycled depends on factors such as location, power station design, and regulatory requirements.

### Monitoring and follow-up

The Company assesses water availability in the planning stage of projects including the likelihood of water scarcity in the future and during plant operations. It is important to ensure water availability in power stations to ensure operations will not be disrupted. However, engaging with and understanding the needs of local stakeholders is also prioritised to ensure the licence to operate is maintained. As a result of the water treatment processes put in place, none of CLP's operations significantly impact their respective water receiving bodies.

Water quality impact assessments are also carried out at the planning stage of development projects, in accordance with local requirements. This is to ensure that any impacts associated with project construction and plant operation are managed and mitigated to an acceptable level.

In-depth assessments on water risk in the generation portfolio are conducted regularly by using globally recognised tools such as the World Resources Institute (WRI) Aqueduct. The assessment covers parameters such as water availability, water sensitivity, water stress mapping, potential competing use with other stakeholders, and the management strategies in place in each of the regions. The results of the most recent assessment confirmed that CLP has a sufficiently robust regime in place for managing water risks.

CLP also participates in the CDP Water Survey to disclose and benchmark its practices with industry peers in relation to water resource management. The Company is committed to continuing its monitoring of water use and to manage this precious resource carefully.

Read more on how CLP monitors and manages water risks ›

## Year in review

Due to a number of water saving projects, the total water intensity of the Group's power generation process in 2020 dropped to 0.78 $m^3$/MWh, a significant decrease from 0.94 $m^3$/MWh in 2019.

CLP encourages its power stations to track their total water recycling and report this for indicative purposes. Considerable emphasis is placed on sharing initiatives across the Group to maximise the benefit of an individual power station's efforts.

Three of the Group's thermal power stations, Mount Piper, Jhajjar and Fangchenggang operate on a zero liquid discharge basis. The water is treated internally and recycled or reused in other parts of the power generation process, or for dust control or horticulture.

- In 2020, Mount Piper Power Station in Australia completed a water conservation project which reuses treated wastewater from the nearby Springvale Mine to provide the power station with water for cooling. This has resulted in significant reduction in water use compared to previous years.
- The Jhajjar Power Station in India is designed with a water re-circulation process and although it uses river water, it has zero liquid discharge, and requires smaller quanitity of water to be topped up, only to make up for evaporation loss.
- In Mainland China, the Fangchenggang Power Station continued to implement further water-saving initiatives through reusing its treated wastewater (up to 76% of total wastewater volume) for flue gas desulphurisation, dust suppression and irrigation for greening within the power station. Each day, about 1,300 $m^3$ freshwater is being saved.

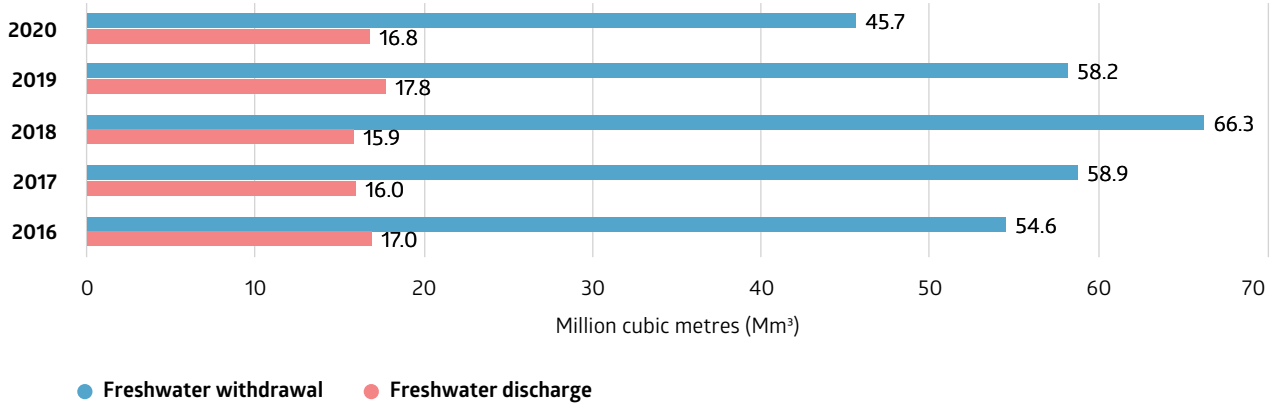
Different water reduction or conservation initiatives continue to be put in place. Implementation of robotic cleaning of solar panels expanded in Sihong Solar Farm and to Huai'an Solar Farm, both in Mainland China. The Jiangbian Hydro Power Station completed modification of its wastewater treatment facilities which reuse treated

domestic wastewater for irrigation at the site, making it another zero liquid discharge site. This initiative will save 20,000 m³ of freshwater annually.

In Australia, a joint initiative between the Yallourn Power Station and Mine allowed 540,000 m³ of mine wastewater to be recycled through the power station's cooling tower system in 2020. This directly reduces the volume of clean river water required for cooling tower operation.

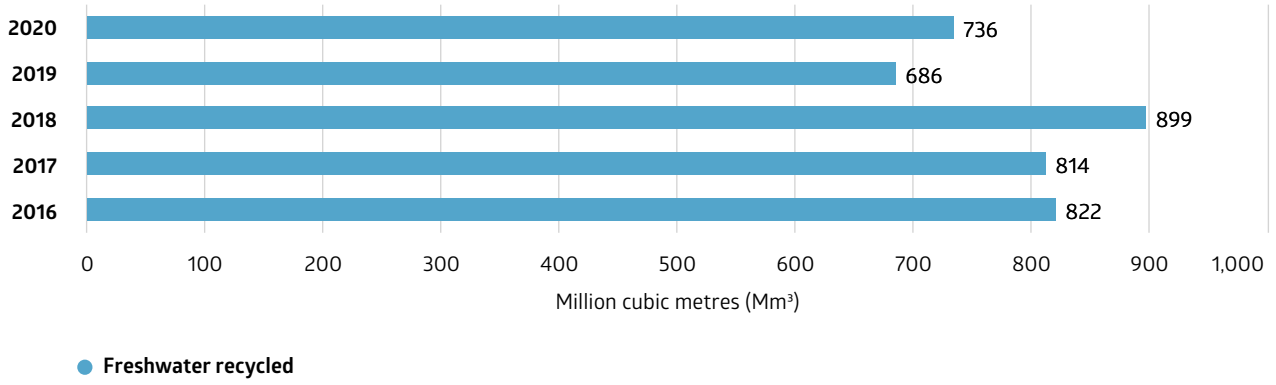
## Freshwater withdrawal and discharge

Total water withdrawal and discharge (including water for cooling) decreased in 2020 primarily as a result of less water withdrawal at Mount Piper Power Station due to the operation of the new Springvale Mine Water Treatment Plant.



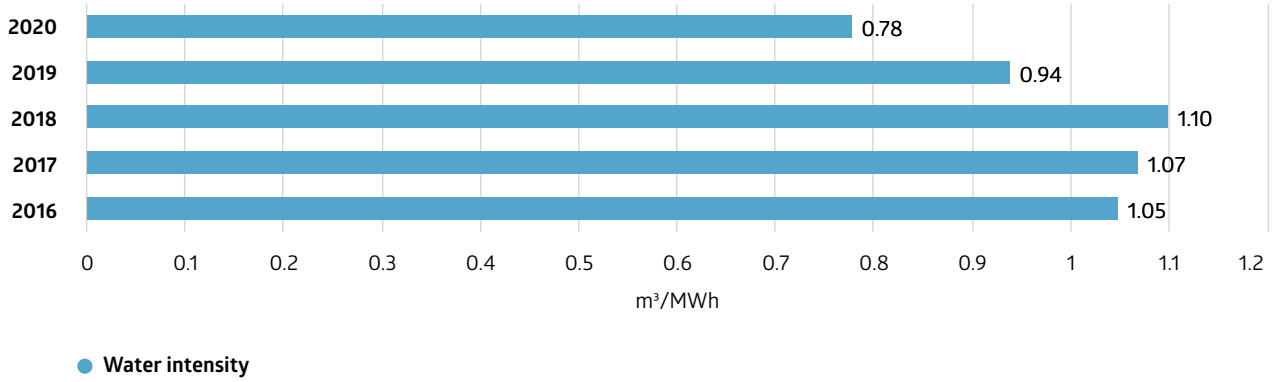

## Freshwater recycled volume

There was an increase in freshwater recycled volume in 2020, mainly due to the recycled volume from Mount Piper Power Station.



## Water intensity of CLP's power generation process

CLP reports lower water intensity (freshwater withdrawal for cooling and non-cooling purposes) in 2020 primarily as a result of decreased water withdrawal at Mount Piper Power Station due to the operation of the new Springvale Mine Water Treatment Plant.




CASE STUDY

### Sustainable water supply for Mount Piper Power Station in Australia

**In Australia, the Coxs River provides freshwater to Sydney's drinking water catchment. Both have been impacted by mining activities.**

In order to improve environmental outcomes across the catchment including improved water quality, Mount Piper Power Station partnered with the nearby Springvale Mine to jointly develop a project for the construction and operation of the Springvale Water Treatment Plant.

The key project elements include construction of a 16 km water pipeline connecting the two sites, and a treatment plant to treat mine wastewater.

The project reduces the reliance on the Upper Coxs River catchment to provide water for power station operations including cooling processes. It also minimises the volume of treated water released back to the environment, benefitting the water body of the catchment. The Springvale Water Treatment Plant treats the mine wastewater prior to either reuse or discharge, and pipes the treated wastewater for reuse in the cooling water system of the power station.

Year 2020 was the first complete year that the Springvale Water Treatment Plant supplied the Mount Piper Power Station with the majority (around 80%) of its daily water needs. The treatment plant treats on average 32,000m³ of mine wastewater per day, which is then transferred to the power station for use in its operation. The water treatment plant provides a secure and continuous supply of water and reduces the need to source water from the natural river catchments in the local district.

*The Springvale Water Treatment Plant built next to the Mount Piper Power Station.*

# Biodiversity and land use

## Management approach

There is no one-size-fits-all approach to managing biodiversity impacts. CLP operations interact with local ecosystems in different ways, depending on factors such as location, the level of development in the vicinity and the surrounding environment.

### Goals and targets

The Group's goal is "no net loss of biodiversity". Targets are site-specific depending on the different levels of regulatory controls on biodiversity, from assessment requirements to ecological compensation. For example, in Australia, Yallourn Mine strives for a net gain in biodiversity by offsetting disturbed areas and improving the habitat quality outside the mine perimeter in accordance with the relevant local regulatory requirements.

### Strategies and procedures

In addition to implementing an internal Environmental Impact Assessment (EIA) standard that mandates an environmental assessment for all new projects, CLP's Biodiversity Impact Assessment Guideline provides a framework for a more systemic assessment of biodiversity impacts. The guideline, under the HSSE Management System, applies to power generation, transmission and distribution, mines and other power-related projects.

During the EIA stage, CLP partners with qualified personnel to conduct a biodiversity impact assessment in accordance with the CLP Biodiversity Impact Assessment Guideline. The guideline provides guidance on managing biodiversity risks where appropriate, and considers the IUCN Red List of Threatened Species and national conservation lists of threatened species. Any new operations that could affect the IUCN Red List of Threatened Species and national conservation list species are flagged well ahead of any investment decision. The assessment also describes the baseline conditions, evaluates the magnitude and significance of project impacts, and investigates options for mitigation. If necessary, the assessment contemplates offsets after considering options relating to avoidance, minimisation, and restoration or rehabilitation. The assessment also observes local legislative requirements and references the International Finance Corporation Sustainability Framework.

See CLP's holistic approach in assessing new investments ›

## Year in review

CLP continued its ongoing effort in biodiversity conservation and land remediation in 2020.

### Biodiversity

Much of the biodiversity work across the Group is continuous. It includes activities such as vegetation management along transmission lines in Hong Kong, the fish management regime in place at the Jiangbian Hydro Power Station in Mainland China, and the tree management work undertaken by the Jhajjar Power Station in India.

In Hong Kong, CLP is developing an IT system, namely the Predictive Vegetation Management System, for its transmission and distribution network. The system supports the monitoring of the growth and condition of trees and vegetation that may affect overhead line operations. A research project is being carried out with the Education University of Hong Kong to develop an algorithm of vegetation growth prediction which will be integrated into the system to further enhance its predictive ability. CLP continues to support the Government's Strategy of "Right Tree in the Right Place". Any trees identified to be hazardous are replaced by native species to support local biodiversity.

In Mainland China, the Xicun Solar Power Station has successfully integrated the farming of honeysuckle plants, a crop for traditional Chinese medicinal use, in its operation. This initiative transforms the previously deserted sandy area into cultivated farmlands and brings benefits to local farmers. The Huaiji and Dali Yang_er Hydro Power Stations were awarded the "Green Small Hydro" label by the Government. The award recognises their performance in meeting the required evaluation criteria on the protection of the river course and ecological habitats, operation management, improvement of local economy and livelihood.

*The Xicun Solar Power Station integrates the farming of honeysuckle plants into its operations.*

In India, Jhajjar Power Station continues its annual effort to augment the green belt area on site. In 2020, around 10,000 saplings of native species were planted.

In Australia, the Yallourn Mine continues to implement its Progressive Rehabilitation Plan and a Conservation Management Plan to oversee final rehabilitation. In 2020, the rehabilitation coverage exceeded the mine disturbance footprint by providing a total of 39 hectares of grass and native vegetation habitats.

### Land remediation

In Australia, EnergyAustralia's sale negotiations for the Wallerawang Power Station were completed in 2020. As part of those negotiations, the new owners will undertake the safe closure of legacy ash dams and remediation for permanent closure of the power station. Part of the site will be redeveloped into an eco-industrial park. At Jeeralang Power Station and Newport Power Station, detailed site investigations of per- and polyfluoroalkyl substances (PFAS) in soil and groundwater have been completed, and a remediation action plan has been developed to guide the clean-up strategy to be deployed in 2021. PFAS are man-made chemicals found in many consumer products including firefighting equipment.

CASE STUDY

## Funds to Support Marine Conservation and Sustainable Fisheries

**In 2020, CLP contributed to the allocation of HK$100 million to two environmental enhancement funds. The funds were set up to support marine ecology conservation and sustainable development of the fishing industry in the vicinity of the Hong Kong Offshore LNG Terminal Project.**

The Hong Kong Offshore LNG Terminal Project is under development by CLP Power and HK Electric. It is a key project to help secure diversified and sufficient natural gas supply for use in power generation in Hong Kong. Subsea gas pipelines will be constructed to deliver liquefied natural gas (LNG) from the terminal to the Combined-Cycle Gas Turbine power stations of both power companies. This offshore facility will ensure stability and diversity in the future supply of natural gas to the city at competitive prices.

To support marine ecology conservation and sustainable development of the fishing industry in the vicinity of the Terminal, CLP Power and HK Electric will inject a total of HK$100 million into two funds established under this project:

- The Marine Conservation Enhancement Fund – supports initiatives related to conserving and enhancing marine habitats, habitat restoration and rehabilitation, eco-tourism, and environmental education, among others.
- The Fisheries Enhancement Fund – supports initiatives on fisheries-related education and tourism, enhancement on fisheries resources, sustainable fishery development, and fishery equipment upgrade programmes.

These initiatives were planned and aligned with the recommendations of the environmental impact assessment (EIA) conducted before the project commencement phase. The funds will subsidise community initiatives and biodiversity enhancement efforts of the marine environment around southern and western Hong Kong waters.

One steering committee and two separate management committees comprised of relevant stakeholder groups have been set up to guide and support the operation of the funds. The funds were opened for application in October 2020 and the first round of applications attracted more than 40 entries from academics, non-governmental organisations, and fisheries organisations.

Read more on the environmental enhancement funds

*The offshore LNG terminal project is under development by CLP Power and HK Electric (simulated photo).*

# Environment Data

## Environmental regulations and compliance

| Environmental compliance | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Environmental regulatory non-compliances resulting in fines or prosecutions (number)[1] | **0** | 0 | 0 | 0 | 0 |
| Environmental licence limit exceedances & other non-compliances (number)[1] | **4** | 10 | 2 | 13 | 2 |

1 Numbers include operating assets where CLP has operational control during the calendar year. Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.

## Air emissions

| Air pollutants | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Nitrogen oxides emissions ($NO_x$) (kt)[1,2] | **43.2** | 47.0 | 60.9 | 59.3 | 58.1 |
| Sulphur dioxide emissions ($SO_2$) (kt)[1,2] | **48.0** | 44.7 | 76.1 | 81.6 | 71.2 |
| Particulates emissions (kt)[1,2] | **6.9** | 7.7 | 8.5 | 8.3 | 8.5 |
| Sulphur hexafluoride ($SF_6$) (kt)[1] | **0.003** | N/A | N/A | N/A | N/A |

1 Numbers include operating assets where CLP has operational control during the calendar year. Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.
2 Since 2019, numbers at asset level have been aggregated and then rounded.

## Waste

| Waste produced and recycled | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Non-hazardous liquid waste (kl)**[1,2,3] | | | | | |
| Produced | **3** | 59 | 52 | 103 | 84 |
| Recycled | **3** | 57 | 52 | 103 | 84 |
| **Non-hazardous solid waste (t)**[1,2,3] | | | | | |
| Produced | **17,901** | 13,344 | 11,471 | 20,334 | 8,317 |
| Recycled | **4,458** | 4,986 | 3,990 | 3,790 | 2,963 |
| **Hazardous liquid waste (kl)**[1,2,3] | | | | | |
| Produced | **1,091** | 1,578 | 1,685 | 1,420 | 1,251 |
| Recycled | **1,069** | 1,536 | 1,648 | 1,384 | 1,149 |
| **Hazardous solid waste (t)**[1,2,3] | | | | | |
| Produced | **1,503** | 862 | 1,435 | 857 | 1,302 |
| Recycled | **523** | 201 | 631 | 469 | 260 |

1 Numbers include operating assets where CLP has operational control during the calendar year. Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.
2 Since 2019, numbers at asset level have been aggregated and then rounded.
3 Waste categorised in accordance with local regulations.

| By-products | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Ash produced (kt)[1,2] | **2,624** | 3,032 | 3,419 | 3,005 | 2,121 |
| Ash recycled / sold (kt)[1,2] | **1,793** | 3,667 | 2,263 | 1,745 | 1,111 |
| Gypsum produced (kt)[1,2] | **334** | 441 | 253 | 156 | 136 |
| Gypsum recycled / sold (kt)[1,2] | **335** | 438 | 250 | 161 | 134 |

1 Numbers include operating assets where CLP has operational control during the calendar year. Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.
2 Since 2019, numbers at asset level have been aggregated and then rounded.

## Water

| Water withdrawal and discharge | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Total water withdrawal ($Mm^3$)[1,2,3]** | **5,229.2** | 5,377.4 | 5,153.6 | 4,480.6 | 4,256.9 |
| **For cooling purpose** | | | | | |
| Water withdrawal from marine water resources | **5,183.5** | 5,319.3 | 5,087.3 | 4,421.7 | 4,202.3 |
| Water withdrawal from freshwater resources | **35.1** | 45.7 | 53.3 | 47.6 | 43.8 |
| **For non-cooling purposes** | | | | | |
| Water withdrawal from freshwater resources | **5.7** | 5.8 | 6.0 | 4.9 | 4.2 |
| Water withdrawal from municipal sources | **4.9** | 6.7 | 7.0 | 6.4 | 6.6 |
| **Total water discharge ($Mm^3$)[1,2,3,4]** | **5,200.3** | 5,337.1 | 5,103.2 | 4,437.7 | 4,219.3 |
| **From cooling process** | | | | | |
| Water discharge to marine water bodies | **5,183.5** | 5,319.3 | 5,087.3 | 4,421.7 | 4,202.3 |
| Treated wastewater to freshwater bodies | **0** | 0 | 0 | 0 | 0 |
| Wastewater to other destinations | **0** | 0 | 0.02 | 0.05 | 0.06 |
| **From non-cooling processes** | | | | | |
| Treated wastewater to marine water bodies | **1.5** | 1.7 | 1.6 | 1.6 | 1.5 |
| Treated wastewater to freshwater bodies | **13.7** | 14.4 | 12.3 | 12.3 | 13.7 |
| Wastewater to other destinations | **1.6** | 1.7 | 1.9 | 2.0 | 1.7 |
| Wastewater to sewerage | **0.03** | 0.03 | 0.03 | 0.02 | 0.01 |

1 Numbers include operating assets where CLP has operational control during the calendar year. Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.
2 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.
3 Since 2019, numbers at asset level have been aggregated and then rounded.
4 Starting from 2019, Yallourn's "water discharged to third-parties", which was previously reported under "wastewater to sewerage", has been reported under "wastewater to other destinations".

| Water intensity | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Water intensity of CLP's power generation process ($m^3$/MWh)[1] | **0.78** | 0.94 | 1.10 | 1.07 | 1.05 |

1 Numbers include operating assets where CLP has operational control during the calendar year. Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.

| Freshwater reused/recycled | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Freshwater reused/recycled volume ($Mm^3$)[1] | **736** | 686 | 899 | 814 | 822 |

1 Numbers include operating assets where CLP has operational control during the calendar year. Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.

*2020 data shaded in orange have been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.*

# Climate change

## Climate action finance

### Management approach

CLP seeks to obtain socially responsible, sustainable and cost-effective financing to support the Group's investments, including those which reduce the carbon content of energy generated and increase the efficiency of energy usage.

#### Strategies and procedures

The Climate Action Finance Framework (CAFF) supports the Company's transition to a low-carbon economy by attracting socially responsible, sustainable financing. It supports CLP's investments in reducing carbon emissions and increasing energy efficiency. Established in 2017 and updated in June 2020, the CAFF sets out how CLP proposes to raise climate action finance to invest in projects consistent with both the Group's investment and climate strategies. The climate action finance, referred to as CLP Climate Action Finance Transactions, includes bonds, loans and other forms of finance.

CLP Group's majority-owned business units may enter into the two types of CLP Climate Action Finance Transactions under the CAFF:

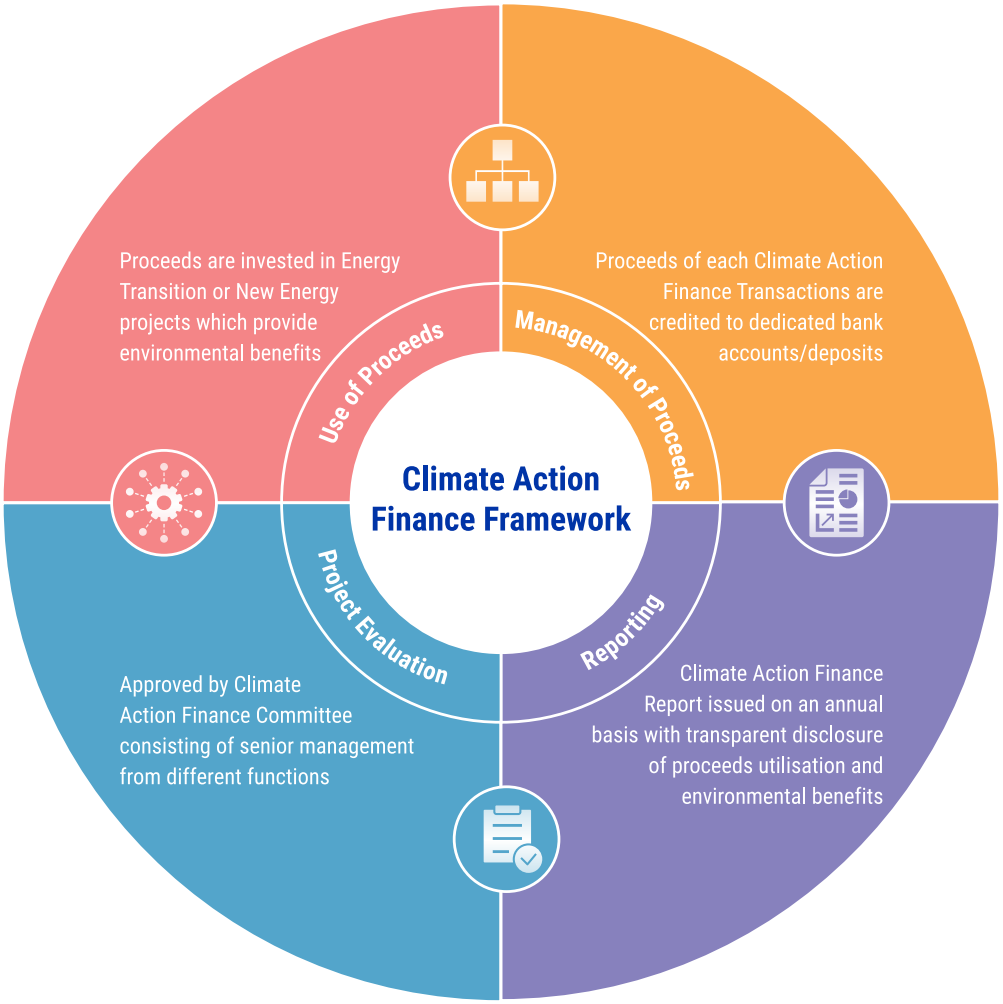
- **New Energy Finance Transactions** – the proceeds of which help develop projects in renewable energy, energy efficiency and low emissions transportation infrastructure.
- **Energy Transition Finance Transactions** – the proceeds of which help: (1) develop gas-fired power plants and associated enabling infrastructure to support the transition from coal-fired generation in markets with limited renewable energy resources, and (2) the conversion of coal-fired power plants and the facilities or modifications associated with such conversion, which, in both cases, will achieve carbon emission of no more than 450g$CO_2$/kWh at baseload.

New Energy Finance Transactions are aligned with the Green Bond Principles produced by the International Capital Markets Association and the Green Loan Principles produced by the Loan Market Association. Both provide guidance in four key areas: the use of proceeds, the process for project evaluation and selection, the management of proceeds as well as reporting. Energy Transition Finance Transactions are aligned with the governance components of the Green Bond Principles and Green Loan Principles, including the process for project evaluation and selection, and the management of proceeds and reporting.

Download CLP's Climate Action Finance Framework (CAFF)

The diagram below outlines the Framework's process.

## Climate Action Finance Framework




### Operational responsibilities

All eligible projects of the CAFF undergo a rigorous review and approval process within a transparent framework and clear guidelines. CLP has established a Climate Action Finance Committee with the responsibility for governing the CAFF. The Committee is responsible for approving CLP Climate Action Finance Transactions and determining the eligibility of the proposed use of proceeds. Committee membership consists of the CLP Executive Director & Chief Financial Officer, as well as the CLP Chief Administrative Officer, Senior Director – Group Treasury & Project Finance and Director – Group Sustainability.

