CLP 中電

2022
Sustainability Report

Towards a Sustainable Energy Future

Stock Code: 00002

Contents

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Welcome

Welcome to CLP's 2022 Sustainability Report

While governments around the world began to relax their COVID-19 restrictions in 2022, rising geopolitical tensions created shockwaves over the year, exacerbating inequality on a wide scale and forcing the world into ever more uncertainty.

The energy sector was especially hard hit by the impacts of the Russia-Ukraine war, which has led to profound impacts on global energy markets, including price volatility, supply shortage, and energy security issues.

To better understand the risks and opportunities that may arise from this global energy crisis and from this evolving operating environment, CLP continued to adopt a double materiality approach to assess its business sustainability from financial and impact perspectives.

Financially material topics which may be of most interest to investors and other stakeholders are discussed in the Annual Report; impact material topics which reflect positive or negative impacts on people, the environment and the economy are covered in this Sustainability Report.

In 2022, CLP refined its materiality assessment process with an updated methodology for identifying and assessing risks and opportunities in a systematic approach. This helps to ensure that strategy and purpose remain aligned, stakeholders' needs are responded to, emerging environmental, social and governance (ESG) risks and opportunities are better identified, and full transparency is maintained in reporting.

By aligning this Sustainability Report with the Annual Report, CLP aims to help stakeholders, in particular our customers, people, partners and the wider community, find the information they seek. Links to related sections of the Annual Report are provided. To address the growing interest in climate-related responses, CLP has also prepared a standalone Climate-related Disclosures Report.

We hope you find our reports insightful, informative and thought-provoking. Feedback on this report is welcome, and can be sent through CLP's online survey or via email (srfeedback@clp.com.hk).

A view from above of Meizhou Solar Power Station in Mainland China.

Chairman and CEO message

"Looking back, the year of 2022 was largely defined by the conflict in Ukraine and its related energy crisis, as well as the lingering impact of the pandemic. With rising inflation and interest rates, it has become one of the most economically challenging years in recent history. We all have been dealing with the impact in varying degrees."

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

As we hope for an end to these crises, we remain focused on decarbonising and digitalising our operations while supporting our customers and communities. We also work closely with partners, policy makers and other stakeholders to make energy transition a reality.

Transitioning to net zero

To grow our business for the long term, we must continue our move towards net zero to play our part in addressing the global challenge of climate change. In 2022, we remained on track to achieve our targets set in our Climate Vision 2050.

In line with our commitment to phase out coal-based assets before 2040, we divested our 70% stake in the coal-fired Fangchenggang Power Station in Guangxi, Mainland China. The decision came after a thorough review of options and with the objective to free up capital for us to further invest in renewable energy projects while ensuring the much-needed power reliability and job security in the community concerned. Going ahead, we will continue to engage with governments, business partners and relevant stakeholders to support an orderly transition for our legacy coal-fired assets.

In the meantime, our renewable energy portfolio has continued to deliver steadily. The Qian'an III wind project in Jilin province began commercial operations in 2022 and other renewable energy projects including the Xundian II and Bobai wind farms, as well as the Yangzhou Gongdao and Guangdong Mazhang solar plants, also in Mainland China, have made good progress. All five projects are grid-parity that do not rely on government subsidies. In India, the new Sidhpur wind farm is expected to be fully commissioned by June 2023.

Bolstering energy security and reliability

As we decarbonise our operations, we also make it a priority to provide customers with reliable and reasonably priced energy. In Hong Kong, we believe maintaining investment under the next five-year Development Plan leading up to 2028 will be important for the city's energy security and reliability, which are delivered through diversification.

That is why CLP has brought nuclear power to Hong Kong across the border since decades ago and recently invested in additional capacity at gas-fired Black Point Power Station. The offshore LNG terminal, which began construction long before the current energy crisis, will prove even more strategically significant than initially imagined. The infrastructure underlines the importance of long-term planning in the energy industry where investments often take years to materialise and last for decades. On the other hand, early planning also affords sufficient time for us to repurpose existing facilities as a cost-effective and flexible way to lower emissions, as we pay close attention to the growing potential of hydrogen in facilitating the energy transition.

In Australia, we continued to invest in new forms of on-demand generation capacity and flexible assets which play an important role alongside renewables. We have partnered with Edify Energy on two new battery projects in New South Wales and we are studying a grid-scale 500MW battery project at our existing site at Mount Piper Power Station.

Creating value for stakeholders

In our energy transition journey, we take on board the needs of our customers, employees and the wider community. Our future is not just one where we are suppliers and producers of energy, but where we provide elevated service to support customers to meet their energy demand, make better energy choices and find solutions to meet their own sustainability targets. Our strategy to evolve the business into an Energy-as-a-Service model is another example of us looking ahead and preparing ourselves to be sustainable for generations to come.

By investing in an agile, innovative workforce, we are building the team that can thrive through this period of evolution. CLP has a proud history and enduring legacy on which the coming decades will be built. We continue to develop new skills to put us at the forefront of our industry's transition.

To realise our ambition, we collaborate with our suppliers. In December, we rolled out a new Supplier Code of Conduct which sets out our expectations of suppliers and reflects international standards. It encompasses key sustainability topics including environmental management, climate change, as well as labour practices and human rights.

Reinforcing resilience

We understand our critical role in ensuring a reliable power supply for the community and economy. To this end, during the past year, we continued to build our climate and cyber resilience in view of the changing operating environment. As part of our efforts, we launched an asset management standard to guide climate-related risk assessments and adaptation practices for our generation and network assets in Hong Kong. This went hand in hand with our continuous studies in assessing our climate risks and adaptation approach. To further protect our power systems, we also undertook a comprehensive review of our cyber security strategy to help manage potential challenges.

Our transformation into a Utility of the Future is well underway. Our strategy, underpinned by our core values with a clear path to net zero, is central to how we manage our business regardless of the external shocks and unexpected macroeconomic changes in the current environment.

As we hope for a 2023 of less conflict and more stability, we maintain our primary focus on decarbonisation and sustainable energy solutions in Hong Kong and Mainland China with disciplined presence elsewhere. By investing strategically, in partnership where appropriate, we can deliver against the growth opportunities and continue our transformation.

The Honourable Sir Michael Kadoorie
Chairman

Richard Lancaster
Chief Executive Officer

Hong Kong, 27 February 2023

About this Report

Reporting frameworks and content indices

CLP recognises the diversity of methodologies used globally to measure the sustainability performance of organisations. This report references several reporting guidelines and frameworks to ensure comparability – an approach aligned with international best practice.

IFRS Foundation's International Sustainability Standards Board Standard

The investor-focused sustainability disclosure organisation Climate Disclosure Standard Board (CDSB) and Value Reporting Foundation (VRF), arising from the merger of the International Integrated Reporting Council (IIRC) and the Sustainability Accounting Standards Board (SASB), consolidated into the International Financial Reporting Standards (IFRS) Foundation in June 2022, to support the development of new International Sustainability Standards Board (ISSB) standards.

In March 2022, the Exposure Drafts IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Disclosure (General Requirements Exposure Draft) and IFRS S2 Climate-related Disclosures (Climate Exposure Draft) were published and marked an important step forward in responding to capital providers' needs for comparable, consistent and reliable sustainability-related disclosures. As a long-time preparer of sustainability reports and integrated annual reports, CLP provided feedback on the consultation paper and made reference to certain disclosures where appropriate.

For its 2022 Annual and Sustainability Reports, CLP references the suite of tools currently available, namely the Integrated Thinking Principles and the SASB Standards for Electric Utilities & Power Generators.

Download the SASB Content Index for Electric Utilities & Power Generators

Download the ISSB Content Index for IFRS S2 Climate-related Disclosures (Climate Exposure Draft)

Global Reporting Initiative (GRI)

The GRI is an international independent organisation providing widely-used standards for sustainability reporting. CLP's reports have reported with reference to the GRI Standards since 2007.

This report has been prepared in accordance with the GRI Universal Standards 2021. 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.

Download the GRI Content Index

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

Companies listed on the Hong Kong Stock Exchange (HKEx) are required to meet the ESG Reporting Guide disclosure obligations from financial years commencing on or after 1 July 2020. The Guide was updated in 2019 after extensive consultation conducted by HKEx.

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 of the HKEx ESG Reporting Guide.

Download the HKEx ESG Reporting Guide Content Index

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.

CLP has produced a standalone Climate-related Disclosures Report in accordance with the TCFD recommendations to assist stakeholders seeking climate-related information. The report references the TCFD's latest publications, including the Guidance on Scenario Analysis for Non-Financial Companies (October 2021), Annex: Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures (October 2021), and Guidance on Metrics, Targets, and Transition Plans (October 2021).

Different organisations are developing frameworks and guidelines to facilitate TCFD disclosures, including the ISSB's Exposure Draft of S2 Climate-related Disclosures, released in March 2022, and the HKEx's Guidance on Climate Disclosures (November 2021).

Other guidance documents developed for electric utilities were also referenced. Most notably are those published by the World Business Council for Sustainable Development (WBCSD), where CLP is participating in several TCFD working groups. These documents include the WBCSD TCFD Electric Utilities Preparer Forum Report, published in June 2019, and Evaluating climate-related financial impacts on power utilities, published in November 2021.

Download CLP's 2022 Climate-related Disclosures Report

Greenhouse Gas (GHG) Emissions data

CLP's GHG emissions are reported with reference to the World Resources Institute (WRI)/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 some of the guidelines above. This reporting guideline is reviewed in accordance with CLP's practice at least every three years. In 2019, CLP enhanced its GHG disclosure to also include Scope 3 emissions.

Read more on the GHG Accounting Methodology

Financial data

All financial data in this report is consistent with the figures published in the audited financial statements of CLP's 2022 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: 2-2, 2-3, 2-4

This report covers the CLP Group's sustainability performance for the calendar year ending 31 December 2022. It is published at the same time as the CLP 2022 Annual Report. The CLP 2021 Sustainability and Annual Reports were published in March 2022.

CLP reviews its reporting scope regularly to ensure the material impact of the Group's overall portfolio is covered. Any assets that have been operating and sold during the year are reflected in the reporting scope. In 2022, additions to the reporting scope include the Tallawarra B gas-fired power station in Australia, Gongdao solar farm and Xundian II wind farm with battery storage in China. Shiheng Power Station has ceased to be owned by CLP since January. In November 2022, CLP sold its 70% interest in the coal-fired Fanchanggang Power Station in Mainland China. Divestment of 10% equity interest in Apraava Energy to CDPQ were completed in December 2022.

In 2022, the following data points have been adjusted:

- **Health, Safety and Environment (HSE):** Due to organisational change, CLP has adjusted the disclosures of safety metrics. Data from CLP Holdings and Hong Kong are regrouped and reported under Hong Kong. Two existing environmental metrics, in the categories of total freshwater consumption and freshwater intensity of CLP's power generation process, have been revised and are now independently assured.
- **Climate-related financial information:** CLP has started to report the capital investments, operating earnings and revenues of each type of renewable energy individually, namely solar, hydro, wind and waste-to-energy. This change aligns with international reporting guidelines.
- **Our people:** Total staff turnover rate is reported in employee metrics to align with international reporting practices.
- **Customers:** Total electricity sold by sectors is newly reported. This provides transparency on the amount of usage of electricity in different sectors.

See CLP Group's portfolio on its website

GRI reference: 2-5

Limited assurance is provided by PricewaterhouseCoopers (PwC) on a selected set of ESG data 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 GHG 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's 2022 Annual Report for more details on the entities included in the consolidated financial statements.

Governance	Includes breaches of Code of Conduct and convicted cases of corruption associated with people employed by CLP entities and their subsidiaries. This also includes cases associated with CLP employees who are assigned to work in joint ventures, joint operations or associates. Note: As of the end of December 2022, Apraava Energy became a 50%-owned joint venture under CLP's joint operational control. For continuity, the Governance data includes Apraava Energy for the full-year.
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 239-240 of the 2022 Annual Report.
Our 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. Note: As of the end of December 2022, Apraava Energy became a 50%-owned joint venture under CLP's joint operational control. For continuity, the data for Our people includes Apraava Energy for the full-year.
Safety	Includes the Group's generation and energy storage portfolio, transmission and distribution infrastructure, coal mines, fuel storage facilities and offices that are: • Majority owned by CLP or under CLP's operational control and joint operational control, defined as having full authority to implement CLP's operating policies; and • Under construction or in operation during the reporting year. 100% of the performance data for in-scope assets is reported without adjustment based on CLP's equity share, unless otherwise stated.
Asset management *Energy sent out, fuel use (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: • Majority owned by CLP or under CLP's operational and joint operational control and where full authority is given to implement CLP's operating policies; and • In operation during the reporting year. 100% of the performance data for in-scope assets is reported without adjustment based on CLP's equity share, unless otherwise stated.

Environment

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:

- Majority owned by CLP or under CLP's operational control and joint operational control, defined as having full authority to implement CLP's operating policies;
- In operation during the reporting year; and
- Posing material impact on the environment.

100% of the performance data for in-scope assets is reported without adjustment based on CLP's equity share, unless otherwise stated.

GHG emissions

CLP Group's total CO_2e emissions (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.

Scope 1 CO_2e

Includes the Group's generation and energy storage portfolio, transmission and distribution infrastructure, coal mines and fuel storage facilities that are:

- 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
- In operation during the reporting year.

Scope 2 CO_2e

Includes the Group's generation and energy storage portfolio, transmission and distribution infrastructure, coal mines, fuel storage facilities and offices that are:

- 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
- In operation during the reporting year.

Scope 3 CO_2e

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 (see GHG Accounting Methodology for details).

GHG emissions

CLP Group's generation and energy storage portfolio (CO_2/CO_2e on an equity/ an equity plus long-term capacity and energy purchase basis)

Data are consolidated on an equity basis with two variations:

1. **Equity basis** includes the assets in the Group's generation and energy storage portfolio that are:
   - 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
   - In operation during the reporting year.
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:
   - Purchase agreement duration is at least five years; and
   - Capacity or energy purchase is no less than 10MW.

GHG emissions

CLP Group's generation and energy storage portfolio (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:

- Majority owned by CLP or under CLP's operational control and joint operational control, defined as full authority to implement CLP's operating policies;
- In operation during the reporting year; and
- Posing material impact onthe environment.

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

Asset management – Generation and energy storage capacity, energy sent out

Data are consolidated on an equity basis with two variations:

1. **Equity basis** includes the assets in the Group's generation and energy storage portfolio that are:
   - 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
   - Under construction (for generation and energy storage capacity only) or in operation during the reporting year.
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:
   - Purchase agreement duration is at least five years; and
   - Capacity or energy purchase is no less than 10MW.

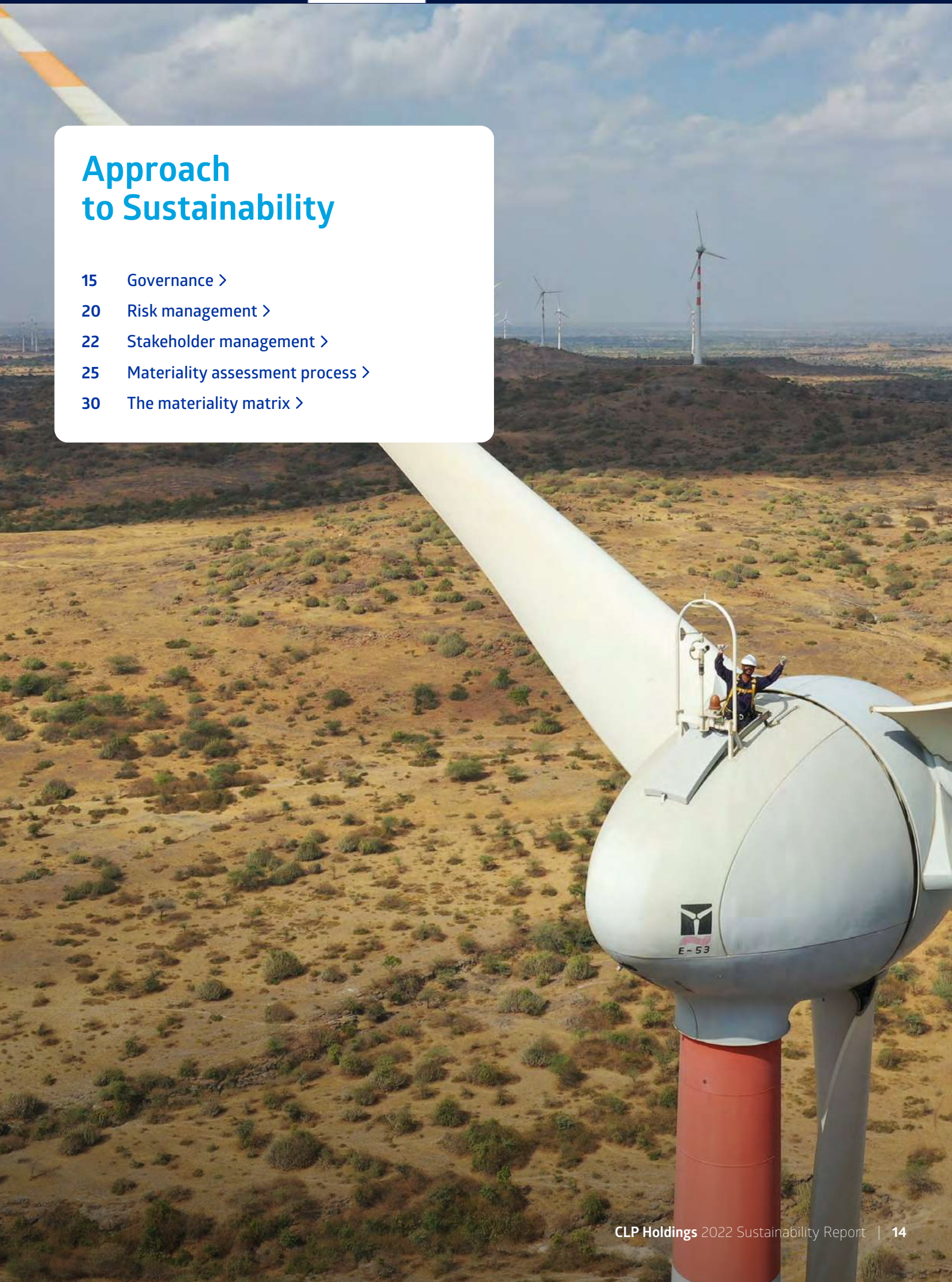
GHG emissions intensity of electricity sold

CLP Power Hong Kong Limited (CLP Power)

Includes power generation assets involved with the delivery of electricity to CLP Power customers, where:

- The CO_2 and CO_2e emissions are from generation assets owned or controlled by CLP Power/ CAPCO in Hong Kong only (as nuclear power generation does not result in significant carbon emissions); and
- The kWh is from the total electricity sales for CLP Power.

Approach to Sustainability



Governance

Good corporate governance and risk management form the bedrock of a sustainable business and underpin long-term success. To protect this bedrock, the Group continuously strives to embed good corporate governance practices in its day-to-day operations, in pursuing its vision and by implementing CLP's Value Framework.

Corporate governance framework and code

Robust corporate governance framework 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.

GRI reference: 2-9, 2-12, 2-15, 2-23, 2-24

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 CLP Code on Corporate Governance, Corporate Governance Framework and a comprehensive set of procedures, systems, policies and guidelines that make up the unique CLP corporate governance structure.

Download the CLP Code on Corporate Governance

The CLP Code was last updated in early 2023 to reflect the new requirements under the Corporate Governance Code Appendix 14 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (HKEx). The CLP Code, while embracing the terms set out within HKEx's Corporate Governance Code, goes 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 in this report

How CLP Holdings approaches corporate governance

CLP Code on Corporate Governance
- Commitment of the Board and Senior Management to good standards of corporate governance
- Sets out common principles that must be adhered to across the Group

Corporate Governance Framework
- Identifies all key participants in good governance
- Guides CLP to uphold the Company's values and conduct affairs with different stakeholders in an ethical, transparent and accountable manner
- Defines the framework and process for monitoring the management of the Group
- 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
- 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
- The voluntary guideline adopts a precautionary approach, particularly for environmental aspects, helping us to prepare for new regulations

In 2022, the Board spent its time on strategy, performance monitoring and planning, governance and risk, stakeholder engagement, leadership and people.

The CLP Corporate Governance Report in the Annual Report discloses the Company's governance performance in detail. Below are the highlights from 2022:

- **Board Succession** – Appointed Board members and Independent Non-Executive Director (INED) to enhance the Board's diversity.
- **Board Committees Refresh** – Refreshed the composition of CLP Holdings Board Committees.
- **Alignment of Subsidiary Board Leadership with Business and Functional Responsibilities** – Refreshed the Board directorship of CLP Group Subsidiaries with two key objectives, which are:
  - delegating the management of the subsidiary board from the C-suite management to mid-management such that the C-suite management can better focus on the management at the senior leadership level; and
  - empowering mid-management to take up the leadership and management of the subsidiary boards whilst ensuring that this would be well aligned with their business/functional responsibilities.
- **Female Director Representation Target of 30%** – Set target for female Directors representation on the CLP Holdings Board to enhance diversity. The target of 30% representation is not a ceiling, and if it fails below 30%, CLP will provide clarity in relation to the appointment or change in Board composition and the expectations of return of female Director representation to at least 30% or higher. This will be reviewed by the Nomination Committee on an annual basis.

Read the Corporate Governance Report in the 2022 Annual Report

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

Sustainability governance

GRI reference: 2-9, 2-12, 2-13, 2-14, 2-23

A strong governance framework is key to ensuring that the sustainability issues CLP faces are incorporated into the corporate agenda. Sustainability is well integrated into CLP's business strategy and the CLP Board has overall responsibility for CLP's environment, social and governance (ESG) reporting and sustainability. Sustainability governance has been embedded in the corporate governance structure throughout the Group – from Board-level committees to management-level Group functions and business units.

Two of the Board Committees, the Sustainability Committee and the Audit & Risk Committee, have separate but complementary roles in sustainability management. These two committees are supported by the Sustainability Executive Committee and coordinated by the Group Sustainability Department.

Sustainability Committee

The Sustainability Committee holds the primary role of overseeing the management of the Group's sustainability issues.

Download the Terms of Reference of the Sustainability Committee

Following on from the update of our Climate Vision 2050 in September 2021, the Committee has been closely monitoring the evolving developments on climate change. Ensuring that the Committee maintains a balanced view, the Committee was briefed on the latest developments by two leading external experts on separate occasions on the topics of the impact of the energy crisis on climate action and the key outcomes of COP27. The Committee also had a robust review of the Climate Vision 2050 and how CLP's performance and commitment on climate action have been received by CLP's stakeholders.

Between 1 January 2022 and the date of this report, the Committee met four times (including three times in 2022 and once in 2023). The following table is a summary of how the Committee spent its time during this period.

Overview of work conducted by the Sustainability Committee between 2022 and the date of this Report

	2022			2023
	Feb	Oct	Nov	Feb
Climate Change-related Matters	✓	✓	✓	✓
Other Sustainability Matters – risks, opportunities and emerging issues		✓	✓	
Sustainability Reporting/Indices performance	✓		✓	✓
Sustainability Governance			✓	
Health, Safety, Security and Environment	✓	✓		
Community, charitable and environmental partnerships and initiatives	✓			✓

The Committee will continue its focus on longer-term emerging sustainability issues concerning the Group, in particular on climate change. It is well aware of the Group's stakeholders' increasing focus on climate-related issues.

Read the full Sustainability Committee Report in the 2022 Annual Report

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.

Download the 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.

The ARC is also responsible for ensuring the assurance of the ESG data in the Sustainability Report is appropriate. Independent oversight is maintained through a robust internal control system 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 Audit & Risk Committee Report in the 2022 Annual Report

Sustainability Executive Committee

The Sustainability Executive Committee (SEC) has the strategic responsibility of assessing and managing 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, the SEC 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 Nicolas Tissot (Chief Financial Officer);
- Mr Derek Parkin (Chief Operating Officer) (since September 2022), in place of Mr Michael Hutchinson (Acting Chief Operating Officer) (since December 2021);
- Mr David Simmonds (Chief Strategy, Sustainability and Governanace Officer);
- Ms Eileen Burnett-Kant (Chief Human Resources Officer); and
- Mr Hendrik Rosenthal (Director – Group Sustainability).

Full biographies of senior management team 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 2022, the SEC convened five 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 engage in strategic discussions on emerging issues.

Key themes discussed in 2022 are summarised below:

- Monitored emerging stakeholder expectations on climate actions. This included increased transparency of a company's commitments with the Paris Agreement, low-carbon transition plans, and exposures to climate-related risks and the implications to its business strategy;
- Reviewed the climate benefits of different energy services. Specifically, the carbon reduction potential of CLP's new energy services offerings, and their commercial potential;
- Provided direction to CLP's Climate Vision 2050 review, in light of the developments mentioned above;
- Monitored the latest development of voluntary carbon markets and their implications on CLP. This included:
  - reviewing CLP's response to the public consultation, conducted by the Integrity Council for the Voluntary Carbon Market on the draft principles for voluntary carbon credit standards developed; and
  - monitoring the Voluntary Carbon Markets Integrity Initiative, which is developing guidance on the credible use of carbon credits;
- Reviewed the material topics identified in materiality assessment and determined the impact material topics and financially material topics to be featured in the Sustainability Report and the Annual Report respectively;
- Maintained oversight of the Company's public disclosures on sustainability issues, including the CLP Annual and Sustainability Reports, and the CLP Climate-related Disclosures Report;
- Provided direction to the Company's response to the various ESG disclosures standards, including the ISSB exposure drafts on General Sustainability-related Disclosures.
- Reviewed the scope of sustainability data assurance;
- Reviewed and endorsed the Group's environmental targets, covering air emissions, waste and water use;
- Reviewed performance of ESG indices results and trends to drive improvements in operational performance;
- Reviewed the World Business Council for Sustainable Development (WBCSD) membership criteria;
- Reviewed and endorsed the Supplier Code of Conduct and three-year roadmap to embed sustainability in procurement practices;

Group Sustainability Department

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

The Department is responsible for managing the implementation of the Group's climate change strategy. This includes reporting and reviewing progress on CLP's Climate Vision 2050 and TCFD implementation, as well as monitoring changes in stakeholder expectations and their implications to the Company.

Through its role, the Department embeds sustainability into existing operational practices and helps inform 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 identifies areas for improving operational performance.

In executing best practice, the Department is committed to developing capacity on ESG reporting and performance management as well as exchanging its experiences across organisations, sectors and countries. It supports and organises sustainability-related events and works closely with different stakeholder groups. For instance, the Department hosts Sustainability Forums and meetings with Group functions and Business Units across regions on a regular basis to facilitate the sharing of experiences and insights on how to move sustainability forward.

Risk management

Proactive and effective risk management is part of good corporate governance and one of the foundations of the long-term growth and success of the Company.

Risk Management Framework

In line with international standards and best practices, CLP defines "risk" as the effect of uncertainty on objectives. The effect can be positive, negative, or both, and can result in opportunities and threats. CLP aims to identify risks early so the threats can be understood, managed, mitigated, transferred or avoided while the opportunities can be enhanced and captured where appropriate. This demands a proactive approach and an effective Group-wide risk management framework.

GRI reference: 2-23, 205-1

CLP's risk management framework comprises four key elements:

- Risk management philosophy;
- Risk appetite;
- Risk governance structure; and
- 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 and cultivating and embedding risk awareness into the organisational culture is critical for the successful implementation of CLP's risk management framework. Consequently, 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 Process

CLP reviews how ESG issues are impacting the business and its stakeholders through an annual materiality assessment. The review process uncovers emerging ESG risks and opportunities for considerations in the risk review and business planning processes. Below is a list of selected top tier ESG risks:

- Climate change – physical and transition risks
- Major HSE incidents
- COVID-19 outbreak
- Procurement and supply chain capabilities risks
- Cyber security attack
- Regulatory changes
- Tariff adjustment challenge – Hong Kong
- Physical security breach
- Gas supply shortage
- Major failure – generation assets

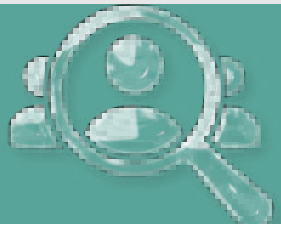
Read the list of CLP Group's top tier risks in the Risk Management Report in the 2022 Annual Report

CLP's risk management objectives are two-tiered:

- **Strategic**
  At a strategic level, CLP focuses on identifying and managing the material financial and non-financial risks associated with pursuing its strategic and business objectives. In pursuing growth and transformational 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 operational hazards and threats while enhancing and capturing opportunities for operational improvement where appropriate. This is done 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, as well as securing asset integrity and adequate insurance.

Read how climate-related risks are managed in the Climate-related Disclosures Report

Stakeholder management



CLP is committed to open, transparent, regular and timely communication with its stakeholders and offers a readiness to address their concerns to build trust and confidence. This is delivered through the CLP Stakeholder Engagement Framework.

Strategies and procedures

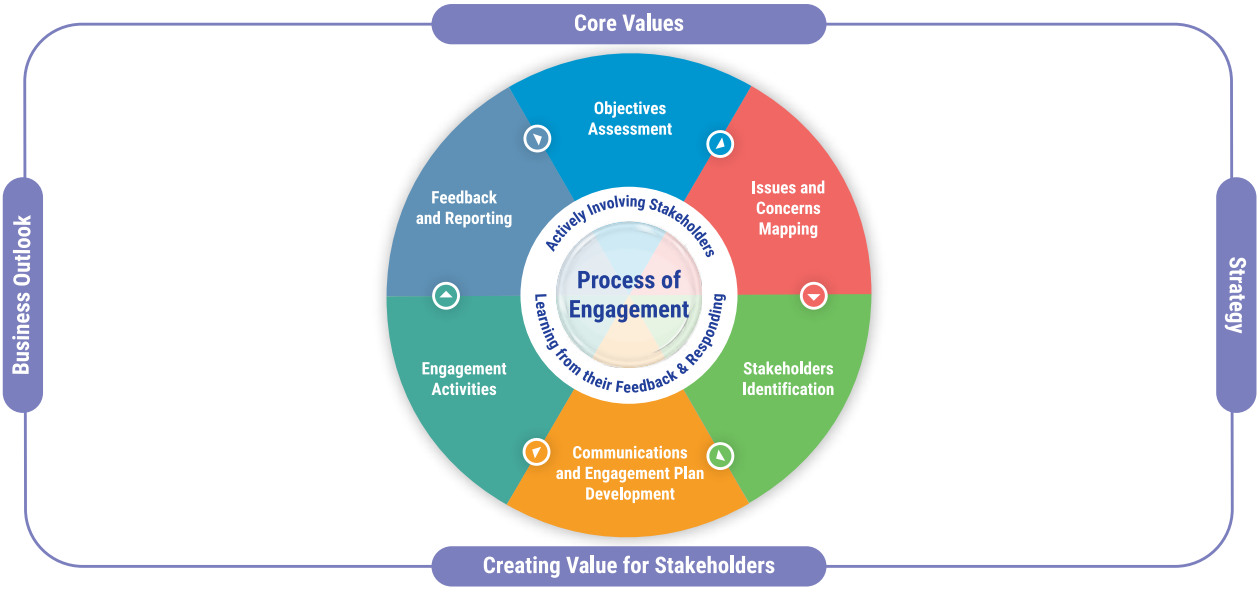
CLP's Stakeholder Engagement Framework provides open and transparent channels for stakeholder input and a review and consideration process where concerns about CLP's business are responded to in a timely manner.

GRI reference: 2-12, 2-16, 2-25, 2-29, 207-3, 413-1

While each business unit develops its own project-specific engagement plan depending on their needs, the plan they develop follows the framework steps below.

1. **Establishing engagement scope and aligning with business objectives**
2. **Mapping issues and concerns**
3. **Identifying relevant stakeholders:** CLP's business activities involve a diverse range of stakeholders, each with distinct attributes, concerns and interests. In addition to regular communications with stakeholders (such as email updates, information kits, press releases and video stories), key stakeholder groups for each project are identified and prioritised based on the issues mapped, how the stakeholders will be impacted and their influence on the success of the business.
4. **Developing a communications and engagement plan:** CLP uses a wide range of easily accessible public engagement channels, both formal and informal. Those channels include surveys, focus groups, briefings, visits, events, roadshows and online channels, all of which enable it to receive concerns, interest or feedback at any time during the year. Drawing on past experiences, the channels for each project are selected based on the project's nature and the most effective means of reaching the identified stakeholders.
5. **Conducting engagement activities**
6. **Capturing feedback and reporting on outcomes:** CLP seeks to address stakeholders' views and concerns and identify areas for improvement in a timely manner. To do so, we rely on a number of measures. They include: measuring the amount of stakeholder feedback captured; the outcomes following our stakeholder engagement; media monitoring and analysis; brand perception ratings; and public and industry recognition and awards.

CLP's Stakeholder Engagement Framework



CLP's stakeholder engagement channels

CLP engages in active and constructive dialogue with different stakeholders. The key concerns of stakeholders in 2022 are presented in this section.

GRI reference: 2-12, 2-25, 2-29

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.

The Company is committed to responding to their concerns about the business in a timely manner. Concerns vary depending on location and context and therefore require different actions or responses. General complaints about the Company are typically handled by the customer relations team, with the aim of resolving the issues at hand.
The Company also discloses financial and non-financial performance through the Group website, Annual and Interim Reports and the Sustainability Report for transparency.