### Monitoring and follow-up

All proceeds from CLP Climate Action Finance Transactions must deliver clear environmental benefits through investment in qualified projects identified by a transparent screening process. Controls are also in place to ensure that bond proceeds are only used for designated green projects. CLP produces a Climate Action Finance Report annually to track the appropriate use of proceeds and provide insight into their estimated environmental impact. The content of the report is independently assured by an auditor.

View the second party opinion on CLP Climate Action Finance Transactions

Find out more about CLP's offerings in 2020

# Greenhouse gas emissions

## Management approach

Greenhouse gas (GHG) emissions are one of the key metrics to measure how the Group tracks its progress in decarbonisation.

CLP's commitments, climate actions and performance in decarbonisation are detailed in the Responding to Climate Change section of this report. This section focuses on how the Company compiles its GHG profile.

### Greenhouse gas reporting guidelines

A Group-wide GHG reporting guideline was first developed in 2007 to specify the collection and compilation methodology of the Group's GHG data. The guideline was developed with reference to the following international standards and guidelines:

- *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (Revised Edition) of the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI)
- *The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard*
- *The Greenhouse Gas Protocol: Technical Guidance for Calculating Scope 3 Emissions (Version 1)*
- *The 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories*
- *The IPCC 5th Assessment Report 2014*
- *The International Standard for GHG Emissions ISO 14064-1: Greenhouse Gases*
- Methodologies agreed with local authorities.

The internal GHG emission reporting guideline is reviewed in accordance with CLP practice and updated with latest references at least once every three years. The current guideline was last updated in 2019.

CLP's GHG emissions inventory covers six GHGs specified in the Kyoto Protocol, including carbon-dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), hydrofluorocarbons (HFCs), and sulphur hexafluoride ($SF_6$). Perfluorocarbons (PFCs) are also included but not used in CLP's operations. Nitrogen trifluoride ($NF_3$), the seventh mandatory gas added under the second Kyoto Protocol, was also considered for inclusion, but after evaluation was deemed immaterial to CLP's operations. The GHG reporting scope definitions for GHG emissions are available here.

### Compilation bases

CLP reports the GHG emissions of its generation and energy storage portfolio on three consolidation bases to provide a comprehensive overview of its carbon footprint and progress in decarbonisation efforts. The three bases are:

- **Equity basis:** This includes the electricity generated by CLP's assets. It accounts for the Scope 1 and Scope 2 GHG emissions according to CLP's equity share in the portfolio. The equity basis reflects economic interest, indicating the extent of GHG risks and opportunities CLP has from its assets with majority and minority share.
- **Equity and long-term capacity and energy purchases:** This includes both electricity generated by CLP's assets as well as the electricity purchased through capacity and energy purchase agreements. It allows stakeholders to better understand the carbon intensity of the electricity CLP delivers to customers. In addition to the GHG emissions from the equity basis, it also includes the direct GHG emissions from the generation of purchased electricity.

  Purchase agreements help the Group meet local market needs and usually entail significant investment. To qualify for inclusion in this metric, these long-term capacity and energy purchase agreements must have a duration of at least five years and the equivalent capacity of 10MW or more.
- **Operational control:** This represents the total GHG emissions from generation assets where CLP has direct influence and control on operational matters. CLP has been disclosing the combined total Scope 1 and Scope 2 GHG emissions on this basis for over a decade, and will continue to demonstrate its long-term progress.

Conscious of emissions along the value chain, in 2019, the Company conducted a review of its Scope 3 emissions and started to disclose Scope 3 emissions to present a more comprehensive picture of its footprint along the value chain. Scope 3 emissions typically represent less than 40% of the CLP's GHG emissions.

## Calculation methodologies

***Scope 1 & Scope 2 GHG emissions***

The emissions are calculated in accordance to CLP's internal GHG reporting procedures outlined above.

Annually, CLP obtains emission factors from each business unit's local government and authorities in their respective jurisdictions. In cases where local emission factors are not available, other recognised sources are referenced.

***Scope 3 GHG emissions***

The table below summaries the Scope 3 categories that were identified as relevant to CLP, and how their emissions are calculated.

## Scope 3 GHG emissions categories relevant to CLP

| Scope 3 category | Relevance to CLP | Calculation and emission factors |
|---|---|---|
| **1: Purchased goods and services**<br>Emissions from the extraction, production and transportation of goods and services purchased or acquired. | · a) Products-related emissions relate to the upstream emissions of EnergyAustralia's natural gas retail business, including the emissions from upstream gas production and transmission, and distribution leakage in the State pipeline systems. | · Assessed using the average-data method. The quantities of natural gas supplied are multiplied by State-based upstream emission factors to calculate the emissions.<br>· Emission factors source: Australia National Greenhouse Accounts Report 2020. |
| | · b) Non-products-related emissions relate to the upstream emissions of CLP's purchased goods and services other than natural gas for retail business. | · Assessed using the spend-based method. Country-based World Input-Output Database (WIOD) factors are applied to the financial spend on the purchase of non-product related goods and services.<br>· Emission factors source: WIOD Release 2016. |
| **2: Capital goods**<br>Emissions from the extraction, production and transportation of capital goods purchased or acquired. | · Relates to the upstream emissions of CLP's purchased capital goods, mainly for infrastructure construction and facility upgrades. | · Assessed using the spend-based method. Country-based WIOD factors are applied to the financial spend on the purchase of capital goods.<br>· Emission factors source: WIOD Release 2016. |
| **3: Fuel- and energy-related activities**<br>Emissions related to the extraction, production and transportation of fuels and energy purchased or acquired. | · Includes the upstream emissions of purchased fuels and electricity for CLP's power generation. | · Assessed using the average-data method.<br>· Upstream emissions (Well-to-tank, WTT, emissions) of purchased fuels and electricity are calculated by using volumes of purchased fuels and electricity and country-based WTT emission factors, where available. Where such volumes are not available, the ratio of the WTT emission factor to direct emission factor for each fuel type is applied to the Scope 1 and Scope 2 emissions of the generation assets.<br>· Emission factors source: Australia National Greenhouse Accounts Report 2020, 2020 UK Government GHG Conversion Factors for Company Reporting. |
| | · Includes the direct emissions from the generation of purchased electricity that is sold to CLP's customers.<br>· Includes the upstream emissions from the generation of purchased electricity that is sold to CLP's customers. | · Direct emissions and upstream emissions from the generation of purchased electricity that is sold to CLP's customers are assessed using the supplier-specific method. This involves using emissions data of generation assets whose capacity and energy are purchased by CLP to meet customer demand. The calculation multiplies the percentages of capacity and energy purchased by CLP with direct emissions and upstream emissions (WTT) of the generation assets.<br>· Emissions from the generation of purchased electricity that is sold to CLP's customers also include the emissions from |

| Scope 3 category | Relevance to CLP | Calculation and emission factors |
|---|---|---|
| | | the net electricity purchased by EnergyAustralia from the Australian Energy Market Operator (AEMO). This is assessed using the average-data method, which involves estimating emissions by using grid average emission factors, and is calculated through multiplying the net electricity purchased from AEMO with State-based emission factors.<br>· Emission factors source: Australia National Greenhouse Accounts Report 2020, 2020 UK Government GHG Conversion Factors for Company Reporting. |
| **5: Waste generated in operations**<br>Emissions from the disposal and treatment of waste generated. | · Emissions from fuel ash and gypsum generated are most material for waste generation. | · Assessed using the waste-type specific method based on waste produced by type.<br>· Calculated through applying emission factors to quantities of fuel ash and gypsum generated at CLP's coal-fired power stations, considering the disposal method.<br>· Emission factors source: 2020 UK Government GHG Conversion Factors for Company Reporting. |
| **6: Business travel**<br>Emissions from the transportation of employees for business-related activities. | · Air travel is the most material source of emissions from business travel. While CLP offsets the emissions from air travel, the emissions continue to be included in the GHG profile. | · Assessed using the distance-based method.<br>· Air travel emissions for CLP's operations in Hong Kong and Australia are directly calculated using flight distance by travel classes multiplied by corresponding emission factors. Emissions from the other regions of operations are calculated through extrapolation based on CLP's financial spend on business travel.<br>· Emission factors source: 2020 UK Government GHG Conversion Factors for Company Reporting. |
| **7: Employee commuting**<br>Emissions from the transportation of employees between their homes and their worksites. | · Relates to the emissions of CLP's employees in commuting to the offices. This typically includes emissions from automobile travel, bus travel, etc. | · Calculated through the number of CLP's employees, estimated travel mode and average distance travelled by region.<br>· Emission factors source: 2020 UK Government GHG Conversion Factors for Company Reporting. |
| **11: Use of sold products**<br>Emissions from the end-use of products sold. | · Relates to the downstream emissions of EnergyAustralia's natural gas retail business, including the emissions from the combustion of natural gas supplied to customers. | · Calculated through multiplying the quantities of natural gas supplied to customers by State-based emission factors.<br>· Emission factors source: Australia National Greenhouse Accounts Report 2020. |

The following categories were identified as non-relevant to CLP, and hence not included in the Scope 3 emissions profile for reporting.

## Scope 3 categories that are not considered relevant to CLP

| Scope 3 category | Explanation |
|---|---|
| **4: Upstream transportation and distribution**<br>Emissions from transportation and distribution of purchased goods and services. | The emissions are covered in Category 1 as the financial spend on transportation and distribution is embedded in the financial spend on purchased goods and services. |
| **8: Upstream leased assets**<br>Operation of assets leased by the reporting company, i.e. lessee. | CLP does not operate leased generation assets. The emissions of leased offices are included in CLP's Scope 2 emissions. |
| **9: Downstream transportation and distribution**<br>Emissions from the transportation and distribution of products sold between operations and the end consumer, in vehicles and facilities not owned or controlled or paid for by the reporting company. | Electricity and gas are the main products of CLP. Transportation and distribution of the products do not involve vehicles and facilities not owned or controlled by the Group. |
| **10: Processing of sold products**<br>Processing of intermediate products sold by downstream companies, e.g. manufacturers. | With electricity and gas being CLP's main products, they are end products without further processing requirement. |
| **12: End-of-life treatment of sold products**<br>Waste disposal and treatment of products sold at the end of their life. | With electricity and gas being CLP's main products, there is no end-of-life treatment requirement. |
| **13: Downstream leased assets**<br>Operation of assets owned by the reporting company (lessor) and leased to other entities. | Leasing is not a main business for CLP. |
| **14: Franchises**<br>Operation of franchises. | CLP does not have any franchising business. |
| **15. Investments**<br>Emissions from operation of investments. | CLP reports Scope 3 emissions on an equity basis. This category applies to CLP only when an operational control basis is adopted and is therefore not applied. |

Find out more on CLP's 2020 GHG profile >

# Renewable Energy Certificates in Hong Kong

## Management approach

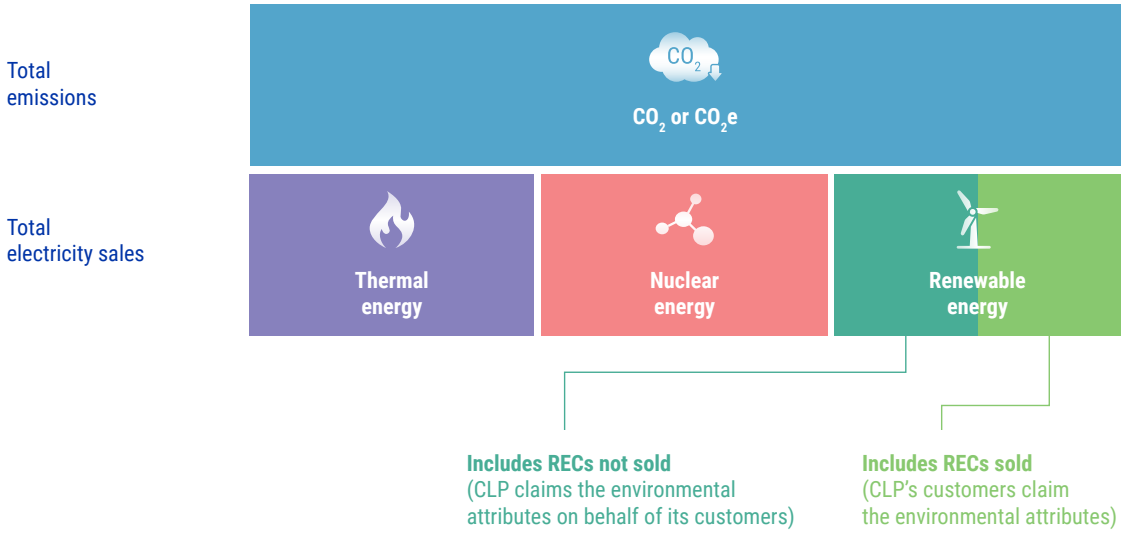
CLP customers in Hong Kong can support local renewable energy generation by buying Renewable Energy Certificates (RECs). Each unit of electricity carried in a REC represents the electricity produced by local renewable energy sources generated or purchased by CLP Power.

The carbon emissions intensity of all electricity sold by CLP Power Hong Kong is measured in $CO_2$/kWh and $CO_2e$/kWh. The intensity is calculated by dividing the total carbon emissions from local generation assets owned or controlled by CLP Power/CAPCO in Hong Kong by the total electricity sales of CLP Power Hong Kong. Emissions from the Guangdong Daya Bay Nuclear Power Station are insignificant; total electricity sales include thermal power generation, nuclear power generation, and renewable energy generation that is connected to the CLP grid regardless of whether it is sold in the form of RECs.

CLP Power provides its carbon intensity for its customers in Hong Kong to calculate their Scope 2 emissions. It is the carbon emissions intensity of total electricity sales which excludes RECs sold, and can be found in CLP Power's website. REC holders can claim that they reduce a certain amount of carbon emissions for each unit of electricity carried in the REC, through which they have purchased the "environmental attributes" of electricity generated from renewable energy sources. "Environmental attributes" refers to the right to claim all greenhouse gas and other pollutant emission reduction benefits associated with the renewable electricity generated. To calculate their Scope 2 emissions, REC holders can multiply that specific intensity with their electricity consumption, excluding the volume of RECs purchased.

This is explained in the schematic diagram below.

### Carbon emissions intensity of electricity sold by CLP Power Hong Kong




Find out more about CLP Power's RECs here

# Climate Change Data

## Greenhouse gas emissions

| Greenhouse gas emissions | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **CLP Group**[1] | | | | | |
| **Total $CO_2e$ emissions – on an equity basis (kt)**[2,3] | **62,138** | 71,720 | N/A | N/A | N/A |
| $CO_2e$ - Scope 1 (kt)[4] | **45,105** | 50,047 | N/A | N/A | N/A |
| $CO_2e$ - Scope 2 (kt) | **244** | 250 | N/A | N/A | N/A |
| $CO_2e$ - Scope 3 (kt) | **16,790** | 21,424 | N/A | N/A | N/A |
| Category 1: Purchased goods and services | **1,210** | 1,093 | N/A | N/A | N/A |
| Category 2: Capital goods | **685** | 1,347 | N/A | N/A | N/A |
| Category 3: Fuel- and energy-related activities | **12,690** | 16,671 | N/A | N/A | N/A |
| Category 5: Waste generated in operations | **63** | 101 | N/A | N/A | N/A |
| Category 6: Business travel | **1** | 8 | N/A | N/A | N/A |
| Category 7: Employee commuting | **2** | 4 | N/A | N/A | N/A |
| Category 11: Use of sold products | **2,138** | 2,200 | N/A | N/A | N/A |
| **CLP Group's generation and energy storage portfolio**[3,4,5,6] | | | | | |
| $CO_2$ – on an equity basis (kt) | **44,987** | N/A | N/A | N/A | N/A |
| $CO_2$ – on an equity plus long-term capacity and energy purchase basis (kt)[7] | **48,621** | N/A | N/A | N/A | N/A |
| $CO_2$ – on an operational control basis (kt) | **43,808** | 50,412 | 52,052 | 47,921 | 46,518 |
| $CO_2e$ – on an operational control basis (kt) | **44,023** | 50,676 | 52,306 | 48,082 | 46,681 |

1 Refers to a range of businesses, including generation and energy storage portfolio, transmission and distribution, retail and others.
2 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.
3 Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.
4 In accordance with the Greenhouse Gas Protocol, WE Station, which makes use of landfill gas from waste for power generation, is not included in CLP's Scope 1 $CO_2$ emissions and reported separately in the Asset Performance Statistics. Its non-$CO_2$ GHG emissions (i.e. $CH_4$ and $N_2O$) is included in CLP's Scope 1 $CO_2e$ emissions
5 Starting from 2020, the portfolio includes energy storage assets and generation assets. Energy storage assets include pumped storage and battery storage. In previous years, the portfolio included generation assets only.
6 $CO_2$ emissions of Yallourn and Hallet Power Stations have been used since 2018. Prior to 2018, $CO_2e$ emissions data of these assets were used.
7 Numbers include assets with majority and minority share, and those under "long-term capacity and energy purchase" arrangements with CLP. Starting from 2018, "long-term capacity and energy purchase" has been defined as a purchase agreement with duration of at least five years, and capacity or energy purchased being no less than 10MW.

| Climate Vision 2050 | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Performance against targets - on an equity basis**[1,2,3,4] | | | | | |
| Carbon dioxide emissions intensity of CLP Group's generation and energy storage portfolio (kg $CO_2$/ kWh) | **0.65** | 0.70 | 0.74 | 0.80 | 0.82 |
| Renewable energy generation capacity (% (MW)) | **12.8 (2,517)** | 12.8 (2,469) | 12.5 (2,387) | 14.2 (2,751) | 16.6 (3,090) |
| Non-carbon emitting generation capacity (% (MW)) | **20.9 (4,110)** | 21.1 (4,069) | 20.9 (3,987) | 22.4 (4,350) | 19.2 (3,582) |
| **Performance against targets - on an equity plus long-term capacity and energy purchase basis**[1,2,3,4,5] | | | | | |
| Carbon dioxide emissions intensity of CLP Group's generation and energy storage portfolio (kg $CO_2$/ kWh) | **0.57** | 0.62 | 0.66 | 0.69 | 0.72 |
| Renewable energy generation capacity (% (MW)) | **13.5 (3,342)** | 13.7 (3,294) | 12.8 (3,039) | 13.1 (3,211) | 14.9 (3,551) |
| Non-carbon emitting generation capacity (% (MW)) | **24.4 (6,017)** | 24.9 (5,979) | 24.1 (5,724) | 23.2 (5,699) | 20.7 (4,931) |

1 Starting from 2020, the portfolio includes energy storage assets and generation assets. Energy storage assets include pumped storage and battery storage. In previous years, the portfolio included generation assets only.
2 Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.
3 In accordance with the Greenhouse Gas Protocol, WE Station, which makes use of landfill gas from waste for power generation, is not included in CLP's Scope 1 $CO_2$ emissions and reported separately in the Asset Performance Statistics. Its non-$CO_2$ GHG emissions (i.e. $CH_4$ and $N_2O$) is included in CLP's Scope 1 $CO_2e$ emissions.
4 $CO_2$ emissions of Yallourn and Hallet Power Stations have been used in 2018. Prior to 2018, $CO_2e$ emissions data of these assets were used.

5 Numbers include assets with majority and minority share, and those under "long-term capacity and energy purchase" arrangements with CLP. Starting from 2018, "long-term capacity and energy purchase" has been defined as a purchase agreement with duration of at least five years, and capacity or energy purchased being no less than 10MW.

| CLP Power Hong Kong - carbon emissions intensity of electricity sold | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| $CO_2e$ emissions intensity of electricity sold by CLP Power Hong Kong (kg $CO_2e$/ kWh)[1,2] | **0.37** | 0.50 | 0.51 | 0.51 | 0.54 |
| $CO_2$ emissions intensity of electricity sold by CLP Power Hong Kong (kg $CO_2$/ kWh)[1,2] | **0.37** | 0.49 | 0.51 | 0.50 | 0.54 |

1 In accordance with the Greenhouse Gas Protocol, WE Station, which makes use of landfill gas from waste for power generation, is not included in CLP's Scope 1 $CO_2$ emissions and reported separately in the Asset Performance Statistics. Its non-$CO_2$ GHG emissions (i.e. $CH_4$ and $N_2O$) is included in CLP's Scope 1 $CO_2e$ emissions

2 "Electricity sold" is the total electricity energy sold to CLP Power Hong Kong's customers before adjustment of Renewable Energy Certificates.

## Climate-related financial information

| Capital investments | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Total capital investments incurred by asset type (% (HK $M))**[1,2] | **100 (13,022)** | 100 (12,028) | 100 (12,851) | N/A | N/A |
| Transmission, distribution and retail | **37 (4,810)** | 43 (5,229)[3] | 39 (4,953) | N/A | N/A |
| Coal | **28 (3,638)** | 21 (2,473)[3] | 24 (3,040) | N/A | N/A |
| Gas | **26 (3,445)** | 26 (3,146)[3] | 32 (4,098) | N/A | N/A |
| Nuclear | **0 (0)** | 3 (352) | 0 (0) | N/A | N/A |
| Renewables | **4 (462)**[4] | 5 (580)[3,5] | 5 (714) | N/A | N/A |
| Others | **5 (667)** | 2 (248)[3] | 0 (46) | N/A | N/A |

1 Capital investments include additions to fixed assets, right-of-use assets and intangible assets, investments in and advances to joint ventures and associates, and acquisition of businesses.
2 On an accrual basis.
3 Restated to conform with enhanced 2020 allocation model and methodology.
4 Includes HK$7 million from waste-to-energy, which is not considered as non-carbon emitting energy.
5 Includes HK$123 million from waste-to-energy, which is not considered as non-carbon emitting energy.

| Operating earnings | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Total operating earnings by asset type (% (HK$M))**[1] | **100 (12,374)** | 100 (12,138)[2] | 100 (15,145) | 100 (14,189) | 100 (13,173) |
| Transmission, distribution and retail | **46 (5,751)** | 42 (5,131)[2] | 49 (7,427) | 59 (8,392) | 59 (7,798) |
| Coal[3] | **23 (2,871)** | 21 (2,503)[2] | 22 (3,370) | 28 (3,994) | 30 (3,905) |
| Gas[3] | **12 (1,510)** | 14 (1,735)[2] | 10 (1,533) | | |
| Nuclear | **13 (1,594)** | 14 (1,688) | 11 (1,720) | 7 (913) | 7 (863) |
| Renewables | **5 (575)**[4] | 8 (1,016)[2,5] | 7 (924) | 4 (629) | 3 (455) |
| Others | **1 (73)** | 1 (65)[2] | 1 (171) | 2 (261) | 1 (152) |

1 Before unallocated expenses.
2 Restated to conform with enhanced 2020 allocation model and methodology.
3 Starting from 2018, operating earnings of coal and gas have been reported separately.
4 Includes HK$8 million from waste-to-energy, which is not considered as non-carbon emitting energy.
5 Includes HK$5 million from waste-to-energy, which is not considered as non-carbon emitting energy.

*2020 data shaded in orange have been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.*

# Operations

## Health, Safety, Security and Environment management

### Management Approach

Integrating Health, Safety, Security and Environment (HSSE) standards across the Group's businesses and processes helps achieve the goal of safe, secure and environmentally responsible operations.

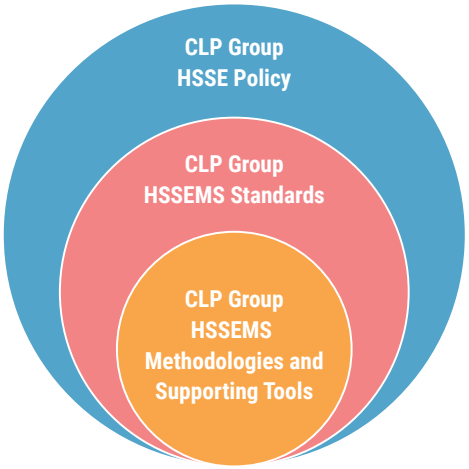
CLP is committed to ensuring that all activities and operations within its control result in zero harm for its employees, contractors, customers and the public. This covers construction of new projects, operations and decommissioning.

In May 2020, CLP rolled out a new integrated HSSE Policy. As a result, the Group is currently refreshing its HSSE Management System (HSSEMS).

View the HSSE Policy

The Group's HSSEMS assists in implementing CLP's commitment to zero harm and the requirements of the new Group HSSE Policy. It is supported by a suite of standards with mandatory requirements, methodologies and other supporting tools. The diagram below shows the relationship and the core components of the HSSEMS.

#### HSSEMS core components and relationship




The refresh of the HSSEMS aims to:

- Establish a risk-based HSSEMS to meet the objectives set out in the HSSE Policy
- Further improve clarification of mandatory requirements within the CLP HSSEMS Standards
- Enable the Group's regional organisations to incorporate HSSEMS Standards into their business programme, and
- Promote and encourage conformity to internationally accepted standards for occupational health and safety (ISO 45001) and environmental management (ISO 14001).

More details on how CLP manages Safety and Environment can be found in the relevant section of this report.

As the transition to the refreshed system is ongoing, certain parts of the refreshed HSSEMS are being developed under four sections:

- Leadership and commitment
- Planning and support
- Operational enablers
- Monitoring, learning and improving.

Download the HSSE Management System Standard

Download an overview of the safety and environmental management systems of CLP's assets

#### Goals and targets

To support safe operations, the Health, Safety and Environment Improvement Strategy (HSE Improvement Strategy) has clear objectives, programmes, timelines, and quantifiable key performance indicators (KPIs), as well as sufficient resources including HSSE professionals and an appropriate budget.

Read more about CLP's HSE Improvement Strategy

## Operational responsibilities

The Group HSSE Committee, chaired by the CEO, has the highest executive responsibility on HSSE-related issues. The Group Operations Leadership Team and the Global HSE Team conduct monthly meetings to coordinate, monitor and share knowledge and experience in HSSE practices across the Group. Special focus is given to achieving an overall higher level of safety performance.

In addition, various HSSE committees have been established to engage employees at the operational level. These committees also involve project partners and contractors. HSSE professionals facilitate the overall engagement effort and advise on HSSE matters, while the responsibility for implementing high levels of HSSE standards rests with line management.

## Continuous improvement

An annual improvement programme is developed, approved and communicated to staff and contractors in each business unit. The programme follows the five pillars of the Group's HSE Improvement Strategy. Recommendations are implemented on agreed timescales and programme processes are monitored regularly.

## Hierarchy of operational responsibilities

| | |
|---|---|
| **Group HSSE Committee** | • Chaired by the CEO<br>• Has the highest executive responsibility on HSSE-related issues |
| **Group Operations Leadership Team and Global HSE Team** | • Meet monthly to coordinate, monitor and share knowledge and experience<br>• Focus on achieving an overall higher level of safety performance |
| **Operational level HSSE committees (employees, project partners and contractors)** | • Engage internal and external stakeholders at operational level<br>• Line management to implement high level HSSE standards<br>• HSSE professionals to facilitate the overall engagement effort and advise on HSSE matters |

# Asset management

## Management approach

The Asset Management System (AMS) Standard is a framework of standardised practices across the Group to manage assets across their entire lifecycle, from the planning stage to decommissioning.

### Strategies and procedures

CLP's **AMS Standard** was developed in 2016 to standardise key practices in managing assets across the Group and ensure best practice. It accords with the ISO 55000 series of standards for asset management systems, as well as the ISO 31000 standards for risk management.

The AMS Standard is integrated into CLP's Health, Safety, Security and Environment (HSSE) Management System and the Project Management Governance System (PMGS) Standards to manage the complete lifecycle of an asset.

The AMS contains five key stages and 10 asset management elements, as illustrated in the diagram below.

### Monitoring and follow-up

CLP has developed and implemented an in-house non-financial data reporting and assurance standard. The customised Group Operations Information System (GOIS) is used to compile operational data. Its built-in data approval sequence and automated presentation and reporting functions strengthen data governance.

Relevant staff at the asset, regional and Group levels are expected to take responsibility for upholding the standard.

### Continuous improvement

CLP constantly identifies opportunities to improve the operational efficiency of Group assets to help meet the increasingly stringent regulations on emissions and fuel efficiency in certain jurisdictions. There are also increasing improvement opportunities arising from innovation and optimisation, particularly from data analytics.

Initial efforts at the project planning stage are critical in determining the operational efficiency or capacity factor range of an asset through its entire lifespan. Projects involving a major asset overhaul require stringent technical and financial scrutiny before commencement.

### Overview of the CLP asset management system

# Year in review

In 2020, the total fossil fuel consumption for power generation decreased compared with 2019, with 16.9% less coal used. Use of natural gas has increased by 25.7%.

## Generation assets

Coal consumption was lowered in 2020 by 16.9%, compared to 2019. This was primarily due to a reduction in coal consumption at Castle Peak Power Station in Hong Kong, and higher utilisation of gas, a cleaner fuel, at Black Point Power Station. Gas consumption in 2020 was 25.7% higher mainly due to its increased utilisation at Black Point Power Station.

CLP reports the annual operating performance of its generation assets which fall within the reporting scope. The performance metrics include the availability factor, generation sent-out, thermal efficiency and energy intensity.

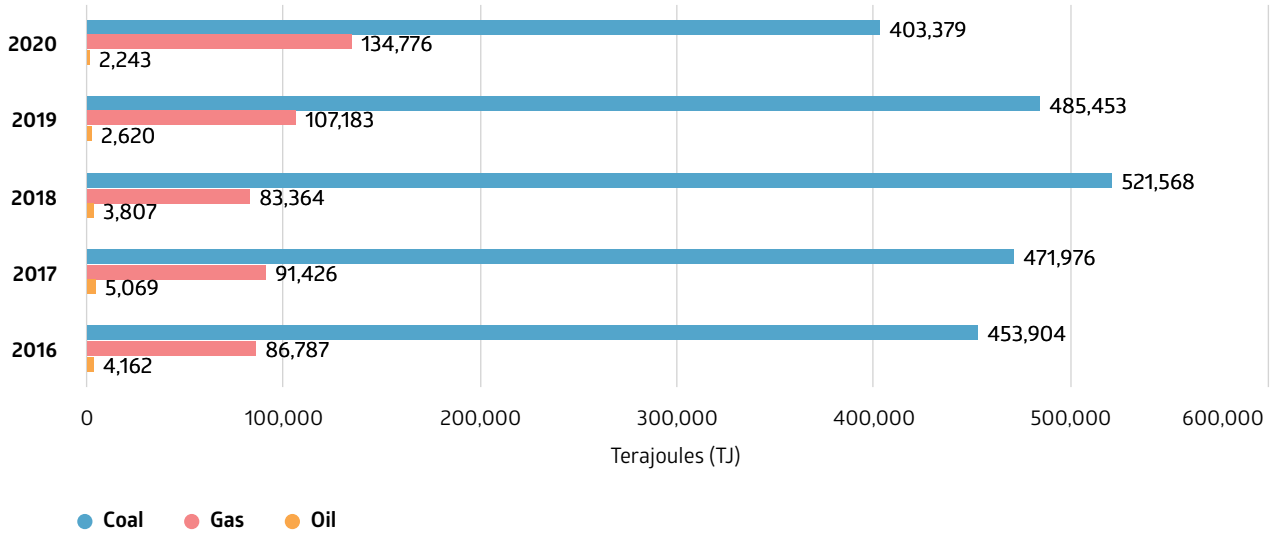
Download CLP's asset performance statistics

CLP has been encouraging its asset managers to drive business innovation and explore operational potentials. One example is the recent innovation at Sihong Solar Power Station. Since February 2019, Jiangsu Sihong Solar Power Station, through its use of technology, configured its solar panels to achieve an 8% increase in performance ratio, resulting in an energy sales increase of 100MWh per year. This innovation was awarded a National Utility Model Patent by the National Intellectual Property Administration in August 2020.

Find out how innovation improves CLP Group's operational performance

## Fuel consumed for power generation

Compared to 2019, there was a decrease in coal and oil consumption and an increase in gas consumption in 2020 as generation profiles changed.



## Transmission network

To meet Hong Kong's electricity demand growth, CLP reviews future transmission network developments annually in accordance with: the latest system maximum demand forecast; area load growth; infrastructure development; and generation development.

Maintenance and improvement programmes have been developed annually for major assets, based on the analysis of current conditions and performance of the assets, levels of investment and risk.

*To ensure safe and reliable power supply, CLP safeguards the power systems with sophisticated equipment and best practices in operations.*

CLP continues to improve the reliability of its power supply network. In addition to vegetation management and third-party damage prevention programmes, various other measures have been taken to further enhance network reliability and minimise customer supply interruption.

Examples include:

- Installing online condition monitoring systems for switchgear and transformers to allow real-time monitoring and detection of incipient fault conditions
- Continuing the reinforcement of transmission towers for 400kV overhead lines against super typhoons and the refurbishment of switchgear
- Enhancing automatic detection and isolation of the faulty sections of overhead line circuits and expediting the deployment of smart meters in villages, and
- Conducting regular reviews and targeted studies on network performance and climate risks to drive continual improvement.

For CLP India's transmission assets acquired in 2019, predictive and corrective maintenance is the key philosophy adopted. This includes pre-emptive check-ups and assessments on operational clearances, ensuring assets are well structured and maintained with proper setup, hardware and security. Frequent patrolling was carried out for conducting assessments on landscape and assets. The results would be used to identify defects and plan for shutdowns if needed.

CLP India has begun using a mobile application for real-time tracking of site patrol to shorten the response time rectifications, if required. Thermo vision cameras aid the team in reaching the site with defects through heat mapping. The use of drones for site patrolling is under planning, while a ground team will be retained at strategic locations to allow them to attend to damages when required.

With the operations and maintenance strategy in place, CLP India was able to achieve 100% availability since its acquisition in November 2019.

CASE STUDY

## Managing assets with sustainable lifecycle management

**CLP Power embraces innovation in green designs of assets, and integrates sustainable initiatives throughout the entire life cycle. Two CLP Power projects in Hong Kong attained the highest 'Provisional Platinum' rating in the BEAM Plus assessment in 2020.**

BEAM Plus is Hong Kong's leading initiative offering independent assessments of building sustainability performance. The assessment covers a wide range of sustainability issues relating to the planning, design, construction, commissioning, fitting out, management, operation and maintenance of a building. Two of CLP Power's new built projects have attained the BEAM Plus 'Provisional Platinum' rating.

The Queen's Hill 132kV Substation was commissioned and successfully energised in March 2020 to serve a new town development in the northeast New Territories of Hong Kong. The design of the substation takes the surrounding environment into consideration. It enhances energy efficiency and sustainability performance through the use of natural ventilation and light, eco-friendly building materials and green vegetation. Building Information Modelling (BIM) technology was also deployed during construction to enhance safety and overall cost effectiveness of the Substation.

*The sustainable design of CLP Power's Queen's Hill 132kV substation won the Gold Award in the Transmission and Distribution Project of the Year category of the Asian Power Awards 2019.*

The Black Point Power Station (BPPS) Additional Gas-Fired Generation Unit D1 is the newest expansion in the BPPS's overall generation capacity and has an efficiency of around 60%, higher than that of other BPPS gas-fired units. In Unit D1, highly efficient irrigation technology and a rainwater collection system were installed to reduce freshwater consumption. In addition, over 140 pieces of photovoltaic panels were installed on the turbine hall roof to generate electricity. Together with adoption of energy efficient lighting fixtures, lifts and air-conditioning systems, the unit aims for energy efficient and environmentally-friendly operation.

# Availability and reliability

## Management approach

Availability and reliability are two key performance metrics for CLP assets.

### Goals and targets

Targets for each asset are set annually and included in the business plan. Performance is reported on a weekly basis to senior management. Any significant performance variance is analysed and corrective action is taken where appropriate.

For generation assets, CLP monitors the availability factor in terms of the amount of time that an asset is able to produce full load equivalent electricity over a certain period, divided by the amount of time in that period. Typical values range from 70% to 90%, and CLP aims to maintain an availability range of 90% and above for newer assets.

### Strategies and procedures

While CLP has generation businesses across the Asia-Pacific region, Hong Kong is the only location where the business is vertically integrated, that is, it provides generation, transmission and distribution of power and retail. CLP Power Hong Kong is regulated by the Hong Kong Government under a Scheme of Control Agreement (SoC) framework that requires the Company to forecast electricity demand and plan for investment to provide a safe and reliable electricity supply to customers. In Hong Kong, CLP uses various measures to maintain high supply availability and reliability. These measures include:

- Maintaining sufficient generating capacity to meet forecast demand as well as planned and unforeseen outages
- Implementing demand-side management measures to reduce demand growth and to improve utilisation of existing assets
- Upgrading generation and network facilities to meet new electricity demand
- Adopting advanced technology such as smart grid
- Improving the quality of the power supply to minimise voltage dips, and
- Enhancing power systems to minimise the impact of adverse weather.

CLP promotes organisational learning and the building of technological capacities across the Group. Insights learned from regional experiences are shared amongst functions to plan for a consistent management framework. This practice facilitates better portfolio management and reduces risks to the Group's operations as a whole.

## Year in review

In Hong Kong, CLP maintains a world-class supply reliability of over 99.999%. This is a higher rating than that experienced by other major international cities such as London, New York and Sydney.

On a three-year rolling basis, from 2018 and 2020, a CLP Power Hong Kong customer experienced 9.77 minutes of unplanned power interruptions per year. The major interruption was due to the impact of Super Typhoon Mangkhut in September 2018. Excluding that interruption, the performance would have achieved a three-year rolling average of about 0.92 minutes. This achievement shows the value of a stable and supportive regulatory framework that encourages careful investment planning, as well as the professional expertise of CLP employees in power operations.

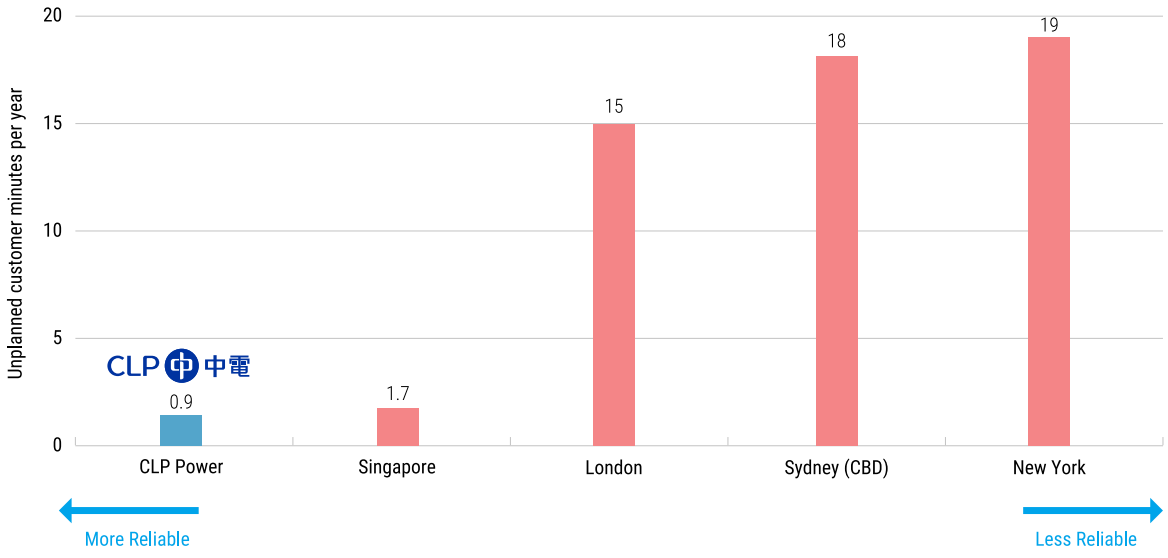
CLP's transmission and distribution network in Hong Kong serves about 80% of the population of the city and close to 100% of the population in the Company's service area. At the end of 2020, CLP Power had approximately 1,143km of overhead and approximately 15,103 km of underground circuits at medium or higher voltage. In addition, there were 235 primary and 15,028 secondary substations in Hong Kong. In 2020, the average network loss for the past five years was 3.69%, slightly lower than the five-year average of 3.83% reported in 2019.

A set of universally recognised supply reliability performance indicators is used from the Institute of Electrical and Electronics Engineers standard (IEEE 1366-2012) to monitor system performance. These indicators are reported annually to the Hong Kong Government.

In 2020, CLP continued to enhance the reliability and security of the supply system. It invested around HK$8.9 billion to meet both current and future energy demand.

## Supply reliability performance indicators and results for CLP Power Hong Kong

| Indicator | Result |
|---|---|
| **System Average Interruption Frequency Index (SAIFI)**<br>The average number of supply interruptions for each customer served. Both planned and unplanned interruptions are included. | · The three-year average SAIFI (2018-2020) was 0.19, meaning customers experienced a power interruption approximately once in five years during this period. This was slightly higher than last year's three-year rolling average. |
| **System Average Interruption Duration Index (SAIDI)**<br>The average duration of interruptions each customer may encounter in a given year. | · The three-year average SAIDI (2018- 2020) was 0.39 hours, including both planned and unplanned interruptions. This was lower than last year's three-year rolling average.<br>· In prior years, such as 2015-2017, the three-year average SAIDI (2015-2017) was 0.34 hours. The increase experienced in 2018-2020 was mainly due to the impact of Super Typhoon Mangkhut in September 2018. |
| **Unplanned Customer Minutes Lost (Unplanned CML)**<br>The average duration of unplanned power interruptions per customer in a given year. These outages occur without prior notice, and happen as a result of various factors such as weather events, third-party damage to the network and equipment faults. | · The three-year rolling average (2018-2020) of unplanned CML was about 9.77 minutes, which was lower than the 10.13 minutes recorded in 2019. About 8.85 minutes of unplanned CML was due to the severe impact of Super Typhoon Mangkhut in September 2018, without which the performance would have been about 0.92 minutes. CLP Power maintains a world-class supply reliability of over 99.999% in Hong Kong, which is higher than other major international cities as shown in the diagram below. |




**Remarks:**
2018-2020 average for CLP Power was 0.9 minutes excluding Super Typhoon Mangkhut impact (9.8 minutes including Super Typhoon Mangkhut)
2017-2019 average for all other cities except for New York (2016-2018)

# Security and cyber security

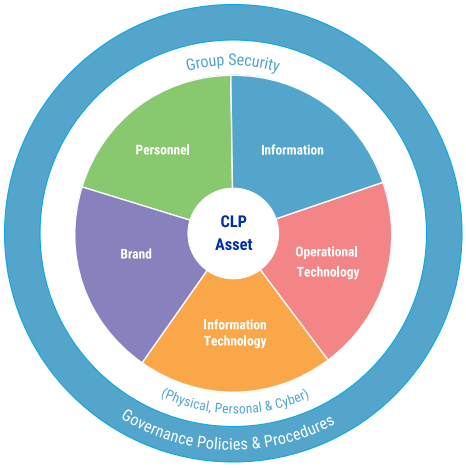
## Management approach

Security management helps protect CLP's people, property, information and reputation against security risks.

### Strategies and procedures

CLP's approach to security can be best understood using the diagram below.

### CLP's approach to security




There are five separate but co-dependent lines of activity, all of which are protected (to a lesser or greater extent) by cyber and physical security measures. These lines of activity are:

- **Information**: Data is stored in both hard and electronic formats. The confidentiality, integrity and availability of this data needs to be protected
- **Operational Technology (OT)**: Hardware and software that detects, monitors or controls physical devices (such as a turbine) at CLP assets, need to be protected
- **Information Technology (IT)**: The IT used to store, retrieve, transmit, and manipulate data or information needs to be protected
- **Personnel**: Staff employed by CLP, both at the workplace and travelling for business, must be safe, and
- **Brand**: CLP's image, identity and associated reputation needs to be protected.

CLP security measures are robust and scalable. Taken together, they provide comprehensive, layered and flexible protection.

With reference to *ISO/IEC27002:2013 Information Technology Security Techniques - Code of practice for information security controls*, a set of Group-level policies have been developed. Regional standards and procedures have been developed from these policies, and tailored to suit the context and local regulation of the business unit.

### Operational responsibilities

CLP Group Security was established in the first quarter of 2020, aiming to deliver a holistic security service to the Company by offering an in-house capability across the full range of security skillsets. Drawing on internal security professionals and recruiting from wider industry, the Group Security function is separate from both the IT and the Health & Safety departments. It is led by the Senior Director – Group Security, who is a highly experienced cyber security leader, and this role reports directly to the Group Chief Operating Officer.

The Group Security team's responsibilities are discussed in the Reinforcing cyber resilience and data protection section of this Report.

### Training and awareness

CLP security staff have a key role in preventing harm to staff and the wider public. Standards of conduct are informed by the newly revised CLP Value Framework and Security Management System, which requires each CLP region and site to develop an appropriate security system to effectively address the threats faced.

See how CLP builds internal capacity on cyber security >

All in-house security staff are required to comply with CLP's Code of Conduct at all times, and receive Code of Conduct training on an annual basis. In addition to training on national regulations and site-specific requirements, third-party vendor security staff receive induction training on CLP's policies on: ensuring a harassment-free workplace; minimum wage guidelines; and measures preventing discrimination in the workplace. This induction training must be completed before personnel are granted access to their assigned workplace sites.

# Emergency and crisis management

## Management approach

CLP maintains robust and regularly tested emergency response and crisis management procedures. This ensures high levels of preparedness to respond to and recover from any emergency situations, and helps minimise disruption to customers.

CLP's Crisis Management & Emergency Response Structure is outlined in the diagram below. The Group Crisis Management Plan provides a platform for the effective handling of a crisis at the Group level. The plan:

- Outlines crisis management organisation, roles, responsibilities, procedures and processes
- Specifies the tools needed to ensure the collective response is well planned, well executed, and fully integrated across the organisation
- Describes the relationship and interface between the handling of regional- and Group-level crises, and
- Details the processes that govern internal and external communications during emergencies and crises; ensuring the people responsible for managing a crisis have the necessary information to carry out their responsibilities and that key stakeholders are informed.

The Group-level plan is supported at regional level by Regional Crisis Management Plans which mirror the Group document but are tailored for each region. In addition, detailed emergency response plans have been developed for each asset. These plans are designed to be used by first responders and asset managers.

### Training and awareness

As specified in both Group and regional publications, emergency response drills are conducted at least annually at all Group sites, with smaller scale drills taking place more often. Group and Regional Crisis Management Plans are reviewed at least every three years. Regional crisis management exercises are conducted annually as part of the internal peer review process.

### Travel security

Protocols and procedures are in place to adequately prepare staff before travel, support them when they are on the road, and respond quickly in the event of a travel emergency anywhere in the world. For emerging risks, information packs are updated regularly to help employees prepare for business trips.

### CLP Crisis Management & Emergency Response Structure

| | | Key documents |
|---|---|---|
| **Group structure** | **Group Crisis Management Team (GCMT)** | • CLP Group HSSE Management System (contains all top-level documents referring to governance, emergency & incident response, categorisation, etc.)<br>• Group Crisis Management Plan |
| **Regional structure**<br>• Hong Kong<br>• Mainland China<br>• India<br>• Southeast Asia & Taiwan<br>• Australia | **Regional Crisis Management Team (CMT)** | • Regional Crisis Management Plan |
| | **Asset Emergency Management Team (EMT)** | • Asset Emergency Response Plan (Area or Asset Office) |
| | **Asset Emergency Control Team (ECT)** | • Emergency Response Plans (Asset*) |

*An asset is anything owned and operated by CLP, covering power stations, depots, offices, transmission lines, customer service centres, etc.

## Year in review

With an updated Group Crisis Management Plan in place, this year has seen CLP upgrade its communications capability for improving emergency and crisis management.

In 2020, CLP upgraded its:

- Everbridge Mass Notification system, a comprehensive notification system enabling users to send notifications to individuals or groups using lists, locations and visual intelligence
- Secure chat Emergency Communications & Response (ECR) system, allowing secure two-way messaging
- Crisis Communications Billboard (CCB), and
- Audio and video systems installed in the key conference rooms in selected Company offices.

At the Group level, communications and administrative drills have been conducted quarterly to ensure that the equipment and procedures are functional and fully understood by the operators.

Over the course of 2020, business travel all but stopped in response to the COVID-19 pandemic. Instead, more effort was spent keeping staff across the Group informed on the travel situation and border closures across CLP's portfolio countries and other key destinations, as well as providing bespoke advice to those who needed it.

The protest situation in Hong Kong has all but died down, constituting a much lower threat profile to the business than it did 12 months ago. CLP will continue to monitor potential areas of concern.

# Operations Data

## Asset management

| Fuel use | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Coal consumed (for power generation) (TJ)[1] | **403,379** | 485,453 | 521,568 | 471,976 | 453,904 |
| Gas consumed (for power generation) (TJ)[1] | **134,776** | 107,183 | 83,364 | 91,426 | 86,787 |
| Oil consumed (for power generation) (TJ)[1] | **2,243** | 2,620 | 3,807 | 5,069 | 4,162 |

1 Numbers include operating assets where CLP has operational control during the calendar year. Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019 and 2020 numbers.

| Generation and energy storage capacity | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **On an equity basis** | | | | | |
| **Total generation and energy storage capacity by asset type (% (MW))**[1,2] | **100 (19,691)** | 100 (19,238) | 100 (19,108) | 100 (19,395) | 100 (18,622) |
| Coal | **54.7 (10,765)** | 56.0 (10,765) | 56.3 (10,765) | 58.8 (11,401) | 61.2 (11,396) |
| Gas | **23.4 (4,600)** | 21.8 (4,194) | 21.7 (4,147) | 17.7 (3,434) | 18.4 (3,434) |
| Nuclear | **8.1 (1,600)** | 8.3 (1,600) | 8.4 (1,600) | 8.2 (1,600) | 2.6 (492) |
| Renewables | **12.8 (2,517)** | 12.8 (2,469) | 12.5 (2,386) | 14.2 (2,751) | 16.6 (3,090) |
| Energy Storage | **0.0 (0)** | N/A | N/A | N/A | N/A |
| Others | **1.1 (210)** | 1.1 (210) | 1.1 (210) | 1.1 (210) | 1.1 (210) |
| **On an equity plus long-term capacity and energy purchase basis** | | | | | |
| **Total generation and energy storage capacity by asset type (% (MW))**[1,2,3] | **100 (24,696)** | 100 (24,015) | 100 (23,705) | 100 (24,554) | 100 (23,781) |
| Coal | **48.6 (11,997)** | 50.0 (11,997) | 50.6 (11,997) | 51.4 (12,633) | 53.1 (12,628) |
| Gas | **23.2 (5,717)** | 21.4 (5,139) | 21.4 (5,084) | 21.7 (5,322) | 22.4 (5,322) |
| Nuclear | **10.9 (2,685)** | 11.2 (2,685) | 11.3 (2,685) | 10.1 (2,488) | 5.8 (1,380) |
| Renewables | **13.5 (3,342)** | 13.7 (3,294) | 12.8 (3,039) | 13.1 (3,211) | 14.9 (3,551) |
| Energy Storage | **2.7 (655)** | N/A | N/A | N/A | N/A |
| Others | **1.2 (300)** | 3.7 (900) | 3.8 (900) | 3.7 (900) | 3.8 (900) |

1 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.
2 Starting from 2020, a new "Energy Storage" asset category is added, under which pumped storage and battery storage are included. In previous years, assets under the "Others" category included oil-fired generation assets and pumped storage.
3 Numbers include assets with majority and minority share, and those under "long-term capacity and energy purchase" arrangements with CLP. Starting from 2018, "long-term capacity and energy purchase" has been defined as a purchase agreement with duration of at least five years, and capacity or energy purchased being no less than 10MW.

| Renewable generation capacity | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **On an equity basis** | | | | | |
| **Total renewable generation capacity by asset type (MW)**[1] | **2,517** | 2,469 | 2,386 | 2,751 | 3,090 |
| Wind | **1,521** | 1,521 | 1,521 | 1,941 | 2,297 |
| Hydro | **489** | 489 | 489 | 489 | 489 |
| Solar | **499** | 451 | 369 | 321 | 304 |
| Other renewables | **7** | 7 | 7 | N/A | N/A |
| **On an equity plus long-term capacity and energy purchase basis** | | | | | |
| **Total renewable generation capacity by asset type (MW)**[1,2] | **3,342** | 3,294 | 3,039 | 3,211 | 3,551 |
| Wind | **2,049** | 2,049 | 1,982 | 2,401 | 2,758 |
| Hydro | **489** | 489 | 489 | 489 | 489 |
| Solar | **793** | 745 | 558 | 321 | 304 |

| Renewable generation capacity | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Other renewables | **10** | 10 | 10 | N/A | N/A |

1 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.
2 Numbers include assets with majority and minority share, and those under "long-term capacity and energy purchase" arrangements with CLP. Starting from 2018, "long-term capacity and energy purchase" has been defined as a purchase agreement with duration of at least five years, and capacity or energy purchased being no less than 10MW.

| Energy sent out | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **On an equity basis** | | | | | |
| **Total energy sent out by asset type (% (GWh))**[1,2,3] | **100 (68,699)** | 100 (70,949) | N/A | N/A | N/A |
| Coal | **57.4 (39,438)** | 62.9 (44,596) | N/A | N/A | N/A |
| Gas | **18.0 (12,390)** | 14.1 (9,979) | N/A | N/A | N/A |
| Nuclear | **16.3 (11,192)** | 15.3 (10,888) | N/A | N/A | N/A |
| Renewables | **8.3 (5,678)** | 7.7 (5,487) | N/A | N/A | N/A |
| Energy Storage | **0.0 (0)** | N/A | N/A | N/A | N/A |
| Others | **0.0 (1)** | 0 (0) | N/A | N/A | N/A |
| **On an equity plus long-term capacity and energy purchase basis** | | | | | |
| **Total energy sent out by asset type (% (GWh))**[1,2,4,3,5] | **100 (85,937)** | 100 (88,573) | 100 | 100 | 100 |
| Coal | **47.8 (41,118)** | 54.8 (48,512) | 60 | 61 | 63 |
| Gas | **20.0 (17,157)** | 14.8 (13,073) | 12 | 15 | 14 |
| Nuclear | **23.2 (19,923)** | 21.9 (19,400) | 20 | 15 | 14 |
| Renewables | **9.1 (7,855)** | 8.7 (7,699) | 8 | 9 | 9 |
| Energy Storage | **-0.1 (-118)** | N/A | N/A | N/A | N/A |
| Others | **0.0 (1)** | -0.1 (-109) | 0 | 0 | 0 |
| **On an operational control basis** | | | | | |
| **Total energy sent out (GWh)**[3] | **58,918** | N/A | N/A | N/A | N/A |

1 Numbers and percentage figures have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.
2 Starting from 2020, a new "Energy Storage" asset category has been added, under which pumped storage and battery storage are included. In previous years, assets under the "Others" category included oil-fired generation assets and pumped storage.
3 Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2020 number.
4 Numbers include assets with majority and minority share, and those under "long-term capacity and energy purchase" arrangements with CLP. Starting from 2018, "long-term capacity and energy purchase" is defined as a purchase agreement with duration of at least five years, and capacity or energy purchased being no less than 10MW.
5 Only percentages are available for the years 2016-18.