The following table summarises the key stakeholders, their key areas of interest during the year and how they were engaged.

Stakeholders	Areas of Interest in 2022	Key Engagement Channels
 Capital providers *(including lenders, investors and shareholders)*	• Financial and operational performance and strategic direction • Impact of macroeconomic events and impact of interest rate hikes on liquidity, financing strategies and risk management • Cash flow, financial and debt management, capital structure, dividend policy, dividend prospects, and credit ratings • Progress of decarbonisation and CLP Climate Vision 2050 • Approach to phasing out coal, replacement strategy, capital allocation and business opportunities • Adoption of new technology to achieve net zero • 2024-28 Development Plan for Hong Kong business • Partnership plans for EnergyAustralia, impact of market volatility and government intervention for the business • Pace of renewable energy investments in Mainland China • Apraava Energy and progress of partnership with CDPQ • Board refreshment and diversity • Nature, human rights and just transition	• Annual General Meeting • Annual and Interim Results Analyst Briefings and webcasts • Corporate reports • CLP Investor Relations App • Climate Action Finance Report • Announcements, circulars, presentations and media releases • Direct engagement in form of bank and investor meetings, conferences, site visits, briefing calls and non-deal roadshows • Investor Relations mailbox • Outreach engagement following release of CLP's updated Climate Vision 2050
 Customers *(including residential, commercial and industrial customers, electricity boards and grid companies)*	• Energy prices, tariff adjustment and tariff rebate schemes • Energy efficiency, demand side management and renewable energy offerings to customers • Energy reliability and availability • Customer experience • Customer privacy	• Working groups, e.g. Customer Consultative Group, local customer advisory committees and small and medium enterprise (SME) consultative groups • Customer Service Centres, Customer Interaction Centre and online service portals • Customer satisfaction surveys, feedback forms and personalised communications through account managers • Participation in government schemes

Stakeholders	Areas of Interest in 2022	Key Engagement Channels
 **Our people** *(including employees and contract staff)*	• Performance in health and safety • Employees' health and wellbeing, in particular during the COVID-19 pandemic • Competitive remuneration and benefits • Career development opportunities • Gender diversity and equal opportunity	• Employee engagement and safety culture surveys • Feedback channels (including online forms, suggestion boxes, townhall meetings, regular roadshows) • Employee newsletters, broadcasts, intranet, internal webinars • Discussion with trade union representatives in locations where collective bargaining power is recognized
 **Partners** *(including governments, regulators, suppliers and contractors)*	• Hong Kong – Scheme of Control Agreement, tariffs, environmental performance, reliability and safety and long-term decarbonisation strategy • Mainland China – Carbon emissions, safety, reliability and emergency readiness • Australia – Fuel prices reasonableness and price caps in fuel supply, direct rebates for customers, system security, carbon emissions and offsets, renewable energy, modern slavery • India – National Action Plan on Climate Change, power purchase agreements (PPA) and tariffs	• Regular working group meetings and performance reporting • Written responses to public consultations and direct liaison with governments, regulators and relevant parties • Engagements and site visits for understanding CLP's decarbonisation strategies
	• Contractors' safety • Contractors' supply chain management	• Regular supplier management meetings and engagements • Safety workshops to engage contractors to uplift their safety awareness and capability • Periodical supplier performance evaluations • Regular risk and resillience review of key suppliers' supply chain risks
 **Community** *(including community groups, legislators, NGOs, industry and professional organisations, and academia)*	• Community engagement and investment programmes related to education, empowerment of women, healthcare access, poverty alleviation, social inclusion, diversity and eliminating energy poverty • Employment opportunities, particularly for young people • Carbon neutrality by 2050, future fuel mix and development of future electricity market • Supply reliability, responses to incidents, fuel cost and tariff level • Responses to social incidents and public sentiment and CLP's role as a corporate citizen • Assistance to people in need and to different community sectors during the economic downturn and COVID-19 • Progress on key green infrastructure projects • Energy efficiency and conservation, popularisation of electric vehicles and development of the green economy	• Working committees, advisory committees, panels and meetings • Community investment programmes and volunteering services • Community perception surveys • Awards and scholarships • Seminars, lectures, workshops and online classes • Promotion through mass media and social media (including educational videos) and virtual events • One-on-one meetings and visitations • Engagements and site visits for understanding CLP's decarbonisation strategies

Materiality assessment process

The materiality assessment is the foundation of best practice sustainability management and ESG reporting. the assessment supports the integration of sustainability into CLP business strategy and its ongoing efforts to create long-term value for stakeholders.

The assessment process overview

At the same time a materiality assessment helps to contextualise ESG impacts and how these should be disclosed in its reports. By combining both internal and external stakeholder views with extensive megatrends analysis, CLP determines which ESG issues are most material to its business from a financial perspective and to stakeholders from an impact perspective.

GRI reference: 2-12, 3-1, 3-3

Global standards for best practice in assessing materiality continue to evolve in line with broader changes in ESG disclosure standards. For example, new guidance from the International Sustainability Standards Board (ISSB) is expected in 2023 and anticipated to provide additional clarity on how to assess financial materiality. Similarly, the GRI Sustainability Reporting Standards (GRI), which remains the most commonly used standard for sustainability reporting, upgraded its materiality assessment methodology in 2021.

In 2022, CLP considered the latest best practice advice from standard setters, including the following:

- GRI 3: Material Topics 2021;
- The International Financial Reporting Standards (IFRS) Foundation Sustainability Disclosure Standards;
- Proposals for a Relevant and Dynamic EU Sustainability Reporting Standard-setting, published by the European Financial Reporting Advisory Group (EFRAG) in February 2021; and
- *Applying Enterprise Risk Management to Environment, Social and Governance-related Risk Guidelines*, published by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and the WBCSD in October 2018.

In addition, external experts in materiality assessment were consulted via interviews. The expert group included global standards setters, investors and well-recognised governance and sustainability organisations.

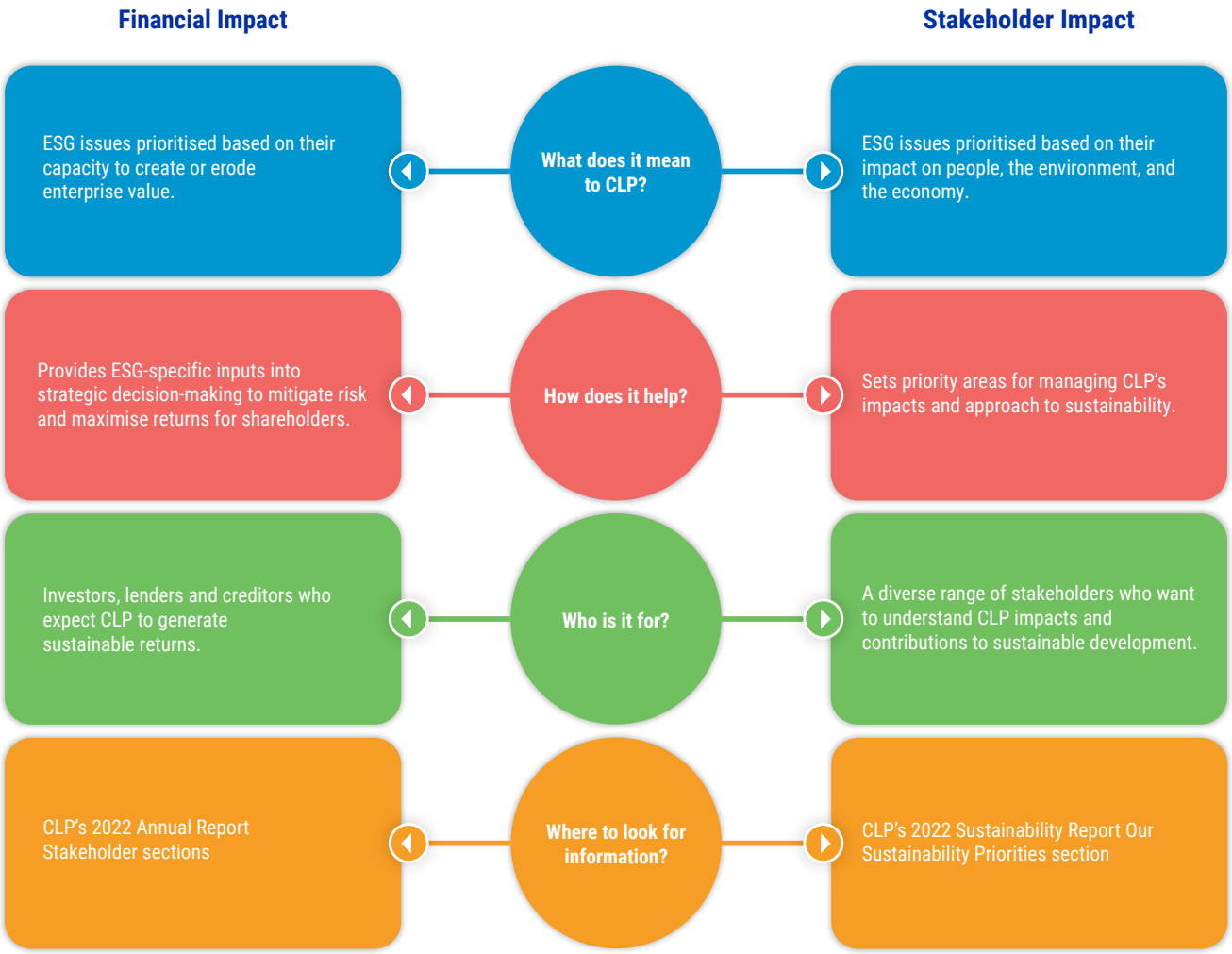
Enhancing the double materiality approach

Since 2018, CLP's materiality assessments consider how megatrends could impact the sustainability of the Company's business strategy in the medium to long term. In 2021, CLP became an early adopter of double materiality to support its ESG risk management and to inform the ESG content of its annual suite of reports. This adoption sees CLP's Annual Report cover financially material ESG topics that potentially create or erode enterprise value, while the Sustainability Report includes ESG topics that have a material impact on people, the environment and the economy.

In 2022, CLP further enhanced its double materiality assessment methodology with reference to the new GRI 3 guidance, albeit with a modified approach to incorporate a review of financial risks and opportunities. The methodology was developed to identify and assess potential ESG impacts, risks and opportunities, thereby operationalising an assessment via a standardised and repeatable approach. This assessment process helps CLP identify areas of priority, in particular how ESG risks and opportunities should be integrated into the Group's strategic planning and risk management processes.

Download the GRI 3: Material Topics 2021

Double materiality approach



The double materiality approach streamlines the disclosures in the Annual Report and Sustainability Report. The material topics and associated CLP responses are summarised in *The Materiality Matrix* section of this report and the *Sustainability as our business strategy* section of the Annual Report.

Read more in the Stakeholder sections in CLP's 2022 Annual Report
Read more in the Our sustainability priorities section
Read more in the Sustainability as our business strategy section in CLP's 2022 Annual Report
Read more in the Materiality matrix section

The double materiality assessment cycle

While our methodology has evolved year-on-year to reflect changes in best practice, the material issues identified since 2018 have remained relatively consistent, with only minor updates over the period. This reflects the reality that in the absence of material changes in the operating environment, material issues relevant to the utilities sector are unlikely to change over a short timeframe.

CLP implements the double materiality assessment process based on a three-year cycle. Variations in the breadth and scope of the assessment process occur year-on-year, with the Group undertaking a comprehensive assessment in Year 1 and less time-consuming assessments for revalidation and the incorporation of incremental changes in Years 2 and 3.

The assessment process in 2022

GRI reference: 2-12, 3-1

In 2022, CLP undertook the Year 2 assessment approach.

Conduct desktop research and stakeholder interviews → **Identify impacts, risks and opportunities** → **Assess and identify impacts, risks and opportunities**

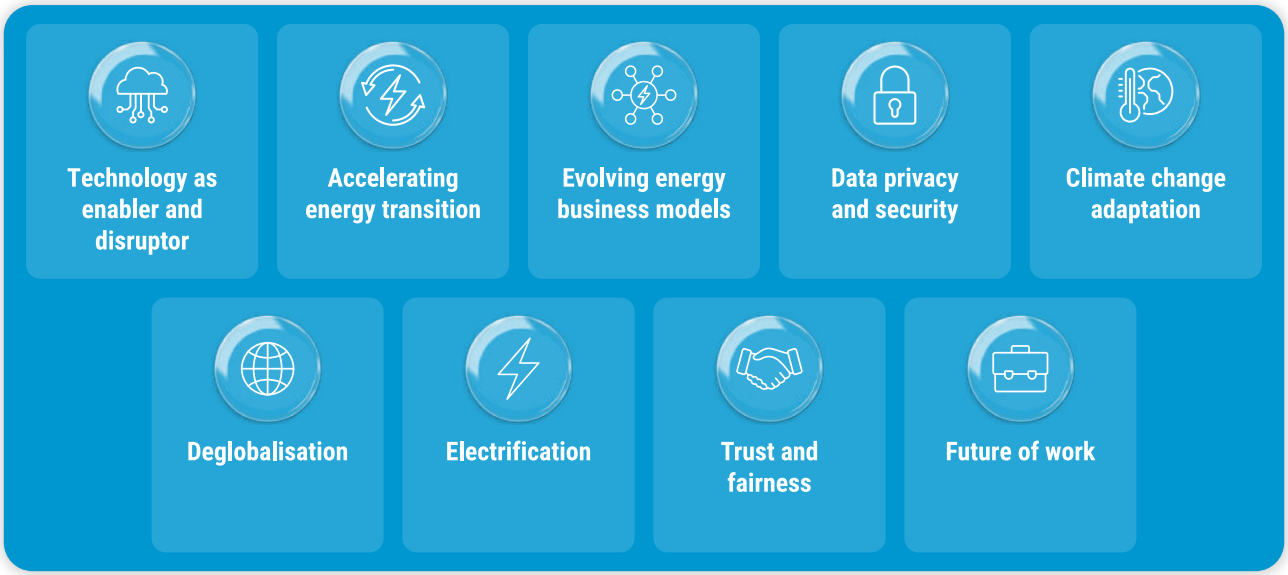
Conduct desktop research and stakeholder interviews

Megatrends are large, transformative global forces that define the future by having a far-reaching impact on business, economies, industries, societies and individuals. In 2022, CLP conducted a review of prior megatrend analysis and validated that the nine megatrends identified in 2021 remain relevant to CLP and reflect CLP's underlying strategic objectives.

Interviewing stakeholders is a key step in any materiality process. CLP's senior management from a wide range of disciplines was interviewed in 2021 (Year 1). In 2022, in line with the Year 2 assessment process, external materiality experts were interviewed to gauge their views on evolving best practice and how this aligns with CLP's current approach to reporting.

In addition, CLP conducted megatrends analysis and reviewed its risk registers, internal strategy papers and company policies, and GRI and Sustainability Accounting Standards Board (SASB) guidance, to help identify impacts, risk and opportunities conceivably material to CLP's current and future prospects. The process undertaken is evidence-based.

The megatrends impacting CLP



Identify impacts, risks and opportunities

Applying the assessment process, in 2022 (Year 2) CLP identified over 80 potential stakeholder impacts and financial risks and opportunities.

'Impact materiality' refers to significant positive or negative impacts on people, the economy and the environment, including impacts on human rights, as per the GRI definition.

To integrate data-driven evidence as part of the materiality assessment process, in 2022 CLP introduced an artificial intelligence (AI)-driven tool to identify evidence of ESG risks and opportunities from relevant sources such as corporate reports, regulations, standards, news and social media.

'Financial materiality' refers to financial risks or opportunities which create, preserve or erode enterprise value, as per the International Sustainability Standards Board (ISSB) Exposure Drafts. These risks and opportunities are considered to have implications for the organisation's revenues, expenses or balance sheet, which in turn means either a negative or positive and actual or potential impact on CLP's stakeholders or enterprise value.

Assess and validate impacts, risks and opportunities

In 2022, CLP enhanced the assessment methodology by considering the severity and likelihood for risk, and the benefit and likelihood for opportunities.

Each impact, risk and opportunity was assessed as either negative or positive, actual or potential (as per the latest GRI 3: Material Topics 2021 guidance).

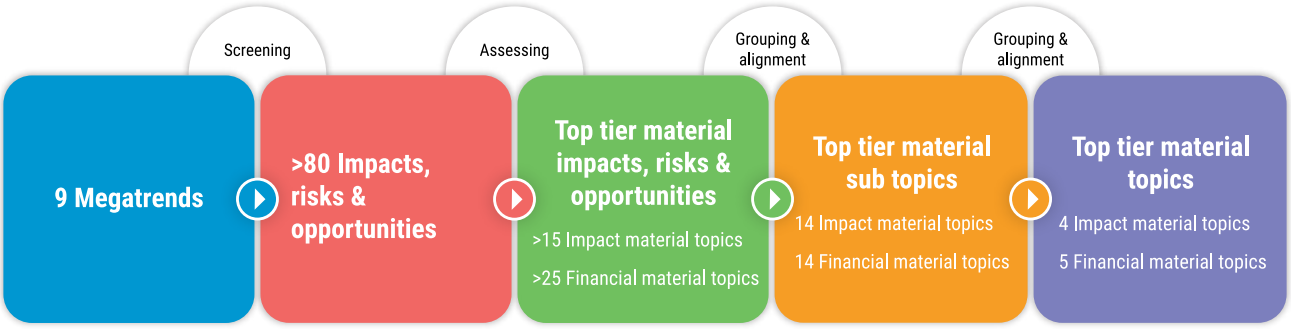
In terms of 'impact materiality', over 15 risks and opportunities were judged as 'high' or 'transformational'; none were classified as 'extreme'. These were then arranged under broader sub-topics, and ultimately top-tier material topics. This alignment exercise resulted in a slightly revised number of top tier sub-topics (12) and top tier material topics (4) in 2022.

To finalise the assessment phase, the **significance** of each negative impact or financial risk was evaluated for its severity and likelihood. The methodology employed drew from the latest GRI guidance, ISO 31000 Risk Management Standard, and CLP's Group Risk Management Framework.

A similar methodology was devised to assess the **significance** of each positive impact and financial opportunity, with each evaluated for its benefit and likelihood.

It must be noted that the methodology CLP employs to assess for sustainability-related materiality aligns with and supports CLP's general approach to risk management.

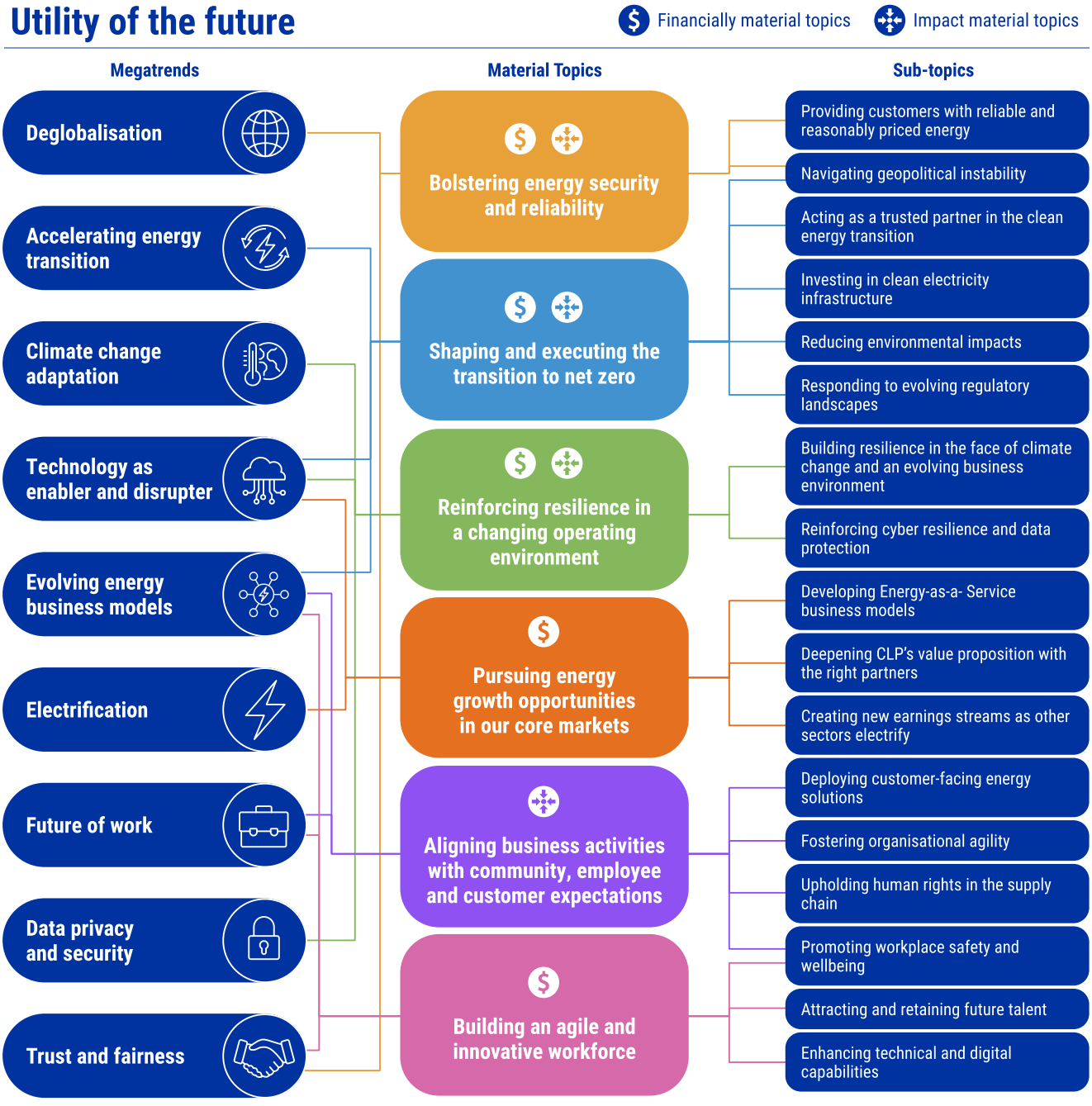
The preliminary results of the Year 2 assessment were presented to CLP's Sustainability Executive Committee and the Board-level Sustainability Committee. Both committees validated the findings identified by the working group.



The materiality matrix

The materiality assessment results are summarised in the materiality matrix below which shows the relationship between megatrends, material topics and relevant sub-topics.

GRI reference: 3-2



For optimal user experience in navigating CLP's financially and impact material topics and sub-topics, please view the interactive materiality matrix online

Our Sustainability Priorities

Shaping and executing the transition to net zero

CLP's growth opportunities are positioned around becoming a Utility of the Future. In pursuit of this ambition, CLP is decarbonising its existing asset base, investing in clean electricity infrastructure, ensuring the delivery of reliable and reasonably priced energy, and acting as a trusted partner for governments, communities and customers in the transition to a clean and reliable energy future.

Partnering in the clean energy transition

Support for the decarbonisation agenda impacts positively the environment and the broader community, by helping to reduce air emissions, water use and waste while also ensuring the continued supply of reliable and reasonably priced electricity and energy services. CLP's role as a trusted partner in the zero-carbon transition also supports the economy by making energy systems more efficient and resilient, and by decoupling generation and distribution from extractive, non-renewable and polluting fossil fuels.

CLP sold its entire
70%
interest in the coal-fired Fangchenggang Power Station

0.55 kg CO_2e/kWh
GHG intensity in 2022
vs 0.57 kg CO_2e/kWh in 2021

↓7.5%
Coal consumption
for power generation

As per CLP's Climate Vision 2050, efforts to identify opportunities to phase out coal-fired power generation continue. In November 2022, CLP sold its entire 70% interest in the coal-fired Fanchanggang Power Station in Mainland China.

CLP carefully reviewed all possible exit strategies for this plant and considered divestment the most appropriate option. Handing ownership to a trusted partner, in CLP's view, supports a just transition that aligns with the Group's Value Framework and Labour Standards. In addition, CLP considers that transferring the Group's interest in the plant to a state-owned enterprise supports continued power supply reliability in the community as well as an efficient and orderly transition in line with China's decarbonisation policy. At the same time, the sale freed up capital to grow CLP's renewable portfolio in Mainland China.

The sale of this coal-fired plant accelerates CLP's decarbonisation trajectory and is expected to reduce the Group's absolute annual greenhouse gas (GHG) emissions by around 10% compared with 2022 levels on an equity plus long-term capacity and energy purchase basis. This demonstrates CLP's strong commitment to accelerate phasing out coal-based assets and achieve the net-zero GHG target by 2050.

In 2022, CLP Group reduced the GHG emission intensity of electricity sold to 0.55 kg CO_2e/kWh when compared to 0.57 kg CO_2e/kWh in 2021, while the GHG emission intensity of electricity sold in Hong Kong by CLP Power maintained at 0.39 kg CO_2e/kWh.

CLP maintains its commitment to progressively phase out coal-fired generation plants.

In Hong Kong, older coal-fired generation units at Castle Peak A Power Station will be retired in the next few years, while daily coal-fired power generation at Castle Peak B Power Station will be ceased by 2035. The phase-out of CLP's minority-owned coal-fired assets in Mainland China and Taiwan is also expected before 2030.

In Australia, the closure of Yallourn Power Station will reduce EnergyAustralia's Scope 1 carbon emissions by over 60% in 2028-2029 against the 2019-2020 base year.

The other remaining coal-fired power stations where CLP maintains operational control are Jhajjar Power Station (operated by Apraava Energy) and Mount Piper Power Station (owned by EnergyAustralia). CLP maintains its commitment to find practical solutions to phase out these coal-fired power generation assets from its portfolio in the mid- to late 2030s and by 2040 at the latest, respectively.

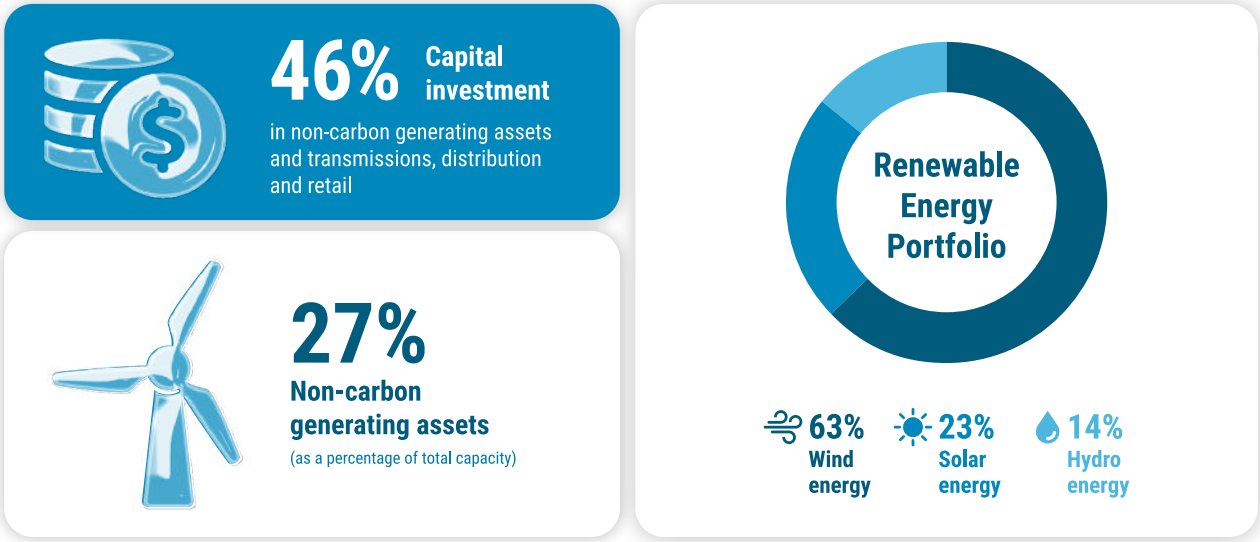
As the climate crisis brings a raft of pressing problems to all regions of the world, CLP remains a trusted partner in transitioning its assets to a clean energy portfolio. This steady progression to low-carbon electricity infrastructure ensures CLP's customers continue to have options for accessing clean energy supply.

Over the years, CLP maintained its dialogue with governments and communities through various channels to help shape and deliver their long-term decarbonisation and environmental objectives.

For instance, CLP Power Hong Kong Limited (CLP Power) organised various working and advisory committees, panels and meetings to actively listen to community voices. The Company organised site visits to Black Point Power Station for more than 20 members of the Hong Kong Legislative Council and around 40 senior government officers in October and December 2022 respectively. The visits aimed to strengthen communications and enhance understanding of CLP Power's multi-pronged approach to decarbonisation in support of the Hong Kong Government's target to achieve carbon neutrality by 2050.

Clean electricity infrastructure

Investing in clean energy infrastructure benefits the broader community by reducing the combustion of fossil fuels, thus reducing the negative impacts of air pollution and climate change. In addition, investment in clean energy infrastructure also benefits the economy by helping establish new industries.



As CLP progressively phases out coal-fired power generation, the Company is directing investment towards low-carbon streams of business, including renewable energy and energy services. In 2022, CLP continued to expand its renewable energy portfolio in Mainland China. Commercial operations began at the 100MW Qian'an III Wind Farm in Jilin province and construction commenced for the 50MW Xundian II project in Yunnan province. These additional wind assets allow customers to access zero-carbon energy supply and support the issuance of Green Electricity Certificates (GECs) in the region.

In India, Apraava Energy continued to progress its 251MW Sidhpur wind farm in Gujarat state, with the project expected to be commissioned by June 2023. In December 2021, Apraava Energy acquired a 49% stake in a 254-kilometre interstate power transmission project in northeast India, and is due to take up the remaining 51% by the end of 2025. Apraava Energy also recently won a contract to provide advanced metering infrastructure services in two regions in Assam State in northern India.

CLP's capital investment in gas assets has almost doubled in the past two years, increasing from HK$3,445 million in 2020 to HK$6,713 million in 2022, supporting the low-carbon energy transition.

The Group's renewable energy portfolio, including equity capacity and long-term capacity and energy purchase arrangements, remained relatively stable in 2022 at 3,611MW, compared to 3,624MW in 2021. While additional renewable energy assets came into service this year, the divestment of 10% equity in Apraava Energy hampered overall net growth. The current CLP renewable energy portfolio now sits at 23% solar and 14% hydro, while wind energy represents 63%.

CLP also made strategic investments to reduce the carbon intensity of baseload power generation.

In Hong Kong, the second new gas-fired generation unit D2 at Black Point Power Station is scheduled for full operation in 2024. This will play a key role in allowing older coal-fired generation units at Castle Peak A Power Station to be retired in the next few years. It will also increase the use of natural gas in CLP's fuel mix in Hong Kong, which is currently about 48% on a sent-out basis.

In Australia, construction of the Tallawarra B plant in New South Wales began in 2021 and is due to be completed by late 2023, creating Australia's first carbon offset hydrogen and gas-capable power plant.

Environment and biodiversity

Effectively minimising environmental impacts from power generation is one of CLP's commitments as a responsible power utility. This is fundamental for upholding a social licence to operate and to ensure the maintenance of ecosystem services for sustainability. Conservation of biodiversity has a direct positive impact on local economies by protecting ecological processes and influencing critical industries, such as agriculture and food production.

Care for the environment is one of the core values in CLP's Value Framework. It is demonstrated in operations as follows:

1. **As part of pre-investment decisions:** CLP conducts environmental due diligence and climate risk assessments to evaluate a comprehensive range of potential environmental impacts and risks.
2. **During the project implementation stage:** CLP conducts environmental impact assessments. In some jurisdictions, the Company goes beyond compliance requirements and mitigation measures to ensure impacts are handled with extra diligence.
3. **For ongoing operations:** CLP has a robust ISO 14001 certified environmental management system in place to monitor its environmental impacts.
4. **To drive continuous improvement:** CLP now sets and discloses short-term (2022) and long-term (2030) environmental intensity targets for air emissions, water and waste. Targets are set on the basis of reviewing the performance pattern of individual assets, and identifying potential improvement areas with planned control measures and operational processes.

As CLP strives to deploy international best practice in operations, it continues to explore state-of-the-art technologies which can further reduce environmental impacts and also enhance operational efficiency. In 2022, CLP Power completed a multi-year Gas Turbine Upgrade Project for eight gas-fired generation units at Black Point Power Station which avoided the emissions of 300 kt of CO_2 and 0.4 kt of NO_x in 2022.

In Australia, a Particulate Matter Continuous Emissions Monitoring System (PM-CEMS) was successfully installed at Mount Piper Power Station. It is the first coal-fired power station in Australia to be calibrated to the United States EPA PS11 standard.

As nature and biodiversity loss is an increasingly material global risk, in 2022, CLP kept up its goal of "No net loss of biodiversity" by implementing various initiatives to preserve precious ecosystems in the regions where it operates.

In Hong Kong, CLP entered a 10-year partnership with Kadoorie Farm and Botanic Garden Corporation (KFBG), providing a HK$10-million sponsorship to support nature and biodiversity recovery by planting up to 25,000 native trees of 200 different species or more over a 10-year period. This could potentially reintroduce critically-endangered native plants to the local ecosystem, with anticipated positive knock-on effects for pollinators and other wildlife. CLP Power also continued its vegetation management programme along transmission lines built in environmentally-sensitive country park areas, as well as funding the preservation of Hong Kong's aquaculture and fisheries resources.