## Availability and reliability

| CLP Power Hong Kong | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| System Average Interruption Frequency Index [SAIFI][1] | **0.19** | 0.17 | 0.19 | 0.18 | 0.18 |
| System Average Interruption Duration Index [SAIDI] (hours)[1] | **0.39** | 0.42 | 0.46 | 0.34 | 0.35 |
| Unplanned Customer Minutes Lost [CML] (minutes)[1] | **9.77**[2] | 10.13[3] | 10.29[4] | 1.57 | 1.48 |

1 The numbers are derived by calculating the average of data from the most recent three years. For example, the figures under year 2020 are the 3-year averages of data from 2018 to 2020.
2 The 2018-2020 average would have been about 0.9 minutes without the severe impact of Mangkhut in September 2018.
3 The 2017-2019 average would have been about 1.3 minutes without the severe impact of Mangkhut in September 2018.
4 The 2016-2018 average would have been about 1.44 minutes without the severe impact of Mangkhut in September 2018.

*2020 data shaded in orange have been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.*

# Community

## Stakeholder Engagement Framework

### Management approach

CLP is committed to open, transparent and timely communication with its stakeholders, delivering through the CLP Stakeholder Engagement Framework.

GRI reference: 102-43 , 102-44

CLP's Stakeholder Engagement Framework provides open and transparent channels for stakeholder input, and a review and consideration process where concerns about CLP's business are responded to in a timely manner. It includes the following steps:

1. Aligning engagement objectives with business objectives
2. Mapping issues and concerns
3. Identifying relevant stakeholders
4. Developing a communications and engagement plan
5. Conducting the engagement activities
6. Capturing feedback and reporting on outcomes.

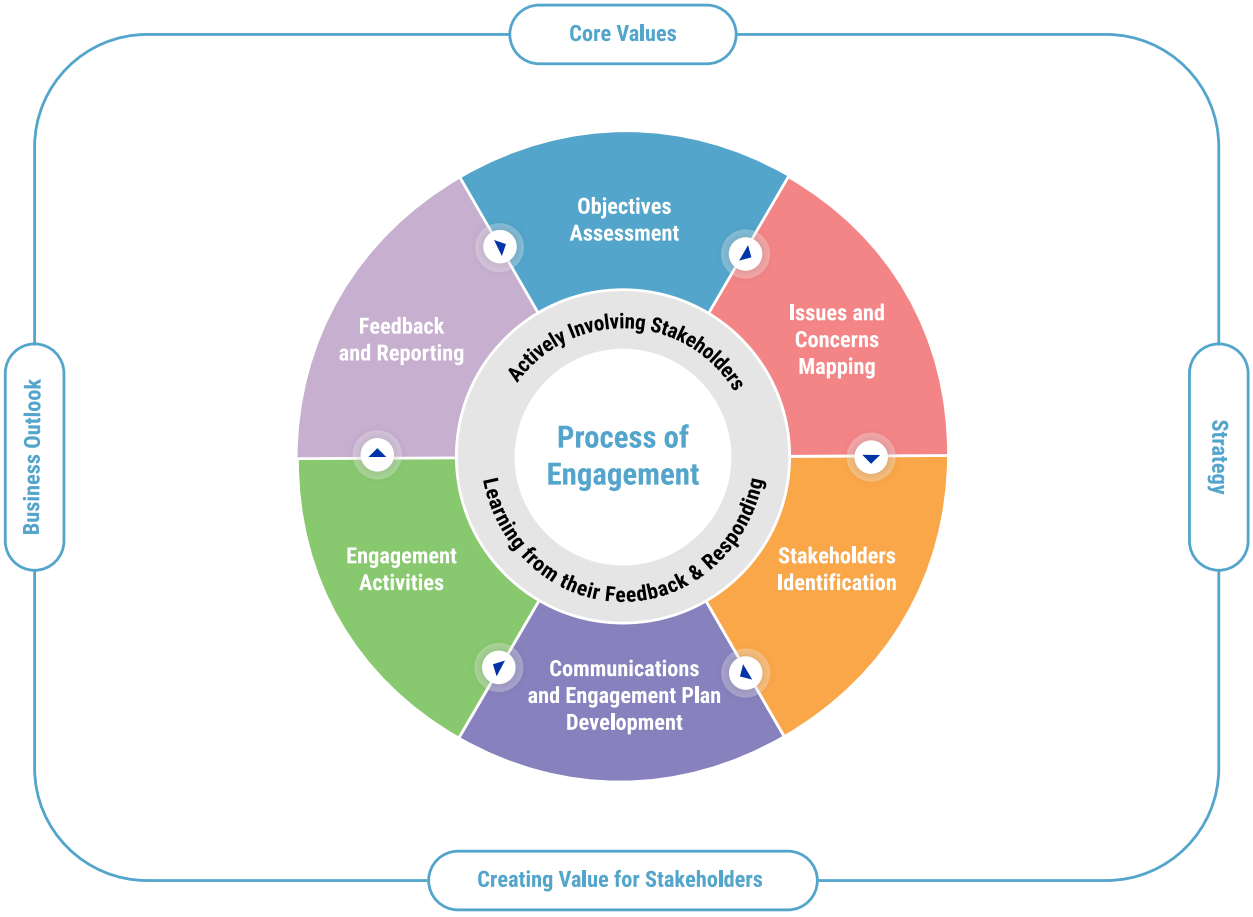
The effectiveness of CLP's approach to stakeholder engagement is captured through a number of measures, which include stakeholder feedback, outcomes following engagement, positive and/or negative news about the Company, brand perception ratings, and recognition and awards.

### Strategies and procedures

GRI reference: 102-40, 102-42, 102-44

CLP's business activities involve a diverse range of stakeholders. For each project, key stakeholder groups are identified and prioritised based on how they will be impacted, and their influence on the success of the business. CLP has a wide range of easily accessible public engagement channels to enable it to receive concerns, interest or feedback at any time during the year.

### CLP's Stakeholder Engagement Framework



# Year in review

CLP engages in active dialogues with different stakeholders. Their key concerns in 2020 are presented in this section.

As one of the largest investor-owned power businesses in Asia serving over 80% of Hong Kong's population and operating in other jurisdictions, CLP has a diverse range of stakeholders to serve. This includes governments which drive regulations, customers, asset owners and communities that CLP is liable for, as well as employees, suppliers and contractors who contribute to its operational success.

The Company is committed to responding to stakeholders' concerns about the business in a timely manner. These concerns vary depending on the location and context and therefore require different actions or responses. General complaints about the Company are typically handled by the Public Affairs team who work with the relevant business units to resolve the issues at hand.

The tables below summarise the key stakeholders, their key concerns during the year, and how they were engaged. During 2020, some of the in-person communication channels moved online due to the COVID-19 pandemic.

## Lenders, investors and shareholders

| Key Concerns/ Interests in 2020 | Engagement Channels | Relevant Sections |
|---|---|---|
| · Impact of COVID-19 on liquidity, financing strategies and risk management<br>· CLP's business sustainability, financial and operational strategies and performance<br>· Capital allocation and business opportunities across different regions<br>· Dividend policy and dividend prospects<br>· Cash flow, financial and debt management, capital structure<br>· Board refreshment and diversity<br>· Delay in renewable energy subsidy payment for China projects<br>· Decarbonisation actions under CLP Climate Vision 2050<br>· CLP Climate Action Finance Framework and sustainable investment<br>· Risk management and the impact of local and regional political tensions<br>· Regional business opportunities and development | · Annual General Meeting<br>· Annual and Interim Results Analyst Briefings and webcasts<br>· CLP Group website<br>· Annual and Interim Reports<br>· Annual Sustainability Report<br>· Announcements, circulars, presentations and media releases<br>· Shareholders' visit programmes<br>· Climate Action Finance Report<br>· Direct engagement in the form of meetings, roadshows, response to information requests, letters and correspondence for ESG-related matters | · Responding to climate change<br>· Harnessing the power of technology<br>Refer to the 2020 Annual Report for the Group's financial performance |

## Governments and regulators

| Key Concerns/ Interests in 2020 | Engagement Channels | Relevant Sections |
|---|---|---|
| · Hong Kong – Scheme of Control Agreement (SoC), Development Plan implementation, tariff review, auditing review and long-term decarbonisation strategy<br>· Mainland China – carbon emissions, safety, reliability and emergency readiness<br>· India – National Action Plan on Climate Change, power purchase agreements (PPA) and tariffs<br>· Australia – Reliability, affordability, system security, support for customers in financial hardship, market design, carbon emissions and integration of renewable energy | · Regular working meetings<br>· Regular performance reporting<br>· Written responses to public consultations and direct liaison with governments, regulators and relevant parties | · Responding to climate change<br>· Safety<br>· Operations<br>· Customers<br>Refer to CLP Information Kit for information relating to CLP Power Hong Kong |

## Suppliers and contractors

| Key Concerns/ Interests in 2020 | Engagement Channels | Relevant Sections |
|---|---|---|
| · Contractors' safety<br>· Temporary manpower payments | · Regular supplier management meetings and engagements (from operational to senior management)<br>· Safety workshops to engage contractors to uplift their safety awareness and capability<br>· Periodical supplier performance evaluations (Supplier Assessment System) | · Safety<br>· Supply chain |

## Employees

| Key Concerns/ Interests in 2020 | Engagement Channels | Relevant Sections |
|---|---|---|
| · Safety performance<br>· Competitive remuneration and benefits<br>· Career development opportunities<br>· Gender diversity and equal opportunity<br>· Employees' health and wellbeing, in particular during the COVID-19 pandemic | · Employee engagement and safety culture surveys<br>· Employee feedback channels (via online forms, suggestion boxes, townhall meetings, etc.)<br>· Regular management communications and roadshows<br>· Two-way consultations (e.g. joint consultative committees in Hong Kong)<br>· Employee newsletters and broadcasts<br>· Company intranet portal and internal communication channels<br>· Discussion with trade union representatives in locations where collective bargaining power is recognised<br>· Employee Assistance Programmes including counselling services and workshops | · Building an agile, inclusive and sustainable workforce<br>· People<br>· Safety |

## Residential, commercial and industrial customers, electricity boards, grid companies

| Key Concerns/ Interests in 2020 | Engagement Channels | Relevant Sections |
|---|---|---|
| · Energy prices, affordability, reliability and availability<br>· Tariff adjustment, management and competitiveness<br>· Energy efficiency, conservation and demand side management<br>· Customer experience<br>· Customer privacy<br>· Renewable energy offerings to customers<br>· India – Market entry and management of corporate PPAs for renewable energy<br>· Australia – Payment support to customers due to the impact of COVID-19 lockdowns | · Working groups e.g. Customer Consultative Group, local customer advisory committees, SME consultative groups and industry groups<br>· Customer/ partner forums and webinars<br>· Visits to assets<br>· Customer satisfaction surveys and feedback forms<br>· Customer Service Centres and Customer Interaction Centre<br>· Online service portals<br>· Direct/ personalised communications through account managers<br>· Participation in government schemes | Responding to climate change<br>· Progress towards Climate Vision 2050 targets<br>· Preparing for the transition to a low-carbon world<br>· Investing in transition enablers<br>Harnessing the power of technology<br>· Supporting the sustainability agenda<br>· Reinforcing cyber resilience and data protection<br>· Customers |

## Community groups, legislators, NGOs, industry and professional organisations, academia

| Key Concerns/ Interests in 2020 | Engagement Channels | Relevant Sections |
|---|---|---|
| · Employment opportunities and career development, particularly for young people<br>· Assistance to people in need during the economic downturn and COVID-19<br>· Community engagement and investment programmes related to education, empowerment of women, health and poverty alleviation, social inclusion, diversity, and eliminating energy poverty<br>· Energy efficiency and conservation<br>· Climate change: decarbonisation and renewable energy development<br>· Progress of key projects and initiatives<br>· Hong Kong – Future fuel mix, supply reliability, fuel cost and tariff level, responses to social incidents and sentiment and popularisation of electric vehicles<br>· Mainland China – Business development and the associated impacts on local communities and carbon emissions<br>· Australia – Contribution to local economy, environmental impact of operations, future fuel mix and supply reliability and lifespan of power stations | · Working committees, advisory committees, panels and meetings<br>· Seminars, lectures, workshops, and online classes<br>· Public/ community events and partnerships on various initiatives<br>· Community investment programmes<br>· Awards and scholarships<br>· Promotion through mass media and social media, including educational videos<br>· One-on-one meetings<br>· Community perception surveys | Responding to climate change<br>· Progress towards Climate Vision 2050 targets<br>· Preparing for the transition to a low-carbon world<br>· Investing in transition enablers<br>Harnessing the power of technology<br>· Building an innovative ecosystem<br>Building an agile, inclusive and sustainable workforce<br>· Attracting and retaining tomorrow's workforce<br>· Community<br>· Operations<br>· Customers |

# Public policy

## Management approach

CLP is committed to supporting the long-term development of the communities it serves, and contributing to the development of sound government policies and laws that balance social, economic and environmental needs.

GRI 415-1 Political contributions

CLP's policy is to remain politically neutral and to avoid making political contributions. For public policy developments which apply to the electric utility industry, the Group develops carefully considered positions and seeks to provide input to support the decision-making process. By bringing its industry expertise to the table, CLP can add value to the discussion on how best to structure rules for the energy industry going forward, as both technology and public demand evolves.

Download CLP's Policy on Making Political Contributions

CLP's responses to major public policy consultations – in addition to the Group-wide positions on critical issues such as climate change – are published and accessible on the Company's websites. For example:

- CLP Power Hong Kong's response to the consultation on the long-term decarbonisation strategy for Hong Kong is available here.
- EnergyAustralia worked with the industry to consult with the Australian Government on the National Energy Guarantee (NEG) on discussions regarding how the Company could best balance the transition to clean energy and maintain reliability in the energy system. The submission made in 2018 can be found here.

None of CLP's businesses receive any significant government financial assistance. The businesses do take up government financial incentives or subsidies which are in place to encourage market participants to behave in certain ways. Examples of such incentives include tax holidays and preferential tariffs for renewable investment or financial assistance from export credit agencies.

## Year in review

In 2020, CLP has increased contribution to organisations that have the objective to influence public policy, compared to the previous year. These contributions are in the form of membership dues, donations or sponsorships.

CLP supports and actively participates in a range of organisations to enable the Company to keep abreast of different stakeholders' views, navigate policy uncertainties and shape informed policy making. The contribution is made through paying membership fees, making donations, providing sponsorships, and giving input to policy position papers.

The table below outlines the total amount CLP has contributed to organisations which seek to influence public policy.

| Types of organisation (HK$M) | 2020 | 2019 |
|---|---|---|
| Lobbying, interest representation or similar | 0 | 0 |
| Local, regional or national political campaigns, organisations or candidates | 0 | 0 |
| Trade associations or tax-exempt groups (e.g. think tanks)[1] | 8.90 | 8.04 |
| Others (e.g. spending related to ballot measures or referendums) | 0 | 0 |

1 Includes contributions to professional organisations that seek to influence policies in the form of membership, donation or sponsorship.

Read more on CLP's engagement related to climate change

# Community Investment

## Management approach

CLP strives to build and maintain the trust of the communities in which it operates. 'Doing the right thing' is foundational to both the Company's values and social licence to operate.

The Group is committed to contributing to programmes which support healthy, resilient and sustainable community development over the short and long term. In line with the CLP Group Community Initiatives, Sponsorship and Donation Policy on community engagement, the Company aims to:

- Support projects or programmes that reflect the needs and expectations of local communities and are sensitive to prevailing cultures, traditions and values
- Support projects or programmes that are systematically managed with clearly identified objectives and expected outcomes
- Engage in long-term partnerships with credible international, national, regional and local community organisations, non-governmental organisations and charities
- Support projects or programmes that offer the opportunity for CLP's employees to be involved, and
- Regularly evaluate the outcomes and impacts of the contributions.

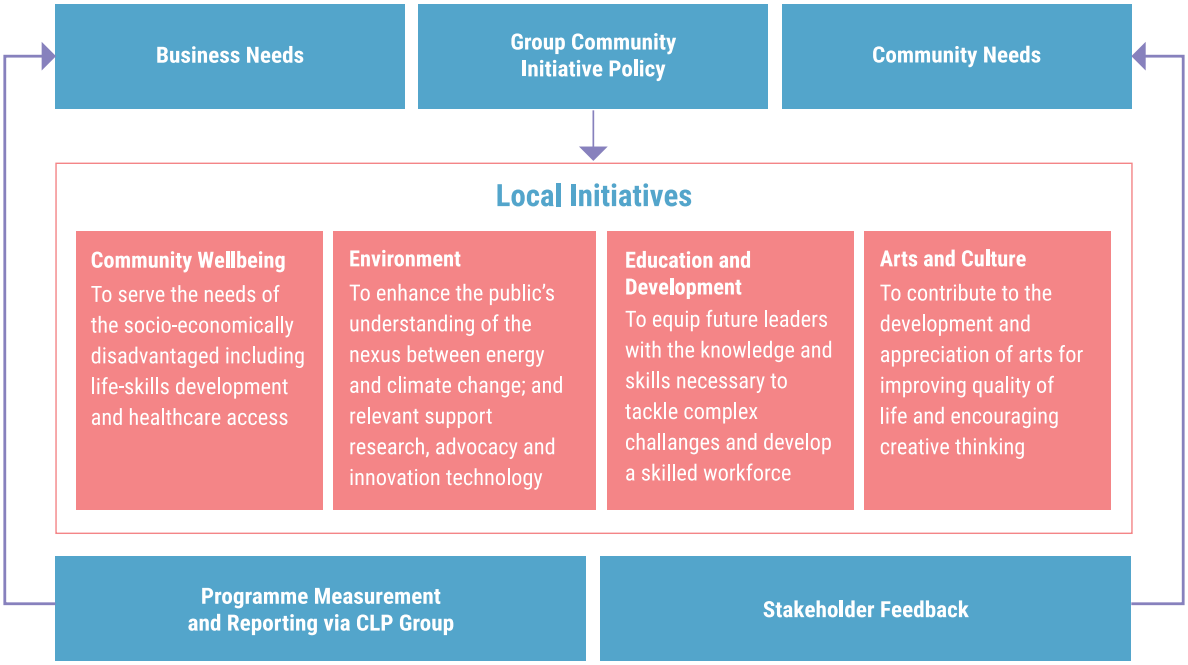
Download the CLP Group Community Initiatives, Sponsorship and Donation Policy

### Strategies and procedures

CLP's community investment strategy is guided by the CLP Group Community Initiatives, Sponsorship and Donation Policy, which sets out principles and directions in the implementation of community initiatives across all business units and functions. The policy, alongside with the Company's corporate governance and internal control measures, as well as a standardised online reporting platform, aim to facilitate a coherent and transparent approach in the assessment, design, review and reporting of CLP's community activities. This helps ensure resources are effectively deployed to serve the community's needs in a timely manner.

The strategy focuses on four key areas: Environment, Education and Development, Community Wellbeing, and Arts and Culture. Each business unit implements the strategy according to local conditions and community needs.

### CLP's Community Initiative Approach



## Monitoring and follow-up

CLP understands that community needs evolve over time. The policy is reviewed every three years to ensure it aligns with the Company's development and changes in the external environment.

Different socio-economic impact measurement tools that evaluate the social impact of community initiatives have been benchmarked. The most suitable tools are used to review the effectiveness of CLP's community initiatives.

CLP has a standardised online reporting system for reviewing and reporting its community initiatives. The system is designed to enhance the overall effectiveness and efficiency of these initiatives by aggregating data on themes, partners, spending, beneficiaries, volunteer hours and impacts.

# Year in review

CLP Power launched a series of community support programmes, with funding of more than HK$200 million in 2020. In addition, the Company increased its support for charitable and other purposes to HK$27.00 million, up from HK$20.98 million in 2019.

2020 was a difficult year for many communities. It commenced with the Black Summer bushfires in Australia , which was quickly followed by the COVID-19 pandemic and its global impact. In response, each of CLP's business units tailored programmes to provide assistance and relief to the communities where they operate. Some case studies are featured below. This was in addition to a range of other programmes that the Company has in place in support of the four pillars under the CLP Group Community Initiatives, Sponsorship and Donation Policy. The focus on youth continues to run across these pillars.

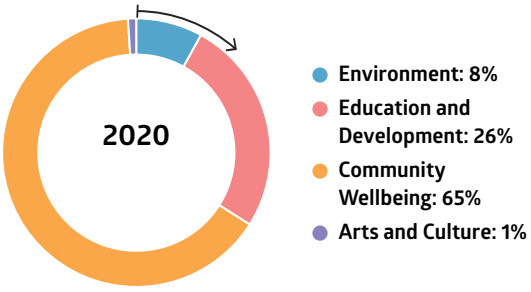
In 2020, CLP's community programmes have benefitted 918,000+ people, compared to 615,000+ in 2019. Local community initiatives on Community Wellbeing accounted for the majority of direct beneficiaries across all community initiatives, with a weighting of 65%.

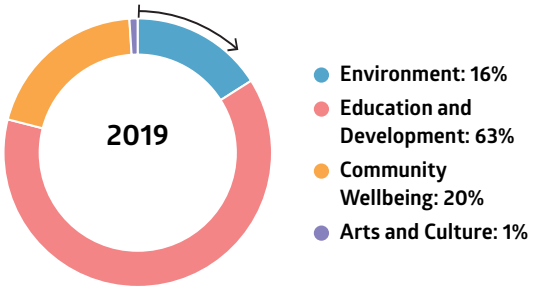
| | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Direct beneficiaries | 918,000+ | 615,000+ | 730,000+ | 439,000+ | 359,000+ |
| Organisations benefitted[1] | 263 | 401 | 434 | 451 | 373 |

1 Organisations benefitted include professional bodies, academic institutes, NGOs and community groups.

## Beneficiaries by theme

Of the 918,000+ beneficiaries in 2020, 65% benefitted from CLP's Community Wellbeing initiatives.



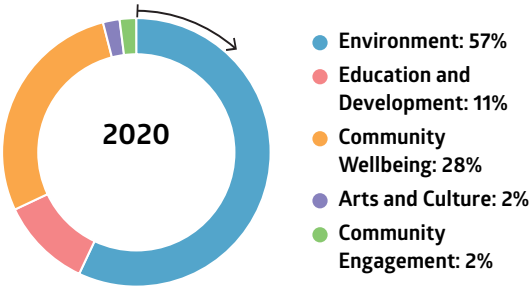
As a result of social distancing restrictions from the pandemic, the number of volunteer hours as well as number of programmes initiated or supported decreased in 2020. The amount donated by CLP for charitable and other community purposes however increased to HKD$27.00 million. Community spending by theme and geography is summarised in the charts below.

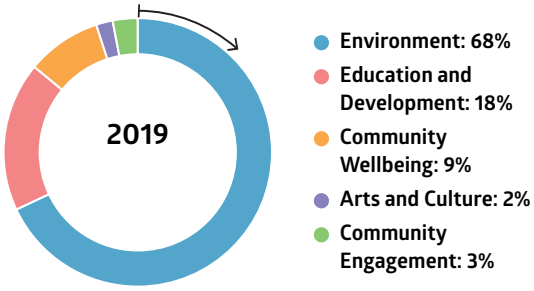
| | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Amount donated for charitable and other purposes (HK$ million)[1] | 27.00 | 20.98 | 18.31 | 14.47 | 12.65 |
| Volunteer hours (hours)[1,2] | 10,973 | 20,015 | 23,661 | 19,945 | 13,302 |
| Programmes implemented (number) | 468 | 663 | 695 | 647 | 574 |

1 Numbers have been subject to rounding.
2 2016 number refers to volunteer hours of CLP staff only.

## Community spending by theme

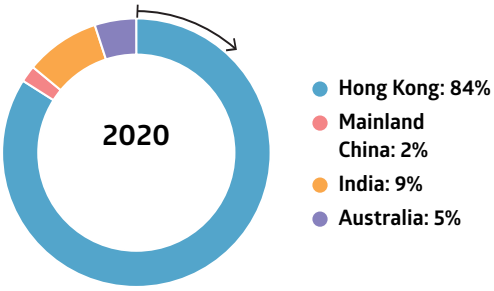
The largest percentage of community spending was directed to Environment initiatives (57%), followed by Community Wellbeing initiatives (28%).

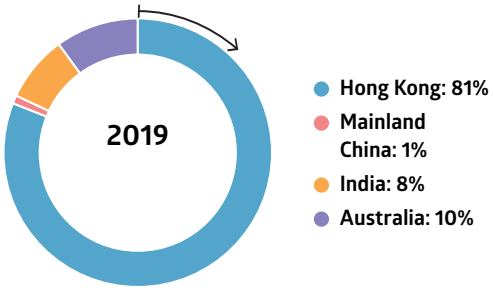



## Community spending by region

The largest percentage of community spending was directed to Hong Kong (84%).




Since its launch in 2018, the Workplace Giving programme of EnergyAustralia has received strong support from the majority of employees, who continue to donate up to 1% of their salaries to charity partners. EnergyAustralia is well on the way to achieving a target of A$1 million in donations in the first three years of the programme. The programme was recognised with a Silver Award for "Best Overall Programme" in the Workplace Giving Australia Awards 2020. EnergyAustralia was also recognised as one of the "Top 10 Best Workplaces to Give Back" in the Good Company Awards 2020.

Find out more on local community initiatives at EnergyAustralia

Read more on each business unit's community programmes in the Annual Report

## Creating Hope for the Young Generation

WATCH NOW ▶

### Providing opportunities to young people

The pandemic brought about economic downturns across CLP markets, leading to fewer opportunities for fresh graduates or those who are just starting in their careers. Understanding the challenges they face, CLP kept up its efforts to support youth across its business areas in the Asia Pacific. In collaboration with various partners, tailor-made plans were put in place to help address the needs of local youth.

In Hong Kong, Vocational and Professional Education and Training (VPET) plays a vital role in broadening learning opportunities of school leavers and in-service personnel. In collaboration with the Vocational Training Council (VTC), CLP Power set up the CLP Award for VPET students. The award assists students who are studying power engineering or related programmes in the 2020/21 academic year and need financial support. The CLP Community Energy Saving Fund (CESF) allocated HK$1.5 million to the Award, providing a subsidy of HK$20,000 to each eligible student. The Award not only provides training opportunities to these students in the energy sector, but also helps nurture a new generation of talent for Hong Kong's power engineering industry.

In 2020, CLP Power established a new Graduate Internship Programme. It offers internships to recent university graduates for a 12-month period. The programme covers a wide range of projects suitable for university graduates from different disciplines, such as business, engineering, environmental affairs and information technology. Fifty nine graduate interns joined CLP in Hong Kong to gain work experience, half of which were in environmental fields.

In Mainland China, CLP's youth initiatives included:

- Supporting 700 students from 19 schools under the CLP Support-a-Student Programme.
- Funding to upgrade facilities at three schools in Sichuan with more than 800 students benefitting from the CLP Support-a-School Programme.
- The launch of the Guangxi Ethnic Minority Community Project to improve the study environment and school facilities for youngsters from ethic minorities, and also to equip local women from ethic minorities with skillsets to bring sustainable income to their families.

During the COVID-19 lockdown, the volunteer mentoring team at EnergyAustralia continued to serve the community and mentor students by moving its in-person mentoring to an online platform.

CASE STUDY

## Community support during the pandemic

**In response to the immense challenges brought on by the COVID-19 pandemic, CLP launched a series of community support programmes across the regions in which it operates to benefit people from different parts of society.**

Early on during the outbreak, supplies of hygiene products in the community were in shortage. CLP Power leveraged on its supplier network, experience in procurement and the support from business customers to source different personal protective equipment, sanitisation products and other daily essentials. These supplies were distributed to medical staff, elderly, residents of subdivided flats, catering personnel, disadvantaged people, schools and the general public through a range of initiatives. The video below summarises a range of initiatives by CLP Power in the first half of 2020.


**Fight the virus together with care and love**

WATCH NOW

Learn more about CLP Power's community support programmes and the frozen 2021 tariff in Hong Kong

Throughout 2020, CLP Power set aside more than HK$200 million to fund relief measures for different sectors of the community, and launched a series of community support programmes aimed at encouraging consumer spending to help the Hong Kong economy regain momentum. Most of the HK$200 million was allocated for relieving tariff pressure for all Small-and-Medium Enterprise (SME) customers from an increased tariff. The increased tariff was a result of CLP Power's planned transition to low-carbon power generation, from coal to natural gas, in 2020.

Learn more about the tariff relief for SME customers

Consumer spending in catering industry was encouraged through CLP Power's allocation of HK$20 million to distribute dining coupons to underprivileged families and elderly customers on concessionary tariffs, generating business for around 700 restaurants. Through the *CLP Power Connect Programme*, HK$21 million was spent on subsidising the electricity bills of around 40,000 households in need, including single elderly persons, elderly couples, low income families, people with disabilities, as well as subdivided unit households.

Learn more about CLP Power's community support programmes

In response to the COVID-19 pandemic, CLP China donated a total of RMB1.6million in Mainland China to support medical relief and enhance hygiene levels in local communities. The donation benefitted more than 350,000 people. Initiatives included the donation of medical ventilators to local hospitals in Hebei Province and Sichuan Province, temperature detectors in Sichuan Province, water purifying systems in schools in Jiangsu Province, medical supplies to frontline medical staff and the local community in various provinces, as well as caring kits to residents and students which contained medical supplies, sanitisers, and a leaflet which served as a reminder on personal hygiene during the pandemic. Priority was given to support medical relief in the vicinity of CLP's regional assets.

*Students at a school in Jiangsu Province of Mainland China enjoying clean water from the water purifying system donated by CLP.*

CASE STUDY

## EnergyAustralia getting through one of the worst bushfire seasons with the community

**EnergyAustralia mobilised its people to help respond to one of the worst bushfire seasons in recent history. Bushfires have always been a risk to local communities in Australia, yet the Black Summer Bushfire, from June 2019 to May 2020, was prolonged and saw unusually intense bushfires across Australia. It had a catastrophic impact on local communities, wildlife, cultural heritage, and the economy.**

Volunteer opportunities for all local employees were increased to allow them to contribute not only to immediate relief efforts, but also to continue helping with the rebuilding of communities. The number of paid volunteering leave days delegated for emergency response was doubled, giving local colleagues access to 20 days each year to assist in emergency situations. Three EnergyAustralia employees used this leave to fight the bushfires. In addition, volunteering teams were fielded at short notice to help charities working in crisis mode. EnergyAustralia's people volunteered 375 hours with Foodbank Victoria and St Kilda Mums, to pack emergency food items and essential items for babies and children of people trapped in bushfire-affected communities.

Homes and small businesses in regions impacted by the bushfires also had their bills paused, and there were waiving fees and added bill credits for firefighters. EnergyAustralia's employees, EnergyAustralia and CLP Holdings, together donated over A$300,000, the largest ever appeal response for charity relief efforts.

This disastrous bushfire also damaged Aboriginal artwork at the significant sacred Wiradjuri Rock Art Site, Maiyingu Marragu, which is located not too far from Mount Piper Power Station. In December 2020, three groups of employees volunteered to help restore the Aboriginal artwork that had been impacted by the bushfires.

*Mount Piper Power Station volunteers restore ancient rock art.*

*Maiyingu Marragu (Blackfellows Hands) rock art.*

# Community Data

## Contributions to public policies

| Contributions to public policies | | | | | |
|---|---|---|---|---|---|
| **Types of organisations (in HK$M)** | **2020** | **2019** | **2018** | **2017** | **2016** |
| Lobbying, interest representation or similar | **0** | 0 | N/A | N/A | N/A |
| Local, regional or national political campaigns, organisations or candidates | **0** | 0 | N/A | N/A | N/A |
| Trade associations or tax-exempt groups (e.g. think tanks) | **8.90** | 8.04 | N/A | N/A | N/A |
| Others (e.g. spending related to ballot measures or referendums) | **0** | 0 | N/A | N/A | N/A |

## Community investment

| Programmes | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Community programmes implemented (number) | **468** | 663 | 695 | 647 | 574 |

| Spending | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Community spending by theme (%)**[1] | | | | | |
| Education and Development | **11** | 18 | 19 | 13 | 15 |
| Community Wellbeing | **28** | 9 | 22 | 23 | 32 |
| Environment | **57** | 68 | 50 | 41 | 39 |
| Arts and Culture | **2** | 2 | 3 | 9 | 2 |
| Community Engagement | **2** | 3 | 6 | 14 | 12 |
| **Community spending by region (%)**[1] | | | | | |
| Hong Kong | **84** | 81 | 77 | 81 | 77 |
| Mainland China | **2** | 1 | 1 | 2 | 1 |
| India | **9** | 8 | 8 | 8 | 13 |
| Australia | **5** | 10 | 14 | 9 | 9 |

1 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.

| Donations | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Amount donated for charitable and other purposes (HK$M)[1] | **27.00** | 20.98 | 18.31 | 14.47 | 12.65 |

1 Numbers have been subject to rounding.

| Time and expertise contributed | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Volunteer hours from CLP staff and family members (hours)[1,2] | **10,973** | 20,015 | 23,661 | 19,945 | 13,302 |
| Skill-based (%)[1,3] | **1** | 1 | 2 | 4 | 6 |
| Non skill-based (%)[1,4] | **99** | 99 | 98 | 96 | 94 |

1 Numbers have been subject to rounding.
2 2016 number refers to volunteer hours of CLP staff only.
3 Refers to volunteering work that requires electrical engineering skills or licenses.
4 Refers to hands-on, generic services that do not require professional electrical engineering skills or licenses.

| Beneficiaries | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Beneficiaries (number)** | | | | | |
| Direct beneficiaries | **918,000+** | 615,000+ | 730,000+ | 439,000+ | 359,000+ |
| Organisations benefitted[1] | **263** | 401 | 434 | 451 | 373 |
| **Beneficiaries by theme (%)**[2] | | | | | |
| Education and Development | **26** | 63 | 69 | 42 | 60 |
| Community Wellbeing | **65** | 20 | 20 | 35 | 31 |
| Environment | **8** | 16 | 10 | 21 | 8 |
| Arts and Culture | **1** | 1 | 1 | 2 | 1 |

1 Includes professional bodies, academic institutes, NGOs and community groups.
2 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.

# People

## Talent and skills for the future

### Management approach

Retaining institutional knowledge, together with transferring skills to a new generation of managers and team members is essential to CLP's long-term success, as is developing skills for a low-carbon, digitally enabled future.

#### Standards and procedures

CLP's talent development initiatives seek to attract, retain and develop a diverse, multi-generational workforce, develop new skills and share talent effectively across the portfolio of businesses.

CLP has a comprehensive training and development framework in place to deliver a wide range of training and development programmes to help people to perform competently in their current roles and prepare them for future business challenges and opportunities. These include programmes for all employees and for contractors, where appropriate.

On-going technical and safety training is provided to develop the technical competencies and behaviours required. Strategic, general management and functional management programmes are used to help build future leaders. Training and development programmes are delivered internally (in Hong Kong through the CLP Learning Institute and Power Academy) and in partnership with leading academic institutions including the International Institute for Management Development (IMD), the Ivey Business School, Tsinghua School of Economics and Management, Chatham House and the École Polytechnique Fédérale de Lausanne (EPFL). Expert briefings and workshops are conducted on the latest global economic, political and technological trends. The topics include digital disruption, energy transition, cyber security, design thinking and data analytics.

CLP provides opportunities to young people in Hong Kong through internships and partners with local and overseas vocational and professional academic institutions to offer industrial placements to students. The CLP Power Academy in Hong Kong offers programmes to provide an alternative to school leavers and working adults to pursue careers in the energy industry.

Individual employee development needs are identified through CLP's performance management system. Company-supported education policies support employee-initiated self-development. CLP recruits externally for critical roles focused on innovation, digital and renewables capabilities.

Learn about how CLP provides opportunities to young people ›

Find out more about Power Academy courses on offer

#### Monitoring and follow-up

CLP conducts regular talent and capability reviews focused on both general management and engineering streams. The reviews monitor and follow up on actions to address current and future gaps and opportunities, including the progress of development programmes, recruitment campaigns, initiatives to strengthen gender diversity and cross-business assignments. The effectiveness of this approach is measured against a range of key performance indicators including retention of key talent, turnover, gender and ethnic diversity and engagement measures. The Board Human Resources & Remuneration Committee reviews talent and capability progress annually.

Find out how CLP attracts and retains tomorrow's workforce ›

# Diversity and inclusion

## Management approach

A diverse workforce and an inclusive culture support high performance and CLP's ability to operate effectively in the many communities in which it operates. CLP is committed to creating a diverse and inclusive working environment for employees.

### Standards and procedures

CLP has set several Group-wide gender diversity targets and continues to undertake initiatives to encourage more women into the workforce.

CLP's human resources policies encourage the retention of employees through initiatives including flexible work arrangements, maternity leave, and other family-friendly policies and benefits. CLP's recruitment processes are designed to be fair and non-discriminatory. In Hong Kong, this process follows the Equal Opportunities Commission Code of Practice including the use of consistent selection criteria. In other parts of the Group, CLP complies with local legislation and codes of practice on recruitment. When conducting senior level searches, CLP also requires external recruitment firms to identify candidates with diverse backgrounds, in line with Group's values.

CLP is a signatory to the International Energy Agency's "Equal by 30" initiative, a commitment by public and private sector organisations to work towards gender equality in the energy sector by 2030, and to the Women's Empowerment Principles established by the UN Global Compact and UN Women in India. Local Diversity & Inclusion Councils operate in Hong Kong, India and Australia to drive the Company's efforts on diversity.

### Monitoring and follow-up

Gender progress is reviewed as part of regular general management and engineering talent reviews. The Board Human Resources & Remuneration Committee reviews progress against gender diversity targets annually. CLP also conducts regular reviews to identify any gender pay gaps and ensures equal pay for work of equal value.

Read more on CLP's diversity and inclusion initiatives ›

# Supporting people to thrive in change

## Management approach

CLP is committed to supporting all of its people to thrive in change through a long-term focus on strengthening wellbeing and resilience, developing more inclusive workplaces and reskilling.

CLP recognises that balancing work and family life can have a significant impact on health and relationships which enhances overall wellbeing and productivity at work. Enhancing employee wellbeing is important to help improve the health status of the workforce, manage the cost of medical benefits and reduce the impact of sickness absence on productivity.

CLP aims to provide work environments that are free of harassment or discrimination on the basis of gender, physical or mental state, race, nationality, religion, age, family status or sexual orientation; or any other attribute recognised by the laws of the country in which the Company operates.

### Standards and procedures

The CLP Code of Conduct underpins the approach to supporting people. Family-friendly leave policies and flexible working arrangements are in place in different parts of the business, and work-life balance programmes and workshops are organised for employees covering areas of physical, social and emotional balance. Confidential employee assistance programmes are also offered to assist employees who may encounter work or personal issues and need professional support.

In 2020, to address the affects of COVID-19, special work arrangements, including work-from-home and flexible working hours, as well as special leave for purposes of self-isolation and family reunions, were offered to employees.

### Monitoring and follow-up

CLP uses independent external consultants to conduct regular employee engagement surveys to understand employees' views. Surveys were conducted across its Hong Kong, Mainland China and EnergyAustralia workforces in 2020 with high response rates and improved employee engagement scores.

In Hong Kong, joint consultative committees have been established which act as an additional channel of communication between the Company and employees' selected representatives. Employee benefits are regularly benchmarked to ensure that appropriate support is provided.

Read more about how CLP supports its people to thrive in change ›

# Fair work practices

## Management approach

Core to the people agenda, and to delivering CLP's strategy, is ensuring that the Group complies with all local laws and regulations and demonstrates respect for all of its people, together with values-based management in addressing broader social issues.

GRI reference: 102-41

### CLP's commitments

**Human rights**

In addition to local legal compliance, CLP respects internationally recognised human rights relevant to its operations and requires its business partners and suppliers to do the same. The commitment to upholding human rights is outlined in CLP's Value Framework and Responsible Procurement Policy Statement.

**Discrimination and Harassment**

CLP aims to provide work environments that are free of harassment or discrimination on the basis of gender, physical or mental state, race, nationality, religion, age, family status or sexual orientation; or any other attribute recognised by the laws of the country in which the Company operates.

**Fair wages**

CLP complies fully with any local legal requirements with respect to minimum wage, and in practice, its remuneration and benefits for permanent staff often significantly exceed local legal requirements. It is not Group policy or market practice to provide the same employment benefits to temporary staff as for regular permanent staff. However the benefits for temporary staff are competitive with local market practice and meet or exceed local legal requirements.

**Use of temporary and contractor labour**

CLP uses temporary labour for work that is time-bound or during peak activities and also engages labour employed by third parties for non-core work and/or work requiring specialist skills. The Group is committed to taking a responsible approach to managing the costs and risks of the contingent workforce. This includes considering whether there is the right strategic balance between the insourcing and outsourcing of capabilities, and whether the working hours and remuneration of workers employed by contractors are fair and reasonable.

**Freedom of association**

While CLP's management philosophy is that the most appropriate way to engage with colleagues is through direct communication rather than through intermediary organisations, CLP employees have the freedom of association to join organisations and professional bodies of their choice. CLP respects and fully complies with all legal requirements with regards to union membership and collective bargaining.

### Standards and procedures

CLP's Group Labour Standards and Group-wide Harassment-free Workplace Policy set a common framework of principles. Detailed policies in each country are fully compliant with local legislation. Regular refresher training is organised for employees. All operations are required to ensure that they do not use child, forced or compulsory labour. Steps taken include stringent checking and control procedures in selection and on-boarding processes, and training for key contractors who provide manpower or services.

EnergyAustralia has a Supplier Code of Coduct and, from 2021, will commence reporting annually on the risks of modern slavery in its operations and supply chains, as well as actions taken to address those risks.

Equal pay for work of equal value is ensured by applying objective and non-discriminatory mechanisms and processes of job evaluation, grading and pay determination. These processes have been confirmed to comply with the Hong Kong Equal Opportunities Commission guidelines on equal pay between men and women under the Sex Discrimination Ordinance. CLP's Group-wide human resources policy guidelines also require all subsidiary businesses to have similarly objective and non-discriminatory processes in place. EnergyAustralia reports annually to the Workplace Gender Equity Agency in Australia.

Each of the businesses have an employee grievance procedure in place that reflects the CLP Value Framework and any applicable local legal requirements. In the case of any employee having concerns, established procedures are followed to address grievances. These procedures ensure fairness and independence in the investigation process, and respect for the confidentiality of the parties involved. CLP's Whistleblowing Policy is publicly accessible, enabling employees and related third parties to raise concerns about any irregularity through a confidential channel.

## Monitoring and follow-up

CLP carries out independent audits of its human resources policies and procedures to proactively identify any risks of legal non-compliance and take remedial action if such risks are identified. Immediate action is taken to investigate and address any suspected breaches or issues that are brought to the Company's attention.

Read more on breaches of the CLP Code of Conduct >

Each year, CLP uses independent external consultants to benchmark remuneration and benefits with relevant recruitment markets. Decisions on remuneration are subject to the corporate governance process and the approval of the Human Resources & Remuneration Committee to ensure a balance between the interests of both employees and shareholders as key stakeholders.

In 2020, no Group operations were identified in which the right to exercise freedom of association and collective bargaining was violated or at significant risk .

In Australia, CLP engages in collective bargaining with approximately 830 employees via certified enterprise bargaining agreements. These agreements include both notice periods and provisions for consultation and negotiation. EnergyAustralia successfully concluded negotiations for Yallourn and Newport enterprise bargaining agreements which expired in late 2019. All agreements were reached without the occurrence of protected industrial action. Several other agreements have been extended with negotiations postponed due to COVID-19.

*Central to CLP's values is its enduring belief in uniting its people by promoting inclusion, diversity and respect, safeguarding health and safety, and endeavouring to offer equal opportunities.*

# People Data

## Employment practice

| Employee headcount and type | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Group total** | | | | | |
| Total employee headcount (number) | **8,060** | 7,960 | 7,843 | 7,751 | 7,626 |
| Full-time (number) | **7,865** | 7,754 | 7,634 | 7,542 | 7,428 |
| Part-time (number) | **195** | 206 | 209 | 209 | 198 |
| Permanent (average %) | **87.6** | 87.8 | 87.2 | 86.7 | 85.9 |
| Fixed-term contract (average %) | **12.4** | 12.2 | 12.8 | 13.3 | 14.1 |
| **Hong Kong** | | | | | |
| Total employee headcount (number) | **4,689** | 4,604 | 4,543 | 4,515 | 4,468 |
| Full-time (number) | **4,688** | 4,603 | 4,538 | 4,504 | 4,450 |
| Part-time (number) | **1** | 1 | 5 | 11 | 18 |
| Permanent (average %) | **85.1** | 85.4 | 84.0 | 83.1 | 81.5 |
| Fixed-term contract (average %) | **14.9** | 14.6 | 16.0 | 16.9 | 18.5 |
| **Mainland China** | | | | | |
| Total employee headcount (number) | **609** | 607 | 596 | 577 | 560 |
| Full-time (number) | **609** | 607 | 596 | 577 | 560 |
| Part-time (number) | **0** | 0 | 0 | 0 | 0 |
| Permanent (average %) | **75.3** | 71.6 | 72.1 | 71.9 | 70.1 |
| Fixed-term contract (average %) | **24.7** | 28.4 | 27.9 | 28.1 | 29.9 |
| **India** | | | | | |
| Total employee headcount (number) | **442** | 469 | 458 | 463 | 435 |
| Full-time (number) | **442** | 469 | 458 | 463 | 435 |
| Part-time (number) | **0** | 0 | 0 | 0 | 0 |
| Permanent (average %) | **98.4** | 98.8 | 99.0 | 99.4 | 99.8 |
| Fixed-term contract (average %) | **1.6** | 1.2 | 1.0 | 0.6 | 0.2 |
| **Australia** | | | | | |
| Total employee headcount (number) | **2,320** | 2,280 | 2,246 | 2,196 | 2,163 |
| Full-time (number) | **2,126** | 2,075 | 2,042 | 1,998 | 1,983 |
| Part-time (number) | **194** | 205 | 204 | 198 | 180 |
| Permanent (average %) | **94.0** | 94.5 | 95.9 | 96.0 | 97.1 |
| Fixed-term contract (average %) | **6.0** | 5.5 | 4.1 | 4.0 | 2.9 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.

| Contractor FTE and type | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Group total (full-time equivalent)** | | | | | |
| Total contractor | **9,707.7** | 11,123.9 | 10,470.0 | N/A | N/A |
| Labour supply[1] | **1,423.9** | 1,573.0 | 1,577.0 | N/A | N/A |
| Service contractor[2] | **8,283.8** | 9,550.9 | 8,893.0 | N/A | N/A |
| **Hong Kong (full-time equivalent)** | | | | | |
| Total contractor | **4,949.9** | 6,372.6 | 5,308.6 | N/A | N/A |
| Labour supply[1] | **1,261.8** | 1,309.0 | 1,316.0 | N/A | N/A |
| Service contractor[2] | **3,688.1** | 5,063.6 | 3,992.6 | N/A | N/A |
| **Mainland China (full-time equivalent)** | | | | | |
| Total contractor | **361.2** | 363.2 | 423.9 | N/A | N/A |
| Labour supply[1] | **13.8** | 13.0 | 14.0 | N/A | N/A |

| Contractor FTE and type | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Service contractor[2] | **347.4** | 350.2 | 409.9 | N/A | N/A |
| **India (full-time equivalent)** | | | | | |
| Total contractor | **2,470.1** | 2,531.9 | 2,952.5 | N/A | N/A |
| Labour supply[1] | **65.2** | 78.5 | 80.0 | N/A | N/A |
| Service contractor[2] | **2,404.9** | 2,453.4 | 2,872.5 | N/A | N/A |
| **Australia (full-time equivalent)** | | | | | |
| Total contractor | **1,926.5** | 1,856.2 | 1,785.0 | N/A | N/A |
| Labour supply[1] | **83.1** | 172.5 | 167.0 | N/A | N/A |
| Service contractor[2] | **1,843.4** | 1,683.7 | 1,618.0 | N/A | N/A |

1 Labour supply refers to manpower supplied by contractor companies under labour supply agreements. Reporting based on quarterly averages.
2 Estimated service contractor full-time equivalent (FTE) is calculated based on number of manhours incurred and region-specific average weekly working hours since 2019. Numbers in 2018 are re-stated to reflect region-specific working hours instead of weekly hours of 48 for all regions.

| Voluntary staff turnover rate | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Hong Kong (%)**[2,3] | **3.1** | 2.4 | 2.3 | 1.9 | 2.3 |
| **By age group** | | | | | |
| Below 30 | **6.3** | 4.4 | 5.9 | 2.3 | 5.4 |
| 30-39 | **4.3** | 4.9 | 4.3 | 3.2 | 4.0 |
| 40-49 | **2.6** | 1.9 | 1.7 | 2.0 | 1.6 |
| 50 and above | **1.8** | 1.1 | 1.1 | 1.2 | 1.5 |
| **By gender** | | | | | |
| Male | **2.5** | 1.8 | 1.7 | 1.6 | 1.8 |
| Female | **5.4** | 4.9 | 5.0 | 3.3 | 4.6 |
| **Mainland China (%)**[2,3] | **1.3** | 2.0 | 4.7 | 3.0 | 3.4 |
| **By age group** | | | | | |
| Below 30 | **1.4** | 8.4 | 16.4 | 8.8 | 12.0 |
| 30-39 | **2.9** | 1.9 | 5.2 | 3.3 | 1.9 |
| 40-49 | **0.5** | 0.5 | 1.5 | 1.5 | 1.4 |
| 50 and above | **0.0** | 0.0 | 0.0 | 0.0 | 1.2 |
| **By gender** | | | | | |
| Male | **1.4** | 2.4 | 4.1 | 2.4 | 3.6 |
| Female | **0.9** | 0.0 | 7.5 | 5.3 | 2.6 |
| **India (%)**[2,3] | **4.7** | 6.6 | 5.6 | 3.5 | 8.4 |
| **By age group** | | | | | |
| Below 30 | **5.6** | 7.4 | 6.4 | 4.6 | 10.5 |
| 30-39 | **5.7** | 9.3 | 7.2 | 3.4 | 9.9 |
| 40-49 | **4.7** | 2.9 | 2.9 | 3.0 | 3.4 |
| 50 and above | **0.0** | 0.0 | 2.5 | 2.9 | 6.5 |
| **By gender** | | | | | |
| Male | **4.3** | 6.4 | 5.6 | 3.2 | 8.0 |
| Female | **7.4** | 7.5 | 5.7 | 6.0 | 11.5 |
| **Australia (%)**[2,3] | **7.7** | 12.9 | 13.6 | 13.8 | 12.6 |
| **By age group** | | | | | |
| Below 30 | **13.6** | 19.3 | 18.6 | 22.7 | 18.3 |
| 30-39 | **7.4** | 14.2 | 15.2 | 13.0 | 13.1 |
| 40-49 | **6.2** | 11.5 | 10.5 | 10.6 | 10.9 |
| 50 and above | **7.1** | 8.3 | 10.6 | 10.5 | 7.1 |

| Voluntary staff turnover rate | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **By gender** | | | | | |
| Male | **7.1** | 12.6 | 12.3 | 12.9 | 11.2 |
| Female | **8.5** | 13.4 | 15.6 | 15.1 | 14.6 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.
2 Voluntary turnover is employees leaving the organisation voluntarily and does not include dismissal, retirement, company-initiated termination or end of contract.
3 Includes permanent employees only except for Mainland China, which includes both permanent and fixed-term contract employees due to local employment legislation.