In China, CLP China engaged its employees to participate in a tree-planting programme combating desertification in the vicinity of Jinchang Solar Farm.

In Australia, EnergyAustralia established a Biodiversity Conservation Agreement (BCA) for restoring the habitat at the Thompson Creek Reservoir.

In India, Jhajjar Power Station carried out a baseline biodiversity survey and assessment resulting in the Natural Capital Action Plan to mitigate biodiversity loss across its site. The project received a "Commendation for Significant Achievement in Biodiversity" in the CII ITC Sustainability Awards 2022 (Award category: Domain-Biodiversity).

In the meantime, CLP is closely monitoring the development of the Taskforce on Nature-related Financial Disclosures (TNFD) framework and Science-based Targets for Nature (SBTN). The Group has completed a review of the expectations of the framework and targets and, in response, will develop short- and medium-term action plans to enhance current practices.

Regulatory landscapes

CLP's collaboration with governments and regulators positively impacts the environment by reducing emissions. By contrast, misaligned agendas would increase the environmental, social, and financial costs of the energy transition for governments, customers, and communities.

Effective progress in decarbonisation must factor in evolving government and community expectations within the markets where CLP operates. Regulatory certainty, clear government targets and consistent roadmaps support CLP's ability to execute long-term planning and strategic decision-making.

For instance, in Hong Kong, CLP Power is regulated by the Scheme of Control Agreement (SCA). To support the Government's environmental policy and goals, CLP Power developed the current Five-Year Development Plan (2018 – 2023) under the SCA with a number of significant capital projects, which include:

- Constructing the D1 gas-fired generation unit at the Black Point Power Station;
- Constructing an offshore liquefied natural gas (LNG) terminal;
- Commencing the enhancement of the Clean Energy Transmission System connecting Hong Kong and Mainland China to increase use of zero-carbon energy in the future; and
- Strengthening the smart grid with digitalised smart meter upgrades.

Governments worldwide have been aligning their short- and medium-term climate actions with long-term net-zero targets. While CLP fully supports governments' net-zero pledges, the Group also considers the risks and opportunities triggered by evolving government policies. For example, the Mainland China Emissions Trading Scheme (ETS) is one of the key policy instruments in realising the Chinese government's decarbonisation plan. CLP closely monitors the emerging ETS compliance rules, such as the new draft allocation plan released in November 2022, and assesses the respective regulatory risks for better business planning.

As part of its climate action plan, the Hong Kong Government has a long-term policy of promoting the adoption of electric vehicles (EVs), it announced the target of no new registrations of fuel-propelled private cars in 2035 or earlier. While supporting the Government in building the EV charging infrastructure and network across Hong Kong, CLP Power also extended its free EV charging service until the end of 2023. This demonstrates continuous commitment to providing convenience and reliable energy resources to EV motorists across Hong Kong.

Similarly, Australian governments are introducing growing supports for electric vehicles, and EnergyAustralia is exploring different funding options for EV infrastructure, such as working with asset and finance companies, as well as developing innovative retail contracts.

As the Indian Government announced an interim plan of installing 500GW of renewable energy capacity by 2030 under its 2070 carbon neutrality target, Apraava Energy will play its part in contributing to India's clean energy transition plan. Apraava Energy is eagerly working towards increasing its clean energy portfolio to contribute to India's energy transition.

Read more on our approach, initiatives and progress for stakeholder impact in relation to this material topic

Climate-related Disclosures Report

Environmental Impacts

Social Impacts – Our people

Social Impacts – Partners

Financial materiality

Shaping and executing the transition to net zero in CLP's markets attracts a lower cost of capital, enhances environment, social and governance (ESG) fund flows, and lower insurance premiums, and supports the Group's attractiveness as a commercial partner for private sector and government joint ventures. It also reduces stranded asset risk for fossil fuel-powered assets, as well as the potential for shareholder activism.

Read more on the financial impact

Stakeholders sections in the 2022 Annual Report

Bolstering energy security and reliability

The world is in the midst of an energy crisis, triggered by an uncertain geopolitical environment and enduring supply chain disruptions. Escalating fuel prices have resulted in assets running at reduced capacity, which has increased costs for CLP and its customers alike. The Group must balance two vital and sometimes competing objectives: providing customers with secure, reliable and reasonably priced energy while continuing to make rapid progress on decarbonisation objectives.

Reliable and reasonably priced energy

CLP's customers and the markets in which CLP operates have been adversely impacted by high and unstable fuel prices. CLP exercised prudent cost management while ensuring reliable access to energy. Enabling the uninterrupted operation of key services needed to maintain societal and economic functioning has positive impact on people, the environment and the economy.

>99.997%
world-class supply reliability maintained in Hong Kong

CLP Power exercised prudence in cost management and control, **enhancing generation efficiency**, making the most use of existing gas reserves and exploring new sources of gas supplies

CLP Power offered a total of
HK$100 million
in electricity subsidies to around **150,000** households in need through the CLP Fuel Cost Subsidy Programme

In Hong Kong, maintaining high supply reliability is critical for CLP's customers who by large live in a vertical city built around an economy that depends on electricity for buildings and transport. CLP's high supply reliability is the result of its power expertise, and decades-long commitment to generation, network and operational excellence. The Scheme of Control Agreement (SCA) signed with the Hong Kong SAR Government serves as a stable and long-term regulatory regime, which is crucial for providing an effective mechanism to address electricity industry's requirements and ensure long-term and capital-intensive electric utility infrastructure investments.

As part of its continuous effort in maintaining high supply reliability, CLP adopts advanced technology, such as smart meters, and implements demand-side management measures to optimise electricity consumption and improve utilisation of existing assets. Located in the sub-tropical region, its

Hong Kong operations are also enhanced with a number of measures to improve the resilience of the power systems against extreme weather.

CLP puts tremendous effort to maintain its world-class reliability of 99.997%. However, electricity supply to around 175,000 CLP customers in Hong Kong was affected on 21 June 2022 when a cable bridge in the north-west New Territories caught fire. CLP Power immediately began work to restore the power supply with priority for essential services, including hospitals and railways. Power was restored to around 90% of the affected customers seven hours after the incident, and to the remaining customers around six hour later.

This extremely rare incident was a matter of profound concern for CLP Power, and a panel of experts was appointed to conduct a comprehensive investigation. A final investigation report was submitted to the Hong Kong SAR Government in August 2022. In addition, an external fire consultant was engaged to support a fire risk assessment and reliability review on common cable infrastructures (CCIs). Site-specific assessments were completed on all CCIs and an implementation plan to further reduce fire risk exposure was formulated.

Globally, fuel prices have been highly volatile. In addition, to meet carbon reduction targets and the increasingly tightened air emission caps set by the Hong Kong SAR Government, more natural gas and zero-carbon energy will be needed in the city's fuel mix for electricity generation. CLP Power has worked hard to minimise the impact of fuel cost fluctuations and maintain tariffs at a reasonable level. These actions include: enhancing generation efficiency; making the most use of existing gas reserves; exploring new sources of gas supplies; and securing competitively priced fuels from the global market. For example, CLP imports nuclear power which is relatively stable in price. Amid a continued surge in international fuel prices, nuclear power has played an important role in smoothing out price fluctuations during times of energy market volatility.

With prudent cost management and control, CLP Power again froze the basic tariff in 2023 against a backdrop of surging international fuel prices. In tandem, it continued its Energy Saving Rebate Scheme for low-consumption residential as well as small and medium enterprises customers and its Concessionary Tariff for the Elderly. CLP Power has also set aside about HK$200 million from the CLP Community Energy Saving Fund to launch a series of community support programmes in 2023, including a HK$100 million Fuel Cost Subsidy programme to subsidise the energy costs of 150,000 families in need.

Read more on our approach, initiatives and progress for stakeholder impact in relation to this material topic

Social Impacts – Customers →

Social Impacts – Community →

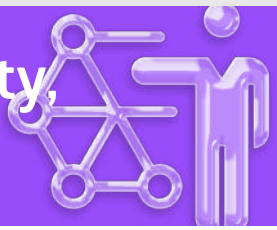
Financial materiality

Shortages in coal and gas could impact CLP's profit margins by driving up input costs and forcing assets to run at reduced capacity. However, CLP may be able to benefit, in the short term, from increased demand for fossil fuel generation, but the larger commercial opportunity lies in leading a faster transition to renewables to support long-term energy security.

Read more on the financial impact

Stakeholders sections in the 2022 Annual Report

Aligning business activities with community, employee and customer expectations



As a purpose-led business, CLP recognises its obligation to meet evolving stakeholder expectations around the positive role businesses can play in society. This includes empowering end users by offering decentralised energy solutions that meet their needs and collaborating with partners to deliver clean energy solutions that benefit customers, communities, and the environment. Employee and supplier wellbeing is also a priority. CLP recognised that its long-term success relies on its capacity to build an agile, diverse, inclusive, and ethical work culture capable of attracting the highly skilled talents needed to build a Utility of the Future.

Human rights in the supply chain

Human rights due diligence is critical in managing supply chain risks. In becoming a Utility of the Future, CLP continues to promote supply chain transparency as a competitive advantage and recognises its responsibility to eliminate all forms of modern slavery and labour exploitation.

Established the **Procurement and Supply Chain Management Sustainability Vision** with a three-year roadmap

Released Supplier Code of Conduct (SCoC) in December 2022 articulating 11 responsible procurement practices

In 2022, CLP Procurement Supply Chain Management (PSCM) established its Procurement Supply Chain Management Sustainability Vision and a three-year roadmap defining the focus areas of responsible procurement.

In accordance with this new roadmap, CLP released its first Supplier Code of Conduct (SCoC) in December 2022, and updated the Responsible Procurement Policy Statement which has been in use by the Group since 2012. The SCoC is derived from CLP's values, policies, standards and objectives, and clearly states CLP's expectations on the suppliers it is doing business with and those who want to do business with CLP. The SCoC articulates 11 responsible procurement practices.

Supplier Code of Conduct – responsible procurement practices

Understanding the importance of upholding human rights along its supply chain, CLP's SCoC incorporated this essential element in the following three focus areas:

- **Labour Practices and Human Rights:** CLP respects all internationally recognised human rights relevant to its operations and recognises the value of its employees, their families and the communities it operates in. As a responsible business, CLP is committed to cascading this value to its operations and its suppliers to provide a dignified, fair and equal workplace.
- **Employee Health and Safety:** In 2022, the International Labour Organisation (ILO) adopted a safe and healthy work environment as one of the fundamental principles and rights at work. CLP continued to safeguard the health, safety, and wellbeing of its employees as part of the Company's core value. CLP will provide guidance and support to its suppliers to create a healthy and safe workplace for their employees.
- **Diversity and Inclusion:** CLP operates in multiple jurisdictions with a workforce and customer base from a variety of different cultures and backgrounds. It is committed to providing an inclusive and diverse workplace allowing it to serve its diverse portfolio of customers.

Having introduced this SCoC, CLP is now establishing a third-party risk management framework to ensure transparency of supplier performance along the value chain and to enhance itscapability to assess the different types of risks associated with its supply chain.

In introducing these measures, CLP will work with its suppliers in a collaborative way and help them in building sustainable businesses.

Organisational agility

Organisational agility allows CLP to respond to a changing energy market and to the social and geopolitical uncertainties that continue to reshape its business landscape.

CLP implemented a fit-for-purpose operating model in Hong Kong and Mainland China, establishing three business lines (Hong Kong Scheme of Control, China Power Development and Energy Solutions) and two key shared capabilities: Projects & Operations (to execute the zero-carbon project pipeline) and Digital. The operating model is intended to better align the way CLP operates to strategy and accelerate transformation towards the Utility of the Future.

Other initiatives aimed at building employee agility, including flexible work options, employee engagement initiatives were also implemented to foster an agile and open work culture. Design thinking and digital capabilities programmes were hosted to enhance skills and agile thinking.

Over 4,100 employees have participated in the Design Thinking Programme since its launch in 2019, with employees now applying design thinking in projects ranging from digital transformation and productivity to safety and customer service.

The Power of Design Thinking

In the post-COVID-19 pandemic context, The Future of Work agenda has emerged and is being debated around the world. More initiatives and flexible work arrangements continue to be introduced at CLP to support talent attraction and retention and to provide a more family-friendly work environment.

Workplace safety and wellbeing

CLP's strong performance in this topic benefits its people by protecting the health, safety and wellbeing of workers in all CLP locations. Safe operations, such as minimising the risk of COVID-19 virus transmission, also benefits the communities in which CLP operates.

2022 continued to be challenging with the ongoing COVID-19 pandemic 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 initiatives targeting mental and physical health awareness. Each region responded comprehensively in supporting their employees, particularly in respect to mental health and ergonomics.

Throughout 2022, a series of programmes covering wellbeing, mindset, resilience and high-performance for senior leaders were organised. They included activities to support health and wellbeing such as the launch of the IncrediPlay platform, an online site uniting staff through common wellbeing interests.

Similar initiatives have been gaining more weight in Mainland China with a tailored digital health platform launched in 2022. Over 500 staff have participated in its activities since the launch date.

Customer-facing energy solutions

Supporting decentralised energy solutions benefits people by enabling flexible, reliable and cost-effective access to clean energy. Delivering better end-use solutions, in turn, benefits the environment by reducing per capita GHG emissions and curbing long-term physical climate risks.

CLP Power invited around

600,000

households to reduce their energy consumption in the **"Summer Saver Rebate Programme"**

Hong Kong's first **zero-carbon chiller system** project launched

As the energy market evolves to be more customer-centric, CLP aspires to become a Utility of the Future with innovation and adoption of new technologies, bringing cleaner and smarter power supply to its customers. Throughout 2022, CLP continued accelerating its digital capabilities and integrating digital technologies, such as artificial intelligence, the Internet of Things and big data, into its operations. For example, the adoption rate of CLP Power platforms, such as Company website and CLP mobile app, amongst the CLP Power customer base has increased significantly from 7% in 2019 to 63% by 2022.

Digitalisation empowers CLP with data that allows a better understanding of customers' preferences and behaviours, beyond just individual electricity bill accounts. In 2022, CLP Power invited around 600,000 households to reduce their energy consumption in the Summer Savers' Rebate Programme, in which reward points were provided to residential customers with smart meters to reduce energy use during peak demand periods on hot summer days. Smart air conditioner control with artificial intelligence was also introduced to help participating households reduce their consumptions during the events. The programme successfully encouraged customers to adjust their consumption behaviour with a total of 300,000kWh of electricity saved over a four-hour period.

Recognising the enormous potential that digitalisation presents for customers, CLP*e* continued to provide bespoke energy-saving service solutions with digital elements. For example, CLP*e* signed a Build-Own-Operate-Transfer (BOOT) agreement with Chinachem Group to build a new water-cooled air conditioning system bundled with Green Electricity Certificates (GECs) at Nina Tower in Hong Kong. This was the first zero-carbon chiller system project in Hong Kong . CLP*e* also commenced a distributed solar system at the headquarters of MTR Corporation (Shenzhen) Limited in Longhua District. It is expected to generate 1,300MWh of renewable energy per year, equivalent to a reduction of 16,000 tonnes of carbon emissions associated with electricity during the contracting period.

CLP has invested over HK$780 million since 2017 and tapped into the leading technologies emerging in this space. Investments included direct equity stakes, venture capital funds and joint venture investment partnerships in new technologies that have the potential to shape the future of the energy sector and bring products or services to CLP customers that support their decarbonisation efforts.

One of the signature joint venture investment partnerships in 2022 was with Hydro X. The company specialises in developing an energy-efficient, environmentally friendly chemical process to store hydrogen using water and bicarbonate at near room temperature and pressure. This technological breakthrough will bring safe and efficient hydrogen-handling solutions to customers and create a paradigm shift in transportation and operations across various sectors and industries.

Read more on our approach, initiatives and progress for stakeholder impact in relation to this material topic

Social Impacts – Partners →

Social Impacts – Our people →

Social Impacts – Customers →

Reinforcing resilience in a changing operating environment

The accelerating pace of environmental, technological, regulatory and social changes has reinforced the importance of business resilience. CLP recognises the strategic value of anticipating, withstanding and learning from disruptive events, especially in response to the growing threats posed by climate change and cybercrime.

Cyber resilience and data protection

Because of CLP's role in providing critical power infrastructure, a significant cyber security breach could have a massive impact on local economies by temporarily shuttering essential energy services. Cyber resilience and effective data protection measures allow employees and customers to proceed with their activities without fear or threat of cyberattack.

To counter this and to minimise its exposure to the ever-growing risks posed by cyber threats, CLP has built up strong governance practices and a capable and highly experienced team within CLP Digital.

The Board-level Audit & Risk Committee maintains effective oversight of cyber security risks, while Security, a department of CLP Digital, is responsible for the protection of the Company. From a cyber perspective, this protection ranges from:

- Promoting cyber security and data protection awareness amongst staff;
- Ensuring cyber security threats across both CLP's Operational Technology (OT) and Information Technology (IT) systems are reduced to acceptable levels; and
- Constantly monitoring CLP systems to deny an attacker any advantage.

During the year, CLP Digital undertook a comprehensive review of its cyber security strategy with the support of an external cyber security specialist consultancy. The review's aim was to ready CLP for the potential challenges of operating as a Utility of the Future.

As a result of the review, at an operational level, CLP Digital has developed 20 cyber security standards which align with the internationally-recognised NIST Cyber Security Framework. They provide, for the first time, a comprehensive system of acceptable operational practice that will define the Company's cyber operations going forward. The revised standards will be introduced and implemented in early 2023.

CLP puts great effort into building a corporate culture that can deal with the future challenges associated with handling the accelerating volume of data produced by digital assets. During the year, a wide range of educational initiatives to eqip employees with cyber security capabilities were delivered across the Group, including internal broadcasts, briefing sessions, pop-up booths and webinars. Furthermore, teams of employee volunteers were engaged in CLP Power's businesses as "Cyber Champions" to help deliver key security messages directly to fellow employees and collect valuable feedback on the effectiveness of CLP Digital's policies and standards.

Building Resilience in the face of climate change and an evolving business environment

Adapting CLP's physical assets to cope with the disruptive realities of climate change benefits the economy by maintaining a reliable energy supply, even in the face of extreme weather events. By promoting resilient operations, CLP can also support the energy needs of vulnerable communities who are particularly susceptible to physical climate risks such as sea-level rises and outages caused by storms.

CLP's approach to building resilience against climate change starts with effective risk management. Recognising climate change risks might reasonably impact the business over time, climate change risks are fully integrated into CLP's Group-wide risk management system, with management oversight and assurance provided to the Board.

CLP considers the resilience of its Climate Vision 2050 and other strategic plans by using three climate scenarios. Each scenario provides a future state over a typical time horizon of 20 to 30 years. In tandem, CLP has also developed a financial model to help understand the financial impacts of these risks across the Group in different time horizons up to 2050.

The nature and extent of climate change risks vary across geographies. CLP not only considers this variance in its various regions of operation during its risk management process, it also conducts asset-level physical climate risk assessments to build the resilience of individual assets in each region.

In Hong Kong, CLP Power completed a physical climate change risk assessment and climate change adaptation study with the support of external consultancies in 2022. This multiple-year study applied rigorous processes of climate hazard screening and impact assessment workshops with relevant internal stakeholders. The study was followed by various adaptation measures implemented by CLP Power to minimise service delivery disruption against the key physical climate change risks identified. Key climate hazards, such as extreme heat, flash rain, coastal flooding and super typhoons, were earmarked for further detailed risk assessment. To set a high-level guidance for climate change risk assessment and adaptation practice during operation, CLP Power issued an Asset Management Standard on Climate Change Adaptation for generation and network assets. The standard will be reviewed at least every three years to keep abreast of the latest climate models and trends.

In India, Apraava Energy conducted a climate risk assessment using Physical Climate Risk Screening tool software. This helped forecast changing weather patterns at a specific geographic location. Apraava Energy also utilises the software to identify physical risks, such as floods and storms, when conducting environment due diligence at the project planning stage.

Read more on our approach, initiatives and progress for stakeholder impact in relation to this material topic

Climate-related Disclosures Report

Social Impacts – Customers

Financial materiality

Business resilience is an important component of sustainable value creation and helps protect CLP's cash flows from the negative asymmetric risks associated with damage to physical assets and operations caused by cybercrime as well as climate change.

Read more on the financial impact

Stakeholders sections in the 2022 Annual Report

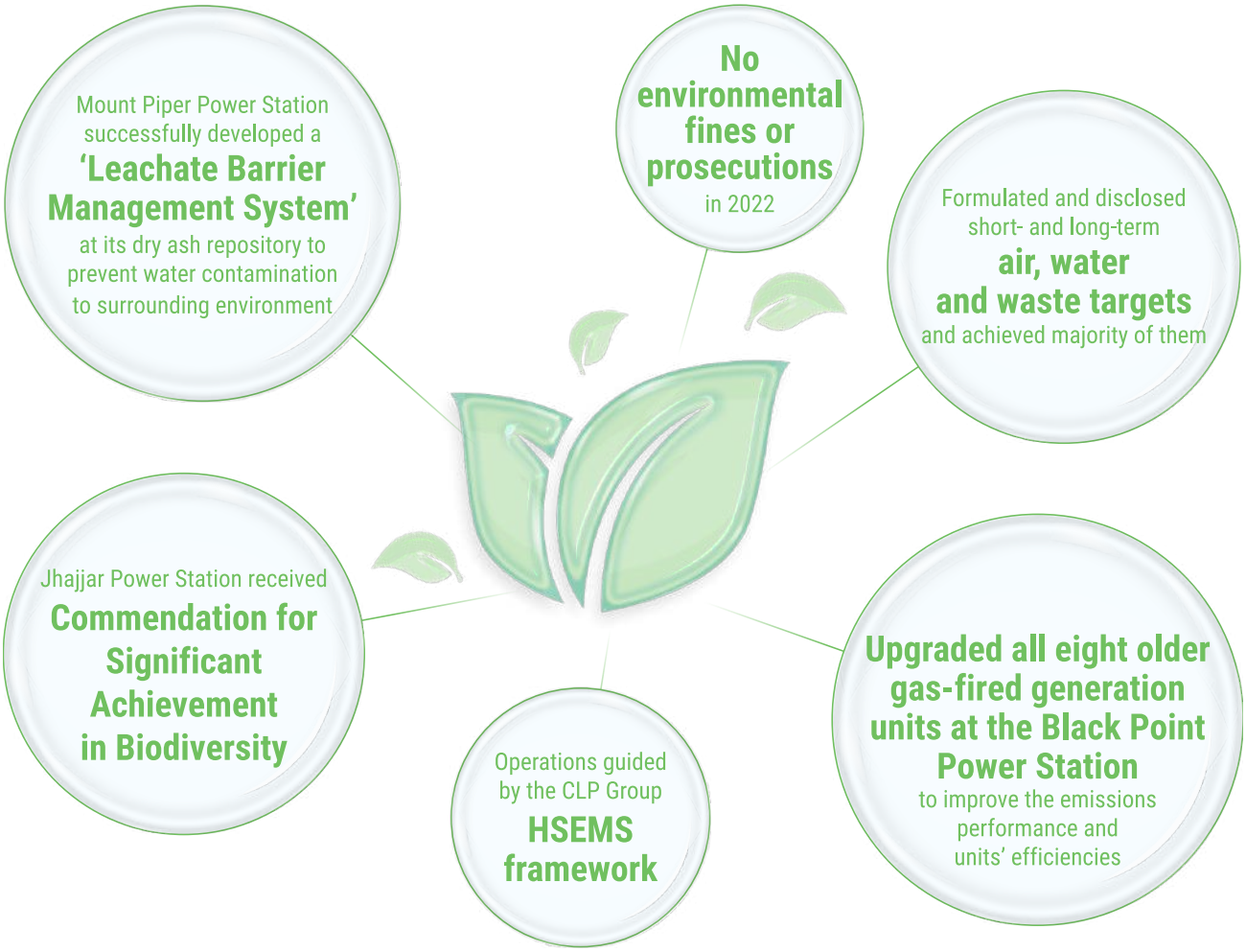
Environmental Impacts

Environment

Overview

Stakeholders' areas of interest	Relevant material topics
• Environmental management and compliance • Air emissions • Biodiversity and land use • Waste • Water	**Shaping and executing the transition to net zero** • Partnering in the clean energy transition • Clean electricity infrastructure • Environment and biodiversity

Outcome for stakeholders



Environmental management and compliance

Our approach

CLP strives to manage the environmental impact of electricity generation responsibly. CLP has in place an established and effective environmental management system and process to improve its resource efficiency and environmental performance.

This Group-wide environmental management system is contained with the CLP Group Health, Safety and Environment Management System (HSEMS), which is driven by the new integrated Group HSE Policy.

The policy declares CLP's aim of building individual, team and organisational capabilities and capacities to prevent harm to its people, its assets and the communities in which it operates. CLP's HSEMS sets out how it implements the policy.

Having an environmental management system supports CLP's endeavours to maintain full compliance with applicable environmental laws and regulations in the jurisdictions in which it operates. Established processes are in place to review relevant environmental laws and regulations for new investments, or other updates to existing regulations.

GRI reference: 2-23

The CLP Group HSEMS provides a framework to identify and manage significant environmental issues arising from new investments, project planning and operations.

Following the 'plan, do, check, act' (PDCA) cycle, the environmental processes in the HSEMS manage the environmental pillar of the Group's HSE Improvement Strategy. They also require the environmental risks and opportunities associated with a project's operational life cycle to be appropriately managed.

The environmental tools and processes covered in the HSEMS include:

- Project Inception/Planning Stage:
  - Environmental impact assessments
  - Environmental due diligence and climate risk assessment
- Project Construction Stage:
  - Environmental monitoring and audit
- Project Operation:
  - Environmental Management System (EMS) and associated data management platform

Learn more about CLP's HSEMS

At the project planning stage, environmental due diligence and climate risk assessment are conducted to identify potential environmental risks, liabilities and impacts of proposed projects, as part of CLP's Pre-investment Environmental Risk Assessment.

CLP considers the Environmental Impact Assessment (EIA) a crucial step in ensuring all relevant environmental impacts such as air quality and biodiversity have been properly considered and addressed by effective mitigation measures. CLP has processes in place to fulfil the strict EIA requirements and recommendations stipulated by local regulators and it follows these same assessment requirements 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

Over the years, CLP has diligently managed environmental impacts in line with international best practices. For example, under the HSEMS, all power generation assets of which CLP has operational control or joint operational control are required to achieve third-party certification to the international standard, ISO 14001:2015 Environmental Management Systems, within two years from the commencement of operation or acquisition. In 2022, all assets in this category have successfully certified their EMS to the ISO 14001: 2015 standard.

Initiatives and progress

Driven by the Group's HSE Improvement Strategy, CLP develops performance indicators with goals and targets to help monitor the progress and effectiveness of its environmental strategies, plans and programmes.

Environmental targets and data management

In 2022, CLP developed a new set of group-wide annual environmental targets covering air emissions, waste and water management for its fossil fuel plants, which account for the majority of CLP's emissions and resource consumption. To drive continuous improvements and meet external stakeholder expectations, CLP's group-wide environmental targets are tracked and reviewed on an annual basis. Details of the targets are discussed in the respective environmental sections.

Digital technology in data management is deployed to ensure data integrity and measure progress against targets, as well as facilitate the follow-up actions for each asset for continual improvement. In addition to CLP's customised Group Operations Information System (GOIS), CLP has been implementing MonitorPro, an environmental data management system across all its operational assets in Australia. The tool is designed to safeguard environmental data, automate trend analysis and data reporting and support compliance and risk management.

Environmental regulations and compliance

SASB reference: IF-EU-140a.2; GRI reference: 2-27, 306-3 (2016), 307-1

CLP closely monitors developments in environmental regulatory requirements. In Hong Kong, the emission allowances of CLP's power plants have been progressively tightened over time through the Technical Memorandums (TM) of the Air Quality Control Ordinance. Since 2022, a new set of emission caps requires CLP Power Hong Kong Limited (CPL Power) to further reduce the emissions of sulphur dioxide (SO_2), nitrogen oxides (NO_x) and Respiratory Suspended Particulates (RSP) by 12% to 27% compared with the 2021 level which CLP Power has achieved. Discussion with the Hong Kong Government on the review of the latest TM is in progress, as the new 2028 emissions caps will be promulgated in 2023.

In India, the Ministry of Environment, Forest and Climate Change issued the E-Waste (Management) Rules, 2022, which will be effective from April 2023. These rules require the bulk consumers of electrical and electronic equipment, including solar PV panels/cells, to ensure their e-waste will be handed over only to the registered producer, refurbishing entity or recycler. A gap assessment is under progress to ensure compliance of all applicable statutory requirements by March 2023.

Emerging policy changes in relation to GHG emissions are discussed in the Climate-related Disclosures Report.

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

Environmental regulatory non-compliance and licence exceedances

	2022	2021	2020	2019	2018
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]	**6**[2]	5[3]	4	10	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 2019-2022 numbers.
2 The number excludes eight cases of short-term licence limit exceedances from Jhajjar. Details on the incidences are outlined below.
3 The number was restated to align the calculation methodology across years.

In Australia, there were six environmental licence breaches recorded in 2022.

Three of them were relevant to marginal air emissions exceedances. One related to particulate matter emissions at Mount Piper Power Station, and two others related to particulate matters and SO_2 emissions at Yallourn Power Station.

Another two breaches were from Mount Piper Power Station during a 21-day emergency discharge event. One related to the exceedance of the daily limit of discharge volume, while another one related to missing oil and grease test in the weekly water samples.

The local Environment Protection Authority (EPA) was notified of these five incidents. Associated corrective and preventive active actions have been taken by EnergyAustralia to prevent recurrence of similar incidents. None of them resulted in any actions by EPA.

The other licence limit exceedance case related to oil spillage from Jeeralang Power Station due to the failure of one of its unit transformers. The oil contamination was cleaned up by using vacuum tankers and removing the contaminated soil. EnergyAustralia notified EPA and is currently liaising with them for a case review.

In India, there were eight cases of short-term SO_2 licence limit exceedances at Jhajjar Power Station in 2022. In all these incidents, Jhajjar Power Station had requested a loading reduction or shutdown of the unit to control SO_2 emissions. However, the State Load Dispatch Centre of India denied permission to reduce the loading or shutdown of the unit due to the state's high power demand. Subsequently, Jhajjar Power Station continued to run the unit and recorded exceedences. All these exceedances were reported to the regulatory authorities (the Central Pollution Control Board (CPCB) and Haryana State Pollution Control Board (HSPCB)) which have not imposed any penalties or taken any further action.

Air emissions

Our approach

Air quality remains a challenge in many of the geographies in which CLP operates. CLP reduces its air pollutant emissions while it expands its renewable and nuclear energy portfolio. Nonetheless, further emission reductions from existing fossil fuel power stations remain a high priority in the Group's strategy.

Strategies and procedures

CLP's Power Plant Air Emissions Standard stipulates that any fossil fuel-based power plant developed after October 2018 (when the Standard became effective) 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, CLP also designs new gas-fired power stations with advanced generation technologies. These new technologies produce electricity more efficiently, and assist in further lowering air pollutant and GHG emissions.

Monitoring and follow-up

The Company monitors air emissions (NO_x, SO_2, and total PM) from facilities under its operational control using a continuous emissions monitoring system and/or stack sampling and mass-balance calculation methodologies. CLP is also cognisant of the increasing focus on mercury emissions from coal-fired power plants and has reported mercury quantities from its coal-fired power plants since 2021.

Initiatives and progress

CLP has a long-term commitment dedicated to managing its fuel mix and various mitigating measures to respond to climate change and air quality improvements.

SASB reference: If-EU-120a.1; GRI reference: 305-7

Depending on the asset type, different environmental metrics are material to CLP's portfolio. Coal-fired power plants, such as Yallourn, Mount Piper, Jhajjar and Castle Peak Power Stations, are the key contributors to the Group's air emissions, and the emissions metrics are heavily influenced by the performance of these plants.

CLP has set intensity targets for air emissions, namely NO_x, SO_2 and PM, where short-term targets are set annually based on the three-year average performance of the fossil fuel plants. Further performance improvements can be driven by the long-term commitment of decommissioning; hence, asset retirement planning is considered when determining long-term targets.

The 2022 target scope covers fossil fuel plants under operational control, which accounts for the majority of CLP's emissions. The emission targets and the year-end achievements are shown in the following table:

		2022 Target	2022 Performance	Achievement	2030 Target
Air Emission Intensity	NO_x (t/GWh)	0.77	0.72		0.65
	SO_2 (t/GWh)	0.93	0.81		0.69
	PM (t/GWh)	0.13	0.11		0.04

During the year, CLP achieved all three air emission targets by optimising its diversified fuel mix and maintaining the effectiveness of its emissions control facilities. Compared to 2021, the NO_x, SO_2, and PM emission intensity of fossil fuel assets reduced by 1%, 4% and 7% respectively.

The key programmes in 2022 included:

- **Air emission control measures and upgrading**

  CLP has been implementing various air emission control measures and upgrading its infrastructure with advanced emissions reduction technology in its fossil fuel plants. In Hong Kong, CLP Power completed a multi-year project to upgrade eight older gas-fired generation units at Black

Point Power Station in January 2022. The project reduced NO_x emissions, while increased operational efficiency of the upgraded generation units, leading to an improved performance on carbon emissions.

Further, Black Point Power Station's new gas-fired generation unit D1, commissioned in 2020, uses a selective catalytic reduction system to reduce NO_x emissions. The same technology will be deployed in another new gas-fired unit (Unit D2) currently being constructed at the power station, further reducing NO_x emissions after its full operation in 2024. Flue gas desulphurisation (FGD) units were deployed at Jhajjar Power Station in India and Fangchenggang Power Station in Mainland China which not only lower SO_2 emissions but also further reduce PM and mercury emissions, a co-benefit of FGD.

- **Hazardous emissions assessment and monitoring programmes**

  EnergyAustralia assessed Class 3 air quality indicators, which classify the most hazardous air pollutants under Victorian environmental legislation, at Yallourn Power Station to evaluate its impacts on local air quality. The assessment covered the hazardous chemicals of dioxins, furans, and metals. Extensive stack emissions testing and a detailed air quality impact modelling assessment were conducted. Compared with Air Pollution Assessment Criteria (APAC), the Class 3 air quality substances assessment results showed that Yallourn Power Station has made insignificant contributions of hazardous chemical emissions to the air.

  Starting from 2022, Jhajjar Power Station successfully complied with United States EPA standard methods for mercury sampling at its chimneys to estimate the mercury quantities.

- **Upgrade of emissions monitoring systems**

  CLP continuously reviews its emissions monitoring system to align with industry best practices in air emissions controls.

  At Mount Piper Power Station, a Particulate Matter Continuous Emissions Monitoring System (PM-CEMS) has been successfully installed, calibrated and commissioned according to the United States EPA PS11 Standard. This is the first PM-CEMS of its type to be calibrated to this standard at a coal-fired power station in Australia with a baghouse filter. This filter enables reliable and accurate data for monitoring and improved control of PM. The control of PM emissions also improved the overall maintenance and management of the baghouse filter.

  At Yallourn Power Station, the Continuous Emissions Monitoring System has also been upgraded to enhance its capacity for monitoring NO_x and SO_2 emissions alongside particulates and CO emissions which were already installed across all operating units.

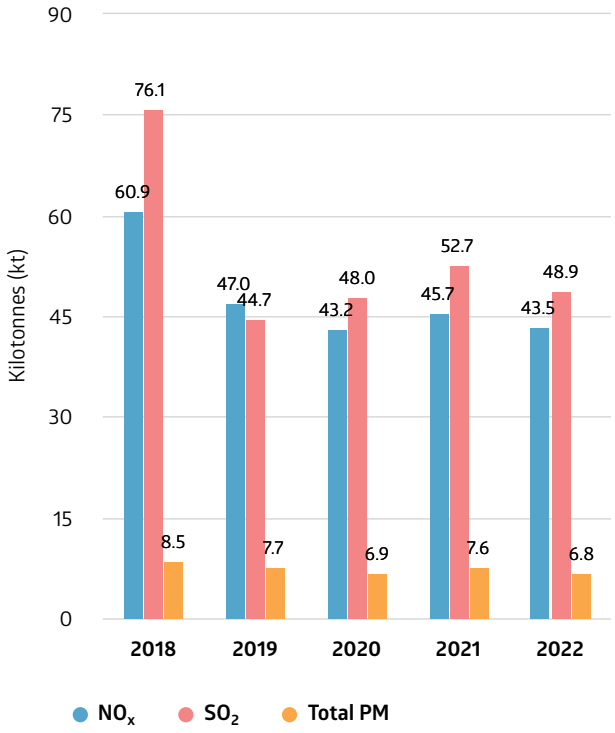
- **Risk management on emissions impact**

  As air emission levels are largely correlated to the types of fuel used, whenever there are changes of fuel used at the power plants, CLP will undergo a risk management process to assess any changes of air emission levels and its impacts on the local vicinity.

  During the year, there was a significant gas shortage in Australia which triggered the need for EnergyAustralia's gas assets to fire gas turbines on diesel fuel. As the change of fuel source can potentially create visible emissions, comprehensive risk management processes were carried out at the gas-fired power stations of Newport and Jeeralang to ensure operations remained as clean as possible. EnergyAustralia also commissioned monitoring studies to collect emissions performance data and informed communities of the potential of more visible emissions than firing on natural gas.

Group-level air emissions

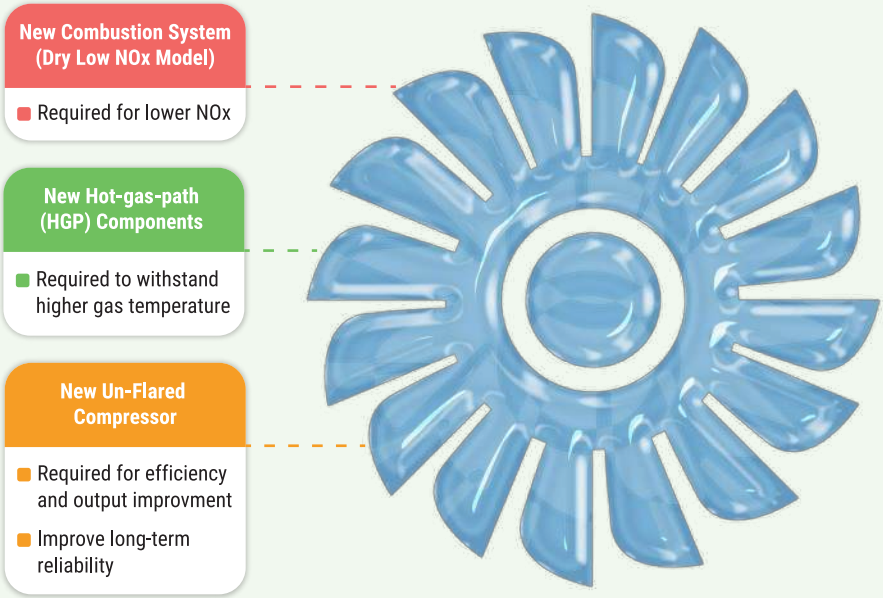
Total emissions in 2022 decreased mainly due to reduced coal-fired power generation and less emissions from Yallourn Power Station, Mount Piper Power Station and Castle Peak B Power Station.



Case study

Improvement of Hong Kong's air quality through the Black Point Power Station gas turbine upgrade project

Components of the gas turbine unit upgrade



Since 2015, CLP Power has been upgrading gas turbines for all eight older gas-fired generation units at the Black Point Power Station. The project was successfully completed in early 2022. The upgrades improve unit efficiency, reduce NO_x and CO_2 emissions and bring about an incremental increase of unit capacity that supports improvements to Hong Kong's air quality.

The gas turbine upgrade project involved upgrading and replacing several components to achieve state-of-the-art design. It included upgrading the entire combustion system with a complete change-out of associated fuel systems, all hot-gas path components and an un-flared compressor. One of the major environmental benefits of the upgrade is the performance guarantee of NO_x emission reduction from 50 mg/Nm^3 to 30 mg/Nm^3 by the advanced low NO_x burner, which leads to a significant decrease in NO_x emissions intensity. The increase in thermal efficiency also lowers carbon intensity which aligns with CLP's vision on decarbonisation.

In addition to the environmental benefits, the upgraded system also improves fuel flexibility, lowers turndown periods and extends maintenance inspection intervals. All these benefits translate to consumer savings in terms of operating costs.

Having signed a memorandum of understanding (MoU) agreement with GE Gas Power (GE) in 2021, CLP is currently working collaboratively with GE to explore the feasibility of using a variable blend of natural gas and hydrogen at Black Point Power Station, with the aim of further reducing its carbon emissions in the future.

Emissions avoided after the gas turbine unit upgrade

300kt CO_2 & 0.4kt NO_x
avoided in 2022

Biodiversity and land use

Our approach

CLP strives to preserve and enhance natural resources while encouraging biodiversity with the Group's goal of "no net loss of biodiversity". Targets are site-specific and depend on the different levels of regulatory controls on biodiversity, from assessment requirements through to ecological compensation.

GRI reference: 304-1, 304-2, 304-4

Strategies and procedures

CLP's internal Environmental Impact Assessment (EIA) standard mandates an environmental assessment for all new 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 applies to power generation, transmission and distribution, mines and other power-related projects, and provides a framework for a systemic assessment of biodiversity impacts.

The Guideline takes into consideration the IUCN Red List of Threatened Species and national conservation lists of threatened species, and provides guidance on managing biodiversity risks. Any new operations that could affect the IUCN Red List of Threatened Species and a country's national conservation list of threatened species are flagged well ahead of any investment decision.

The biodiversity impact assessment observes local legislative requirements and references the International Finance Corporation Sustainability Framework. It describes the baseline conditions, evaluates the magnitude and significance of project impacts, and investigates options for mitigation. The assessment only contemplates offsets after considering options relating to avoidance, minimisation, and restoration or rehabilitation.

See CLP's holistic approach to assessing new investments

Initiatives and progress

While there is no one-size-fits-all approach to managing biodiversity impacts, CLP continues its ongoing efforts in biodiversity conservation and land remediation, considering factors such as location and level of development in the vicinity.

GRI reference: 304-3, EU13

Biodiversity enhancement programmes in 2022 included:

- **Vegetation management**

  The Predictive Vegetation Management System (PVMS), developed by CLP Power, was rolled out in March 2022. The system monitors the growth and condition of trees and vegetation that may affect overhead line operations. In around 210 locations, the PVMS and CLP Power's existing tree inventory record have identified tall trees near CLP Power's transmission and distribution overhead lines for replacement by native short trees throughout its Tree Replacement Programme. This treatment aligns with the Hong Kong Government's 'Right Tree & Right Place' Policy and Nature Conservation Policy.

- **Aquaculture and fisheries conservation**

  Set up by the Hong Kong Offshore LNG Terminal Project in Hong Kong in 2020, the Marine Conservation Enhancement Fund (MCEF) and the Fisheries Enhancement Fund (FEF) continue to support marine conservation and fisheries enhancement projects. The funds have since granted approximately HK$31.4 million to support 27 projects and HK$23.2 million to support 12 projects respectively. The funded projects under MCEF relate to marine conservation, habitat restoration and rehabilitation, as well as education and ecotourism. For the FEF, the funded initiatives relate to fisheries education and tourism, enhancement of fisheries resources, and sustainable fishery development.

- **Combatting desertification**

  Recognising the threats to wildlife by desertification and land degradation, CLP China carried out annual tree planting activities at the Jinchang Solar Farm in the Gobi Desert and made tremendous efforts to maintain good tree conditions under extreme weather. CLP China also actively participated in the tree planting programmes organised by the Government in Jinchang. Various species of trees, including pine and *Amygdalus triloba*, were planted at the Xipo shelterbelt near the Jinchang Solar Power Station, which helped build a local ecological barrier to combat the environmental hazards. The programme has contributed to windbreak and sand fixation for Jinchang. Other assets in Mainland China, such as Lingyuan, have also planted trees near power stations for a green and sustainable environment.

- **Habitat restoration programme**

  CLP strives to increase the populations of local species and enhance local biodiversity through various habitat restoration programmes. During the year, EnergyAustralia

established a Biodiversity Conservation Agreement (BCA) over a parcel of land adjacent to the Thompson Creek Reservoir. The BCA guarantees the protection of the native vegetation and habitat on the land from clearing and future development, even if the property is sold. Yallourn Power Station also rehabilitated 34.4 hectares of land within its mined area in 2022 by establishing either native seed or pasture grass to help stabilise exposed landforms. With power generation and mining set to cease in 2028 at Yallourn, EnergyAustralia has embarked on developing rehabilitation and remediation plans for both the Yallourn Power Station and Mine aiming at repurposing the site to provide local amenities for community development including conservation and recreation areas.

Case study

A 10-year forest restoration programme partnered with Kadoorie Farm and Botanic Garden Corporation (KFBG) to build science-informed capacity for combating climate change

CLP is sponsoring KFBG for a forest restoration programme. It is expected to contribute to ecological research, provide insights into carbon sequestration potential of science-informed reforestation, and build CLP's knowledge of nature-based solutions.

Nature-based solutions are increasingly seen as a vital part of the global efforts to achieve the Paris Agreement goals on climate change.

These involve actions to conserve, restore, and manage natural ecosystems in a sustainable manner, with both societal and biodiversity benefits. Recognising that forest conservation and restoration is one of the key strategies for tackling climate change, CLP entered a signature 10-year partnership with KFBG to support a native forest restoration programme in Hong Kong. KFBG's ecological restoration efforts have been recognised by Botanic Gardens Conservation International.

The partnership programme consists of a HK$10-million sponsorship that will support KFBG in planting up to 25,000 native trees of 200 different species or more, and numerous understorey plants to help restore 10 hectares of diverse upland tropical forest in KFBG's nature reserve.

The programme is expected to contribute to nature recovery and biodiversity with the potential to enable the reintroduction of critically endangered native plants, with anticipated positive knock-on effects for pollinators and other wildlife. Throughout the programme, research will be conducted with the aim of helping to establish global best practices in forest restoration.

The programme will help build CLP's knowledge and capacity in reforestation, ecosystem recovery, and nature-based solutions for carbon offsetting, which can potentially be applied to its business operation across regions and contribute to its longer-term decarbonisation goals. Knowledge gained from this programme will be shared with authorities, the academic community, and a broad range of stakeholders through regular engagement. The research findings from this programme may also inform relevant biodiversity-related policy and regulations as needed.

(From left to right): KFBG Acting Executive Director and Head of Fauna Conservation Department Dr Gary Ades, CLP Holdings Director – Group Sustainability Mr Hendrik Rosenthal, CLP Holdings Chief Strategy, Sustainability and Governance Officer Mr David Simmonds, KFBG Head of Flora Conservation Department Dr Stephan Gale and CLP Power Chief Corporate Development Officer Ms Quince Chong kick off the tree planting phase of the partnership.

Case study

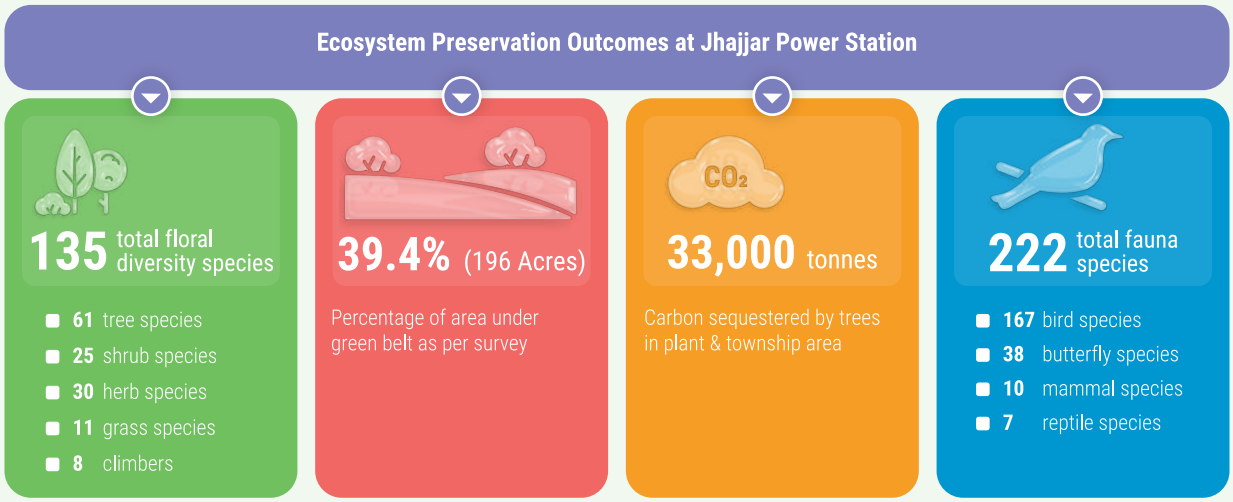
Delineation of nature-related risks and opportunities through baseline biodiversity assessment at Jhajjar Power Station

In India, Jhajjar Power Station engaged the Confederation of Indian Industries (CII) to carry out a baseline biodiversity survey and assessment in 2022. The initiative followed Apraava Energy's Natural Capital Action Plan (NCAP) aimed at mitigating biodiversity loss. The project received a "Commendation for Significant Achievement in Biodiversity" in the CII ITC Sustainability Awards 2022 (Award category: Domain-Biodiversity).

The baseline assessment was conducted at Jhajjar's major ecosystems and habitats, including about 496 hectares of plant area, the township, nearby villages and eco-sensitive areas, across three seasons as per India Business & Biodiversity Initiative (IBBI) directives. The assessment scope includes site surveys, ecosystem services risk mapping, supplier surveys, biodiversity indexing, and NCAP development. Critical ecosystems and ecosystem services were identified, and dependency on ecosystem services was evaluated.

The biodiversity at Jhajjar was measured in terms of the biodiversity index that depicted the project area's biodiversity status, enlisting four critical ecosystems/ habitats greenbelt plantation, ash dyke, reservoir, and natural forest. It further assessed the carbon sequestration potential of the trees planted in the power plant and the township areas based on the volumes and biomass of the tree species. It was assessed that the amount of carbon sequestered by trees planted so far was about 33,000 tonnes over their lifespan. Further, the assessment result showed that the number of flora and fauna species is far higher than that reported in the previous EIA of the studied area, indicating an improvement of biodiversity.

Overall, Jhajjar's biodiversity value is considered the highest in the region. Through the Baseline Biodiversity Assessment with the NCAP, it enables the maintenance of the diversity of species, habitats, ecosystems, and the integrity of ecological functions, seizing opportunities for enhancing biodiversity.



Waste

Our approach

CLP endeavours to reduce both the hazardous and non-hazardous waste it generates as part of its operations. Whenever possible, CLP works with qualified parties and partners to reuse or recycle materials.

SASB reference: IF-EU-150a.1 and IF-EU-150a.2; GRI reference: 301-2, 306-1, 306-2, 306-3, 306-4, 306-5

Strategies and procedures

CLP follows a waste management hierarchy (i.e. prevent, reduce, reuse, recycle, replace, treat and dispose) which prioritises the most preferred actions that minimise waste generation in daily operations. CLP seeks to avoid using hazardous materials and replaces them with alternatives wherever possible. All hazardous and non-hazardous waste is managed in accordance with local regulations, and is either collected for disposal by licensed contractors or sold for recycling.

At CLP's coal-fired power stations, coal ash from coal combustion and gypsum from the flue gas desulphurisation process constitute the majority of by-products from operations. CLP endeavours to reuse them for construction and other applications in line with local regulations and practices rather than dispose of them. While the volume of solid and liquid waste generated by regular CLP operations is relatively small, projects involving demolition and construction usually increase the amount of non-hazardous solid waste.

In addition to the measures at power stations, CLP also drives employees' behavioural changes in waste management by setting up recycling facilities at power stations and office premises. E-learning courses on waste management are available to enhance employee knowledge of the latest waste trends and recycling best practices.

Monitoring and follow-up

CLP monitors waste generation on a monthly basis through tracking the solid and liquid forms of hazardous and non-hazardous waste produced and recycled at its facilities.

All ash impoundments from CLP-owned plants (i.e. the various ash lagoons holding from Castle Peak Power Station in Hong Kong, Jhajjar Power Station in India, Yallourn Power Station in Australia and Fangchenggang Power Station in Mainland China) have been reviewed and are considered as having low hazard potential with satisfactory structural integrity.

Initiatives and progress

CLP implements various measures to reduce the waste generated during electricity generation and operation. It recycles its hazardous and non-hazardous solid and liquid waste and, where feasible, sells by-products, such as ash and gypsum, for reuse in other industries.

Individual assets generate different types of waste, whereas coal-fired assets are the key contributors and account for about 90% of the Group's total waste generated. The amount of waste produced and recycled is not related to the amount of electricity sent out but to the maintenance and construction activities as well as local waste treatment practices.

In 2022, CLP reviewed the volume, characteristics, recycling and disposal patterns of waste from its fossil fuel plants. CLP has set targets for the recycling rate of non-hazardous and hazardous solid waste, as well as hazardous liquid waste according to the best practice of waste management and local regulatory requirements. The goal is to minimise negative environmental impacts by reducing waste disposal and increasing recycling. As the amount of non-hazardous liquid waste generated in routine operations is minimal compared with other waste metrics, no targets were set regarding non-hazardous liquid waste.

The short- and long-term waste targets, covering fossil fuel plants under operational control that account for most of CLP's waste, were set. The waste targets and achievements in 2022 are shown in the following table.

		2022 Target	2022 Performance	Achievement	Long-term Target
Waste	Hazardous Liquid Waste	95% recycling of hazardous liquid waste	Recycling of hazardous liquid waste: 66% (94.2%[1])		Maintain 95% recycling of hazardous liquid waste
	Hazardous Solid Waste	≥66% recycling of hazardous solid	Recycling of hazardous solid: 58%		>80% recycling of hazardous solid by 2030
	Non-hazardous Solid Waste	100% recycling of scrap metal	100% recycling of scrap metal		No landfilling by 2035
		Removal of all single-use plastics in catering facilities	100% removal of single-use plastics in catering facilities		
		Separation of construction waste and 100% recycling/reuse of inert construction waste	Separation of construction waste and 100% recycling/reuse of inert construction waste		

1 Excluding the off-site treatment of 266 kl alkaline solution from a special event of the boiler chemical clean project at Castle Peak Power Station

In 2022, CLP set itself challenging targets on waste management, aiming to increase the recycling rate and reduce waste disposal quantities. During the year, the hazardous liquid waste target was missed, caused primarily by a boiler chemical cleaning project at Castle Peak Power Station (CPPS), which is a special maintenance project conducted at a 10- to 15-year interval. During such prior projects, this waste could be fully treated and recycled on site. However, in 2022, due to site and operational constraints at CPPS, 266 kl spent alkaline solution arising from the boiler chemical cleaning operation was sent to the Hong Kong's licensed Chemical Waste Treatment Centre for treatment in accordance with the local regulatory requirements. If these quantities were excluded, the overall hazardous waste recycling rate would have achieved 94% which was close to the 95% target.

The hazardous solid waste target was also slightly missed. Historical data shows that the recycling rate and quantities of hazardous solid waste fluctuates widely in accordance to the maintenance cycle, and the majority of waste generated and recycled in this category was from the Selective Catalytic Reduction (SCR) System. In 2022, CPPS had an increase in used SCR catalysts disposal quantities. Used SCR catalysts cannot be recycled in Hong Kong and have to be disposed of according to local regulatory requirements. On the contrary, used SCR catalyst recycling is possible in Fangchenggang Power Station (FCG) in Mainland China but the recycled waste volume in 2022 was lower compared to 2021. In addition, due to the divestment of FCG in 2022, the full year data of FCG has not been included. These factors are the main causes of a decrease in recycling percentage in 2022.

All targets set for non-hazardous solid waste were achieved. These included recycling scrap metal, removal of single-use plastics in catering facilities and separation of construction waste for reuse and recycling.

In an effort to implement the best practice of waste management, CLP runs various programmes to manage waste generated at different stages of the project life cycle, to contribute to the target set. The successful waste programmes will be continued and expanded across the Group in the coming years where appropriate. Learnings were shared internally and further with contractors to raise awareness and build capacity.

Looking ahead, CLP will continue to look for reduction or recycling opportunities for waste arising from its projects and operations, and other initiatives through project planning, internal waste reduction and communication programmes. As waste target-setting is an evolving process, CLP will continue to refine the waste targets and the target-setting process, aiming at improving the waste recovery value and enhancing the circularity of the products and materials used in its operations. In the medium to long term, CLP will strengthen its waste management practices according to the circular economy principles.

Key programmes and initiatives in 2022 include:

- **Reducing construction waste from new gas unit project in Black Point Power Station**

  During the construction period, the project team implemented a number of initiatives to eliminate, minimise or reduce waste arising from construction activities. In 2022, the excavated construction and demolition (C&D) materials were sent to landfill for reuse as topping materials, which reduced over 9,000 tonnes of inert material disposal to public fill reception facilities. In addition, over 10,000m^2 of recyclable plastic formwork was used for construction instead of temporary timber to minimise timber waste generation and conserve timber resources.

- **Diverting legacy fuel waste for alternative use at Newport Power Station**

  In 2022, the Newport Power Station removed a significant volume (circa 600 tonnes) of legacy waste heavy fuel oil to proactively prevent any potential environmental incident due to an ageing tank. The fuel oil was diverted from waste disposal upon project completion and will be reused as fuel in the shipping industry.

- **Implementing zero waste to landfill initiatives at Jhajjar Power Station**

  Jhajjar Power Station continued its efforts on waste minimisation with zero waste to landfill initiatives. This involves maximising the reuse of metallic waste, coal handling plant conveyor rubber belts, electronic cards, and actuators for secondary purposes within site premises. Jhajjar also avoided single-use plastic successfully and was certified as a single-use plastic free site by the Confederation of Indian Industries from November 2022. It also transitioned to a paperless office to reduce paper consumption through digitalisation.

- **Recycling damaged solar panels at Jinchang Solar Power Station**

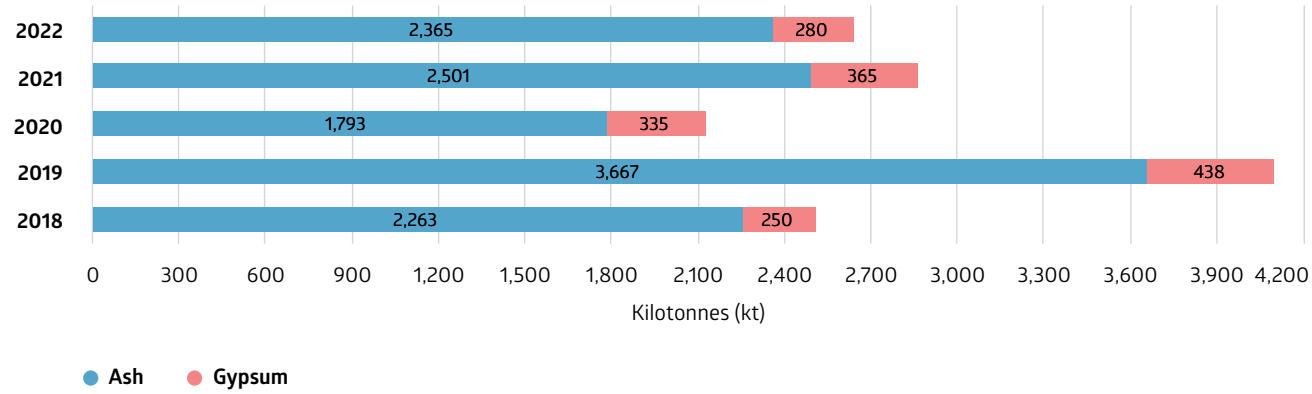
  The Jinchang Solar Power Station continued its initiative of returning damaged solar panels to solar panel manufacturers for recycling. This enables the reuse of aluminium frames, which accounts for a large part of solar panel waste, and the recovery of embedded panel components, such as silicon and silver. Since 2017, over 3,718 solar panels have been returned for recycling.

- **Promoting Circular Economy Principles to CLP Power staff**

  During the year, CLP launched an e-learning course and an internal webpage about Circular Economy Principles in Hong Kong. The initiative enhances staff awareness of utilising resources efficiently and realising sustainable development using Circular Economy Principles. CLP Power also started collecting polyfoam waste in its major premises for recycling and initiated Food Wise Week in Hong Kong to encourage staff to bring their own containers for buying takeaway food in canteens.

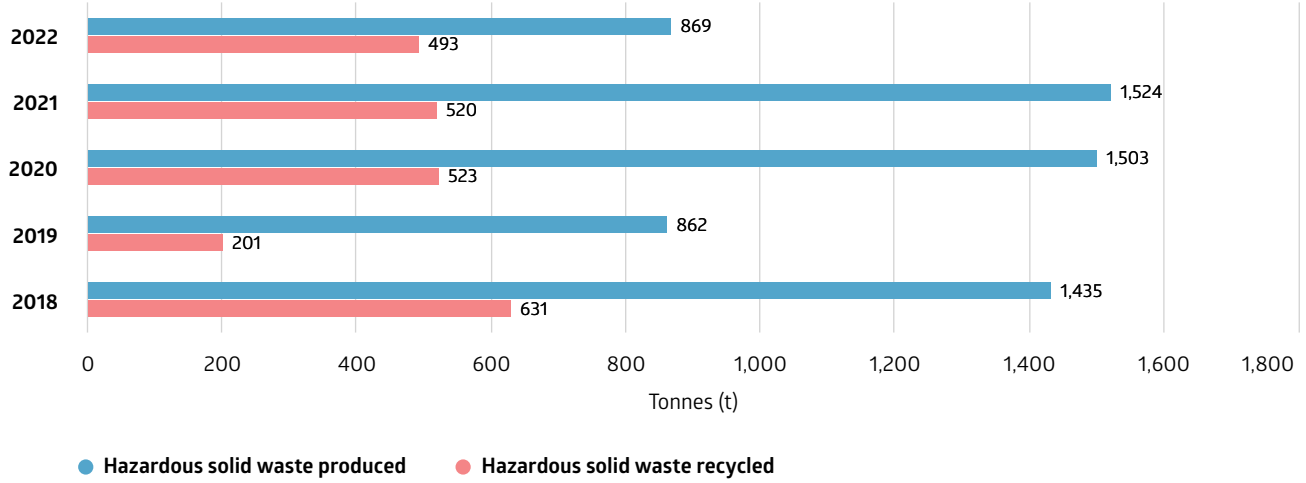
Ash and gypsum by-products recycled or sold

Total amount of ash and gypsum by-products recycled or sold decreased in 2022 mainly due to less coal-fired power generation. The percentage of ash recycled or sold increased while the percentage of gypsum slightly decreased.



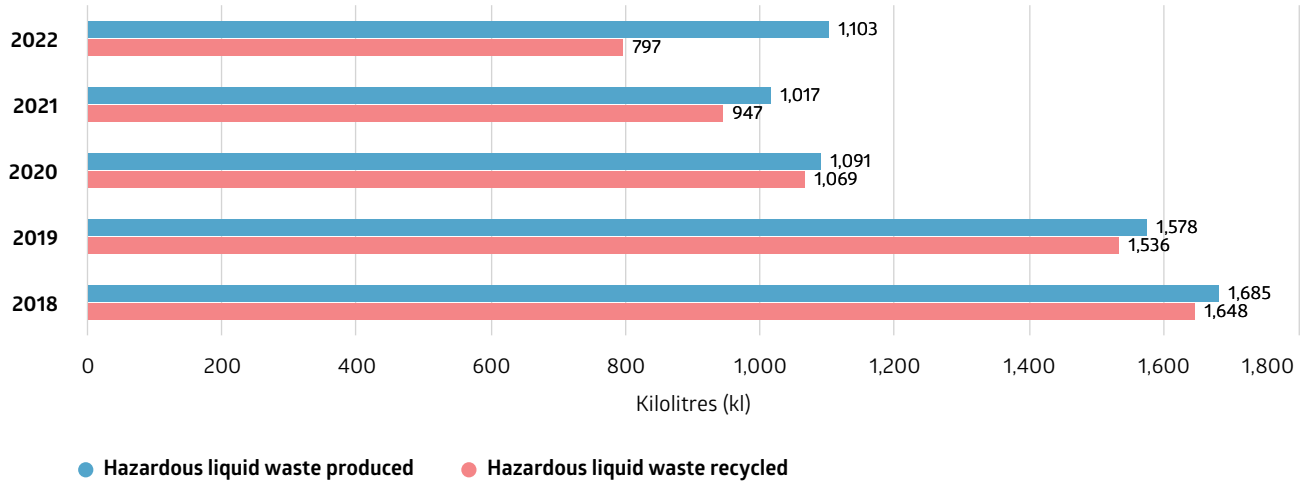
Hazardous solid waste produced and recycled

The amount of total hazardous solid waste produced and recycled decreased in 2022 mainly due to a decrease in hazardous solid waste produced from Yallourn and Jeeralang Power Stations and less amount of used SCR catalysts recycled. For details, please refer to Initiatives and progress section.



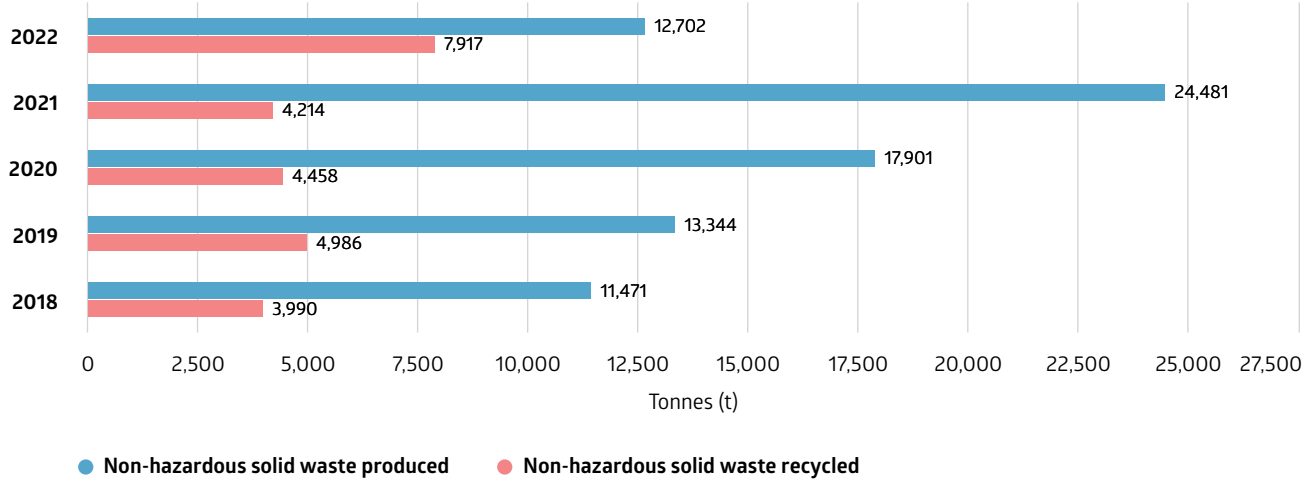
Hazardous liquid waste produced and recycled

In 2022, the amount of hazardous liquid waste produced increased while the recycled amount decreased because of a special event of a 10- to 15-year intervals boiler chemical cleaning project at Castle Peak Power Station (CPPS). For details, please refer to the Initiatives and progress section.