| New hire | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Group total (number)** | **711** | 857 | 965 | 835 | 904 |
| **By age group** | | | | | |
| Below 30 | **237** | 309 | N/A | N/A | N/A |
| 30-39 | **241** | 300 | N/A | N/A | N/A |
| 40-49 | **145** | 158 | N/A | N/A | N/A |
| 50 and above | **88** | 90 | N/A | N/A | N/A |
| **By gender** | | | | | |
| Male | **515** | 552 | 619 | 540 | 586 |
| Female | **196** | 305 | 346 | 295 | 318 |
| **Hong Kong (number)** | **408** | 348 | 307 | 292 | 280 |
| **By age group** | | | | | |
| Below 30 | **172** | 157 | N/A | N/A | N/A |
| 30-39 | **125** | 121 | N/A | N/A | N/A |
| 40-49 | **69** | 48 | N/A | N/A | N/A |
| 50 and above | **42** | 22 | N/A | N/A | N/A |
| **By gender** | | | | | |
| Male | **308** | 239 | 200 | 208 | 196 |
| Female | **100** | 109 | 107 | 84 | 84 |
| **Mainland China (number)** | **29** | 43 | 47 | 60 | 40 |
| **By age group** | | | | | |
| Below 30 | **10** | 16 | N/A | N/A | N/A |
| 30-39 | **10** | 25 | N/A | N/A | N/A |
| 40-49 | **8** | 2 | N/A | N/A | N/A |
| 50 and above | **1** | 0 | N/A | N/A | N/A |
| **By gender** | | | | | |
| Male | **25** | 36 | 41 | 49 | 32 |
| Female | **4** | 7 | 6 | 11 | 8 |
| **India (number)** | **19** | 43 | 29 | 48 | 77 |
| **By age group** | | | | | |
| Below 30 | **2** | 20 | N/A | N/A | N/A |
| 30-39 | **13** | 16 | N/A | N/A | N/A |
| 40-49 | **1** | 4 | N/A | N/A | N/A |
| 50 and above | **3** | 3 | N/A | N/A | N/A |
| **By gender** | | | | | |
| Male | **16** | 35 | 26 | 42 | 62 |
| Female | **3** | 8 | 3 | 6 | 15 |
| **Australia (number)** | **255** | 423 | 582 | 435 | 507 |
| **By age group** | | | | | |
| Below 30 | **53** | 116 | N/A | N/A | N/A |
| 30-39 | **93** | 138 | N/A | N/A | N/A |
| 40-49 | **67** | 104 | N/A | N/A | N/A |

| New hire | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| 50 and above | **42** | 65 | N/A | N/A | N/A |
| **By gender** | | | | | |
| Male | **166** | 242 | 352 | 241 | 296 |
| Female | **89** | 181 | 230 | 194 | 211 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.

| Employees eligible to retire within the next five years | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Group total (%)[2] | **14.5** | 13.9 | 16.4 | 15.1 | 14.1 |
| Hong Kong (%)[2] | **20.4** | 19.5 | 20.0 | 18.6 | 17.3 |
| Mainland China (%)[2] | **13.4** | 14.5 | 13.2 | 10.6 | 12.1 |
| India (%)[2] | **5.1** | 4.8 | 4.0 | 2.4 | 0.9 |
| Australia (%)[2,3] | **5.7** | 5.4 | 12.8 | 12.2 | 11.4 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.
2 The percentages given refer to permanent employees within each region, who are eligible to retire within the next five years.
3 There is no mandatory retirement age in Australia. Since 2019, retirement age assumption has been adjusted from 60 to 65 to reflect local norms, which led to a significantly lower percentage compared to previous years. Numbers in previous years adopting the adjusted retirement age for Australia are as follows: 2016 - Australia: 4.6% / Group total: 12.0%; 2017 - Australia: 4.8% / Group total: 12.9%; 2018 - Australia: 4.6% / Group total: 14.0%.

## Talent and skills for the future

| Technical trainees intake | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Group total (number)** | **79** | 75 | 85 | 117 | N/A |
| Male | **68** | 64 | 67 | 89 | N/A |
| Female | **11** | 11 | 18 | 28 | N/A |
| **Hong Kong (number)** | **66** | 61 | 66 | 76 | N/A |
| Male | **58** | 51 | 50 | 63 | N/A |
| Female | **8** | 10 | 16 | 13 | N/A |
| **Mainland China (number)** | **0** | 4 | 8 | 7 | N/A |
| Male | **0** | 4 | 7 | 6 | N/A |
| Female | **0** | 0 | 1 | 1 | N/A |
| **India (number)** | **0** | 0 | 0 | 6 | N/A |
| Male | **0** | 0 | 0 | 3 | N/A |
| Female | **0** | 0 | 0 | 3 | N/A |
| **Australia (number)** | **13** | 10 | 11 | 28 | N/A |
| Male | **10** | 9 | 10 | 17 | N/A |
| Female | **3** | 1 | 1 | 11 | N/A |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.

| Average training hours per employee | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Group Total (hours)** | **42.5** | 40.1 | 46.1 | 46.9 | 49.2 |
| **By gender (hours)** | | | | | |
| Male | **47.7** | 44.8 | 51.6 | 52.4 | 55.9 |
| Female | **27.6** | 26.8 | 28.5 | 29.5 | 27.7 |
| **By professional category (hours)** | | | | | |
| Managerial | **26.8** | 26.0 | 28.6 | 28.3 | 29.4 |
| Professional | **34.9** | 35.0 | 37.9 | 39.7 | 44.5 |
| General & technical staff | **52.2** | 47.1 | 55.8 | 55.5 | 55.1 |
| **By region (hours)** | | | | | |
| Hong Kong | **49.5** | 47.6 | 55.2 | 57.5 | 62.9 |
| Mainland China | **66.8** | 66.1 | 78.2 | 71.3 | 70.9 |

| Average training hours per employee | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| India | **33.8** | 23.2 | 27.1 | 36.4 | 39.6 |
| Australia | **23.2** | 22.1 | 21.1 | 18.8 | 14.3 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.

| Percentage of employees trained | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Hong Kong (%)** | **98.4** | 92.3 | 93.3 | 99.1 | 98.2 |
| **By gender** | | | | | |
| Male | **98.4** | 94.9 | 95.4 | 99.2 | 98.8 |
| Female | **98.7** | 82.2 | 84.6 | 98.5 | 95.6 |
| **By professional category** | | | | | |
| Managerial | **96.0** | 80.6 | 87.8 | 98.7 | 93.2 |
| Professional | **99.2** | 93.1 | 92.3 | 99.2 | 98.4 |
| General & technical staff | **98.1** | 93.1 | 94.7 | 99.0 | 98.6 |
| **Mainland China (%)** | **100.0** | 100.0 | 99.8 | 91.0 | 99.6 |
| **By gender** | | | | | |
| Male | **100.0** | 100.0 | 100.0 | 91.2 | 99.6 |
| Female | **100.0** | 100.0 | 99.1 | 90.2 | 100.0 |
| **By professional category** | | | | | |
| Managerial | **100.0** | 100.0 | 100.0 | 100.0 | 100.0 |
| Professional | **100.0** | 100.0 | 100.0 | 100.0 | 100.0 |
| General & technical staff | **100.0** | 100.0 | 99.7 | 85.1 | 99.4 |
| **India (%)** | **69.9** | 81.4 | 83.2 | 86.6 | 88.3 |
| **By gender** | | | | | |
| Male | **70.4** | 80.9 | 82.5 | 85.4 | 88.9 |
| Female | **66.0** | 85.5 | 88.5 | 96.2 | 83.7 |
| **By professional category** | | | | | |
| Managerial | **58.6** | 87.9 | 93.4 | 79.3 | 81.1 |
| Professional | **74.9** | 86.3 | 95.8 | 91.6 | 93.5 |
| General & technical staff | **66.2** | 66.4 | 53.4 | 79.5 | 81.3 |
| **Australia (%)** | **100.0** | 100.0 | 100.0 | 100.0 | 100.0 |
| **By gender** | | | | | |
| Male | **100.0** | 100.0 | 100.0 | 100.0 | 100.0 |
| Female | **100.0** | 100.0 | 100.0 | 100.0 | 100.0 |
| **By professional category** | | | | | |
| Managerial | **100.0** | 100.0 | 100.0 | 100.0 | 100.0 |
| Professional | **100.0** | 100.0 | 100.0 | 100.0 | 100.0 |
| General & technical staff | **100.0** | 100.0 | 100.0 | 100.0 | 100.0 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.

## Diversity and inclusion

| Gender distribution of Group Executive Committee (GEC) members | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Male (%)[1] | **64.3** | 64.3 | 71.4 | 69.2 | 69.2 |
| Female (%)[1] | **35.7** | 35.7 | 28.6 | 30.8 | 30.8 |

1 Includes Executive Directors (Chief Executive Officer and Chief Financial Officer).

| Gender distribution of employees | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Group total (%)**[2] | | | | | |
| Male | **74.0** | 74.0 | 76.1 | 76.2 | 76.4 |
| Female | **26.0** | 26.0 | 23.9 | 23.8 | 23.6 |
| **Hong Kong (%)** | | | | | |
| Male | **79.3** | 79.4 | 80.1 | 81.0 | 81.5 |
| Female | **20.7** | 20.6 | 19.9 | 19.0 | 18.5 |
| **Mainland China (%)** | | | | | |
| Male | **82.9** | 82.5 | 82.2 | 80.6 | 79.5 |
| Female | **17.1** | 17.5 | 17.8 | 19.4 | 20.5 |
| **India (%)** | | | | | |
| Male | **88.0** | 88.3 | 88.6 | 88.8 | 88.7 |
| Female | **12.0** | 11.7 | 11.4 | 11.2 | 11.3 |
| **Australia (%)**[2] | | | | | |
| Male | **58.4** | 57.9 | 62.6 | 61.4 | 61.3 |
| Female | **41.6** | 42.1 | 37.4 | 38.6 | 38.7 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.
2 Data of other gender identities is tracked. It is statistically insignificant and is not separately disclosed.

| Gender distribution by region and professional category | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Hong Kong (%)** | | | | | |
| Managerial - male | **74.4** | 75.7 | 75.6 | 74.5 | 76.5 |
| Managerial - female | **25.6** | 24.3 | 24.4 | 25.5 | 23.5 |
| Professional - male | **75.7** | 75.2 | 76.7 | 78.0 | 78.4 |
| Professional - female | **24.3** | 24.8 | 23.3 | 22.0 | 21.6 |
| General & technical staff - male | **83.3** | 83.5 | 83.5 | 83.9 | 84.4 |
| General & technical staff - female | **16.7** | 16.5 | 16.5 | 16.1 | 15.6 |
| **Mainland China (%)** | | | | | |
| Managerial - male | **84.8** | 78.9 | 76.5 | 73.3 | 83.3 |
| Managerial - female | **15.2** | 21.1 | 23.5 | 26.7 | 16.7 |
| Professional - male | **84.3** | 85.2 | 84.4 | 85.0 | 83.7 |
| Professional - female | **15.7** | 14.8 | 15.6 | 15.0 | 16.3 |
| General & technical staff - male | **81.9** | 81.0 | 81.1 | 78.2 | 76.9 |
| General & technical staff - female | **18.1** | 19.0 | 18.9 | 21.8 | 23.1 |
| **India (%)** | | | | | |
| Managerial - male | **89.7** | 90.9 | 93.4 | 94.8 | 94.3 |
| Managerial - female | **10.3** | 9.1 | 6.6 | 5.2 | 5.7 |
| Professional - male | **91.2** | 89.1 | 89.0 | 89.4 | 89.9 |
| Professional - female | **8.8** | 10.9 | 11.0 | 10.6 | 10.1 |
| General & technical staff - male | **84.3** | 84.9 | 85.7 | 84.8 | 84.3 |
| General & technical staff - female | **15.7** | 15.1 | 14.3 | 15.2 | 15.7 |
| **Australia (%)** | | | | | |
| Managerial - male | **63.8** | 68.6 | 72.4 | 73.0 | 74.2 |
| Managerial - female | **36.3** | 31.4 | 27.6 | 27.0 | 25.8 |
| Professional - male | **55.9** | 54.5 | 57.6 | 56.1 | 55.3 |
| Professional - female | **44.1** | 45.5 | 42.4 | 43.9 | 44.7 |
| General & technical staff - male | **61.4** | 61.0 | 67.1 | 65.1 | 65.4 |
| General & technical staff - female | **38.6** | 39.0 | 32.9 | 34.9 | 34.6 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.

| Gender diversity targets | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Women in Leadership (%)[2] | **27.3** | 24.2 | 22.9 | N/A | N/A |
| Women in Engineering (%)[3] | **11.5** | 11.4 | 10.9 | N/A | N/A |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.
2 Leadership positions are defined as positions at Hay Reference Level 19 and above.
3 Employees with a bachelors' degree or above qualification in engineering.

| Employee age distribution | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Group total (%)** | | | | | |
| Below 30 | **13.1** | 13.6 | 14.6 | 15.6 | 16.6 |
| 30-39 | **29.7** | 29.3 | 28.2 | 28.1 | 27.2 |
| 40-49 | **26.2** | 26.2 | 26.3 | 25.6 | 25.4 |
| 50 and above | **31.0** | 30.9 | 30.9 | 30.7 | 30.8 |
| **Hong Kong (%)** | | | | | |
| Below 30 | **13.8** | 13.6 | 13.7 | 13.7 | 13.3 |
| 30-39 | **23.6** | 22.7 | 21.5 | 21.6 | 21.2 |
| 40-49 | **24.6** | 25.4 | 26.1 | 25.6 | 26.1 |
| 50 and above | **38.0** | 38.3 | 38.7 | 39.1 | 39.4 |
| **Mainland China (%)** | | | | | |
| Below 30 | **12.5** | 14.0 | 15.6 | 17.0 | 17.7 |
| 30-39 | **33.8** | 34.6 | 34.1 | 32.2 | 29.5 |
| 40-49 | **32.7** | 32.1 | 33.5 | 34.3 | 37.1 |
| 50 and above | **21.0** | 19.3 | 16.8 | 16.5 | 15.7 |
| **India (%)** | | | | | |
| Below 30 | **10.2** | 14.9 | 18.3 | 22.9 | 23.9 |
| 30-39 | **51.8** | 49.0 | 48.5 | 46.7 | 45.7 |
| 40-49 | **24.2** | 23.9 | 22.9 | 22.2 | 22.1 |
| 50 and above | **13.8** | 12.2 | 10.3 | 8.2 | 8.3 |
| **Australia (%)** | | | | | |
| Below 30 | **12.6** | 13.4 | 15.4 | 17.9 | 22.2 |
| 30-39 | **36.6** | 37.1 | 36.9 | 37.2 | 35.8 |
| 40-49 | **28.1** | 26.6 | 25.5 | 23.8 | 21.2 |
| 50 and above | **22.7** | 22.9 | 22.2 | 21.1 | 20.8 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.

| Average length of service | 2020 | 2019[1] | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Number of years** | | | | | |
| Hong Kong | **16.3** | 16.8 | 17.3 | 17.5 | 17.7 |
| Mainland China | **12.0** | 11.4 | 13.7 | 13.7 | 14.0 |
| India | **7.6** | 7.2 | 6.8 | 6.1 | 5.7 |
| Australia | **7.1** | 5.2 | 4.9 | 5.2 | 4.4 |

1 Starting from 2019, numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.

*2020 data shaded in orange have been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.*

# Customers

## Customer portfolio

### Year in review

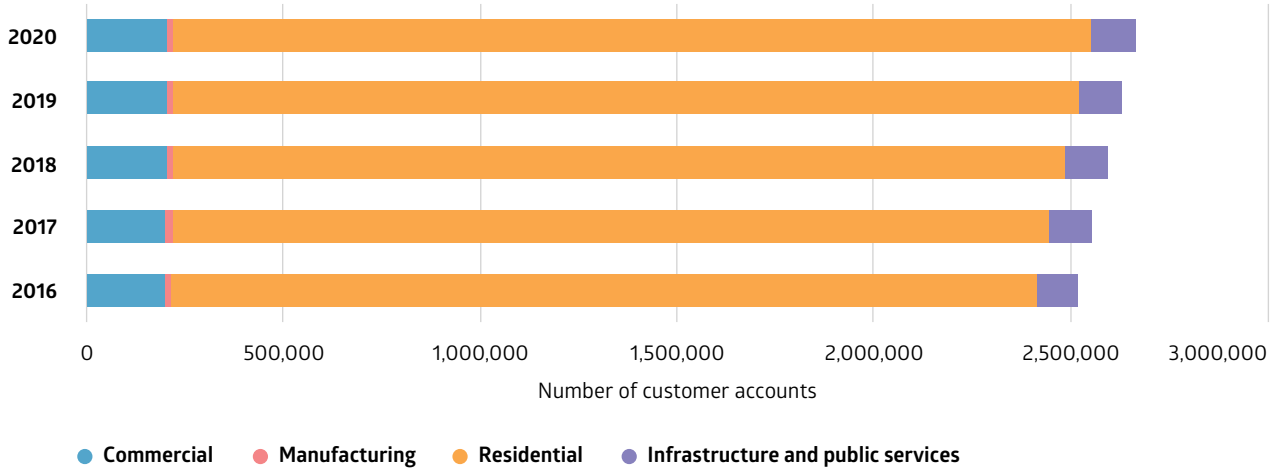
CLP operates retail businesses in Hong Kong and Australia, where the local market structures, regulatory requirements, electricity demand, customer preferences and cultural norms differ significantly.

CLP Power Hong Kong is the sole electricity provider for Kowloon, the New Territories and most of the outlying islands in Hong Kong. It serves close to 2.7 million retail customers and about 80% of Hong Kong's population. Total electricity sales for 2020 were 33,963 GWh which all came from sales to Hong Kong customers.

While Hong Kong is perceived by some as a mature market, there is still a growing demand for electricity. This is largely driven by a number of territory-wide development and infrastructure projects, including Energizing Kowloon East, the West Kowloon Cultural District, the Lok Ma Chau Loop, and local transport infrastructure projects that will enhance mobility and sustainability in Hong Kong, including several new railway projects that are under construction. In addition, as Hong Kong is targeted as a prime location for data centres, there is a need to ensure highly reliable power supplies to support and facilitate the development of the energy-intensive data centre industry.

### Hong Kong customer breakdown

There has been gradual growth of customer accounts over the last five years, mainly from the residential sector.



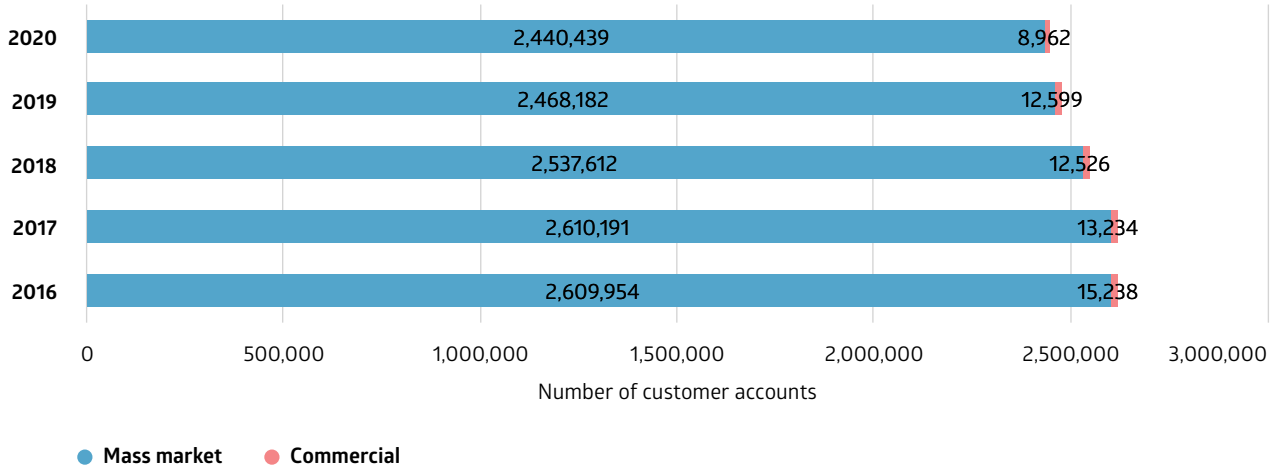

| Hong Kong customer breakdown (number of customer accounts) | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| Commercial | 208,150 | 206,792 | 206,073 | 203,891 | 201,582 |
| Manufacturing | 17,540 | 17,575 | 17,966 | 18,650 | 19,454 |
| Residential | 2,333,901 | 2,301,200 | 2,265,151 | 2,228,438 | 2,200,009 |
| Infrastructure and public services | 112,245 | 110,841 | 107,893 | 104,543 | 103,284 |

EnergyAustralia sells electricity and gas to retail customers in New South Wales, Victoria, South Australia, the Australian Capital Territory and Queensland (electricity only). It is among the 30 or so retailers active in the key markets of New South Wales and Victoria.

In 2020, EnergyAustralia's retail customer accounts decreased by around 31,400, or just over 1%, in the first half of the year before the Company's focus on improved products and customer services helped stabilise accounts in the second half.

## Australian customer breakdown

In 2020, EnergyAustralia's number of customer accounts reduced by around 1%.



# Access to electricity

## Management approach

Access, in the context of electricity supply, is the ability to use an affordable and reliable electricity supply. CLP understands that electricity services are essential and strives to make them available to all.

Across the Group, services are in place that ensure most challenges, including language, culture, literacy, financial situation or disability, do not prevent people from accessing and using the Company's products.

Special arrangements are in place for customers facing financial difficulties to avoid having to disconnect their electricity supply. In Hong Kong, CLP Power offers a Braille bill to assist those who are visually impaired. In Australia, EnergyAustralia provides interpreter services for those who have a first language other than English, and also offers hearing-impaired and vision-impaired billing services.

## Year in review

Various subsidy schemes and hardship programmes were used by CLP to relieve the hardship suffered by many people and small to medium enterprise owners (SMEs) in Hong Kong and Australia during the pandemic and safeguard their access to electricity.

### Hong Kong

CLP understands that although the tariff level in Hong Kong is reasonable and competitive when compared to other major metropolitan cities around the world, it could potentially be a financial burden to vulnerable groups.

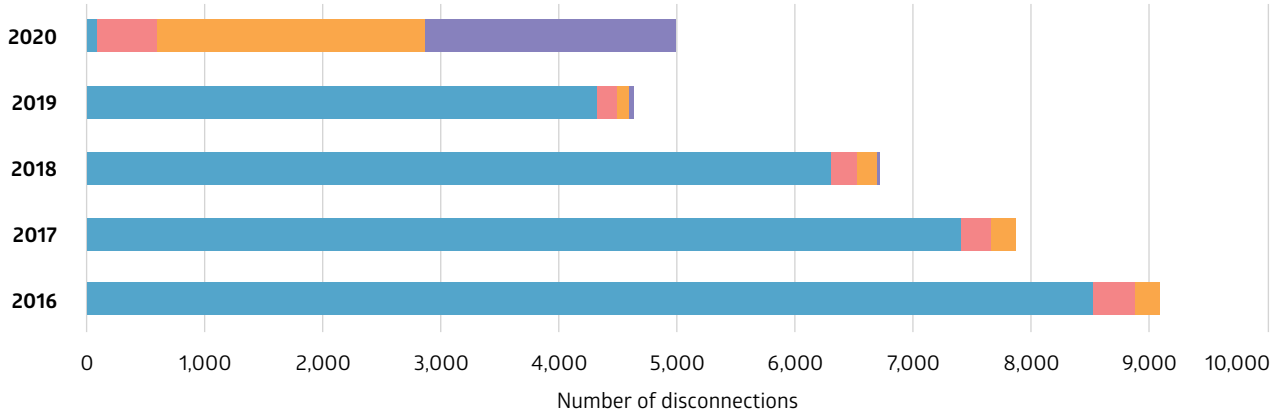
Compared to large capital enterprises, SMEs in general are more vulnerable to operational cost increases and economic downturns. In Hong Kong, CLP Power provisioned HK$150 million in subsidies to all its SME customers to offset the impact of the rise in the Fuel Cost Adjustment for the first six months of 2020. The subsidy was applied universally across all SME customers. Twice during the year, CLP Power also offered an electricity bill payment deferral programme for SME customers in the catering, retail and hotel trades, to help them get through financial difficulties.

To support residential customers, CLP Power offered a total of HK$21 million in electricity subsidies to around 40,000 households in need through the on-going CLP Power Connect Programme. The Company also offers concessionary tariffs for the elderly who are entitled to Comprehensive Social Security Assistance. Special arrangements for customers in arrears are also in place, including programmes to help those at risk of supply disconnection. Payment deferral or interest free payments by instalment are offered in demonstrated cases of hardship.

In extreme cases when customers do not pay for their electricity, CLP Power will communicate with the customers and offer assistance including flexible payment options to avoid disconnection. Under the COVID-19 situation, the Hong Kong Government introduced control measures such as social distancing and work-from-home arrangements have impacted both residential and business customers. Nevertheless, CLP's operations have flexible measures to cope with the situation. Most cases took a longer time than usual to trigger, verify and execute disconnection as compared to previous years.

## Disconnections for CLP Power Hong Kong

The total number of disconnections for Hong Kong retail businesses increased to 4,999 cases in 2020, which is a slight increase from 4,643 cases in 2019.




| Disconnections for CLP Power Hong Kong (number) | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| 0 - 2 days | 98 | 4,333 | 6,319 | 7,426 | 8,545 |
| 3 - 7 days | 506 | 170 | 225 | 255 | 359 |
| 8 - 31 days | 2,274 | 101 | 168 | 192 | 190 |
| ≥ 32 days | 2,121 | 39 | 10 | 15 | 9 |

## Australia

EnergyAustralia recognises that all customers need to be able to access its products and services fairly and equally. Through the Energy Charter, the Company commits to working together to improve affordability and to support customers experiencing vulnerable circumstances.

Download EnergyAustralia's Energy Charter disclosure (30 June 2020)

The EnergyAssist hardship programme helps customers by offering tailored payment plans, payment matching and debt waivers, as well as providing energy efficiency education to ensure that customers are well-informed for making decisions. EnergyAustralia monitors the number of customers on the programme, their debt levels and the number of successful completions. In 2020, 35,974 account holders entered the programme and 11,343 account holders left the programme after successfully completing their payment commitments. This represents a graduation rate of 33%, an improvement on 19% in 2019.