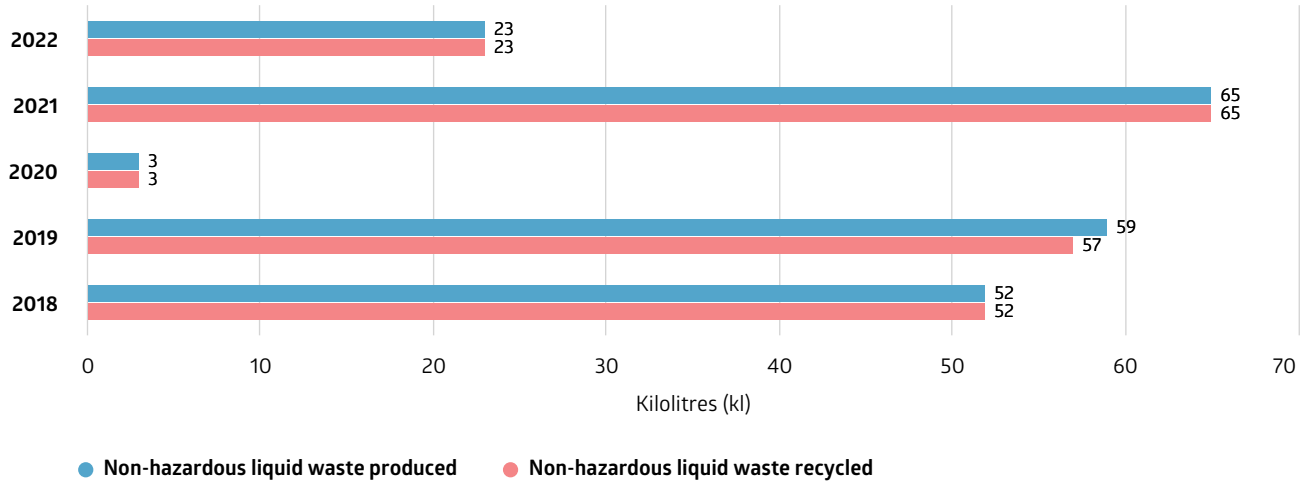
Non-hazardous solid waste produced and recycled

The amount of non-hazardous solid waste produced decreased and the recycled amount increased significantly because construction waste collected in Castle Peak Power Station (CPPS) and Black Point Power Station (BPPS) in Hong Kong was further classified for recycling and reuse.



Non-hazardous liquid waste produced and recycled

The total amount of non-hazardous liquid waste produced and recycled decreased in 2022, because a lower amount of non-hazardous liquid waste remained from the outage of Mount Piper Power Station for recycling.



Case study

China's Plastic Reduction Idea Competition for waste and carbon footprint reduction

Recognising growing concerns about plastic waste, CLP China organised the Plastic Reduction Idea Competition to encourage new plastic waste reduction ideas from employees. In response, employees actively participated and shared their thoughts on substituting plastic with other reusable materials and how to avoid single-use plastics.

Reducing plastic waste requires collective efforts on rethinking plastic use habits and seizing opportunities to reduce unnecessary usage at source and substitute alternative materials whenever feasible. Through this waste management competition, CLP China built an environmentally friendly culture among employees and harnessed their commitment to implementing environmental initiatives. Employees shared their ideas of feasible alternatives for plastic usage at offices and assets.

Awarded ideas were adopted across all CLP China's offices and assets to minimise plastic waste. All canteens in CLP China assets have stopped using single-use plastic meal boxes and tableware, for example, by replacing them with metal or glass items, particularly the takeaway boxes used by shift staff. In addition, some power stations are using bamboo baskets and reusable bags when purchasing canteen supplies. This simple measure has significantly reduced the amount of single-use plastic and plastic waste at power station sites.

Assets in CLP China used to feature many safety and corporate culture signs made of plastic. They have started using metal signage when replacing the signs. This is expected to reduce plastic waste by 50 kg per year in a sub-region. Some sub-regions, through their procurement processes, have replaced plastic stationery with paper and metal options.

Plastic alternatives at CLP China offices and assets

Water

Our approach

The CLP Group uses seawater cooling or water recirculation processes in its generation plants to minimise water consumption and environmental impacts.

SASB reference: IF-EU-140a.3; GRI reference: 303-1, 303-2

Strategies and procedures

The quantity of water withdrawal and discharge in CLP's operations is dominated by fossil fuel 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 situation 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

Water concern to CLP is two-fold.

On the one hand, water use in its power plants may impact local water quality and scarcity. To address this concern, impact assessments are carried out at the planning stage of new projects, in accordance with local requirements. This ensures that any impacts associated with project construction and plant operation are managed and mitigated to an acceptable level.

On the other hand, water security is a key risk managed at CLP's fossil fuel and hydropower generation assets. Four out of seven of CLP's fossil fuel plants use seawater for cooling.

Where seawater cooling is not feasible, CLP strives to reduce freshwater use and adopt water recirculation process. Solar farms also use water to clean solar panels; however, the amount required is comparatively small. As a result, CLP's risk exposure to water availability is limited.

CLP assesses water risks for new projects through systematic environmental due diligence, and annually thereafter using globally recognised tools such as 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 each region. Where a water supply risk is identified, the Company proactively engages with local stakeholders to understand their needs and with local water suppliers to mitigate or resolve the issue. The latest assessments across the Group indicate that current water supply regimes are stable, and the overall risk of substantial impact is minimal.

The quality of water discharges must also meet licensing and regulatory standards while maintaining CLP's licence to operate. Under the environmental management system (EMS), the adverse impacts of water discharges are identified, monitored and controlled under programmes which are reviewed on a regular basis. Specific emergency response plans have also been developed to prevent and address the spillage or leakage of pollutants. As a result of the water treatment processes put in place, none of CLP's operations significantly impact their respective water-receiving bodies.

To monitor water use efficiency, CLP tracks freshwater withdrawal, discharge, and intensity (based on electricity sent out). Internal targets are set each year to encourage continuous improvement in water management practices. CLP also participates in the CDP Water survey and, through disclosing water resource management data through the survey, CLP is able to benchmark its practices against industry peers.

Initiatives and progress

CLP has taken further steps to improve water management and reduce water discharge-related impacts in daily operation.

Fossil fuel assets are the key consumers of freshwater and the amount of water consumed is heavily influenced by the performance of these plants. CLP has committed to a freshwater consumption intensity target, where the short-term target is set annually based on the 3-year average performance. Significant improvements depend on the long-term commitment of decommissioning the key contributors and hence fossil fuel asset retirement planning is considered in determining the long-term target.

In 2022, the scope of the target covers fossil fuel plants under operational control, which account for the majority of CLP's freshwater consumption. The water target and achievements in 2022 are shown in the following table.

	2022 Target	2022 Performance	Achievement	2030 Target
Freshwater Consumption Intensity (m^3/MWh)	0.71	0.52		0.49

SASB reference: IF-EU-140a.1; GRI reference: 303-3, 303-4, 303-5

In 2022, CLP achieved the target of freshwater consumption intensity through various water saving initiatives and measures. CLP continues to track the volume of water recycling in its power stations for continual improvement. Considerable emphasis is placed on sharing good practices across the Group to maximise the benefit of an individual power station's efforts.

Four out of CLP's seven fossil fuel plants use seawater for cooling. The remaining three, Mount Piper, Jhajjar and Fangchenggang power plants, 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.

Best practice examples of CLP's water management are summarised below:

- **Water leakage management to minimise wastage in Hong Kong**

  The main power stations in Hong Kong are primarily reliant on seawater for cooling and freshwater from municipal supply for power generation processes. While the municipal water supply from the government is currently stable, the Black Point Power Station sought to further reduce and prevent the risk of physical water losses from the plants by replacing a batch of drain valves in 2022.

- **Reduction of water wastage by reuse of plant process water and adoption of innovative technology in Mainland China**

  Fangchenggang Power Station continues to reuse treated wastewater for flue gas desulphurisation, dust suppression and irrigation. Other initiatives to reduce water use included deploying robotic cleaning systems for dust removal at CLP China's solar farms.

- **Wastewater discharge assessment in Australia**

  Following torrential rain in August 2022 at the Yallourn Power Station Mine, EnergyAustralia received approval from the Environment Protection Authority Victoria to temporarily discharge water from the Township Field Pond into the nearby Latrobe River. EnergyAustralia proactively conducted the environmental risk assessment and monitored the discharge water quality. It was concluded that there was minimal risk to the downstream environment of the Latrobe River.

- **Increase of water use efficiency in India**

  Jhajjar Power Station has been progressively improving water use efficiency at its site through continual improvement measures. By enhancing cycles of concentration with advanced chemical treatment in its cooling water system, Jhajjar Power Station further reduced its water consumption in 2022.

Water Balance

The water discharged mainly goes to marine water bodies for cooling purpose.

Water Withdrawal

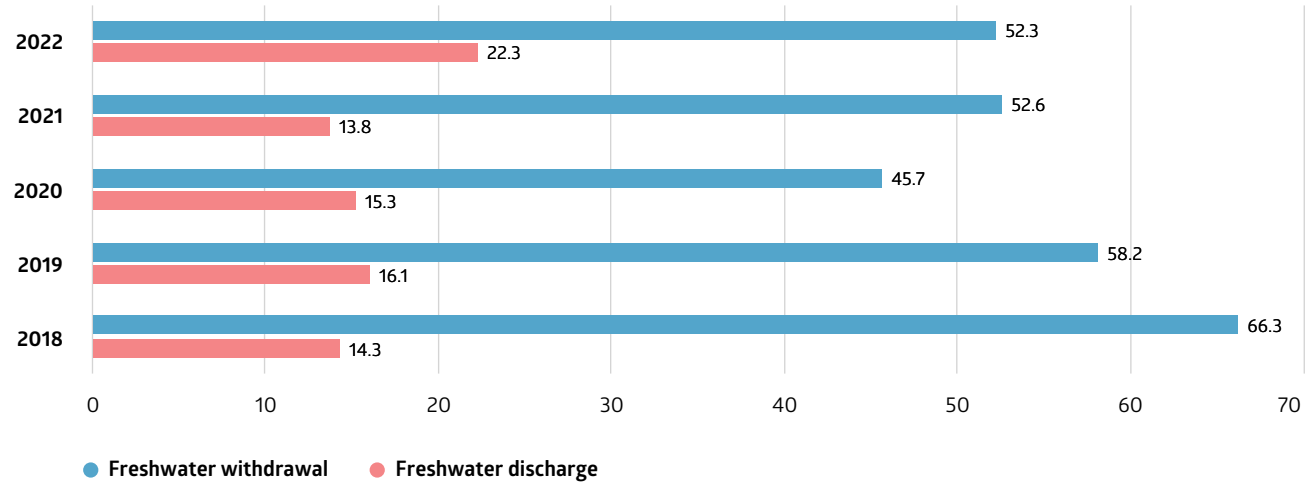
Total water withdrawal (Mm^3)	**5,339.3**
From marine resources (for cooling) (Mm^3)	5,287.0
From freshwater (for cooling) (Mm^3)	42.7
From freshwater (for non-cooling)(Mm^3)	4.6
From municipal sources (for non-cooling) (Mm^3)	5.0
Total water withdrawal from water stressed areas (Mm^3)/(%)	167.7/3%

Water Discharged

Total water discharged (Mm^3)	**5,310.9**
To marine water bodies (from cooling) (Mm^3)	5,287.0
Treated wastewater to freshwater bodies (from non-cooling) (Mm^3)	21.0
Treated wastewater to marine water bodies (from non-cooling) (Mm^3)	1.6
Treated wastewater to other destinations (from non-cooling) (Mm^3)	1.3
Wastewater to sewerage (Mm^3)	0.04

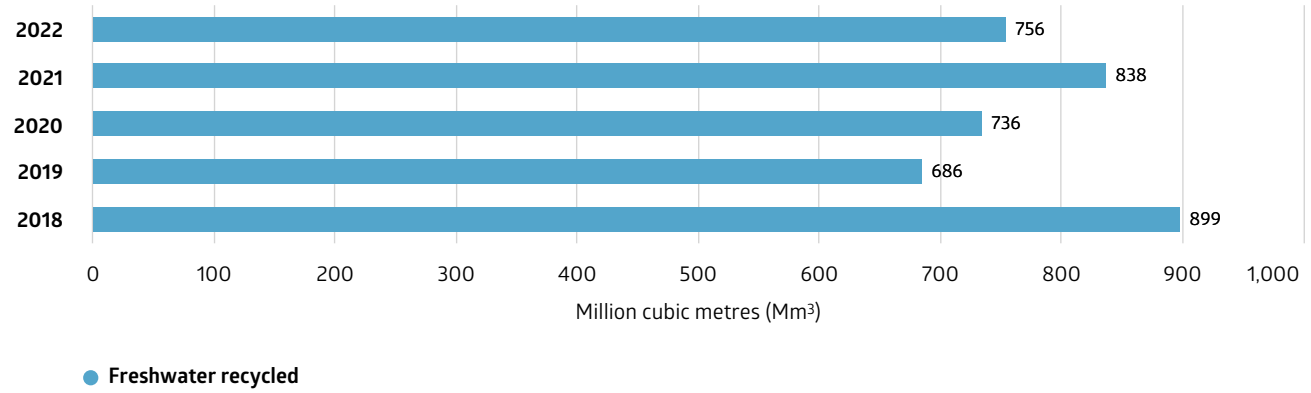
Freshwater withdrawal and discharge

Total freshwater withdrawal (including water for cooling and non-cooling) decreased slightly in 2022 due to less freshwater withdrawal at Mount Piper and Jhajjar Power Stations. The total freshwater discharge (including water for cooling and non-cooling) increased in 2022 primarily as a result of increased freshwater discharge at Yallourn coal mine due to heavy rainfall.



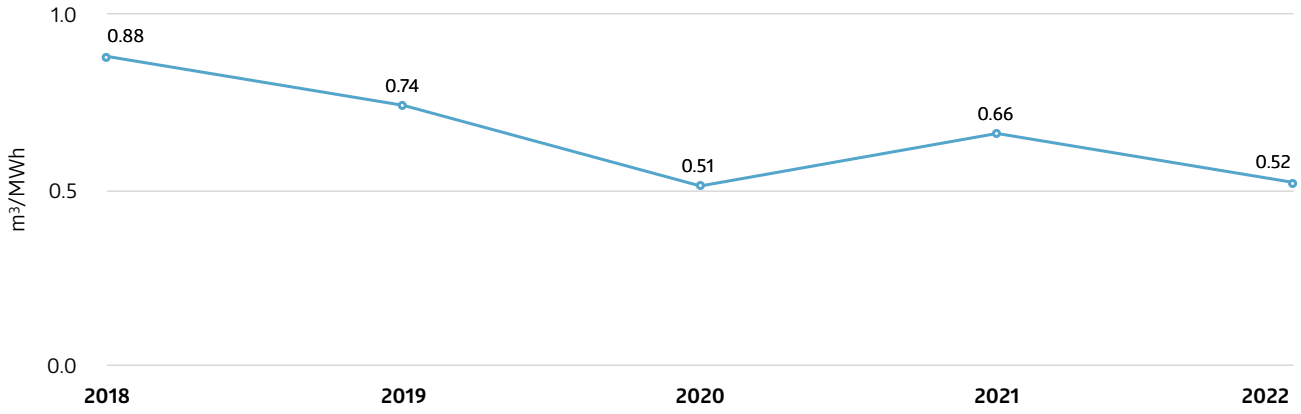
Freshwater recycled volume

The volume of freshwater recycled decreased in 2022 primarily as a result of decreased freshwater recycled volume at Mount Piper Power Station due to its lower utilisation.



Freshwater intensity

Freshwater intensity (including freshwater consumption for cooling and non-cooling purposes) decreased in 2022 mainly due to less freshwater withdrawal at Mount Piper and Jhajjar Power Stations and more rainwater discharged to freshwater bodies at Yallourn coal mine.



Case study

Engineered solution to avoid contamination of water resources in the vicinity of Mount Piper Power Station

EnergyAustralia has successfully designed and installed one of Australia's first lined dry ash repositories at its Mount Piper Power Station to prevent contamination of surface and groundwater resources in the vicinity.

Saltwater and ash are by-products from coal generation and are disposed of at a dry ash repository. EnergyAustralia designed a Leachate Barrier Management System, which involves installing a plastic liner at the base of the dry ash repository, to direct contaminated water to pass through the repository to a series of ponds for treatment and reuse. The Leachate Barrier Management System is an engineered solution that eliminates contamination, ensures regulatory compliance, and provides the business, regulators and the community with confidence that water resources are being protected.

Mount Piper Power Station continues to source water from the Springvale Water Treatment Plant which fulfils about 80% of the plant's daily water needs, significantly reducing the need to source river water for its operations and, in turn, freshwater consumption.

Installation of the Leachate Barrier Management System at the Mount Piper Power Station

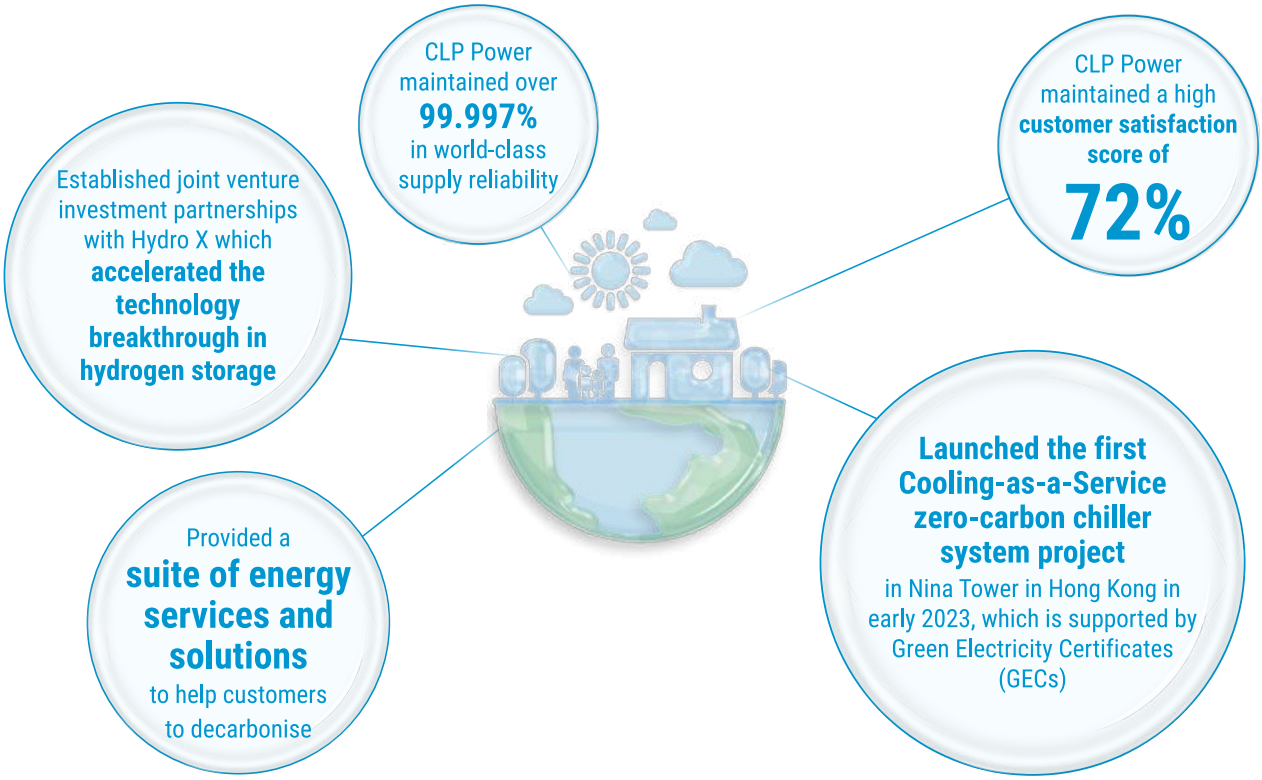
Social Impacts

Customers

Overview

Stakeholders' areas of interest	Relevant material topics
• Access to reliable energy • Asset management • Energy services and solutions • Customer privacy • Customer satisfaction • Security management • Physical security • Cyber security • Emergency and crisis management	**Bolstering energy security and reliability** • Reliable and reasonably priced energy **Aligning business activities with customers, community and employee expectations** • Customer-facing energy solutions **Reinforcing resilience in a changing operating environment** • Cyber resilience and data protection • Building resilience in the face of climate change and an evolving business environment

Outcome for stakeholders



Customer portfolio

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. Overall, the number of customer accounts in both markets remained stable in 2022, with continued gradual growth reported in Hong Kong from the residential sector.

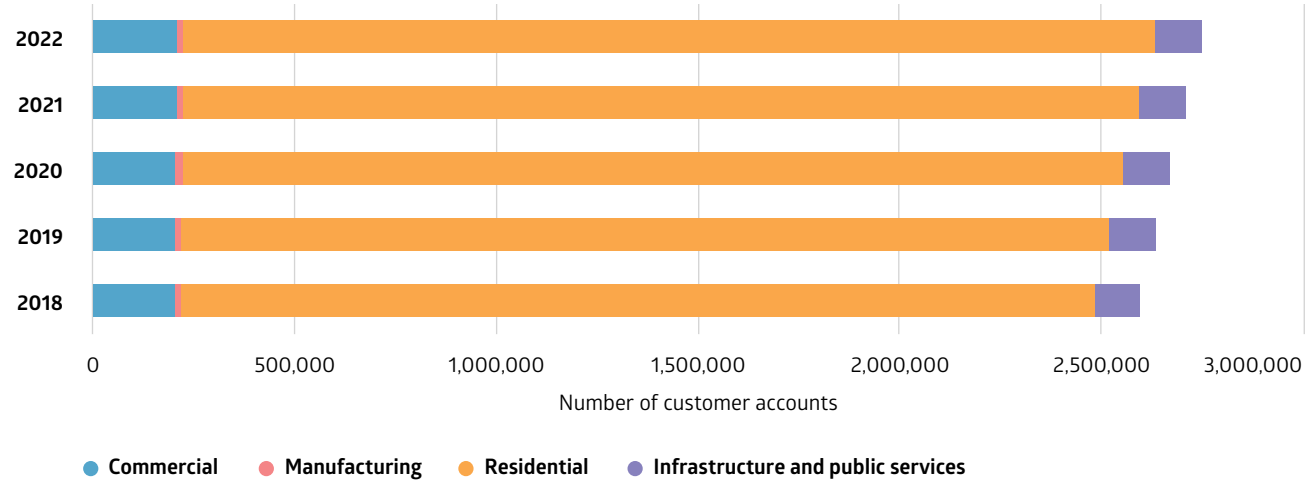
SASB reference: IF-EU-000.A; GRI reference: EU3

CLP Power Hong Kong Limited (CLP Power) is the sole electricity provider for Kowloon, the New Territories and most of the outlying islands of Hong Kong. It serves close to 2.8 million customers and about 80% of Hong Kong's population. Total electricity sales for 2022 were 34,824GWh.

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, as well as new local railway infrastructure projects that will improve mobility in Hong Kong. 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 essential to a modern economy.

Hong Kong customer breakdown

The number of customer accounts continued to grow gradually over the last five years, mainly from the residential sector.

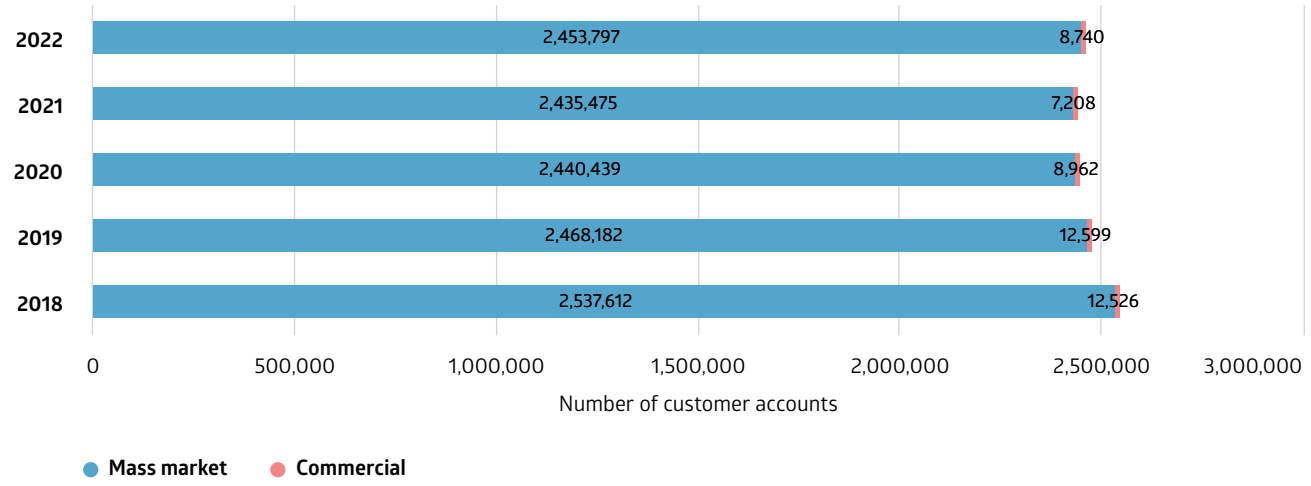


Hong Kong customers breakdown (number of customer accounts)	2022	2021	2020	2019	2018
Commercial	212,251	210,821	208,150	206,792	206,073
Manufacturing	17,191	17,427	17,540	17,575	17,966
Residential	2,407,225	2,369,217	2,333,901	2,301,200	2,265,151
Infrastructure and public services	115,404	113,956	112,245	110,841	107,893

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 2022, EnergyAustralia's number of retail customer accounts increased after four consecutive years of slight decline.

Australian customer breakdown

In comparison to 2021, EnergyAustralia's number of customer accounts have grown by about 20,000 in both mass market (an increase of about 18,300) and commercial (about 1,500) categories in 2022.



Access to reliable energy

Our approach

Maintaining high availability and reliability of electricity supply is critical for our corporate and retail customers to support their business operation and daily life respectively. Availability and reliability are two key performance metrics that track CLP's ability to meet its commitments to customers.

GRI reference: EU10

Goals and targets

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.

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.

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. In other words, it provides generation, transmission and distribution of power, as well as retail services. CLP Power is regulated by the Hong Kong SAR Government under the Scheme of Control Agreement (SCA) which requires the Company to provide a sufficient and reliable electricity supply at a reasonable price and in an environmentally responsible manner.

In Hong Kong, CLP Power uses various measures to maintain high supply availability and reliability. These measures include:

- Upgrading generation and network facilities to meet new electricity demand;
- Maintaining sufficient generating capacity to meet forecast demand as well as planned and unforeseen outages;
- Developing an additional and economically viable gas supply option that can strengthen energy security through access to competitive gas supplies from global markets using Floating Storage and Regasification Unit (FSRU) technology;
- Adopting advanced technology such as smart grid and implementing demand-side management measures to reduce demand growth and improve utilisation of existing assets;
- Improving the quality of the power supply to minimise voltage dips;
- Enhancing power systems to minimise the impact of adverse weather; and
- Ensuring the workforce is committed and well-trained to maintain and operate the system, and provide support and emergency services around the clock.

Across the Group, CLP promotes organisational learning and builds technological capacities to ensure availability and reliability. Insights learned from regional experiences are shared among 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.

Current innovative projects, promoting availability and reliability, are being pursued in the areas of robotics, asset health, video analytics, energy storage, building information modelling and automation. These projects are initiated by disruptive global start-ups or CLP's own engineers coming up with new innovations through operational experience.

Transmission network

To cope with the territorial development of Hong Kong, CLP reviews future transmission network developments annually. It studies the latest system maximum demand forecast, area load growth, infrastructure development and generation development, and plans accordingly.

Annual maintenance and improvement programmes have been developed for major transmission assets based on the analysis of current conditions and performance of the assets, levels of investment and risk.

The power supply network is most exposed to damage from extreme climate events, potentially leading to service disruptions. In response, CLP continues to improve the reliability of its power supply network through a range of measures.

Find out more in the 2022 Climate-related Disclosures Report

In India, Apraava Energy has adopted the philosophy of predictive and corrective maintenance of its transmission assets. 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 is carried out for conducting assessments for landscape and assets. The results are used to identify defects and plan for shutdowns if needed.

A mobile application is now used by Apraava Energy for the real-time tracking of site patrols. This shortens the response time for any rectifications. Thermovision cameras are used to help the team find the defect through heat mapping.

The use of drones for site patrolling is under planning, though a ground team will be retained at strategic locations to ensure a speedy response to any damage to critical assets.

Initiatives and progress

In Hong Kong, CLP maintained its world-class supply reliability of over 99.997%. This is a higher rating than that in other major international cities such as London, New York and Sydney.

SASB reference: IF-EU-240a.3, IF-EU-240a.4, IF-EU-550a.2, IF-EU-000.C; GRI reference: 203-1, EU4, EU12, EU26, EU27, EU28, EU29, EU30

CLP's transmission and distribution network in Hong Kong serves about 80% of the population of the city overall and close to 100% of the population within the Company's service area.

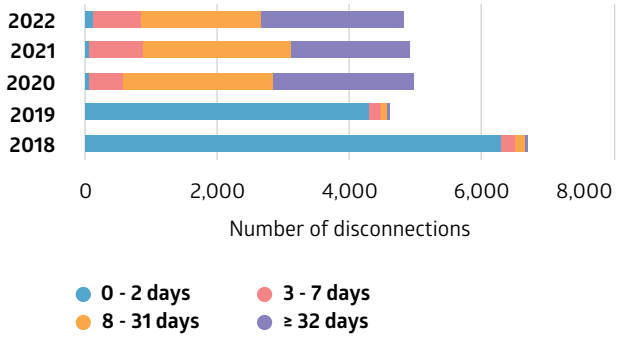
At the end of 2022, CLP Power had approximately 16,678km of circuits at medium or higher voltage. In addition, there were 240 primary and 15,413 secondary substations operating in Hong Kong. As of 2022, the average network loss for the past five years was 3.51%, slightly lower than the five-year average of 3.61% reported in 2021.

To achieve these percentages, 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. CLP's performance against these indicators is reported annually to the Hong Kong Government.

In India, with the operations and maintenance strategy in place, Apraava Energy has achieved 100% availability for Satpura Transco Private Limited asset and 99.86% availability for Kohima-Mariani Transmission Limited asset for transmission of electricity to customers in 2022.

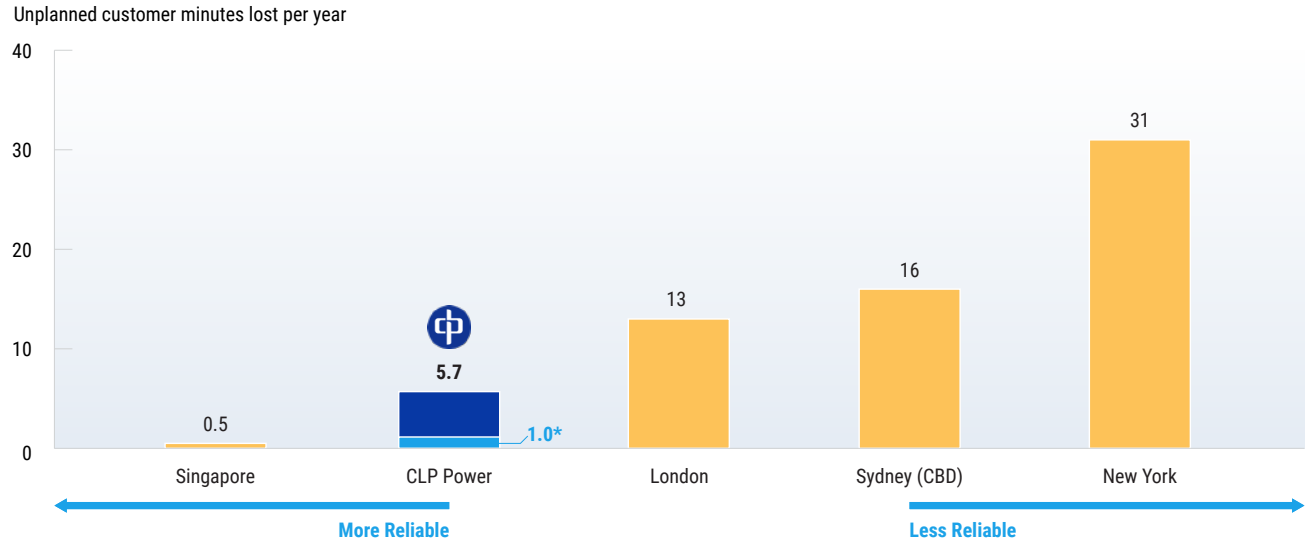
Disconnections for CLP Power Hong Kong Limited

The total number of disconnections for Hong Kong retail businesses was 4,859 cases in 2022, a similar level to 2021 with 4,943 cases.



Total disconnections for Hong Kong retail business	2022	2021	2020	2019	2018
0 - 2 days	144	105	98	4,333	6,319
3 - 7 days	739	796	506	170	225
8 - 31 days	1,817	2,251	2,274	101	168
≥ 32 days	2,159	1,791	2,121	39	10

Comparison of reliability levels between cities



Notes:
1 *CLP Power's unplanned customer minutes for 2020–2022 average was 5.7 minutes. If the impacts derived from the Yuen Long cable bridge fire incident were excluded, the three-year average was 1.0 minute.
2 2019–2021 average for all other cities.
3 There are no overhead lines in Singapore.

Supply reliability performance indicators and results for CLP Power

Indicator	Result
System Average Interruption Frequency Index (SAIFI) The average number of supply interruptions for each customer served. Both planned and unplanned interruptions are included.	• The three-year average SAIFI (2020–2022) was 0.27, meaning customers experienced a power interruption approximately once in four years during this period. This was higher than last year's three-year rolling average of 0.21. It is mainly due to the impact of a cable bridge fire incident in Yuen Long.
System Average Interruption Duration Index (SAIDI) The average duration of interruptions each customer may encounter in a given year.	• The three-year average SAIDI (2020–2022) was 0.30 hours, including both planned and unplanned interruptions. This was higher than last year's three-year rolling average of 0.23. It is mainly due to the impact of a cable bridge fire incident in Yuen Long
Unplanned Customer Minutes Lost (Unplanned CML) 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 (2020–2022) of unplanned CML was about 5.7 minutes, which was higher than the 0.99 minutes recorded last year. It is mainly due to the impact of a cable bridge fire incident in Yuen Long. CLP Power maintains a world-class supply reliability of over 99.997% in Hong Kong, which is higher than other major international cities as shown in the diagram above.

Asset management

Our approach

Asset management refers to how CLP manages and utilises its assets to provide reliable, reasonably priced and low-carbon electricity services to customers and communities. CLP has developed and adopted an Asset Management System (AMS) Standard. It is a framework of standardised practices which manage assets across their entire lifecycle, from the planning stage to decommissioning.

Strategies and procedures

Developed in 2016, CLP's AMS Standard standardises essential practices in managing assets across the Group and ensures 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 and Environment (HSE) Management System and Project Management Governance System (PMGS) Standards to comprehensively manage the complete lifecycle of an asset.

The AMS contains five key stages and 10 asset management elements, as illustrated in the diagram below.

Overview of the CLP asset management system

Monitoring and follow-up

CLP's customised Group Operations Information System (GOIS) is used to compile operational data on adherence to the AMS Standard. It features built-in data collection, a data compilation and an approval sequence and dashboard and reporting functions. It follows the CLP Non-Financial Data Reporting and Assurance Standard to ensure robust data governance. Relevant staff at the asset, regional and Group levels have responsibility for upholding the standard.

Continuous improvement

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.

CLP constantly identifies opportunities to improve the operational efficiency of its 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.

Initiatives and progress

In 2022, the consumption of coal for power generation decreased by 7.5% and gas increased by 6.3% compared with 2021. Accordingly, electricity sent out from coal assets decreased by 11.3% and gas assets increased by 5.7% (on an equity plus long-term capacity and energy purchase basis).

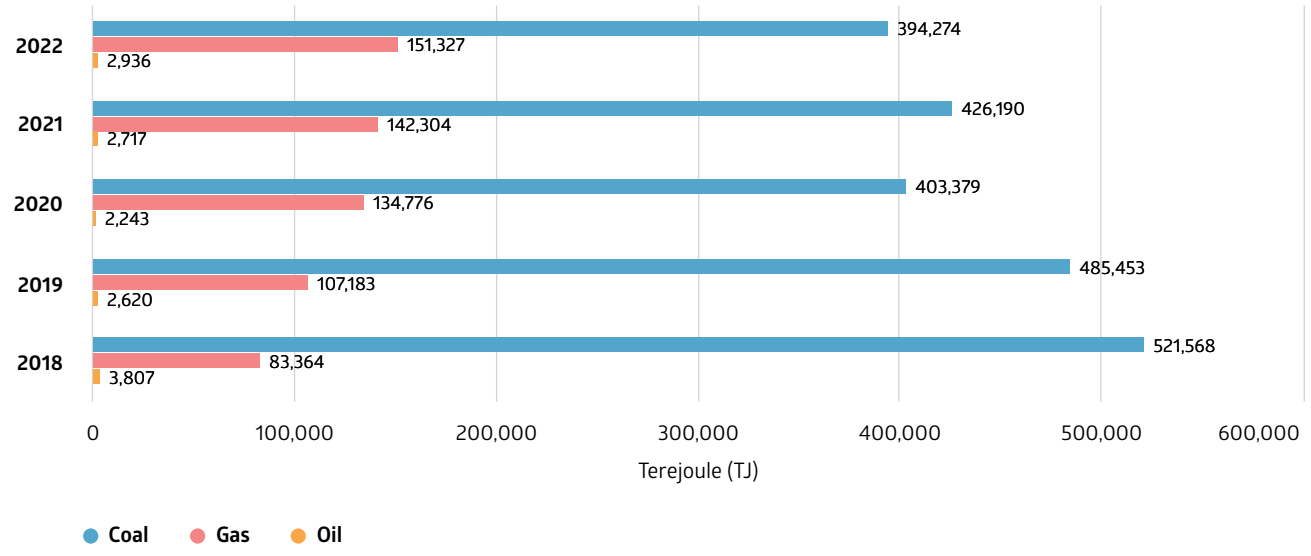
SASB Reference: IF-EU-000.D; GRI reference: 301-1, 302-1, 302-3, 302-4, 302-5, 303-5, 305-1, 305-2, EU11

CLP reports the annual operating performance of its generation assets which fall within the reporting scope. The asset performance metrics include availability, generation sent out, thermal efficiency and energy intensity.

Download CLP's asset performance statistics

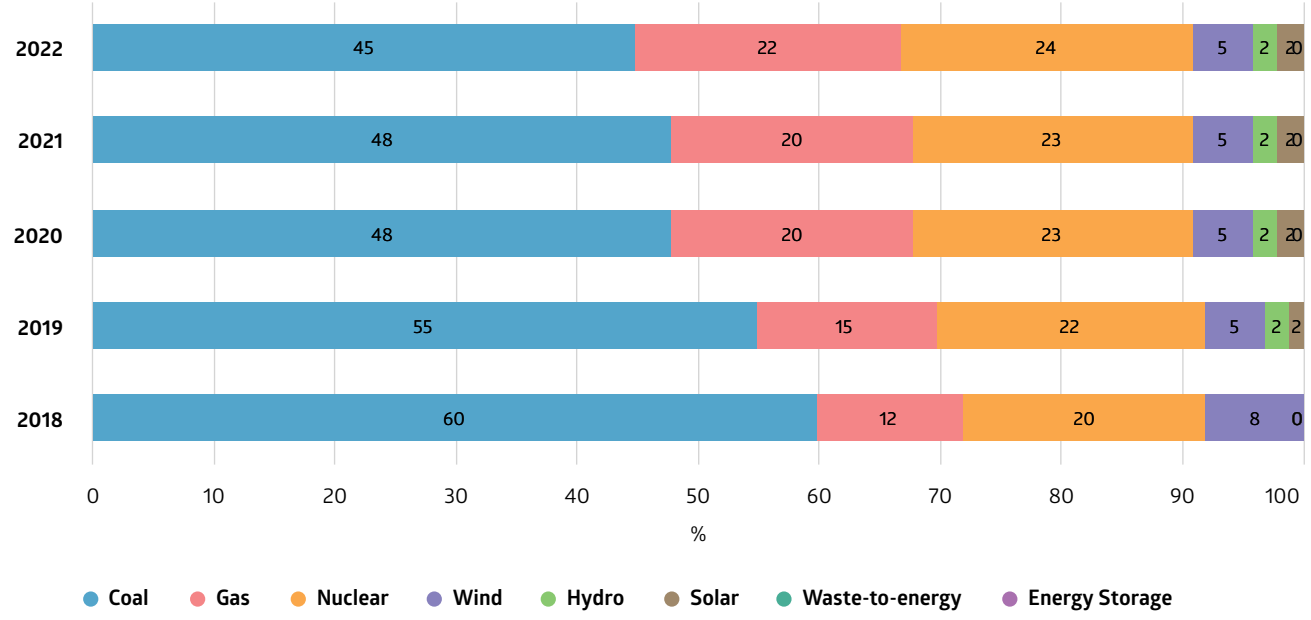
Annual Fuel Consumed for Power Generation

Compared to 2021, there was an overall decrease in fossil fuel consumption for power generation in 2022, with significant reduction in coal consumption.



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

CLP's energy sent out from all asset types decreased to 87,360 GWh in 2022 compared to 91,183 GWh in 2021. High fuel prices due to the global energy crisis reduced energy sent out from coal assets to 45% and increased the energy sent out from the gas (22%) and non-carbon energy portfolio (33%).



1 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.

Energy services and solutions

Our approach

CLP actively engages its customers and offers a suite of energy services and solutions to meet different customer needs in the evolving market landscape. Leveraging its digital capability, CLP applies new technologies to drive customers' behavioural change on energy consumption.

Strategy and procedures

Drawing on our long expertise in the power industry, we are implementing various initiatives to encourage residential and business customers and the community at large to use energy more efficiently. Essentially we are asking them to change their behaviour so that they can save more energy and help protect the environment.

CLP seeks to change people's habits and encourage them to conserve energy through:

- Equipping customers with tools and technical support;
- Supporting enablers to make greater energy efficiency possible;
- Providing customers with information and energy-saving tips; and
- Educating the public.

Goals and targets

The CLP Power Customer Service Quality Policy includes a commitment to support customers in using CLP products and services more efficiently and effectively.

In Hong Kong, CLP Power is regulated by the Scheme of Control Agreement (SCA). The SCA (2018–2033) includes:

1. **Performance targets:** Under the current SCA, targets are set to drive the performance of the CLP Eco Building Fund, the CLP Electrical Equipment Upgrade Scheme and energy audits in terms of energy saved per year, number of buildings or customers supported, etc.
2. **Demand response programmes:** This enables commercial and industrial customers to lower the overall system demand, resulting in a lower requirement for investment in new generation units in the long term. The program leverages artificial intelligence (AI) technology, developed by CLP strategic partner Autogrid to help manage the demand reduction. 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 average annual sales within a five-year period in order to earn incentives issued under the SCA. More incentives will be given if the energy saving reaches 5%.

Read more on CLP Power's SCA performance

Initiatives and progress

In addition to its SCA obligations, CLP harnesses its digital capability to offer a range of customer-facing solutions and energy services to meet evolving customer expectations.

GRI reference: 2-6, 302-5

To transform into a Utility of the Future, in 2022 CLP merged its Group Innovation team and the traditional technology functions to form the new CLP Digital team. The move accelerated CLP's digital transformation for new energy solutions and paved the way to meet the future demand on innovation talents.

The dedicated team expanded to over 400 staff in 2022, with competence in digital services and solutions, and data services. Coupled with CLP's core energy expertise, the new CLP Digital team will leverage the learnings from the previous Group Innovation and Technology teams and rethink operations through a digital lens, especially in areas of generation, grid, backend operations, sustainability, customer engagement and decarbonised customer base.

CLP's investment and venture portfolio continued to support the Company in developing its energy businesses, generating opportunities in growth markets, delivering strategic value and realising financial value. To drive growth while diversifying risks, CLP adopted a mixed asset approach in building a diversified portfolio as well as exercised a prudent portfolio management approach through in-depth analysis and proactive management.

To enhance its service offerings, CLP also invested in technology licensing, supported accelerator programmes such as the Phoenix Programme, Free Electrons and partnered and co-created customer-facing solutions with suppliers, customers or other partners. These efforts have helped CLP develop a suite of end-to-end products and services along the electric utilities value chain. They are summarised in the tables below.

Improving energy efficiency

Products and services	Updates in 2022
Cooling-as-a-Service (CaaS) Cooling systems are usually the largest power consumer in a building. CLP provides targeted solutions, via chiller retrofitting and replacement services, CaaS and district cooling solutions, to further increase the energy efficiency of buildings. Property managers can focus on providing services to their tenants while CLP can leverage energy and engineering expertise to help reduce the building's carbon intensity, save operational costs and enhance energy consumption efficiency.	• In 2021 CLP China was engaged by Guangzhou Po Park Shopping Plaza to comprehensively upgrade its centralised cooling system and provide cooling services. The upgrade was successfully completed in April 2022 with a new fleet of high-efficiency chiller units installed and Smart Energy Connect Chiller Optimisation Solution in place. The solution will help improve the customer's cooling energy efficiency by over 50%. • Using data collected from environmental sensors and with reference to equipment conditions, chiller settings are continuously adjusted to optmise the chiller performance under different environmental conditions. The solution has been adopted in several projects in Hong Kong and Mainland China. For example, this solution was deployed at a large retail complex in Chengdu, where 16% of energy was saved. • CLP*e* partnered with Shui On Group for the first CaaS project in Hong Kong in 2023. A new cooling plant with PlantPRO system and an AI management system will be installed at Shui On Centre in Wan Chai to enhance its energy efficiency. The new freshwater-cooled chiller plant will have a maximum capacity of 2,100 refrigeration tonnes and is expected to reduce electricity consumption by more than 30% compared with the existing seawater-cooled chiller plant, reducing 370 tonnes of carbon dioxide emissions a year. • In February 2023, CLP*e* signed a Build-Own-Operate-Transfer (BOOT) agreement with Chinachem Group to build Hong Kong's first zero-carbon chiller system at Nina Tower. Under the agreement, CLP*e* will provide design and engineering work to convert the existing air conditioning system into an energy-efficient water-cooled system controlled by the PlantPRO system. Read more in the case study on how CLP*e* works with Chinachem Group to drive towards carbon neutrality goal.

Products and services	Updates in 2022
Solar-as-a-Service (SaaS) Solar photovoltaics (PV) systems convert solar energy into electricity to support energy demand and allow customers to feed electricity back into the grid.	• In August 2022, CLP*e* commenced a 1.24MW distributed solar system at the headquarters of MTR Shenzhen in the Longhua District. More than 2,000 solar panels went into full operation and is expected to generate 1,300MWh of renewable energy per year, and reduce 16,000 tonnes of carbon dioxide emissions associated with electricity during the contracting period. • In 2022, CLP*e* signed 14 agreements with Link Properties Limited to build solar photovoltaic system on the rooftop of its shopping centres. Some of the systems have begun operation and generating renewable energy. • CLP co-developed a solar panel system with Dairy Farm International Holdings on the rooftop of the Wellcome Fresh Food Centre in Hong Kong CLP offers one-stop solar services from system design to construction, and operations and maintenance. This is the largest solar energy system in Hong Kong's retail sector under CLP's Feed-in Tariff scheme.
Integrated Energy-as-a-Service (IaaS) With its extensive energy expertise, CLP*e* customises energy-efficient solutions for commercial and industrial customers by providing design, construction, operation and maintenance services of onsite integrated energy stations.	• In December 2022, CLP*e* entered a Build-Operate-Transfer (BOT) agreement with Guangdong Weixin Biological Technology Limited to invest, build and run an integrated energy station which provides chilled water, steam and compressed air to the company's bio-intellectual industrial park in Qingyuan, Guangdong Province. The project will significantly improve the park's operational and energy efficiency and help develop it into a smart and low-carbon park.
Battery Energy Storage System (BESS) as a Service Tailor-made BESS solutions can greatly improve business performance with safe, efficient and secure energy storage. CLP*e* provides a one-stop service from design, build and implementation. It works with customers to develop fully integrated energy storage solutions that help them meet their goals.	• CLP*e* integrated a BESS at the Construction Industry Council – Zero Carbon Park (CIC-ZCP) in Kowloon Bay, the first zero-carbon building in Hong Kong, which also has a public park featuring renewable energy displays. The BESS is connected to different renewable energy installations featured in the park. The BESS stands in for the renewable energy system at CIC-ZCP during its downtime and peak periods, while also minimising the risk of system instability during maintenance.
Energy efficiency improvement for buildings Buildings contribute significantly to Hong Kong's energy demand. CLP offers various subsidies to support customers' energy-saving retrofitting works. • CLP Eco Building Fund: The fund provides subsidies for energy efficiency improvement works for residential, commercial and industrial buildings. • CLP Electrical Equipment Upgrade Scheme: The scheme for business customers provides subsidies to customers, especially SMEs, to replace or upgrade their lighting and air-conditioners to more energy-efficient models.	• The CLP Eco Building Fund provides HK$100 million a year to subsidise a target number of 400 residential blocks and C&I buildings to carry out improvement works to enhance the energy efficiency of the communal areas. The initiative aims to save 48GWh of energy per year. • In 2022, customers saved around 50GWh of electricity from over 650 buildings from Eco Building Fund. • Since the Electrical Equipment Upgrade Scheme launch in 2019, over HK$76 million in subsidies has been offered to C&I customers for replacing or upgrading their electrical equipment to more energy-efficient models as of 2022.
Energy efficiency improvement for businesses CLP Power partners with financial institution to offer flexible and innovative financing loan solutions to businesses.	• In 2022, CLP Power partnered with DBS Bank (Hong Kong) Limited to offer industry-leading sustainable financing solutions to SMEs which allow them to invest in enhancing energy efficiency and expand their businesses sustainably. The solutions are pegged to CLP Power's energy-saving services, which include sustainability performance targets measured with reference to the assessment methodologies under CLP Power's present energy-saving funding schemes.

Products and services	Updates in 2022
Peak demand management To facilitate long-term reliability of electricity supply, CLP works with customers to manage electricity demand and incentivise reduced consumption during peak demand. Initiatives include: • Demand Response programmes are offered to C&I and selected residential customers in Hong Kong to lower overall system demand, resulting in lesser need to invest in new generation units in the long term. • EnergyAustralia's PowerResponse comprises a residential demand response and contracted demand response programme for commercial customers. PowerResponse secures energy capacity which can be called upon within short timeframes for events where availability in the national electricity market fall to critical levels.	• In Hong Kong, peak power demand was reduced by over 130MW because of the activation of CLP Power's demand response programmes on 25 July 2022, when electricity demand reached a new peak of 7,720MW. More than 405,000 of CLP Power's commercial, industrial and residential customers were incentivised as part of the programme. • EnergyAustralia's contracted capacity of PowerResponse is currently 246.4MW, with more than 340,000 residential customers participating.
Energy management technology Innovations in technology will continue to play a large role in improving energy management and efficiency. CLP links customers to a host of solutions and products to monitor, optimise and automate their energy usage and consumption patterns. Solutions and products available to customers include: • Launched in 2019, CLP's Smart Energy Connect (SEC) is a product development platform designed to nurture and validate energy innovations in supporting businesses' decarbonisation journey by optimising energy efficiency and reducing carbon footprint. SEC's solutions cover the whole value chain from energy supply to energy consumption, including innovations for carbon-free energy, grid modernisation, power storage, electric vehicles (EV), building energy management and carbon offsetting. • A mass rollout of smart meters to all CLP Power customers, from 2018 to 2025, supports Hong Kong's Smart City transformation. • 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. • 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 kWh.	• Sales of smart energy technologies increased more than 45% year-on-year on the SEC platform through CLPe in 2022. • In 2022, SEC's PlantPRO system was installed and deployed in 10 customer properties. The AI management system optimises chiller plant performance. • One more leading Hong Kong property developer adopted the Building Portfolio solution. This cloud-based solution launched by SEC enables the user to manage energy and water consumption of multi-buildings in a single customisable platform. Its AI and analytics platform is deployed across multiple buildings to help identify energy-saving potential and streamline the work of facility managers. It is also an effective tool for measuring and verifying the quantitative benefits of energy conservation measures. As of 2022, there are now more than 90 buildings in Hong Kong managing their energy using the Building Portfolio solution. • More than 10 C&I customers adopted SEC's EC Workspace solution in 2022. The EC Workspace solution helps customers to maximise space efficiency, reduce operating costs, improve employee's productivity and wellbeing through automating the usage of electrical equipment based on environmental data provided by various IoT devices. • CLP invested and formed a strategic partnership with Venturous Group Limited (Venturous), an investor, business builder and operator of Smart Citytech™ infrastructure companies in Mainland China. The partnership will explore business opportunities and potential investments in smart energy technologies in the Greater Bay Area. It combines the capabilities of CLP and Venturous in low-carbon energy and digitalisation to meet growing demand for sustainable energy solutions in the fast-growing region. • CLP Power's customers' conventional meters are being upgraded to smart meters in phases from November 2018 to 2025. Despite a shortfall in the supply of new meters resulting from the global supply chain disruption, CLP Power made further progress with its plan to replace traditional meters with smart meters for all residential and SME customers in Hong Kong by 2025. By the end of 2022, more than 1.78 million smart meters had been connected, covering 63% of the meters in CLP Power's service area. CLP Power's goal of replacing all its customers' conventional electricity meters by 2025 remains unchanged.

Products and services	Updates in 2022
	• In Australia, over 0.61 million smart meters were connected for customers in 2022.
Energy audits CLP provides a free energy audit and various consulting services to commercial and industrial (C&I) customers to help them understand their energy needs and identify opportunities to reduce energy use and operating costs.	• In 2022, CLP Power quadrupled the number of energy audits offered to C&I customers from 150 audits a year to 600 under its SCA with the Hong Kong Government. In doing so, CLP Power exceeded the annual total electricity saved target of 48GWh and helped C&I customers save around 50GWh of electricity.
Energy data and analytics CLP provides a variety of energy consumption analysis tools and complementary products to engage customers and help them make smarter energy management decisions. • At EnergyAustralia, PurchasePro is a self-service web portal which allows business customers to purchase an agreed load progressively rather than commit to a price at a single point in time. • The CLP Power Mobile App in Hong Kong and My Account and the EnergyAustralia App in Australia provide an easy-to-use interface for customers to understand their energy usage and estimate upcoming bill payments. • Smart Energy Online is an online assessment and/or management tool for C&I customers in Hong Kong. Similarly, EnergyAustralia's InsightsPro allows its C&I customers to access real-time consumption and cost data to optimise their businesses' energy usage.	• Approximately a third of EnergyAustralia's C&I customer load is transacted on PurchasePro and over 1,000 EnergyAustralia customers have access to InsightsPro. • Over 2,400 C&I customers in Hong Kong use Smart Energy Online to manage their energy consumption and improve their energy efficiency.
Energy label for electrical appliances The CP Label provides a useful and informative reference for consumers to select products with energy efficiency and cost effectiveness.	• In October 2022, CLP*e*'s flagship e-shop, Domeo, launched the CP Label. This is Hong Kong's first label for electrical appliances which rates energy consumption and selling price as selection criteria. The initiative helps customers choose energy-efficient and cost-effective home appliances and raises public awareness on the importance of energy saving and switching to a low-carbon lifestyle.
Advanced Retro-Commissioning (RCx) Training CLP Power offers an advanced RCx training course comprising classroom training and field visits for energy management employees and engineers who already have a basic understanding of RCx. The RCx training covers advanced learning and techniques such as data analysis, system diagnosis, measurement and verification, further strengthening participants' RCx knowledge and skills while encouraging the businesses to set energy-saving targets.	• On top of the HK$1 million set aside from the CLP Community Energy Saving Fund (CESF) in 2021 which offered training in RCx for employees from nearly 100 businesses, CLP Power further provided HK$2 million from the CESF in 2022 to fund a new series of advanced training. The training offered to commercial and industrial customers assisted them in carrying out the energy-saving improvement works required to reduce carbon emissions from buildings and support Hong Kong's journey towards carbon neutrality. RCx is a systematic and cost-effective energy management solution that allows customers to improve the energy efficiency of their premises by optimising building equipment performance instead of equipment replacement.

Using electricity more widely for transport and industry

Products and services	Updates in 2022
Electric vehicle infrastructure • CLP Power continues to support green motoring and the electrification of vehicles in Hong Kong – a long-term government policy objective set out in the *Hong Kong Roadmap on Popularisation of Electric Vehicles* – CLP Power extended its free charging service for its EV charging stations until the end of 2023. • CLP Power's Eco Charge 2.0 EV Power Supply Support service CLP Power continues to support green motoring and the electrification of vehicles in Hong Kong – a long-term government policy objective set out in the *Hong Kong Roadmap on Popularisation of Electric Vehicles.* CLP Power extended its free charging service for its EV charging stations until the end of 2023. • In 2016, CLP formed Smart Charge (HK) Limited, a joint venture with HKT to provide a one-stop service for EV charging. • In Australia, EnergyAustralia has outlined plans to support the transport industry with vehicle electrification by working with EV manufacturers, fleet operators and their customers to plan and build the infrastructure required to charge their fleet.	• In August 2022, a joint venture between CLP and Qingdao TGOOD Electric Company Limited (TGOOD) was established to invest in the charging infrastructure network in the GBA. The partnership aims to accelerate green transport with smart EV charging networks to support the Chinese Government's strategic plan to integrate resources for the construction of smart energy charging networks to support a green, low-carbon economy. • CLP Power continued to provide free EV charging services to encourage the expansion of green motoring in Hong Kong. By the end of 2022, CLP Power provided more than 50 charging stations covering 160 charging points. • Since the Eco Charge 2.0 service was launched in November 2020, CLP Power has completed preliminary power supply capacity assessments for more than 500 applications, covering over 126,000 parking bays, from owners of private buildings and estate managers by the end of 2022. Professional advices were provided to support the applicants. • To date, Smart Charge has designed, installed and currently manages EV charging infrastructure in residential car parks in Hong Kong covering a combined total of almost 10,000 car park spaces. • CLP will provide around 360 charging points in various CLP premises in Hong Kong to support greater EV adoption across CLP operations. • In Australia, EnergyAustralia has outlined its plans to support the electrification of the transport sector by working with EV manufacturers, fleet operators and their customers to plan and build the infrastructure required to charge their fleet. In 2022, EnergyAustralia focused on building its network of partners vital to the electrification of transport in Australia, including electric bus and truck OEMs (such as Nexport, Ebusco and SEA Electric) and engineering and technology partners (such as Planet Ark Power). The goal is to be a one-stop solution provider for large-scale EV charging infrastructure projects, from vehicle depots, service stations and public parking spaces to shopping malls and gas stations. EnergyAustralia's Green Transport proposition offers its customers tailored solar, battery and EV charging infrastructure solutions with the considerations of their size of the fleet, type of vehicles, routes travelled, kilometres covered and more.

Enabling low-carbon electricity supply

Products and services	Updates in 2022
 **Decentralised renewable energy / rooftop solar** To support the decentralisation of energy and growth of renewables, CLP offers private renewable energy solutions via feed-in tariffs and rooftop solar. • The Feed-in Tariff (FiT) Scheme in Hong Kong 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. • Under the Solar Home Bundle, EnergyAustralia's customers based in New South Wales have premium solar panels, an inverter and battery installed for a $0 upfront cost on a seven-year plan. Customers pay a competitive usage rate for the electricity used throughout the period and will own the system outright at the end of the seven-year period. The smart software allows customers to manage their power supply in a more reliable and sustainable way.	• Since the Feed-in Tariff (FiT) Scheme's commencement in mid-2018, and as at the end of 2022, CLP Power has received over 22,400 applications. Around 93% of the applications, representing a total capacity of around 336MW, have been approved. About 16,800 applications have been completed and connected to the grid to enjoy FiT. • The FiT Scheme continues to attract customers from various sectors, including business and industry, schools, urban households and village houses. • The Solar Home Bundle was launched as a scale product in September 2021 following the successful trial of the Solar Plus Plan in 2020. By the end of 2022, EnergyAustralia had 332 customers on the Solar Plus plan and Solar Home Bundle. • In 2022, CLP launched a group-wide data analytics platform connecting renewable assets to the CLP grid to collect data for internal analysis and continue improving its services to meet ever-changing customer expectations.
 **Corporate Power Purchasing Agreements (PPAs)** Businesses wishing to increase their direct renewable energy availability may elect to enter Power Purchasing Agreements with CLP. The PPAs provide customers with the most credible and efficient provision of available clean energy.	• With increasing market demand, CLP proactively engages with customers in the property sector to support their renewable energy conversion journey. There was continued interest in the direct purchase of renewables whether as annual purchasing or as 24/7 granular matching. This is evidence of positive momentum in the market. CLP leverages expertise in renewable energy assets, battery storage and energy management indicator to support its corporate customers.

Offsetting emissions that can't be otherwise avoided

Products and services	Updates in 2022
Energy attribute certificates (EACs) CLP offers a range of EACs to support customers' decarbonisation objectives. In Hong Kong, Renewable Energy Certificates (RECs) offer an alternative way for customers to support local clean energy generation. Each unit of a REC represents the environmental attributes of electricity produced by local renewable energy sources, generated or purchased by CLP Power. In Mainland China, CLP China's renewable assets issue Green Electricity Certificates (GECs) which are the only officially recognised renewable energy certificates in Mainland China. They can be used to meet obligations under China's mandatory Renewable Energy Portfolio Standard, or to support voluntary green power trading. In Australia, EACs serve as an option to reduce customers' Scope 2 emissions when decentralised renewables are not a viable option. For example, PureEnergy from EnergyAustralia helps customers support the production of green energy from government accredited renewable sources.	• Since the launch of RECs in January 2019, over 124GWh of RECs have been sold by CLP Power to businesses such as data centres, banks, hotels and restaurants, as well as residential customers. In 2022 alone, close to 100GWh units of REC were sold, a significant increase from the 15.4GWh units sold the prior year. • A commitment to purchase of 300GWh of RECs over a period of six years was made by HSBC in October 2022. This is the largest and longest commitment since CLP Power launched the REC programme. • Hang Seng Bank has committed to purchase close to 154GWh of RECs between 2021 and 2030, equivalent to a reduction of over 60 kilotonnes in carbon emissions associated with electricity over a period of 10 years. • In November 2022, CLP Power announced an agreement with AirTrunk, an Asia-Pacific and Japan hyperscale data centre specialist, to launch a renewable energy solution in Hong Kong, under which AirTrunk will source hourly RECs from CLP Power to provide renewable energy matching at its HKG1 data centre for its customer, Microsoft. The agreement, which will be directly linked to the West New Territories (WENT) Landfill gas power generation units of CLP Power, signifies the first RECs solution linked to an identifiable renewable energy project in Hong Kong. • Green power from CLP China's new renewable projects that have reached grid-parity are bundled with corresponding GECs. For example, the 100MW Qian'an III Wind Farm in Jilin province supports the issuance of Green Electricity Certificates (GECs) in the region. • Around 12,000 EnergyAustralia customers have chosen a GreenPower government accredited PureEnergy option for their electricity supply.
Carbon Credits Carbon credits represent carbon emissions avoided as a result of emissions reduction projects. CLP encourages its customers and businesses to purchase these carbon credits to offset their unavoidable emissions. In addition to selling carbon credits, CLP also collaborates with numerous industries to deliver carbon offset initiatives. EnergyAustralia has various programmes that provide carbon neutral electricity; for example: • The Go Neutral offer allows residential customers to opt in to fully offset the carbon emissions associated with their home gas and electricity usage, at no added cost to them. • Business Carbon Neutral helps business customers offset their electricity emissions for a flat fee.	• CLP continues to promote carbon offsetting and support customers' decarbonisation journey. Customers can offset their unavoidable emissions with CLP Carbon Credits after taking actions to cut down their emissions. CLP signed a multi-year contract with Standard Chartered Bank (Hong Kong) to provide CLP Carbon Credits through the Core Climate platform, the new international carbon marketplace launched by the Hong Kong Stock Exchange in October 2022. • As of the end of 2022, EnergyAustralia has over 488,000 customer accounts choosing to have their energy use offset and over 5 million tonnes of carbon dioxide equivalent have been offset to date. • EnergyAustralia now has the largest Climate Active certified offset offering in the Australian energy sector and the second largest in the country.