2020 was a particularly challenging year for Australian customers due to the COVID-19 pandemic and Black Summer bushfires from 2019 to early 2020. This saw a significant increase in both residential and business customers experiencing financial difficulties and seeking support, many for the first time.

In response to the pandemic, from March to December 2020, EnergyAustralia helped residential customers experiencing difficult financial situations by putting in place over 225,000 payment plans and more than 185,000 payment extensions.

View EnergyAustralia's Hardship Fact Sheet

To support the substantial increase in households seeking assistance, EnergyAustralia created around 100 new customer service roles. This doubled the size of the EnergyAssist specialist team and expansion of the contact centres. Many of the new recruits came from industries impacted by the pandemic.

In 2020 EnergyAustralia launched *Rapid Business Assist, a programme* supporting SMEs facing financial uncertainty. In consultation with customers, specialist EnergyAustralia business advisers customised payment schedules, offered free standard disconnections and reconnections, advised on lowering energy consumption, and provided guidance on government energy relief subsidies.

In 2020 the programme provided more than 15,000 payment extensions and over 1,800 payment plans for business customers. Small business suppliers were moved to 14-day payment terms to support their cash flow.

Regrettably, in 2020, the Federal Court of Australia ordered EnergyAustralia to pay a A$1.5 million penalty for disconnecting eight customers who were experiencing

hardship. The disconnections took place between 2016 and 2018. Since this occurred, EnergyAustralia created more steps to engage customers and determine what level of support they may need. They have also significantly improved and strengthened customer relationship management systems, and staff training and controls to ensure customers in need are supported.

** Customers may also be referred to external community organisations, such as financial counsellors, government grant providers, and energy auditors.*

CASE STUDY

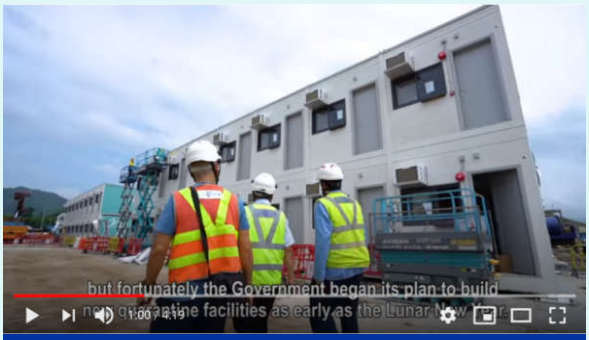
## Fighting COVID-19 by connecting electricity supply for Penny's Bay Quarantine Centre, Hong Kong

**Overcoming significant time pressure, CLP Power's engineering team completed the planning, construction, and connection work of a power grid to provide a reliable power supply to the Penny's Bay Quarantine Centre.**

Upon a surging number of cases of COVID-19, the Hong Kong Government planned to arrange thousands of quarantine units in early 2020 to closely monitor the health of those with close contacts of COVID-19 confirmed cases. Every minute counted, and it was important to ensure the rapid provision of power supply to this originally undeveloped land to support the operation of the new quarantine centre.

CLP Power joined forces with government departments to construct a safe and reliable power supply network for the Penny's Bay Quarantine Centre on Lantau Island. The Quarantine Centre was created on undeveloped land that lacked any power network or basic infrastructure, making it extremely challenging in terms of time and project planning. It normally takes several months to build a new power grid, but the process was expedited and each phase took only about two months. The dedicated CLP Power engineering team: worked beyond normal hours to resolve technical issues in a timely manner; coordinated the project well from substation design to discussions over the supply plans; and worked closely with different Government departments and contractors to ensure high-quality delivery of the project.

The project provided electricity supply to 3,500 units for the Phase 1 to 4 compulsory quarantine centre, supporting the Government's fight to safeguard Hong Kong people against COVID-19.




**CLP's Power Expertise Helps Fight COVID-19**

WATCH NOW ▶

# Customer satisfaction

## Management approach

CLP is committed to providing quality service and value to customers. This includes meeting regulatory requirements and delivering on customer service pledges.

### Strategies and procedures

CLP customers can access information on products and services in a timely and efficient manner through a number of communication channels, such as a welcome pack for all new customers, information on the CLP Power Hong Kong websites and CLP Mobile App, as well as the EnergyAustralia websites and Mobile Apps.

In addition to providing information, CLP strives to effectively respond to customer needs and preferences. The Customer Interaction Centre (CIC) in Hong Kong has an internal service pledge to acknowledge written complaints within two working days. All escalated cases are studied thoroughly to appropriately resolve the issues customers have raised.

EnergyAustralia has over two million conversations with customers every year, either over the phone or via digital service channels. The Company also engages with more than 100,000 individuals, businesses and stakeholders annually through formal research to help shape business decisions, products and services.

### Monitoring and follow-up

To gauge customer feedback about retail services and performance, customer satisfaction surveys are conducted regularly.

In Hong Kong, an external market research consultant conducts an annual telephone survey. The customer satisfaction score considers overall satisfaction towards CLP and a relative rating against an ideal utility in Hong Kong. The score is benchmarked against the public utilities in the energy sector and other public service organisations.

Since 2012, EnergyAustralia has been measuring customer satisfaction through its Strategic Net Promoter Score (NPS). Customer satisfaction is measured monthly via an online NPS survey sent to a representative group of customers. The Transactional Net Promoter Score is also used to track customer satisfaction in relation to specific customer interactions, providing more direct feedback to frontline staff. EnergyAustralia also measures the number of calls and complaints received.

## Year in review

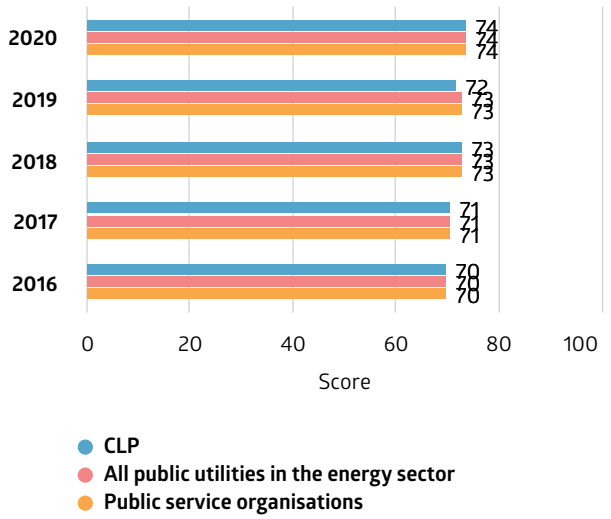
CLP has maintained a high level of customer satisfaction during the pandemic. The frontline teams continue to maintain essential support and ensure the reliability of power supply and customer service during the new normal.

### Hong Kong

In 2020, CLP Power's customer satisfaction score has improved slightly and is now on par with other public service organisations.

### CLP Power Hong Kong customer satisfaction score

CLP Power's customer satisfaction score achieved a slight improvement against the prior year, and is now on par with other public service organisations.



Due to the COVID-19 pandemic, some customers experienced delays or disruptions in their meter reading and paper bill delivery services. Routine meter reading services were occasionally affected when the pandemic situation was serious, resulting in some customers first receiving an estimated bill, in which an adjusted bill based upon actual consumption was sent again once the meter reading service resumed. Customers were assured that they had not been overcharged due to the service disruption. In 2020, CLP Power received thousands of customer enquiries. Many were related to the revised bill arrangements of providing a bill estimate due to the temporary suspension of meter reading services. Despite the substantial increase in call volumes and time taken to handle each case, the team managed to fulfil the Company's service pledge of answering 80% of calls within nine seconds.

The period has also helped CLP Power to communicate the benefits of smart meters to customers. The insights the Company gained means it can create more focused products and services that better match customer needs. To date, CLP Power is on schedule to have rolled out close to 840,000 smart meters.

Find out how technology improves customer service in CLP Power ›

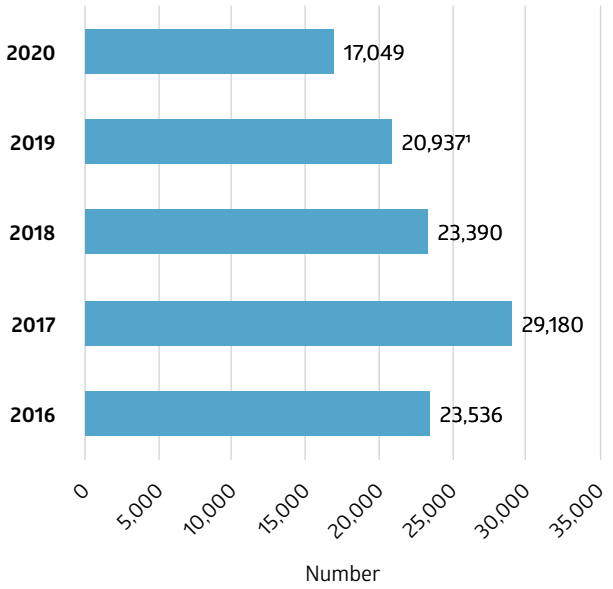
## Australia

EnergyAustralia has demonstrated its commitment to customers through what has been a tumultuous year due to the impacts of COVID-19. Their improved digital experiences has resulted in growth in digital transactions, with 75% of interactions now occurring digitally. The Company has also seen large increases in the number of customer interactions via the EnergyAustralia self-service applications and SMS.

Complaint volumes continued to decline, with total complaints received declined by 19% from the 2019 figure. This result was brought about by continued improvements in internal and external dispute resolution practices, and operational interventions to address key billing complaint drivers.

### Complaints received by EnergyAustralia

The focus on billing complaint drivers and improving dispute resolution is reflected in the decrease in number of complaints received.




1 The 2019 number was restated.

# Customer privacy

## Management approach

Under the CLP Code of Conduct, every employee must safeguard the Company's assets and the resources entrusted to the Company's care, including customer information, against loss, theft or misuse.

In Hong Kong the Personal Data (Privacy) Ordinance (PDPO) governs the protection of personal data of individuals. The Data Protection Principles in the PDPO frame CLP Power's obligations (as a data user) relating to the collection, accuracy, retention, use and security of personal data, and a customer's right to access their personal data. In 2020, CLP was awarded the Gold Certificate of the Privacy-Friendly Awards from the Office of the Privacy Commissioner for Personal Data, Hong Kong, in recognition of CLP's performance in the protection of personal data.

EnergyAustralia has obligations under the Australian Privacy Act 1988 to ensure that personal information is appropriately used, handled and managed. Under the Privacy Act, there are mandatory data breach reporting obligations. The Company is required to report notifiable data breaches that are likely to result in serious harm to individuals to the Office of the Australian Information Commissioner (OAIC) and to the affected customers.

The Australian Competition and Consumer Commission (ACCC) continued consulting with the energy sector on the Consumer Data Right (CDR). The CDR will give customers the right to share their transaction, usage and product data with service competitors and comparison services, if they choose to do so. Under the customer's direction, EnergyAustralia will be obligated to provide data to accredited third parties. Comparable obligations have already commenced in the Australian banking sector. This reform is anticipated to be in force within the energy sector by mid to late 2022.

### Strategy and procedures

All employees must follow CLP procedures, practices and local regulations in relation to personal data privacy. The Group preserves the confidentiality of the personal data provided to it in accordance with the CLP Privacy Policy Statement, which was updated with effect from 1 November 2018. In addition, CLP implements and abides by the CLP Personal Data Protection Compliance Manual (2020 version) which provides guidance on the protection and use of personal data to business units with operations in Hong Kong.

### Monitoring and follow-up

Across the Group, CLP monitors and documents any complaints related to breaches of customer privacy and the loss of customer data. In addition to the CLP Personal Data Protection Compliance Manual, the Customer & Business Development Unit has a written guideline for handling customer data incidents. The guideline includes the classification and assessment of the scope and severity of a data incident, reporting roles and responsibilities, and the incident response strategy and checklist. The Corporate Data Protection Officer also retains a record of data incidents and follow-up actions. CLP's Hong Kong retail business has reported or noted no customer data loss cases in 2020.

EnergyAustralia has developed and maintains a Data Breach Response Plan which is implemented by a Data Breach Response Team. The plan outlines the strategy for assessing, managing, containing and reporting data breaches within required timeframes and outlines roles and responsibilities. It is enacted each time a potential data breach is identified. Nine notifiable data breaches were reported to the OAIC in 2020. EnergyAustralia has investigated the causes of the breaches and has identified additional controls to prevent recurrence.

### Training and awareness

Customer privacy may be compromised as a result of a cyber security incident, or by the mishandling of customer information by employees. In 2020, training was provided on data protection through: a mandatory e-learning programme for all staff members and new joiners, at Legal Review Committee meetings, as well as with all data protection officers and record managers. Within individual business units, CLP runs awareness programmes through briefings, video sharing, case studies, quiz games and refreshers on data protection principles. Industry threats are continuously reviewed with a view to strengthening controls on managing and monitoring networks, systems and mobile devices, data loss and suspicious cyber activities. CLP also regularly reinforces the need for timely reporting of potential privacy incidents and the reporting mechanisms available.

At EnergyAustralia, customer privacy remains the focus of briefing sessions with leadership, enterprise-wide communications and employee training to ensure all staff are up-to-date with current privacy and data management. Specific awareness activities (communications, further training, quality assurance assessments and coaching) to frontline staff have been key in 2020. This has further reinforced rules to protect customer information.

Read more on how CLP protects personal data >

# Demand-side management

## Management approach

Through closer customer engagement, the application of new technology and increased customer awareness of energy consumption, Demand Side Management (DSM) aims to achieve energy efficiency by reducing customers' peak electricity demand.

As part of the continuous efforts to drive towards a greener future, CLP is stepping up its DSM measures. Energy management offers mutual benefits to customers and to the business. For customers, bills can be reduced, and for power companies, new investment in electricity infrastructure can be deferred.

The CLP Power Customer Service Quality Policy also includes a commitment to support customers in using CLP products and services more efficiently and effectively.

### Goals and targets

In Hong Kong, CLP Power is regulated by the Scheme of Control Agreement (SoC), in which the current SoC (2018-2033) refines the list of energy saving and DSM goals and targets covered in the previous SoC (2008-2018). The SoC (2018-2033) includes:

1. Performance targets for the energy audit and energy saved from the energy audits. Under the current SoC are set at about four times the previous targets, which will offer 600 energy audits to business customers a year with total electricity saved expected to reach 48GWh each year.
2. Demand response programmes offered to commercial and industrial customers to lower the overall system demand, resulting in a lower requirement for investments in new generation units in the long-term. The target for this initiative is to achieve a reduction of up to 60MW from the demand peak.
3. A new five-year energy saving target. CLP must achieve at least 4% of energy savings on the basis of the average annual sales within a five-year period in order to earn incentives issued under the SoC. More incentives will be given if the energy saving reaches 5%.

Read more on CLP Power's SoC performance

### Strategy and procedures

Drawing on CLP's long expertise in the power industry, residential and business customers and the community at large are encouraged to use energy more efficiently and to change their behaviour so that they can save more energy and help protect the environment.

CLP aims to change people's habits and encourage them to conserve energy through:

- Educating the public
- Providing customers with information and energy-saving tips
- Equipping customers with tools and technical support, and
- Supporting enablers to make greater energy efficiency possible.

## Year in review

There are different options for customers who want to support the use of clean energy and be energy efficient. The options include the Feed-in Tariff Scheme and Renewable Energy Certificates in Hong Kong, as well as solar feed-in-tariffs, PureEnergy and Go Neutral Programme in Australia.

In Hong Kong, CLP Power launched the Feed-in Tariff (FiT) Scheme in 2018 and the Renewable Energy Certificates (RECs) in 2019 to encourage community participation in local renewable development. The FiT Scheme, in particular, has received a strong positive response from the public. The Scheme allows customers to connect their renewable energy systems to the grid and sell the electricity generated back to CLP Power at favourable rates. Customers who want to support the local development of renewable energy but are unable to accommodate a renewable system of their own have the option of subscribing for RECs. The Certificates represent the environmental attributes of electricity produced by local renewable sources and purchased or generated by CLP.

In Hong Kong, various initiatives were implemented in 2020 to support DSM. They are listed in the tables below.

## Providing free professional consultancy services and subsidies to help customers enhance energy efficiency:

| Initiatives/ tools/ services | Performance and results |
|---|---|
| Energy Audits are free services for helping commercial and industrial (C&I) customers to save energy and operating costs. | · CLP Power has conducted more than 600 energy audits and offered energy saving advices for business customers in 2020.<br>· The audits helped C&I customers save around 50GWh of electricity in 2020.<br>· CLP Power quadrupled the number of energy audits from 150 to 600 a year under the current SoC, with the total electricity saved expected to reach 48GWh each year. |
| The Eco-Building Fund provides subsidies for energy efficiency improvement works for residential, commercial and industrial buildings. | · The funding has been increased to HK$100 million a year with an annual target to provide subsidies to 400 residential blocks and C&I buildings for carrying out improvement works to enhance energy efficiency of the communal areas of buildings. The initiative aims to save 48GWh energy per year.<br>· The target in 2020 was successfully achieved. |
| The Electrical Equipment Upgrade Scheme for Business customers provides subsidies to customers, especially SMEs, to replace or upgrade their lighting and air-conditioners to more energy-efficient models. | · Over HK$24 million has been offered to subsidise C&I customers for replacing or upgrading more energy efficient electrical equipment since the Scheme's launch in 2019. |

## Encouraging and supporting local renewable energy generation:

| Initiatives/ tools/ services | Performance and results |
|---|---|
| The Feed-in Tariffs (FiT) Scheme allows customers to install a solar and/or wind power renewable energy system on their premises and connect the system to the CLP grid to earn FiT payments. | · CLP Power received over 13,000 applications by the end of 2020 since the Scheme's commencement in mid-2018. Around 87% of the projects, representing a total capacity of around 175MW, have been approved. More than 6,000 applications have been completed and connected to the grid.<br>· The Scheme has attracted customers from a variety of sectors including business and industry, schools, and both urban households and village houses. |
| Renewable Energy Certificates offer an alternative way for customers to take part in local renewable energy development. | · Since its launch in January 2019, around 8.6GWh units of renewable energy have been sold, through the issue of these certificates, to businesses such as data centres, banks, hotels and restaurants as well as residential customers. |

## Providing tools to customers for better energy usage management:

| Initiatives/ tools/ services | Performance and results |
|---|---|
| The *CLP Power Mobile App* helps customers track electricity consumption, collect "Eco points", and offers recommendations for services. | · More than 260,000 downloads have been recorded since the new App launched in April 2020, an increase of over 200% compared to the same period in 2019. |
| Mass rollout of smart meters to support Hong Kong's transformation into a Smart City. | · All CLP Power Hong Kong customers' conventional meters are being upgraded to smart meters in phases from November 2018 to 2025. By the end of 2020, over 843,000 smart meters were connected. |
| Eco Power 360 and Smart Energy Online are online assessment and/or management tools. The former is for residential customers and the latter is for C&I customers. | · There are over 380,000 residential customers are actively using *Eco Power 360*, a tool that benchmarks electricity consumption against neighbouring households.<br>· Over 2,400 C&I customers use *Smart Energy Online* to manage their energy consumption and improve energy efficiency. |

## Encouraging residential customers to save energy for the benefit of disadvantaged groups:

| Initiatives/ tools/ services | Performance and results |
|---|---|
| CLP Power Connect under the Community Energy Saving Fund (CESF) aims to encourage residential customers to help disadvantaged groups by offering rewards for saving energy. The elderly, low income families and tenants in subdivided flats are target beneficiaries of this programme. | · Participants earn rewards from their energy savings. The programme aims to subsidise around 40,000 underprivileged households each year.<br>· Since the launch of the programme in 2019 to the end of 2020, 81 households from 22 subdivided units have benefitted from the rewiring and installation of individual meters for better energy consumption tracking. |

In Australia, EnergyAustralia implemented the following initiatives in 2020 to raise awareness of energy consumption and energy efficiency. More information can be accessed here.

## Providing professional consultancy services to help customers enhance energy efficiency:

| Initiatives/ tools/ services | Performance and results |
|---|---|
| Echo Group supports the Company's large commercial, industrial and business customers achieve their saving targets and environmental benefits through specialist solar and LED products. | · In 2020, EnergyAustralia completed an acquisition of Echo Group. The partnership combines a leading energy retailer with a leading business, industrial and commercial energy efficiency solution specialist. |
| ResponsePro provides commercial and industrial customers with advance notice and flexibility on whether they participate in demand response events. Participating customers are rewarded with a fixed rate per kw. | · Customers can now access advice on effectively integrating bespoke energy efficiency solutions with their energy usage and supply to ensure maximum benefit. |

## Encouraging and supporting local renewable energy generation:

| Initiatives/ tools/ services | Performance and results |
|---|---|
| PureEnergy helps customers to purchase accredited green energy which feeds into the grid on their behalf. | · Over 2,400 customers have chosen one of our GreenPower government accredited PureEnergy options for their electricity. |

| Initiatives/ tools/ services | Performance and results |
|---|---|
| The Go Neutral Programme allows residential customers to opt in to fully offset the carbon emissions associated with their home electricity usage, at no added cost to them.<br>Business Carbon Neutral helps business customers offset their electricity emissions for a flat fee. | · EnergyAustralia has over 260,000 customers choosing to have their energy use offset, and over 1.6 million tonnes of carbon dioxide has been offset to date.<br>· EnergyAustralia now has the largest Climate Active certified offset offering in the Australian energy sector, and the second largest in the country. |
| The Solar Plus Plan is a pilot solar feed-in-tariff scheme for New South Wales customers. Customers had premium solar panels, an inverter and Tesla Powerwall installed for $0 upfront on a seven-year plan. Customers pay a low flat rate for the electricity used throughout the period, and will own the system outright at the end of the seven-year period. | · The Solar Plus Plan pilot was open for New South Wales customer applications between June and October 2020, and EnergyAustralia has installed all of the systems for eligible customers. |

## Providing tools to customers for better energy usage management:

| Initiatives/ tools/ services | Performance and results |
|---|---|
| PowerResponse comprises a residential demand response programme and a contracted demand response programme for commercial customers. PowerResponse secures energy capacity which can be called upon within short timeframes for situations when availability in the national electricity market falls to critical levels. | · By the end of December 2020, EnergyAustralia's C&I demand response contracted capacity was over 90MW.<br>· More than 360,000 residential customers are part of the PowerResponse programme. |
| PurchasePro is a self-service web portal that gives large business customers greater control over their energy. Customers can purchase an agreed load progressively by quarter rather than commit to a price at a single point in time. | · Approximately a third of EnergyAustralia's C&I customer load is now transacted on PurchasePro. |
| Free Saturday's is a new residential electricity trial plan available to New South Wales smart meter customers. The plan provides eligible customers with free energy on Saturdays for a year in lieu of traditional discounts. | · Free Saturday's was launched in November 2020 for eligible New South Wales customers to sign up online. The trial will continue to be promoted during 2021. |
| **My Account and the EnergyAustralia app** have both undergone a suite of digital improvements to help residential and business customers better manage their energy.<br>**InsightsPro** is a real-time web-based energy tool available for C&I customers. Customers can access contract information, consumption and cost data in real-time to optimise their business' energy spend and use. | · 51% of business and residential customers are registered for My Account and in December 2020, 121,500 unique users accessed the EnergyAustralia mobile app. Customers can view their electricity and gas usage and customers with solar are now able to see the amount of energy being fed back to the grid.<br>· Over 900 customers now have access to InsightsPro. |

# Customers Data

## Customer portfolio

| CLP Power Hong Kong | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Total Hong Kong customers (number)** | **2,671,836** | 2,636,408 | 2,597,083 | 2,555,522 | 2,524,329 |
| Commercial | **208,150** | 206,792 | 206,073 | 203,891 | 201,582 |
| Manufacturing | **17,540** | 17,575 | 17,966 | 18,650 | 19,454 |
| Residential | **2,333,901** | 2,301,200 | 2,265,151 | 2,228,438 | 2,200,009 |
| Infrastructure and public services | **112,245** | 110,841 | 107,893 | 104,543 | 103,284 |

| EnergyAustralia | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Total Australian customers (number)** | **2,449,401** | 2,480,781[1] | 2,550,138 | 2,623,425 | 2,625,192 |
| Commercial and Industrial | **8,962** | 12,599 | 12,526 | 13,234 | 15,238 |
| Mass market | **2,440,439** | 2,468,182[1] | 2,537,612 | 2,610,191 | 2,609,954 |

1 The 2019 number has been adjusted to include a further 14,700 accounts, primarily arising from changing where gas accounts are sourced.

## Access to electricity

| CLP Power Hong Kong | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Total disconnections for Hong Kong retail business (number)** | **4,999** | 4,643 | 6,722 | 7,888 | 9,103 |
| 0 - 2 days | **98** | 4,333 | 6,319 | 7,426 | 8,545 |
| 3 - 7 days | **506** | 170 | 225 | 255 | 359 |
| 8 - 31 days | **2,274** | 101 | 168 | 192 | 190 |
| ≥ 32 days | **2,121** | 39 | 10 | 15 | 9 |

## Customer satisfaction

| CLP Power Hong Kong | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Customer satisfaction score** | | | | | |
| CLP | **74** | 72 | 73 | 71 | 70 |
| All public utilities in the energy sector | **74** | 73 | 73 | 71 | 70 |
| Public service organisations | **74** | 73 | 73 | 71 | 70 |

| EnergyAustralia | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Customer service** | | | | | |
| Calls handled by EnergyAustralia (number) | **1,696,233** | 1,856,845 | 2,364,731 | 2,421,816 | 2,590,868 |
| Complaints received by EnergyAustralia (number) | **17,049** | 20,937[1] | 23,390[2] | 29,180 | 23,536 |

1 The 2019 number was restated.
2 The 2018 complaints number reveals a small amendment to account for a further reduction by 2% in complaints.

# Supply chain

## Supply chain management

### Management approach

CLP procures a wide range of products and services, of significant value, to maintain and develop its electricity supply business to meet customer needs.

Across the Group, procurement and supply chain management are an integral part of business operations. CLP procurement professionals aim to develop and implement effective supply market strategies to acquire quality products and services, reduce supply chain risks, realise Group-wide synergies and deliver optimised supply chain value to stakeholders.