Case study

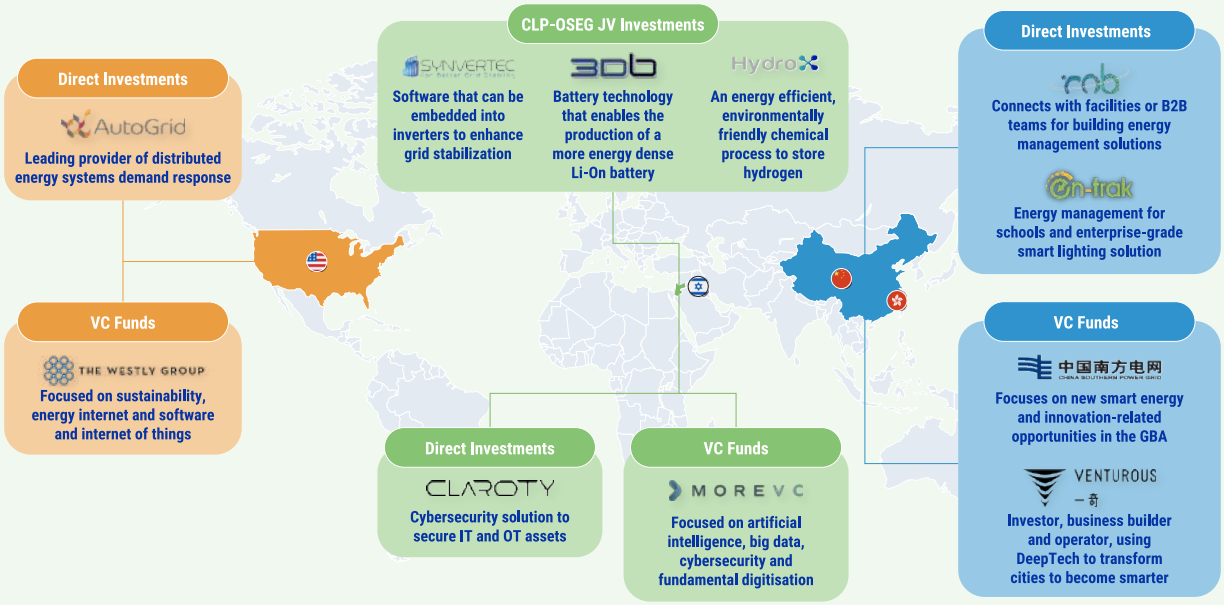
Leading the technology breakthrough in hydrogen storage through investment

CLP's Investment and Venture team took a three-pronged investment strategy covering direct equity investments, venture capital funds and joint venture investment partnerships. Capital has been deployed in strategically significant geographies (Greater China, Israel and the United States) and focus areas such as virtual power plant orchestration, cybersecurity and building energy management.

CLP Group has invested over HK$780 million in venture capital funds since 2017. The benefits derived from these investments are twofold. Firstly, the investment brings direct strategic value to CLP business operation. For example, through AutoGrid's demand response solutions, CLP reduces stress in the network, while Claroty's Operational Technology solutions digitally secure CLP's critical assets. Secondly, it imposes substantial influence to customers and the wider community by offering energy management solutions. For example, CLP supported the Airport Authority Hong Kong to adopt R&B's energy management solutions at Hong Kong International Airport.

Advanced technology in handling hydrogen is the key in driving the transition to green transportation. Hydrogen is the potential fuel source of the future. However, multiple challenges are present throughout its lifecycle – production, storage and transportation. CLP established joint venture investment partnerships with HydroX which develops an energy-efficient, environmentally friendly chemical process to store hydrogen using water and bicarbonate (like baking soda) at near room temperature and pressure. This technology breakthrough in hydrogen storage allows an efficient and safe use of hydrogen as fuel in vehicles which will bring a paradigm shift in transportation and operations across various industries.

CLP's investment to support the Utility of the Future strategy



Case study

Teaming up with Chinachem Group to drive towards carbon neutrality goal

Riding on the successful collaboration with Chinachem Group (Chinachem) in 2019 to promote energy efficiency and decarbonisation, CLP Power continues to support Chinachem on its journey in pursuing carbon neutrality.

Chinachem Group set their sustainability goals for 2030 to further reduce their Scope 1 and 2 operational greenhouse gas (GHG) emissions by 51.8% by 2030. Chinachem collaborated with CLP Power in 2019 to transform the landmark Nina Tower into an operational and energy-efficient twin-towers complex by adopting smart and green technology.

In early 2023, CLP*e* signed a Build-Own-Operate-Transfer (BOOT) agreement with Chinachem to build Hong Kong's first zero-carbon chiller system at Nina Tower. Under the 20-year agreement, CLP*e* will provide funding, design and engineering work to convert the existing air conditioning system into an energy-efficient water-cooled system. PlantPro, an intelligent AI management system, is used to control the chiller plants to collect and analyse data, performing real-time monitoring and adjustments to provide Nina Tower with the most energy-efficient air conditioning. The system is expected to reduce electricity consumption by over 50% compared with the existing system, equivalent to a reduction of 7,000 tonnes of carbon emission a year. The electricity consumed by the chiller plants will be matched by an equal amount of Green Electricity Certificates (GECs) linked to CLP Group's renewable energy projects in Mainland China.

Further, to make revolutionary change in the Hong Kong construction industry, CLP Power together with Chinachem, Gammon Construction Limited and Ampd Energy Limited promoted the use of Battery Energy Storage System (BESS) to the construction industry in Hong Kong. The pitch aims to replace traditional diesel generators operated on construction sites with BESS, and promote industry collaboration toward emission-free construction sites. BESS reduces carbon emissions by up to 85% annually as compared with traditional diesel generators. This successful collaboration on the application of BESS won the Association of Energy Engineers's prestigious Innovative Energy Project of the Year International Award 2022, a highly respected and prestigious competition in the construction industry.

Customer privacy

Our 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.

GRI reference: 418-1

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, as well as the rights to access and correct a customer personal data.

Under the *Privacy Act 1988* (Privacy Act), EnergyAustralia has obligations to ensure the appropriate collection, use, disclosure and security as well as access to an individual's own personal information. There are also mandatory data breach reporting obligations in relation to Notifiable Data Breaches. EnergyAustralia is required to report data breaches if there is unauthorised access to, unauthorised disclosure of, or loss of personal information that EnergyAustralia holds where this is likely to result in serious harm to one or more individuals and EnergyAustralia has been unable to prevent the likely risk of serious harm with remedial action. Notifications must be made to the Office of the Australian Information Commissioner (OAIC) and to the affected customers with description of the data breach, the kinds of information involved and recommendations for customers in response to the data breach.

In May 2018, the Australian Government announced that energy data would be included in the Consumer Data Right (CDR). The sharing of product data in the energy sector commenced on 1 October 2022 and consumer data sharing commenced on 15 November 2022. It gives customers the right to share certain of their transaction, usage and product data with service competitors and comparison services. EnergyAustralia was granted an exemption by the Australian Competition and Consumer Commission (ACCC) and must begin data sharing by 15 May 2023.

Strategy and procedures

The CLP Privacy Principles set out the Company's commitment and approach to protecting personal data.

All employees who have to handle or process personal data of any individual for business operation in Hong Kong 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. The CLP Privacy Policy Statement demonstrates the Company's approach to protecting personal data and is applicable to everyone across its entire operations who handles personal data.

In addition, business units with operations in Hong Kong must implement and abide by the CLP Personal Data Protection Compliance Manual which sets out CLP's data protection compliance framework, including its governance structure and the roles and responsibilities of different functions under the governance structure. This manual also provides guidance on the protection and use of personal data. Adherence to policies and procedures regarding privacy and data protection are further embedded in CLP's Code of Conduct and the compliance management procedures of the Code.

Monitoring and follow-up

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 Success & Experience 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.

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.

Learn how CLP responds to cyber security incidents →

Training and awareness

In further reinforcing CLP rules to protect customer information, a key focus has been the prevention of unauthorised disclosures to malicious attackers or impersonators. Specific awareness activities, including communications, quality assurance assessment, coaching and additional training for frontline staff, were carried out during the year. 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 was formulated while a Data Breach Response Team was established to ensure the business has the capability and procedures in place to respond swiftly to such incidents.

Customer privacy may be compromised as a result of a cyber security incident, or by the mishandling of customer information by employees. A compulsory e-learning programme on data protection was given to all employees in 2020 and the e-training has been mandated since 2021 for all new employees.

In addition to this broadly received training, CLP runs tailored and frequent data protection awareness programmes through regular briefings, case sharing, quiz games and refreshers to employees who have regular interaction with protected data such as members of the Legal Review Committee. 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.

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. Privacy training is a compulsory requirement for all new employees and subsequent refresher training is provided to all employees annually.

Initiatives and progress

In 2022, CLP Power reported no cases of customer data loss in Hong Kong. In Australia, EnergyAustralia reported one incident involving the compromise of customer data.

GRI reference: 418-1

CLP Power was awarded the Privacy-Friendly Awards 2021 Gold Certificate by the Office of the Privacy Commissioner for Personal Data (PCPD), Hong Kong, recognising its commitment and effort in protecting personal data privacy of customers and stakeholders. CLP Power was also recognised by PCPD in the inspection for its implementation of a Personal Data Privacy Management Programme, and for adopting security measures to protect customers' personal data systems which conform to international standards.

On 30 September, an incident involving unauthorised access to EnergyAustralia's My Account data platform resulted in data from 323 residential and small business customers being potentially compromised. EnergyAustralia promptly contacted all affected customers to reset their passwords and suspended system access during the incident investigation. While the number of customers affected in this incident was limited, EnergyAustralia took additional measures to ensure the protection of all customer information by setting up additional layers of security in its My Account data platform. This included more complex passwords and the introduction of multi-factor authentication (MFA). EnergyAustralia apologised for the incident and notified the relevant regulatory authorities and Government agencies.

Customer satisfaction

Our approach

CLP is committed to providing quality service and value to customers. This includes meeting regulatory requirements and delivering on customer service pledges.

GRI reference: 417-1

Strategy 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 websites and CLP Mobile App, as well as the EnergyAustralia websites and Mobile Apps. CLP also engages with residential, commercial and industrial customers through satisfaction surveys, online service portals, site visits to its assets, supporting by its account managers and Customer Service Centres and Customer Interaction Centre.

CLP also strives to effectively respond to customer needs and preferences. All escalated cases are studied thoroughly to appropriately resolve the issues customers have raised.

EnergyAustralia averages one to two million conversations with customers every year, either over the phone or via digital service channels. It 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

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.

In addition to the number of calls and complaints received, EnergyAustralia also measures customer satisfaction through its Strategic Net Promoter Score (SNPS). Customer satisfaction is measured monthly via an online NPS survey sent to a representative group of customers. The Transactional Net Promoter Score (TNPS) is also used to track customer satisfaction in relation to specific customer interactions, providing more direct feedback to frontline staff.

Initiatives and progress

CLP is committed to providing safe and reliable energy for its customers to support their business operation and daily life. The frontline teams have continued to maintain essential support and ensure the reliability of power supply and customer service.

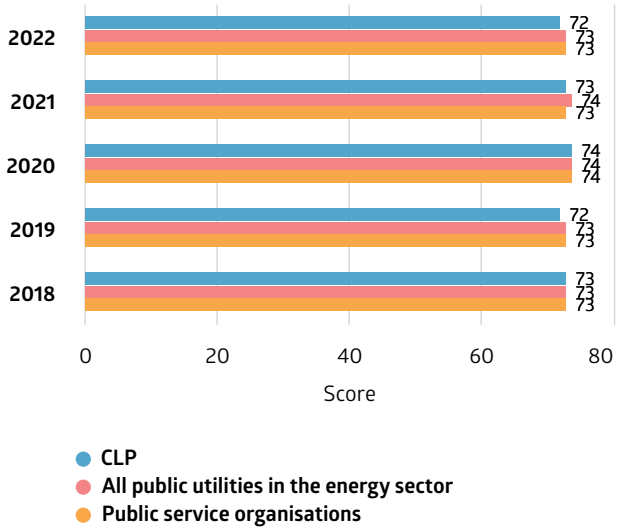
GRI reference: 417-3,418-1

Hong Kong

With the tariff adjustment made due to increasing cost of the international energy market, similar to counterparts in the energy sector, CLP Power's customer satisfaction score dropped slightly, but remains on par with other public service organisations.

CLP Power Hong Kong Limited customer satisfaction score

CLP Power's customer satisfaction score dropped slightly in 2022, though remained on par with other public service organisations.



Australia

While customers have continued to experience the impact of COVID-19 on their day-to-day lives, EnergyAustralia has demonstrated its continued commitment to its customers by focusing on the quality of service they receive. Enhancements were made to the EnergyAustralia app to provide a new channel for customers to interact aligned to their preferences, which has helped drive a 10% reduction in call volumes.

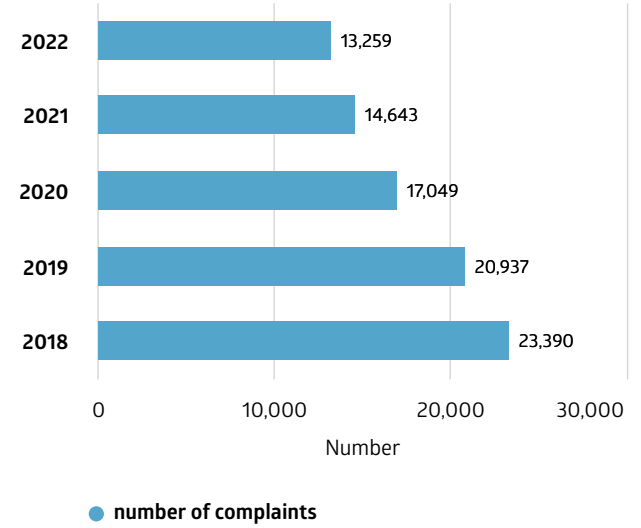
Complaints received by EnergyAustralia

EnergyAustralia's TNPS decreased slightly in 2022 while complaint volumes continued to decline, with total complaints received declining by 9.5% from the 2021 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.

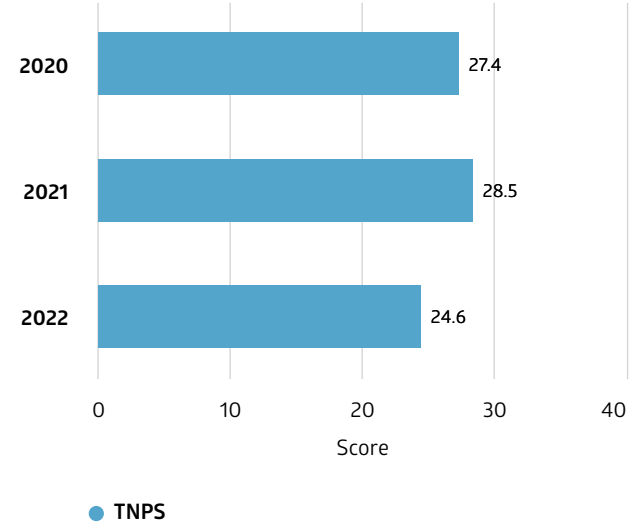
While EnergyAustralia noted a year-on-year decline in total complaint volumes, a 3% decline in the proportion of billing complaints was also achieved. This is the result of ongoing billing improvement initiatives focused on adopting a tailored communication and notification strategy to provide advice to its customers proactively and help them manage their high bills.

Challenges were experienced during the second half of 2022 across the energy industry. They were driven by market uncertainties arising from the energy crisis and market sustainability, and increased cost of living pressures with rising inflation and changing customer behaviour. Despite these challenges, EnergyAustralia continued to go above and beyond to successfully address and resolve customer concerns through timely engagement and effective conversations with its customers. This was reflected in the reduction of complaints.

Complaints received by EnergyAustralia



EnergyAustralia's Transactional Net Promoter Score



Security management

Our approach

CLP's Group Digital's Security serves to protect our people, property, information and reputation against security risks.

Strategies and procedures

CLP's security strategy is guided by the CLP Risk Management Framework, with oversight from the Board. The Group Security Policy was updated in 2021 to define the overarching approach taken to minimise risk to people, including employees, contractors, customers and the public and to manage other business risks to acceptable levels. During 2022 all cyber security-related standards have been updated to take into account technological evolution, changing legislation and emerging good practice. Moreover, a fundamental review of strategy took place, allowing Security team to better place itself to support CLP Digital's initiatives and the transition across the Group to the Utility of the Future.

The policy covers the following areas:

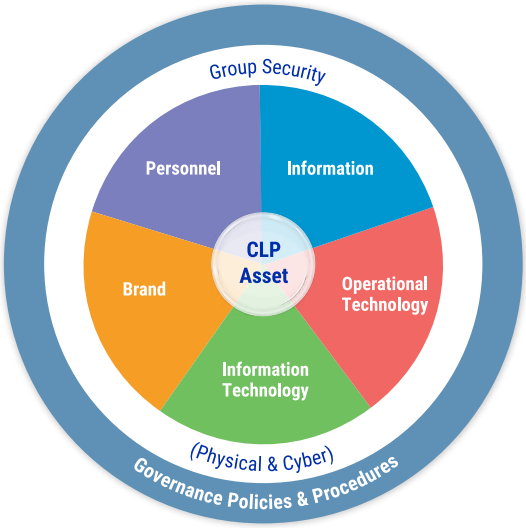
- **Integrated and centralised organisation and governance:** Security is an integrated department within CLP Digital which covers all relevant lines of security activity within the Company, operating independently of the IT and OT governing organisations.
- **Policies, standards and guidelines:** Providing a suite of documents guiding how to manage and monitor risks in line with recognised industry standards.
- **Understanding the threats:** Ensuring decisions related to the application of security measures are appropriately informed and, wherever possible, intelligence driven.
- **Communications and awareness:** Continuously enhancing the security awareness and knowledge of employees and contractors with the objective of encouraging security-positive behaviour.
- **Technical domain:** Ensuring that robust operational detection and response tools are developed, applied and maintained.
- **Liaison:** Maintaining constructive and trusted relationships with external stakeholders such as national cyber security agencies and industry bodies to ensure speedy and effective cooperation when the need arises.

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, needs 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. They provide comprehensive, layered and flexible protection.

CLP's approach to security



Operational responsibilities

The Group Security team was established in 2020 to ensure cyber and physical security capabilities and efforts complement each other. The team offers an in-house capability across the full range of security skillsets. With internal re-structuring in 2022, the Group Security team was integrated into CLP Digital. This is a strategic move to support the transition to the "Utility of the Future". The Security department remains separate from both the IT and the HSE departments but maintains close working relationships with both. Regular reports are provided by Group Digital to the Board's Audit & Risk Committee (ARC). The ARC seeks assurance that adequate risk management is in place and followed and that appropriate remedial action is taken where needed.

Read the Audit & Risk Committee's report

Physical security

Our approach

The fundamental – and highly effective – form of security is physical security which is applied appropriately to all of CLP's assets. Enhanced measures are used to protect sensitive locations such as data centres, control rooms and transmission and distribution sites.

GRI reference: 410-1

Strategies and procedures

Physical security refers to the physical measures designed to safeguard people, to prevent unauthorised access to equipment, facilities, material and documents and to safeguard them against security incidents. It covers physical barriers (e.g. fences), security lighting, physical access control and surveillance systems.

A body of work has been developed to assist all regions and their assets in establishing or revising their security management documentation. These documents are aligned with international standards for security and contain best practices derived from across the Group.

- The CLP Physical Security Standard lays down the minimum standard of physical security measures expected at every asset owned and/or operated by CLP, regardless of location or role.
- The CLP Physical Security Guideline provides practical guidance on the security requirements expected of all business units, in line with the Group Security Policy and Physical Security Standard. For instance, it includes guidelines on how to identify potential areas of weakness, develop appropriate security countermeasures, as well as prepare a security response plan.
- The CLP Security Vulnerability Assessment Guideline is the flagship document that lays down the process of evaluating the security status of any CLP site. Using a risk-based approach and in close collaboration with the operator, it provides a comprehensive security "health check" covering threats, areas of weakness and offers solutions.
- CLP's Security Due Diligence for Project Design & Construction or Site Acquisition has been developed to support projects in the early stages of an acquisition or a build. Based on the premise that early identification of potential problems can reduce risk and the cost of retrospective correction, all projects and acquisitions undergo this process, regardless of size.
- The CLP Business Travel Risk Management Plan seeks to minimise the security, medical and health risks faced by employees engaged in business travel. On behalf of the Group, Security team in CLP Ditigal leads on business travel security in close cooperation with Group HR and Finance.

Training and awareness

CLP security staff play a key role in preventing harm to staff and the wider public. They are required to always comply with CLP's Code of Conduct and receive related training on an annual basis. In addition to training on national regulations and site-specific requirements, contract security staff receive induction training on CLP's policies including 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.

For a third successive year, business travel has all but stopped in response to the COVID-19 pandemic. More effort continues to be made in keeping staff across the Group informed on the rapidly changing travel situation and border closures across CLP's portfolio countries and other key destinations, as well as providing bespoke advice to those who have needed it.

Initiatives and progress

One of the examples of leveraging new technology to digitise its operations is CLP's adoption of the remote "Magic Glass" lens technology. CLP deployed this technology to conduct remote Security Vulnerability Assessment of a windfarm site during COVID-19 lockdown to counter the inability of security staff to inspect sites in person in 2022.

Normally, Hong Kong-based security staff along with their onsite colleagues would conduct security inspections every three years on every asset to ensure that appropriate security measures were in place. The "Magic Glass" lens technology enabled Hong Kong-based staff to conduct a real-time survey of a Chinese windfarm site through the eye of a camera carried by an on-site colleague, while being 1,000km away at the time. This equipment was handy and safe to use in the field and could be adapted to a wide range of safety helmets. The "Magic Glass" lens technology was also adopted for safety and management inspections during the construction of the Qian'an third phase wind farm. The adoption of remote inspection technologies complimented onsite inspections and helped improve overall security inspection efficiency.

Cyber security

Management approach

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

Strategies and procedures

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. As the workplace and operations are increasingly digitalised, electronic devices could become vulnerable to cyberattacks. CLP therefore strives to protect the Operational Technology (OT) and Information Technology (IT) systems:

- **Operational Technology (OT)** is the hardware and software that detects, monitors or controls physical devices (such as a turbine) belonging to CLP.
- **Information Technology (IT)** is the technology used to store, retrieve, transmit and manipulate data or information.

It is of utmost importance to improve the security culture within CLP and empower business units and regions to employ suitable technologies and processes to protect the Company's assets and systems.

The management of cyber security is documented in two major Cyber Security policies, namely:

- The **CLP Group Information Security Policy**, which sets out the four key information security principles of confidentiality, integrity, availability and regulatory compliance. With reference to ISO/IEC 27002:2013 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 regulations of the business unit; and
- The **CLP Group Operational Technology Cyber Security Policy** defines how to develop, implement and maintain appropriate safeguards to ensure the delivery of critical infrastructure services by CLP. One key focus relates to detection and response in cases of OT cyber security events and to establish recovery capability on the OT systems.

The department's evidence-based reporting from internal testing 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.

Training and awareness

Our people are another focus in cyber defence. Every employee and associate of the Group is an important cyber defence asset. They need to be equipped with relevant knowledge to raise their awareness and vigilance.

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 it offers direction on what measures need to be taken to mitigate associated risks. Continual effort is given to raising cyber security awareness, training and education amongst employees to help them practise good "cyber hygiene".

Security awareness activities at the employee level have included: simulated phishing emails, internal broadcast campaigns, briefings, videos and the introduction of 'Cyber Champions' to promote good cyber practice across a range of departments and functions.

Monitoring and follow-up

CLP continually monitors its IT systems and networks and also seeks out threats to its OT systems. Advances in cyber security technologies have helped improve the detection of cyber security breaches. If suspicious activity is discovered in the IT or OT network environments, immediate action is taken to investigate it and, if necessary, isolate the threat and lead the recovery action.

Initiatives and progress

In early 2022, CLP commenced a cyber security programme to improve detection and response systems for both IT and OT. This programme is on track to deliver a new generation of capabilities to CLP Digital in 2023. As a result, CLP's ability to manage incidents round the clock across the Group was significantly enhanced.

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 spite of further anticipated regulatory changes and the fact that cyber security skillsets are scarce and recruitment is fiercely competitive, CLP will continue to seek to uplift its capacity in the area of process, people and technology and to recruit the expertise required to spearhead the effort.

Read more from the Audit & Risk Committee Report in 2022 Annual Report

Emergency and crisis management

Our approach

Attacks on CLP's operation systems or 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.

CLP Incident Management Process

Strategies and procedures

CLP maintains robust and regularly tested emergency response and crisis management procedures. As the first line of defence, when an incident arises the Incident Management Process (featured below) is followed.

Crisis Management Plan

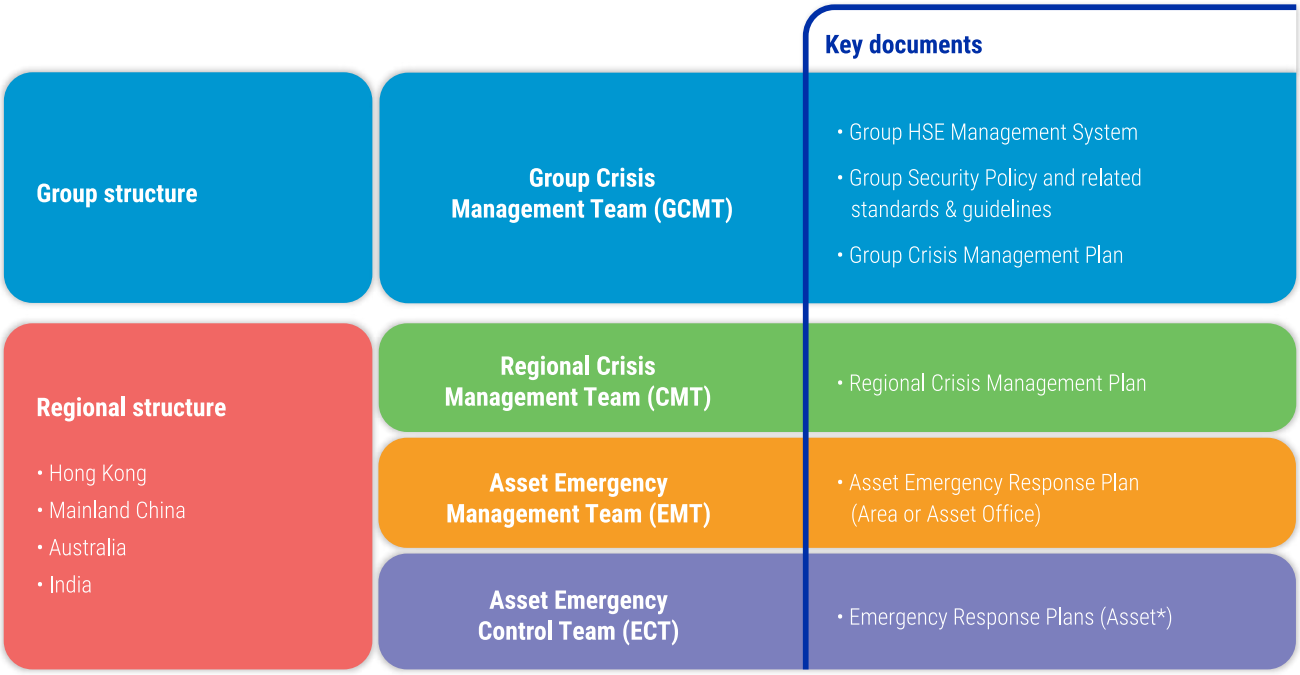
Guided by the Group Crisis Management Plan, CLP ensures high levels of preparedness to respond to and recover from any emergency situations and helps minimise disruption to customers. The Plan is continually reviewed and enhanced to ensure it is in line with operational changes or the broader operating context. It 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 our people who are 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.

CLP's Crisis Management & Emergency Response Structure are outlined in the diagram below.

CLP Crisis Management & Emergency Response Structure



*An asset is anything owned and operated by CLP, covering power stations, depots, offices, transmission lines, customer service centres, etc.

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.

Initiatives and progress

CLP continues to enhance its crisis management capability to ensure the organisation can respond promptly and effectively when an incident occurs.

From a crisis management perspective, the emphasis of the Company has been on maintaining and enhancing capability. Initiatives of the year included:

- Adopting cloud-based technology for CLP's Crisis Communications Billboard (CCB) to better facilitate incident management;
- Reviewing and improving notification and communication tools; and
- At Group level, conducting crisis management communications and administrative drills to ensure that the equipment and procedures are functional and fully understood by the operators.

Case study

Crisis management in action during the cable bridge fire incident

On 21 June 2022, a CLP Power cable bridge in Yuen Long caught fire, affecting power supply to around 175,000 customers in Yuen Long, Tin Shui Wai and part of Tuen Mun, causing the largest blackout handled by the Company in more than a decade.

CLP Power activated its emergency incident response and power supply was first restored to essential services including hospitals and railways. With the tremendous effort of the engineering teams and emergency supply arrangement, CLP Power restored power supply to around 90% of the affected customers in around seven hours after the incident and subsequently to the remaining customers within 13 hours. The task was made more difficult as all cables inside the cable bridge had been burnt, meaning that the restoration operation was largely hands-on. Close cooperation and liaison with emergency services proved key to allowing effective handling of the operation on the ground by CLP Power's engineering teams. At Group level, a small special committee was convened to coordinate the flow of information and decision-making at Board and Government level. Immediately after the incident, an investigation panel comprising experts in power, civil and fire engineering was set up to find out the cause of the fire and make recommendations.

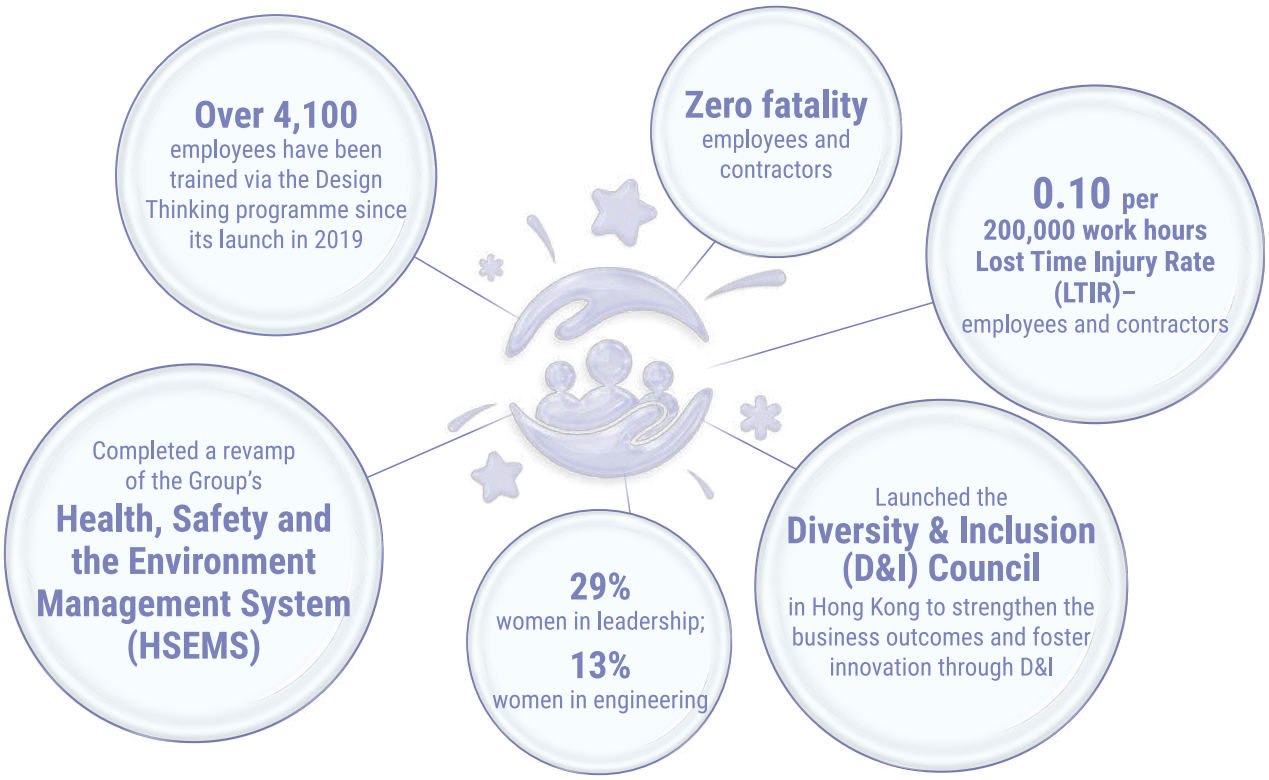
CLP Power maintained close communication with relevant government departments and ensured that they received all necessary support in the investigation and follow-up actions to the incident. The investigation findings were submitted to the Hong Kong Government and then communicated to the public in a timely manner. The Company also coordinated with community leaders and related organisations to provide updates, possible assistance and support to affected customers during the power interruption.

Our people

Overview

Stakeholders' areas of interest	Relevant material topics
• Workforce size and mix • Fair and ethical work practices • Fostering diversity and inclusion • Talent and skills development • Supporting employees to thrive in change • Health, Safety and Environment management • Occupational health and safety	**Aligning business activities with community, employee and customer expectations** • Organisational agility • Workplace safety and wellbeing

Outcome for stakeholders



Workforce size and mix

CLP engaged over 18,500 employees and contractors on a full-time equivalent basis at the end of 2022.

GRI reference: 2-7, 2-8

The number of total employees rose, primarily due to the continued post-pandemic recovery of activity. Utilisation of service contractors was slightly higher than in 2021, reflecting skilled jobs created in Hong Kong and Mainland China to support decarbonisation projects, and renewable energy projects in India. Following a strategic review of labour hire usage, CLP Power in Hong Kong offered more in-house permanent roles to selected labour supply workers.

Employees and contractors by region

	Employees			Contractors			Total	
	Average FTE (a)	Permanent %	Fixed-term contract %	Labour supply (b)	Service contractor (c)	Contractors sub-total	Total workforce (a)+(b)+(c)	Contractors in total workforce %
Hong Kong	4,835.0	81.4	18.6	970.2	4,463.9	5,434.0	10,269.0	52.9
Mainland China	652.3	75.2	24.8	24.0	307.2	331.2	983.5	33.7
Australia	2,305.3	95.6	4.4	107.5	1,194.0	1,301.5	3,606.8	36.1
India	440.2	96.3	3.7	55.5	3,397.1	3,452.6	3,892.8	88.7
Group total[1]	**8,232.8**	**85.7**	**14.3**	**1,157.2**	**9,362.2**	**10,519.4**	**18,752.2**	**56.1**

1 Numbers have been subject to rounding. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.

Fair and ethical work practices

Our approach

Core to our 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 our people, together with values-based management in addressing broader social issues.