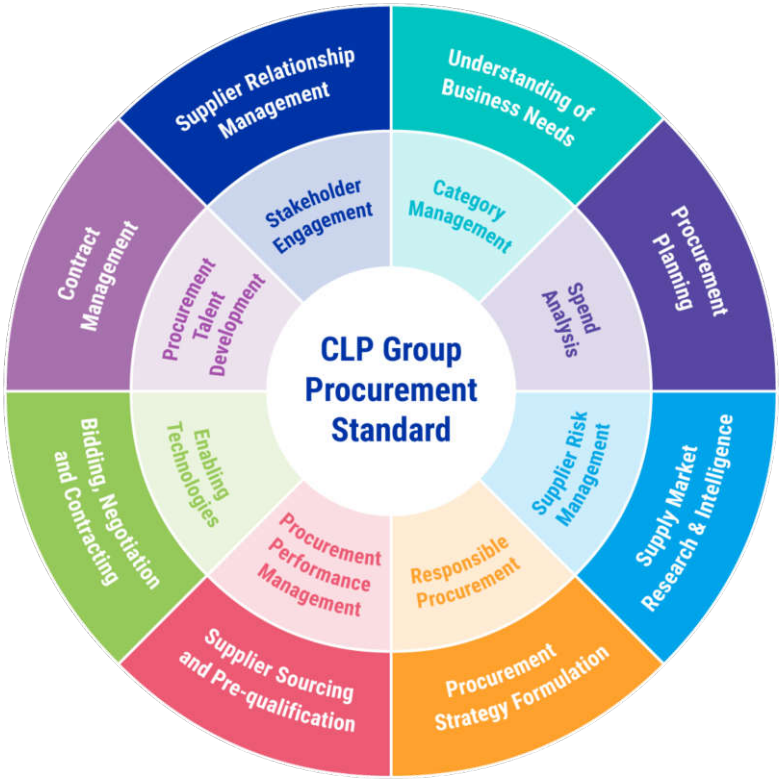
### Strategies and procedures

To ensure alignment with business commitments, the CLP Group Procurement Strategy supports these objectives through:

- Best practice development through the application of the Group Procurement Standard
- Group-level category planning, sourcing and supplier management
- Cross-regional delivery support on key projects, supplier engagements and improvement initiatives, and
- Federated functional leadership, governance and oversight.

The CLP Group Procurement Standard supports the consistent development of leading practices and capabilities across the Group. It is comprised of 16 "Process" and "Enabler" elements, as illustrated in the figure below and includes responsible procurement, supplier risk management and supplier relationship management.

### The CLP Group Procurement Standard



Procurement commitments comply with CLP policies, including:

1. CLP's Value Framework
2. CLP Procurement Values and Principles, which highlight the procurement department's mission, governance, commitment and strategies
3. CLP Group Responsible Procurement Policy Statement (RePPS) which highlights the Company's requirements and expectations on suppliers, and
4. Other procurement policies that govern daily CLP operations.

These day-to-day operations are also guided by CLP's Whistleblowing Policy and Harassment-Free Workplace Policy. As a trusted partner, CLP encourages suppliers to uphold the applicable principles outlined in these policies.

Procurement is actively involved in supporting category and project steering committees, and to ensure an appropriate level of oversight and governance is applied for procurement decision-making. In addition, procurement commitments are made with reference to clearly defined regional *Company Management Authority Manuals*.

## Monitoring and follow-up

Group Category Councils have been established to oversee aggregated future procurement needs, supply market opportunities and risks, and the development of procurement strategies. Procurement and business units work in close partnership to formulate sourcing strategies and to provide enhanced insights of the supply market. This collaboration has increased CLP's ability to negotiate and manage risk and supplier relationships, and has resulted in tangible commercial benefits for the businesses.

By following the Group Procurement Standard, businesses across the Group are implementing industry-leading practices in sourcing and supplier management, committing to responsible procurement to build a more sustainable supply chain.

CLP designs fit-for-purpose sourcing strategies to select suppliers who will best meet its requirements and deliver value at an acceptable level of risk. Typically, supplier selections are conducted through competitive tendering and based on an assessment of the supplier's ability to meet quality, health and safety, environment, delivery, innovation, sustainability and cost requirements. CLP ensures its contracts safeguard stakeholder interests, and reflect suppliers' commitments and obligations, including legal and regulatory compliance, and the safeguarding of intellectual property rights, data confidentiality and security.

CLP segments the contracted suppliers into tiers. This helps determine the appropriate level of governance and engagement. Segmentation is reviewed annually based on relative contract value and potential business impact, including risks in relation to supply chain and sustainability.

In line with the Corporate Risk Framework, CLP periodically assesses its exposure to strategic supplier risks through heatmaps that reveal the likelihood of failure events and their potential impact on the business. CLP then develops and implements mitigation plans with the suppliers to actively mitigate these risks.

## Continuous improvement

CLP has enhanced its Supplier Relationship Management process for strategic suppliers to consistently measure delivery performance, drive continuous improvements and ensure alignment through year-round operational, business and executive reviews.

CLP continues to review past performance, future business needs, as well as technology and innovation roadmaps regularly with suppliers. While supplier performance is measured under a structured framework, suppliers are also invited to provide feedback to CLP. This approach provides candid two-way communication and continuous improvements in the long run. Specific focus on technology roadmaps and innovation will also strengthen CLP for future challenges.

# Responsible procurement

## Management approach

CLP's Responsible Procurement Policy Statement (RePPS) outlines the Group's expectations of suppliers, and their suppliers and subcontractors.

These expectations are based on four pillars:

1. Legal compliance.
2. Respect for people, including safe working environment, good employment practices, no discrimination, and no use of child labour or forced labour.
3. Ethics and business conduct, including transparency in business processes, a high standard of business conduct, and no conflicts of interest.
4. Environmental stewardship, including the efficient use of resources, the responsible disposal of waste, and the monitoring of environmental performance to improve over time.

CLP believes its commitment to continuous improvement, and its ongoing efforts in encouraging others to adopt best practice can create benefits throughout its supply chains. It also builds good corporate citizenship.

Download the Responsible Procurement Policy Statement

In February 2020, EnergyAustralia launched its *Supplier Code of Conduct* and supplier portal. The Code of Conduct reflects the essence of the Group's RePPS. It includes a whistleblowing service that suppliers may contact directly or anonymously to raise any concerns. The Code of Conduct has been added to contract precedents and EnergyAustralia Purchase Order Terms and Conditions.

Download EnergyAustralia's Supplier Code of Conduct

### Operational responsibilities

CLP contract terms and conditions outline specific sustainability requirements and expectations in terms of business ethics. Suppliers are encouraged to abide by the principles stated in the RePPS and are expected to adopt similar standards and practices when doing business with the Company.

The CLP team leading responsible procurement engages with key internal and external stakeholders to promote procurement practices aimed at reducing environmental, social and governance (ESG) risks and enhancing supplier capabilities to meet CLP's sustainability requirements.

### Strategies and procedures

CLP takes a risk-based approach to implementing responsible procurement across the procurement lifecycle. Sustainability risks are identified and evaluated regularly at category, project and supplier levels against each of the four responsible procurement pillars. This evaluation considers:

- Country-specific risks
- Product/service-specific risks
- Industry/category-specific risks
- Legal and regulatory compliance risks
- Labour practices and sub-contracting risks
- Health and safety risks
- Governance and business conduct risks
- Environmental risk
- Brand and reputational risks.

Specifically, the risk assessment aims to help CLP manage ESG issues, such as labour practices, human rights, modern slavery, child labour, harassment, safety, environment, subcontractor management, and anti-bribery along the value chain. The risk assessment result provides insights into sourcing strategy development for categories and risk mitigation for strategic suppliers.

CLP defines 'critical projects' according to their importance to business operations, ESG risk, and contract value. For these critical projects, suppliers are assessed on their sustainability practices through various tools, including self-declared questionnaires, proposal evaluation, site visits, and where subcontracting is involved, audits on subcontractors' capability to meet the project's requirements.

Quarterly risk assessments are conducted for strategic suppliers, in conjunction with supplier risk management and supplier relationship management processes. Risk mitigation plans are developed to address identified risks related to delivery performance, supply disruptions and business continuity, and sustainability within the supply chain. Regular meetings with suppliers are conducted to discuss the progress of mitigation plans and explore opportunities for further improvement.

### Continuous improvement

Following the publishing of the ISO Guide on Sustainable Procurement (ISO 20400:2017), a review and benchmarking exercise of CLP's responsible procurement practices against those of other industry leaders were conducted in 2018. In 2019, CLP Power Hong Kong took a pilot role in reviewing the RePPS and developing a future roadmap. The aim is to introduce more definite sustainability requirements on suppliers to further uplift the sustainability capability of suppliers. The requirements include:

1. A strategic approach to manage sustainability risk

2. Examining supplier sustainability risk management in supplier selection and supplier relationship management implementation
3. Analysing sustainability risk for the supplier's location and purchasing categories, and
4. Monitoring supplier sustainability performance improvement through key performance indicators, periodical site visits, or third-party assessment to assess the sustainability risk.

CLP regularly conducts workshops for contractors to uplift their safety and environmental awareness and capability. To enhance professional development of staff, workshops and training on procurement practices and supplier relationship management are conducted.

## Year in review

CLP defines critical projects by considering their importance to business operations, sustainability risks, and contract value. In 2020, all critical projects awarded were subject to sustainability risk assessments.

These critial projects represented 94% of total procurement projects by value, as compared with 71% in 2019. The increase is attributed mainly to one-off capital projects in Hong Kong.

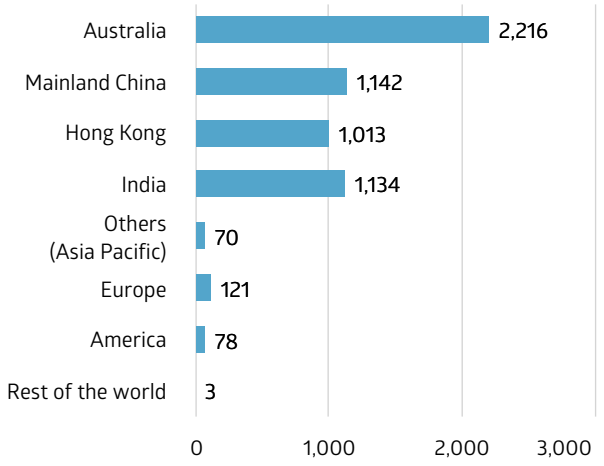
2020 has been a challenging year due to the COVID-19 pandemic which, amongst the many challenges it presented, disrupted global supply chains. CLP's multi-regional supply chains remained resilient to these challenges and were able to adapt and provide continuity of supplies across operations. Beyond that, CLP also leveraged on its regional businesses and positive partnerships with suppliers to source supplies of personal protection equipment for its workforce, their families and the community amid a global shortage during the early stages of the outbreak.

Through its Reconciliation Action Plan, developed with Reconciliation Australia, EnergyAustralia made the commitment to increase Aboriginal and Torres Strait Islander supplier diversity to support improved economic and social outcomes for the First Nations people of Australia. The Company's membership of Supply Nation, a non-profit organisation that encourages the growth and engagement of Indigenous businesses, helps it to deliver on this commitment. Supply Nation's Sleeping Giant Report found every A$1 spent with an Indigenous business generates A$4.41 of social value through increased employment, training and development opportunities, and investment back into local communities. In 2020, EnergyAustralia spent over A$180,000 with Aboriginal and Torres Strait Islander businesses despite the significant impact of the COVID-19 pandemic.

In 2020, the Group sourced products and services from 5,777 suppliers to the total amount of HK$36.5 billion – 95% of this spend was made to local suppliers based in the respective Hong Kong, Mainland China, India and Australia markets. Charts on the number of suppliers by region and the spend per region are shown below.

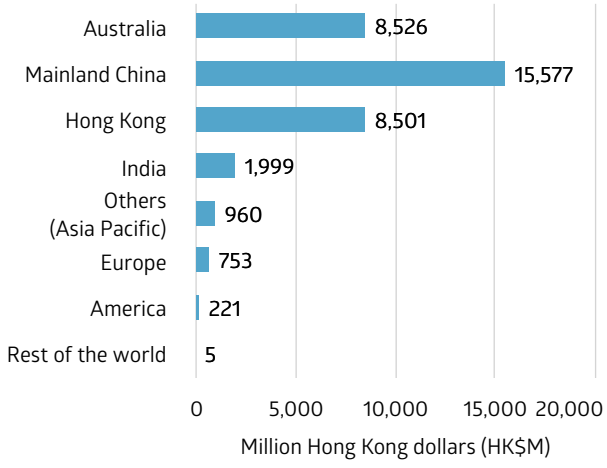
### Number of suppliers by region

CLP has the highest number of active suppliers in Australia.




### Payment to suppliers by region

The majority of total payments to suppliers in 2020 is shared among the Australia, Mainland China, and Hong Kong markets.




The Group remains committed to responsible procurement practices and proactively engages with suppliers to promote those practices that are key to a sustainable supply chain.

During 2020, for critical project suppliers, the procurement team has:

- Assessed 56 strategic suppliers, constituting 56% of the year's spend, against sustainability requirements.
- Confirmed that all strategic suppliers have processes and risk mitigation plans in place to manage risk and continuously uplift their capability. Service providers in Hong Kong for temporary manpower service are assessed on the accuracy and timeliness of temporary manpower pay levels and working hours against CLP requirements.
- No significant risk findings related to the CLP Responsible Procurement Policy Statement were identified amongst these strategic suppliers.

EnergyAustralia is required to report under the Australian Modern Slavery Act 2018 and will be submitting their first statement by 30 June 2021. The Company has developed a Modern Slavery Policy which outlines EnergyAustralia's obligations within our operations and supply chain in relation to modern slavery, and on how those risks will be identified, addressed and assessed.

As part of the development of the report to the Australian Government, a risk matrix was developed of commodities and supplier locations to identify high-risk suppliers to approach, in the first instance, with a survey to obtain a better view of their modern slavery risk. Where suppliers do not have any practices or policies that prohibit child, or forced, bonded or involuntary prison labour, EnergyAustralia is providing those suppliers with tools to develop policies and will be surveying them again in the second half of 2021.

# Supply Chain Data

## Responsible procurement

| Supplier distribution | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Total suppliers by region (number)** | 5,777 | 6,362 | 5,721 | 5,536 | 5,248 |
| Australia | 2,216 | 2,215 | 1,986 | 1,941 | 1,922 |
| Mainland China | 1,142 | 1,166 | 1,011 | 995 | 1,018 |
| Hong Kong | 1,013 | 1,000 | 950 | 899 | 721 |
| India | 1,134 | 1,704 | 1,476 | 1,443 | 1,366 |
| Others (Asia Pacific) | 70 | 77 | 84 | 70 | 65 |
| Europe | 121 | 118 | 129 | 112 | 95 |
| America | 78 | 77 | 78 | 69 | 54 |
| Rest of the world | 3 | 5 | 7 | 7 | 7 |

| Payment to suppliers | 2020 | 2019 | 2018 | 2017 | 2016 |
|---|---|---|---|---|---|
| **Total payment to suppliers by region (HK$M)** | 36,544 | 36,746 | 39,183 | 30,868 | 25,972 |
| Australia | 8,526 | 8,356 | 9,410 | 7,184 | 4,877 |
| Mainland China | 15,577 | 11,603 | 10,339 | 8,343 | 8,872 |
| Hong Kong | 8,501 | 8,888 | 8,917 | 7,264 | 6,301 |
| India | 1,999 | 3,104 | 4,597 | 2,527 | 2,355 |
| Others (Asia Pacific) | 960 | 3,093 | 4,363 | 4,467 | 3,096 |
| Europe | 753 | 1,234 | 1,170 | 830 | 415 |
| America | 221 | 458 | 380 | 241 | 51 |
| Rest of the world | 5 | 10 | 7 | 12 | 5 |

# Glossary

| | |
|---|---|
| **Accelerator / Start-up accelerator** | A programme that offers support including financing and mentorship to facilitate the development of start-up companies. |
| **Air emissions** | The emission of air pollutants such as sulphur dioxide ($SO_2$), nitrogen oxides ($NO_x$) and particulate matters (PMs). |
| **Availability** | The fraction of a given operating period in which a generating unit is available without outages and capacity reductions. This is also known as the Equivalent Availability Factor. |
| **Baseload** | An operating regime of power generation at a reasonably constant rate to serve continuous system load, and not designed to respond to peak demands or emergencies. |
| **Capacity purchase** | Power generation capacity contracted under long-term agreement. |
| **Capital investments** | Includes additions to fixed assets, right-of-use assets and intangible assets, investments in and advances to joint ventures and associates, and acquisition of business. |
| **Carbon credit** | A carbon credit is a tradeable instrument which represents either (a) a permit which gives the holder the right to emit one tonne of carbon dioxide or equivalent greenhouse gas ($tCO2_e$) into the atmosphere or (b) a certificate from a project that represents the removal or avoidance of one $tCO2_e$ from the atmosphere. CLP Carbon Credits (https://www.clpcarboncredits.com) are generated from renewable energy sources and can be used to offset carbon emissions generated by governments, organisations or individuals. |
| **Carbon neutral** | When the greenhouse gas emissions associated with an activity or entity are balanced by carbon removal elsewhere, such as carbon credits, renewable energy certificates, carbon sinks or storage. Also known as net zero carbon dioxide emissions. |
| **Clean energy** | Generally refers to power sources that add no extra carbon to the atmosphere. Non-carbon emitting energy, including renewable energy, is considered clean energy in CLP's context. |
| **Climate Action Finance Framework (CAFF)** | Launched in 2017, CAFF supports the transition to a low-carbon economy by attracting socially responsible, sustainable financings, and to support CLP's investments that reduce the carbon content of energy generated and increase the efficiency of energy usage. The CAFF formalises and governs project evaluation, management of proceeds and reporting for Climate Action Finance Transactions, including bonds, loans and other forms of finance. |
| **Climate Vision 2050** | CLP's Climate Vision 2050 sets out a series of 10-year targets from 2010 to 2050 compared to 2007 levels. These targets are based on the company's generation capacity on an equity plus long-term capacity and energy purchase basis. They consist of decarbonisation targets, measured in terms of the Group's carbon intensity, and clean energy targets, based on the renewable and non-carbon emitting energy share of CLP's generation portfolio. |
| **Combined-cycle gas turbine (CCGT)** | A technology used in gas-fired generation to enable significantly higher efficiency by utilising residual heat from gas turbine exhaust to run steam turbine and generating additional electricity. |
| **Decarbonisation** | Decarbonisation of the power sector primarily refers to the reduction in the greenhouse gas emissions from electricity generation. At CLP it is measured by the reduction in the carbon intensity, which is expressed in kilograms of carbon dioxide per kWh of electricity sent out. |
| **Decentralised generation / distributed generation** | Refers to electrical generation and storage performed by a variety of technologies of a smaller scale located close to the load they serve. In contrast, centralised generation is the large-scale generation of electricity serving multi-loads connected to the transmission network. |
| **Demand response** | Demand response programmes encourage participating customers to commit to short-term reductions in electricity demand, helping energy suppliers to keep the grid running optimally during high load periods. |
| **Digitalisation** | The application of new information technologies including artificial intelligence and data analytics to help electric utilities develop new customer-centric services and improve operations. |

| | |
|---|---|
| **Distributed energy** | Distributed energy includes power generated from sources such as solar panels and wind turbines located close to the users, as well as controllable loads or storage such as electric vehicles and batteries. |
| **Electricity sent-out** | Gross electricity generated by a power plant less self-generated auxiliary power consumption, measured at connecting point between generating unit and transmission line. |
| **Energy purchase** | Electricity purchased from assets not owned by CLP to meet customer demand as per a long-term contractual agreement. |
| **Energy transition** | Transformation of the global energy sector from fossil-fuel based energy systems to low- or zero-carbon sources. |
| **Energy transition enablers** | Non-generation products or services that facilitate the energy transition, including energy storage, transmission and distribution, electric vehicle charging points and smart meters, amongst others. |
| **Equity basis** | An approach set out by the GHG Protocol Corporate Standard for an organisation to consolidate GHG emissions for the purpose of accounting and reporting GHG emissions. On this basis, the organisation accounts for GHG emissions from operations according to its equity share in the operations. |
| **Feed-in Tariff (FiT)** | Payable by Hong Kong power companies under the SoC Agreement to purchase electricity from approved renewable energy projects. Find out more at http://www.clp.com.hk/en/community-andenvironment/ renewable-schemes/feed-in-tariff. |
| **Flue gas desulphurisation (FGD) facility** | Equipment used to remove sulphur oxides from the combustion gases of a boiler plant before discharge to the atmosphere. |
| **Generation capacity** | The maximum amount of power that a generator is rated to produce. Also known as installed capacity or nameplate capacity. |
| **Greenhouse gas (GHG)** | The emission of gases that contribute to the greenhouse effect causing a changing climate. CLP's GHG emissions inventory covers the six GHGs specified in the Kyoto Protocol. Nitrogen trifluoride ($NF_3$), the seventh mandatory gas added under the second Kyoto Protocol was deemed immaterial to CLP's operations after an evaluation.<br><br>The GHG Protocol Corporate Standard classifies an organisation's GHG emissions into three 'Scopes'. Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 are indirect emissions (not included in Scope 2) that occur in the value chain of the organisation. |
| **Incremental distribution network (IDN)** | To open up the distribution market in an orderly manner as part of the ongoing reforms of the electricity market in Mainland China, the Government is encouraging power companies to set up IDNs to provide safe and reliable electricity services using a newly-added distribution network and to meet demand from users in designated areas such as business and industrial parks. |
| **Intergovernmental Panel on Climate Change (IPCC)** | The United Nations body for assessing science related to climate change. IPCC assessments provide a scientific basis for governments at all levels to develop climate related policies, and they underpin negotiations at the UN Climate Conference – the United Nations Framework Convention on Climate Change (UNFCCC). Find out more on https://www.ipcc.ch. |
| **International Energy Agency (IEA)** | An autonomous organisation which works to ensure reliable, affordable and clean energy for its 30 member countries and beyond. Find out more on https://www.iea.org. |
| **Megatrends** | Large, transformative global forces that define the future by having a far-reaching impact on business, economies, industries, societies and individuals. A megatrend is distinguished from other trends in that it cannot be stopped or significantly altered, even by powerful actors such as governments.<br><br>Megatrend analysis is an important tool for companies aiming to drive sustainable growth as competition increases and new disruptive ideas and concepts affect entire industries. |
| **Microgrids** | Localised networks with generation, energy storage and load entities, that can operate in tandem with an existing grid or independently. They can potentially be deployed to meet the energy needs of remote areas cost-effectively, forgoing the expenses of transmission grids. |
| **National Electricity Market (NEM)** | Australia's NEM is a wholesale spot market connecting six regional market jurisdictions – Queensland, New South Wales, the Australian Capital Territory, Victoria, South Australia, and Tasmania. |

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| **Non-carbon energy / non-carbon emitting energy** | Non-carbon energy from power sources that add no extra carbon to the atmosphere, such as wind, solar, hydro and nuclear energy. |
| **Offshore LNG terminal** | Offshore LNG terminals receive cargos of liquified LNG for processing into fuel. The Floating Storage and Regasification Unit (FSRU) is where the LNG cargo is unloaded, stored and regasified for transport to a power station or other users. |
| **Operational control basis** | An approach set out by the GHG Protocol Corporate Standard for an organisation to consolidate GHG emissions for the purpose of accounting and reporting GHG emissions. On this basis, the organisation accounts for 100 percent of the GHG emissions from operations over which it has operational control, but does not account for GHG emissions from operations in which it owns an interest but has no control. |
| **Particulate matter (PM)** | Microscopic solids or liquid droplets in the air. |
| **Phase out coal-fired generation capacity** | In CLP's context, phasing out coal-fired generation capacity refers to (a) the retirement and closure of a coal-fired power asset; (b) the move away from a build-operate-transfer coal-fired project before the end of the contract term or according to the terms of the project; or (c) the divestment from a coal-fired asset. |
| **Photovoltaic panels** | Photovoltaic (PV) panels convert the sun's energy into DC electricity. |
| **Power Purchase Agreement (PPA)** | A long-term electricity supply agreement specifying deliverables such as the capacity allocation, the quantity of electricity to be supplied and financial terms. |
| **Pumped storage** | A method used for large-scale storage of power. During non-peak times, electricity is used to pump water to a reservoir. During peak times, the reservoir releases water for hydroelectric generation. |
| **Renewable energy** | Energy that is generated from renewable resources, which are naturally replenished on a human timescale, including sunlight, geothermal heat, wind, tides, water, waste-to-energy and various forms of biomass. |
| **Renewable Energy Certificates (RECs)** | RECs represent all the environmental attributes associated with electricity produced by local renewable sources including solar, wind and waste-to-energy power projects, purchased or generated by CLP Power Hong Kong. |
| **Scheme of Control Agreement (SoC)** | The SoC Agreement with the Hong Kong Government provides a regulatory framework for the city's electricity industry, enabling CLP Power Hong Kong to operate the facilities and plan new investments to meet the electricity demand of customers, as well as environmental objectives. |
| **Science-based target** | A target for greenhouse gas reductions that is in line with the goals of the Paris Agreement to limit global temperature increase to well below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C. |
| **Science Based Targets initiative (SBTi)** | A collaboration between CDP, World Resources Institute (WRI), the World Wide Fund for Nature (WWF), and the United Nations Global Compact (UN Global Compact) and is one of the We Mean Business Coalition commitments. The initiative defines and promotes best practice in science-based target setting, offers resources and guidance to reduce barriers to adoption, and independently assesses and approves companies' targets. Find out more on https://sciencebasedtargets.org. |
| **Sectoral Decarbonisation Approach (SDA)** | The SDA of the Science Based Targets initiative allocates a 2°C carbon budget to different sectors. This method takes into account inherent differences among sectors, such as mitigation potential and how fast each sector can grow relative to economic and population growth. Within each sector, companies can derive their science-based emission reduction targets based on their relative contribution to the total sector activity and their carbon intensity relative to the sector's intensity in the base year. |
| **Sustainable Development Goals (SDGs)** | The 17 SDGs, adopted by all United Nations Member States in 2015, are the blueprint to achieve a better and more sustainable future for all. Find out more on https://sustainabledevelopment.un.org. |
| **Task Force on Climate-related Financial Disclosures (TCFD)** | The TCFD seeks to develop recommendations for voluntary climate-related financial disclosures that are consistent, comparable, reliable, clear, and efficient, and provide decision-useful information to lenders, insurers, and investors. The TCFD's members were chosen by the Financial Stability Board to include both corporates and users of disclosures from across the G20's constituency covering a broad range of economic sectors and financial markets. Find out more on https://www.fsb-tcfd.org. |

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| **Utilisation** | Gross generation by a power plant unit in a given period as a fraction of the gross maximum generation. Also known as Gross Capacity Factor. |
| **Waste-to-energy** | A form of renewable energy generation using waste such as landfill gas. |
| **World Business Council for Sustainable Development (WBCSD)** | The World Business Council for Sustainable Development is a CEO-led organisation of over 200 leading businesses and partners working together to accelerate the transition to a sustainable world. Find out more on https://www.wbcsd.org. |


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