GRI reference: 2-23, 2-25, 2-30, 401-2, 402-1, 407-1, 408-1, 409-1

Standards and procedures

CLP'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.

Beyond compliance, CLP recognises its responsibility to respect human rights at work, as laid out in international principles, standards, and laws. CLP is 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 and labour standards

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 Group Labour Standards. It references the United Nations Guiding Principles on Business and Human Rights and other international standards and sets company-wide minimum standards on critical working conditions and the basic rights of employees in the workplace.

CLP's commitment is also integrated in its Value Framework and Responsible Procurement Policy Statement and the newly launched Supplier Code of Conduct (SCoC). EnergyAustralia also has its SCoC and reports annually on the risks of modern slavery in its operations and supply chains, as well as the actions taken to address those risks.

Read more on CLP's Group Labour Standards

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.

In 2022, CLP reviewed and refreshed its Harassment-free Workplace Policy in Hong Kong and Mainland China to support its commitment. Mandatory refresher training was rolled out across the organisation to deepen employees' understanding and the Group's expectations on appropriate workplace behaviour.

Use of temporary and contractor labour

CLP uses temporary labour for work that is time-bound or during peak activities and engages labour employed by third parties for non-core work and/or work requiring specialist skills. CLP is committed to taking a responsible approach to managing the costs and risks of this contingent workforce. This includes considering whether there is an optimal balance between the insourcing and outsourcing of capabilities and ensuring that the working hours and remuneration of workers employed by contractors are fair and reasonable.

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.

While it is not Group policy or market practice to provide the same employment benefits to temporary staff as for regular permanent staff, CLP's benefits for temporary staff are competitive with local market practice and meet or exceed local legal requirements. CLP monitors pay carefully to ensure it is competitive and rewards employees for individual and company performance. Core employee benefits are reviewed regularly to ensure they are fit for purpose and sustainable.

Supporting our people to speak up and acting on reports of wrongdoing

Each CLP business has an employee grievance procedure in place that reflects the CLP Value Framework and any applicable local legal requirements. Where any employee has concerns, established procedures are followed to address grievances. These procedures ensure fairness and independence in the investigation process, and respect 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's Value Framework and Group Labour Standards set a common framework of principles. Detailed policies in each country are fully compliant with local legislation. Regular refresher training is organised for employees on key topics such as CLP's Code of Conduct and business practice review, the Harassment-free Workplace Policy, and others.

CLP prohibits the employment of child labour or forced labour in any of its operations. The steps it takes to prevent such practices include stringent checking and control procedures in selection and onboarding processes.

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 Board Human Resources & Remuneration Committee to ensure a balance between the interests of both employees and shareholders as key stakeholders.

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 →

Initiatives and progress

CLP furthered its efforts in working ethically and fairly, receiving continued external recognition of its wages and retirement policies and practices.

GRI reference: 201-3

CLP's Group Labour Standards outline CLP's commitment to international principles and conventions and provide more detail on how CLP delivers on these commitments through company-wide minimum standards on critical working conditions including fair and decent work and working hours, and the basic rights of employees in the workplace. Following their launch, the standards were embedded into procurement requirements for labour hire suppliers in Hong Kong and tracking and monitoring of temporary manpower supply resources has been strengthened. Relevant expectations on labour practices and human rights have been embedded and communicated with CLP's suppliers through the newly launched SCoC.

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. There was no breach of laws and regulations in relation to child and forced labour across CLP in 2022. Additionally, no Group operation was identified in which the right to exercise freedom of association and collective bargaining was violated or at significant risk.

CLP's Hong Kong businesses were awarded Fair Wage Certificates by the Fair Wage Network in recognition of their wage policies, practices and ongoing enhancements. In 2022, to provide staff with greater flexibility in their pension planning, CLP extended the maximum period of time for former employees to retain their retirement benefits within the Group Provident Fund Scheme.

Recognising its efforts in providing sustainable retirement benefits, the Mandatory Provident Fund (MPF) Schemes Authority in Hong Kong again awarded CLP MPF Employer Award 5 Years+ Award, an e-Contribution Award, and the Best All-round MPF Employer Award. CLP also received awards for the Best ORSO (Occupational Retirement) Scheme and the Hong Kong Best Member Communications by Asia Asset Management.

Fostering diversity and inclusion

Our approach

CLP believes a diverse workforce and an inclusive culture supports high performance and CLP's ability to operate effectively in the many communities in which it operates. To this end, CLP has set targets to encourage more women into the workforce, and policies to support employees to balance work and home-life commitments.

Considering the nature of CLP's business and the markets in which it operates, CLP has set addressing gender diversity as a Group-wide priority to ensure a sustainable workforce in the face of demographic trends, and to deliver a wider, positive social and economic contribution. Long-term aspirational Group-wide gender diversity targets have been set, reflecting UN Sustainable Development Goals. The targets are:

- **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%; and
- **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.

Standards and procedures

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 and Inclusion Councils operate in Hong Kong, India and Australia to drive the Company's efforts on diversity.

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, and includes 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 the Group's values.

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.

Initiatives and progress

Management has continued to leverage a variety of targeted programmes and activities to drive improved outcomes in diversity and inclusion.

GRI reference: 202-1, 202-2, 405-2

As of the end of 2022, Women in Leadership was maintained (2022: 29.1% vs 2021: 30.5%), while Women in Engineering increased (2022:13.0% vs 2021: 12.3%). Women constituted one-third of the Hong Kong Graduate Trainee intake in 2022. Most women hired had participated in either CLP's Female Engineering Student Mentoring Programme or had received an Engineering Study Award to support their final-year studies.

Focus on ensuring strong female participation in development programmes continued with women representing approximately 30% of participants.

Independent gender pay equity analysis of CLP's Hong Kong payroll, based on UK disclosure requirements, continued to show a reverse gender pay gap for both hourly pay and bonuses, due to a higher proportion of women in professional and managerial roles. Additionally, CLP was recognised for its support of the Hong Kong Equal Opportunities Commission Racial Diversity and Inclusion Charter for Employers.

CLP launched its Diversity & Inclusion (D&I) Council in Hong Kong in the second half of 2022. Comprising members of the senior leadership team, the Council aims to strengthen business outcomes and foster innovation through D&I. While the primary focus on gender diversity remains, other key D&I themes relevant to CLP's business were identified. Going into 2023, the Council will further define roles and responsibilities and set a clear roadmap to drive D&I progress in the business, including developing priorities and establishing operational guidelines in key employment practices.

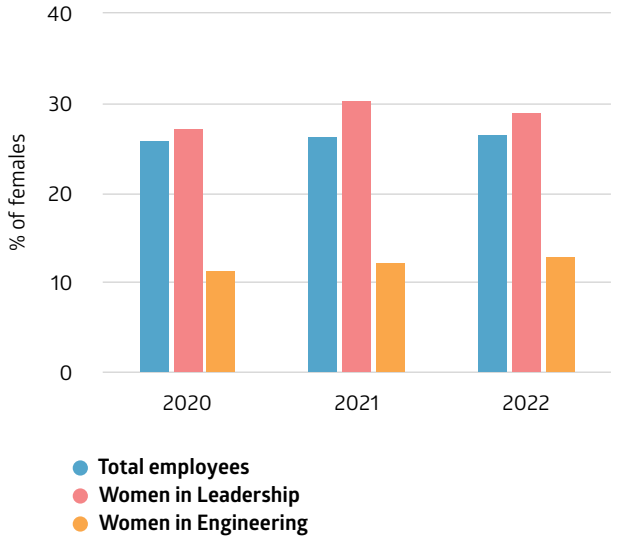
CLP continued implementing other planned initiatives to drive gender diversity across all markets, including mentoring programmes for female engineering students, extended partnership with The Woman's Foundation in Hong Kong on STEM learning for girls and celebration and awareness building on International Women's Day.

Across the Group, EnergyAustralia continued delivering activities to foster its diversity, equity and inclusion as part of its Diversity, Equity & Inclusion Strategy. Activities included cultural learning training, organised LGBTIQ+ awareness sessions and ally training, as well as policy reviews with gender equality in focus. In India, awareness-building sessions on unconscious bias were organised in the business in 2022 and will be scaled up across the organisation in 2023.

The CLP Group was named Hong Kong's most inclusive employer and ranked fourth in the Asia-Pacific region in the Inclusive Index Report by international consultancy, Equality Group.

Female Representatives in CLP

The percentage of female employees shows an increasing trend in CLP.



Female Representatives in CLP	2020	2021	2022
Total employees	26.0%	26.3%	26.7%
Women in Leadership	27.3%	30.5%	29.1%
Women in Engineering	11.5%	12.3%	13.0%

Talent and skills development

Our approach

CLP's ability to transition to a zero-carbon, digitally enabled future requires systematic organisational development and adoption of the capabilities required to compete effectively in key markets.

GRI reference: 404-2, 404-3

CLP has a comprehensive training and development framework in place, aligned to business objectives, to help our people to perform competently in their current roles and prepare them for future business challenges and opportunities. Investment is also made in the wider development of young people and to build future energy industry capability that is inclusive and accessible to all.

Standards and procedures

CLP's strategic talent and leadership development approach seeks to attract, retain, and develop a diverse, multi-generational workforce; and develop new skills and share talent effectively across the portfolio of businesses. Internal development efforts are supplemented by external recruitment for new-to-CLP skills focused on innovation, digital and renewables capabilities.

Investing in youth and early careers

Addressing future skills needs, and ensuring adequate talent supply to the evolving energy industry, requires significant investment in promoting and encouraging young people to join CLP, and accelerating development in their early careers.

Opportunities for young people are provided in Hong Kong through mentoring programmes, partnerships with local and overseas institutions to offer work placements to secondary and tertiary-level students, internships for fresh graduates across a range of disciplines, technical apprenticeships and the CLP Graduate Trainee Programme. 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. CLP also participates in youth development schemes such as the Hong Kong SAR Government's Greater Bay Area Youth Employment Scheme. In Mainland China, CLP supports local technicians and engineers to attain professional engineering qualifications.

Sustaining core skills and developing new skills for the future

Skills and safety training are provided to develop technical and functional competencies and behaviours. All CLP employees participate in an annual performance and development cycle. This provides ongoing feedback and coaching conversations, clarity in terms of expectations on behaviour and performance, understanding of how they contribute to CLP's objectives, and support for individual development needs. Through this process, CLP also recognises and rewards individual performance and success. Employees are provided the opportunity to continuously learn and build skill via online and face-to-face learning resources and programmes, and can access company support for employee-initiated self-development.

Developing leaders for a Utility of the Future

CLP's strategy requires a diverse leadership team, with the resilience, agility, stakeholder management and change leadership skills to position CLP for growth, and high-quality succession leadership roles. CLP remains committed to filling most leadership roles internally.

Strategic, general management and talent development programmes are used to develop future leaders, with programmes 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), 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 including energy transition, digital disruption, wellbeing and resilience.

Monitoring and follow-up

CLP conducts regular talent and capability reviews, underpinned by employee analytics, focused on both general management and engineering streams. These 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, diversity and employee engagement measures, using developed employee analytics tools. The Board Human Resources & Remuneration Committee reviews talent and capability progress annually.

Despite the challenges of recruitment and delivering training during the COVID-19 pandemic in the past years, CLP increased its investment in youth development, core skills training and leadership development programmes, and invested in the training systems and frameworks needed to become a Utility of the Future.

Initiatives and Progress

CLP inducted 41 trainees into the Hong Kong Engineering Graduate Trainee programme in 2022, the largest intake ever with the highest number of female and Mainland students.

CLP also expanded its recruitment channels with local and overseas institutions. CLP Group was recognised as The Most Attractive Employer by Shixiseng in 2022, out of 1,100 enterprises. Shixiseng is one of the most popular campus recruitment platforms in the Mainland China. The comprehensive evaluation values CLP's commitment and efforts on caring its employees, fostering diversity and inclusion and being a responsible employer.

Find out more about employee branding and recognition in Shixiseng

Other development programmes targeting talents at different career stages progressed to help strengthen pipelines and support the accelerated development of mid-career engineers and managers. Engineering talent-rotations across Hong Kong and China were scaled up, together with continuation of CLP's Energy Transition Experience Programme introducing the energy business context and opportunities in Mainland China and preparing young talent for CLP's energy transition and growth.

Digital skills continued to be deepened through power automation training and other upskilling programmes designed for employees at various levels. The Udemy platform has been launched in Hong Kong as a pilot online learning platform, providing a broad variety of courses with engineering-relevant contents.

Case study

Nurturing talents for the energy and power industry

As CLP is transforming into a Utility of the Future, it is committed to nurturing future-fit talents for the energy and power industry. Through its graduate trainee programmes, CLP supports graduates to equip them with the necessary skills and industry-specific knowledge and get broad exposure across CLP's operations in Hong Kong and other cities in the Greater Bay Area.

The Engineering Graduate Trainee Programme intake of 2022 was the largest cohort ever – 41 engineering graduates from Hong Kong, China and overseas started with CLP in August 2022. Throughout the two-year Graduate Trainee programme, broad exposure across CLP's operation and projects in Hong Kong and other cities in the Greater Bay Area will be provided. Comprehensive personal and career development support such as mentorship, soft skills and leadership training, is also included in the programme where trainee are rotated across business unit projects.

In addition to the Graduate Trainee Programme, Technical Officer Trainee Programme and Technician Trainee Programme, CLP introduced a new Digital Graduate Trainee Programme in 2022, providing more career opportunities for graduates who are passionate and interested in the energy and power industry. This two-year Digital Graduate Trainee programme equips graduates with critical capabilities, including but not limited to digital product management, system architecture, data analytics, IT, cyber security, project management, leadership, commercial skills and communication for impact.

CLP Power also continued to offer a full-time training Internship Programme during summer, along with a 12-month programme for students to gain valuable work experience and for the company to identify and early recruit potential talents for the Utility of the Future.

Engineering Graduate Trainees of 2022 cohort ready to kickstart their fruitful journey on orientation day.

Supporting employees to thrive on change

Our approach

CLP is committed to developing an engaged and high-performing workforce, and to supporting all our people to thrive in this period of change brought about by energy transition.

GRI reference: 401-2, 401-3, 404-2

This is achieved through a long-term focus on maintaining strong working relationships with employees and their representatives, providing flexible working arrangements and benefits to support employees through all life stages, strengthening their wellbeing and resilience, and providing support and re-skilling to employees whose jobs are affected by the transition to net zero or other business restructuring.

Standards and procedures

Offering flexible working

CLP aims to support employees through all life stages, from young people starting their careers to retirement.

People at different life stages may benefit from different working arrangements and to this end, CLP promotes family-friendly leave policies and flexible working arrangements. CLP also offers a range of leave options to help our people achieve a good work-life balance. These options include parental and adoption leave, volunteering and study leave.

In response to the COVID-19 pandemic, CLP accelerated implementation of new ways for employees to connect virtually and perform their roles more flexibly, by improving flexible work policies and online collaboration tools. As the recovery from the pandemic begins, flexible working options have been embedded with increased take-up of new part-time work options and work-from-home arrangements.

Investing in health, wellbeing, and strengthening resilience

CLP provides comprehensive support for physical, social, financial and emotional wellbeing and is working towards meeting the requirements of ISO 45003:2021 Psychological health and safety at work – Guidelines for managing psychosocial risks, as part of the Occupational Health and Safety Management System. Confidential employee assistance programmes are also offered to assist employees who may encounter work or personal issues and need professional support.

Recognition of CLP's wellbeing programme, and its coverage of all aspects, mental and emotional health, was received at the annual Best HR Awards hosted by Hong Kong recruitment company, CTgoodjobs. CLP received the Best Corporate Wellbeing Programme Award and the Top Happiest Culture Award at the 2022 Best HR Awards.

Keeping everyone informed and engaged

CLP's employee relations approach focuses on establishing and maintaining strong working relationships with employees, being proactive in consulting on any workplace changes, and providing opportunities for employees to raise concerns. CLP employees have the right 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. In Australia, CLP engages in collective bargaining with 840 employees via certified enterprise bargaining agreements approved by the independent workplace relations tribunal, the Fair Work Commission. These agreements cover most terms and conditions of employment, including notice periods, provisions for consultation and dispute resolution.

CLP organised the 'Culture Jam' Programme in Q3 2022 for employees in Hong Kong and Mainland China, to provide an opportunity for two-way dialogue on ways of working. During three days of online discussion, positive responses were received from over 6,000 colleagues across Hong Kong and Mainland China and over 30,000 comments were received. These valuable responses and engaging feedback will form the foundation of future culture-building.

Read more on the case study of Culture Jam on page 85 of the 2022 Annual Report

Supporting employees and communities affected by energy transition or restructuring

Comprehensive support is provided to employees whose jobs are affected by business change or restructuring. This includes support tailored to individual needs, including training and skills development, career planning, assistance for redeployment and financial counselling. It also includes engaging actively with local stakeholders from employee representative organisations through local educational institutions to ensure that study opportunities are developed to help meet both the needs of our people, and the region's new and emerging industries.

Following the announcement of the 2028 closure of EnergyAustralia's Yallourn Power Station in 2021, the Yallourn Workforce Transition Programme providing career transition support to employees was implemented. It has made significant progress in 2022. The comprehensive support programme includes components covering employee engagement, training, re-skilling and accreditation, financial advice, job search skills and other specialist support.

Read more on the case study of Ensuring a just transition for Yallourn in 2022 Climate-related Disclosures Report

Monitoring and follow-up

CLP uses independent external consultants to conduct regular employee engagement surveys to understand employees' views. Following engagement surveys conducted in 2020 in Hong Kong and Mainland China, follow-up focus groups and pulse surveys were organised in 2022 for targeted groups to track responses.

In Hong Kong, joint consultative committees have been established which act as an additional channel of communication between the Company and the employees' selected representatives. Employee benefits are regularly benchmarked to ensure that appropriate support is provided.

Health, Safety and Environment management

Our approach

Integrating health, safety and environment (HSE) standards across the Group's businesses and processes helps achieve the goal of safe, secure and environmentally responsible operations.

GRI reference: 403-1, 403-2

CLP remains steadfast in continually improving its performance in HSE to build capabilities and capacities that enable the prevention of harm to employees, contractors, customers, the public, and the assets.

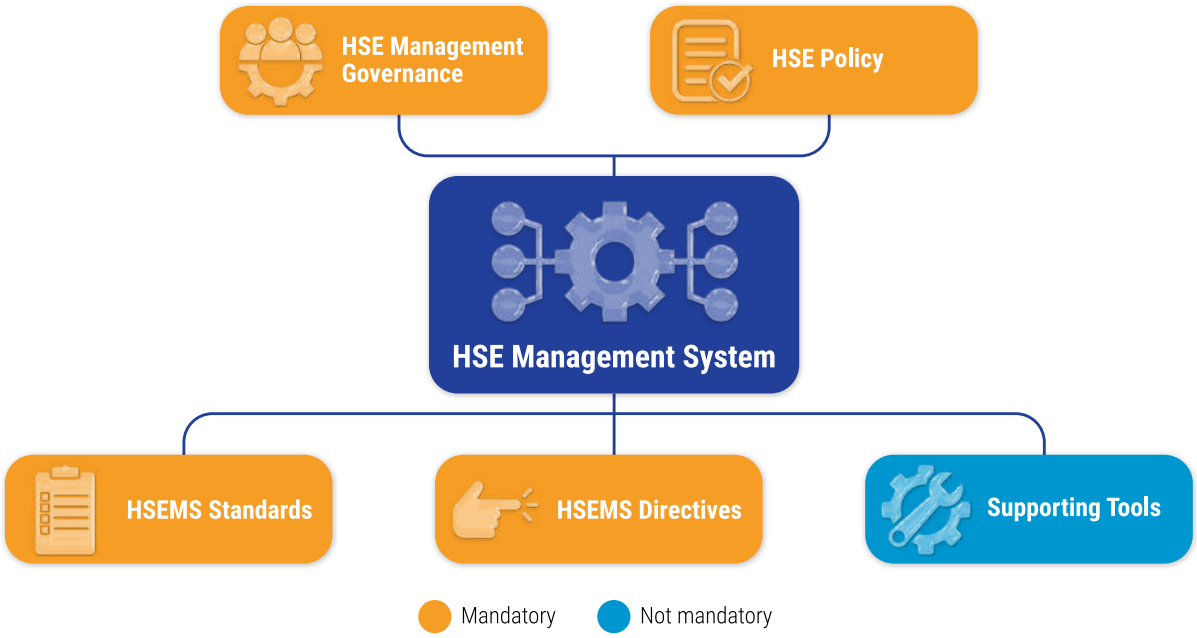
Excellence in HSE can only be achieved if CLP operates in a planned and systematic way. CLP has an integrated HSE policy which sets out high-level expectations driving the direction of the HSE Management System (HSEMS). A revamp of the Group HSEMS was completed in 2022 to replace the system created in 2014.

The refresh focused on further developing four areas of the existing HSEMS:

- Leadership and commitment;
- Planning and support;
- Operational enablers; and
- Monitoring, learning and improving.

Download the HSE Policy

HSEMS core components and relationship



The diagram above shows the core components of the Group's HSEMS and their interrelationships.

The HSE Policy establishes the strategy, direction, and vision of CLP's HSE performance expectations.

The revamped Group HSEMS allows CLP to manage risks in a planned and systematic way. It helps implement our commitment to continually improving HSE performance and meeting the requirements of the Group's new HSE Policy.

The HSEMS Standards are mandatory and assist in supporting the detailed requirements of the HSE Policy and Groupwide HSE risks. The HSEMS Directives have been developed to supplement the Standards by determining how processes are conducted across the Group. The HSEMS Supporting Tools have been developed to provide further support or guidance.

The refresh of the HSEMS aims to provide:

- Clear requirements and expected outcomes based on goal-oriented risk reduction;
- Process flexibility to account for operational diversity (e.g. size, regions, and nature of work conducted);
- Integration of the feedback loop between CLP Group requirements and work done by the frontline; and
- Less HSEMS clutter (e.g. unnecessary duplication of, inconsistent, or contradictory requirements).

Download the HSEMS Standard

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

Strategies and procedures

To support safe operations, CLP has in place an HSE Improvement Strategy. It has clear objectives, focus areas and timelines, and sufficient resources to achieve its objectives, including HSE professionals and an appropriate budget.

Following the five pillars of the Group's HSE Improvement Strategy, an annual improvement programme is developed, approved and communicated to staff and contractors in each business unit. Recommendations are implemented on agreed timelines and programme process is monitored.

For more details, read the Occupational health and safety section.

Operational responsibilities

The Group Health, Safety, Security and Environment (HSSE) Committee, chaired by the CEO, has the highest executive responsibility on HSSE-related issues.

To build a sound safety culture across the Group, the Group Operations Leadership Team and the Global HSE Team conduct monthly or bi-monthly meetings to coordinate, monitor and share knowledge and experience in HSE practices across the Group. Special focus is given to becoming a better learning organisation to maintain high levels of safety performance.

In addition, various HSE committees have been established to engage employees at the operational level. These committees also involve project partners and contractors. HSE professionals facilitate the overall engagement effort and advise on HSE matters, while the responsibility for implementing high levels of HSE standards rests with line management.

Hierarchy of operational responsibilities

Occupational health and safety

Our approach

The Group-wide HSE Improvement Strategy aims to build individual, team and organisational capabilities and capacities that prevent harm to CLP's people and assets and the communities in which it operates. Using the Group's strategy as its base, each business unit annually develops its own HSE action plan for delivery.

GRI reference: 403-1, 403-2, 403-3, 403-5, 403-7, 403-8

The CLP Group's HSE Improvement Strategy in 2022 was based on five pillars. They are:

- Building capabilities;
- Rethinking risk;
- Involving stakeholders;
- Maintaining a healthy and engaged workforce; and
- Ensuring environmental sustainability.

Each pillar emphasises a key principle for effective HSE management. The pillars aim to uplift the Group's safety culture across operations in all operating regions, promote more proactive risk management, and engage employees, contractors and other key stakeholders in collectively implementing changes to improve safety performance. There is a strong theme of becoming a better operational learning organisation throughout.

Goals and targets

CLP is committed to ensuring all its activities and operations focus on the elimination of fatalities, life-altering injuries, and the occurrence of significant HSE events.

Monitoring and follow-up

CLP's HSE Performance Monitoring and Reporting Standard sets out the safety performance indicators and requirements of safety data reporting. The indicators show trends and can help identify areas which may require more attention to prevent an incident from occurring. CLP has used targeted engagements and worker insights to aid in the development of more comprehensive and effective incident prevention interventions.

Safety performance is reported internally on a monthly basis. Safety performance data and associated insights gained are collected and presented in the bi-monthly meetings of the Group Operations Leadership Team and the Global HSE Team. The data and insights are also reported on a quarterly basis to the Group HSSE Committee, chaired by the CEO.

CLP's HSE Incident Investigation and Reporting Standard sets out the minimum requirements for implementing and maintaining 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 the factors contributing to the incident and the actions required to prevent a recurrence.

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, there is flexibility to structure health and safety measures and design more specific approaches in providing relevant training. This includes monitoring the percentage of contractors who have undertaken this 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 move beyond simply looking at human error as a cause, and to understand the more complex latent conditions within the systems people operate in that contribute to incidents, to prevent recurrence of similar incidents. CLP is committed to understanding how decisions and actions would be made by employees at a particular point in time in their work, by understanding the context which our people operate in. CLP is committed to learning from those closest to the work, to understand their challenges and identify practical improvement opportunities. We believe that by harnessing frontline knowledge into our solutions, we will not only get better solutions, but also foster an environment of ownership from our people who perform the work.

To find new and better ways of working by learning from investigations into incidents, in 2022 CLP ran a "Risk – Gravitational Energy" campaign at its operations. The express goal of reducing activities where gravity may cause injuries, for instance when working at heights. Business units focused on learning from normal work in a proactive way rather than waiting for an event to occur before learning. In this way, CLP is making a fundamental shift in approach by utilising learning

teams in work streams where no injury event has actually ocurred. In 2022, there was a special CEO Award in its annual event which recognises work done in materially making an impact into reducing exposure to gravitational energy.

Major progress has been made through both adopting technology and redesigning systems work approaches. Increased use of drones and robots for inspections has helped to reduce both the hours and frequency of working at height. CLP Power's construction project of the second new gas-fired generation unit in Hong Kong significantly reduced work at height exposure by utilising a safety in design approach in the modularisation of its components, which meant more work was done at ground level. Not only did this have a significant safety impact in reducing exposure hours to gravitational energy, it also delivered an efficiency improvement for cost and schedule. This initiative won the 2022 CEO Award for Risk – Gravitational Energy.

Read the case study on how robots help to eliminate diving risks

Read the case study on Hong Kong's first mobile safety training

Initiatives and progress

The Group is pleased to report that there were no fatalities in 2022. This is the third year in a row in which the Group has been fatality-free for both employees and contractors.

SASB reference: IF-EU-320a.1; GRI reference: 403-4, 403-5, 403-6, 403-9, 403-10, EU17, EU18

The key safety metrics are summarised in the table below.

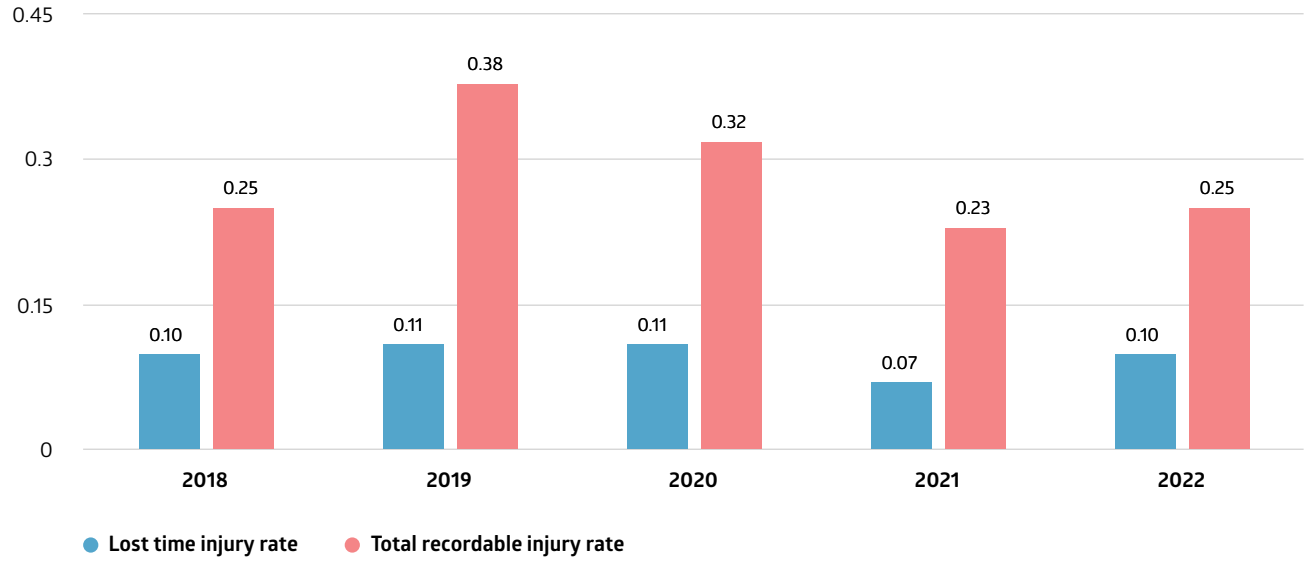
Regional safety performance (employees/contractors)

	Hong Kong[1]	Mainland China	Australia	India	Total	Employees and contractors combined
Fatalities (number)	0/0	0/0	0/0	0/0	0/0	0
Fatality rate (number per 200,000 work hours)	0.00/0.00	0.00/0.00	0.00/0.00	0.00/0.00	0.00/0.00	0.00
Days away from work injuries (number of personnel)	2/9	0/0	4/3	0/3	6/15	21
Lost time injury rate (number per 200,000 work hours)	0.04/0.13	0.00/0.00	0.18/0.26	0.00/0.07	0.07/0.11	0.10
High-consequence injuries (number of personnel)	0/0	0/0	0/1	0/1	0/2	2
Total recordable injury rate (number per 200,000 work hours)	0.12/0.16	0.30/0.00	0.28/0.86	0.00/0.44	0.17/0.31	0.25
Work-related ill health (number of personnel) – employees only	0	0	4	0	4	4
Lost days (number) – employees only	16	0	160	0	176	176

1 Starting from 2022, Hong Kong includes all staff from CLP Power Limited, CLP*e* and CLP Holdings because of the change of CLP's organisational structure.

Lost time injury rate and total recordable injury rate of CLP Group (employees and contractors combined)

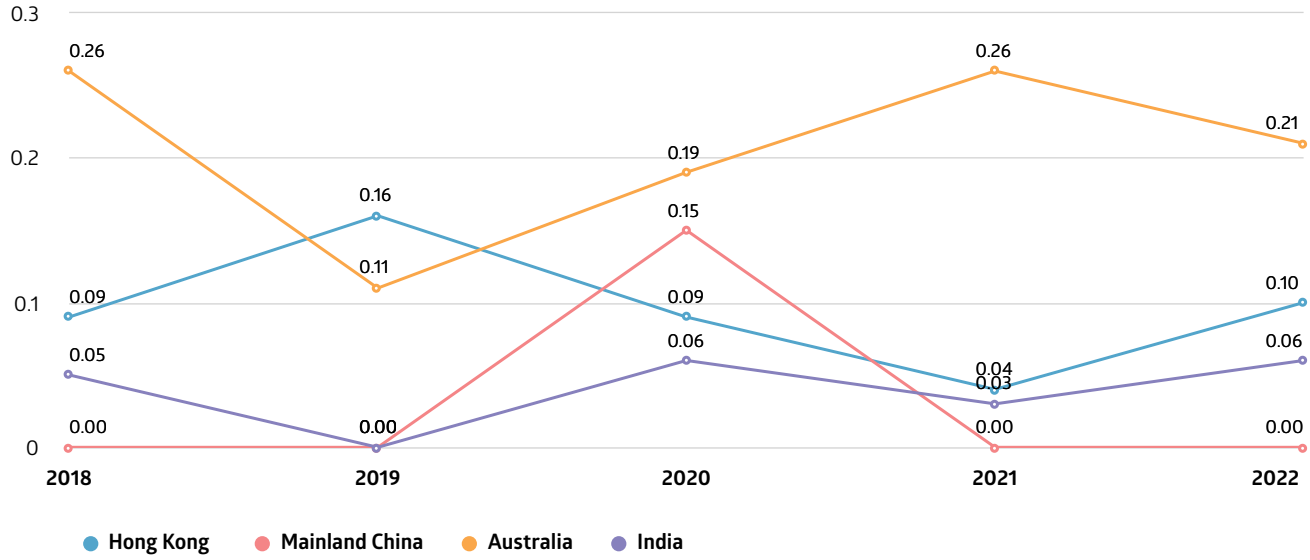
Both the lost time injury rate (LTIR) and total recordable injury rate (TRIR) have slightly increased in 2022. This is in part due to a single event with multiple injuries in our Hong Kong business and a significant increase of over 2 million work exposure hours conducted in 2022.



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 (LTIR) by region (employees and contractors combined)

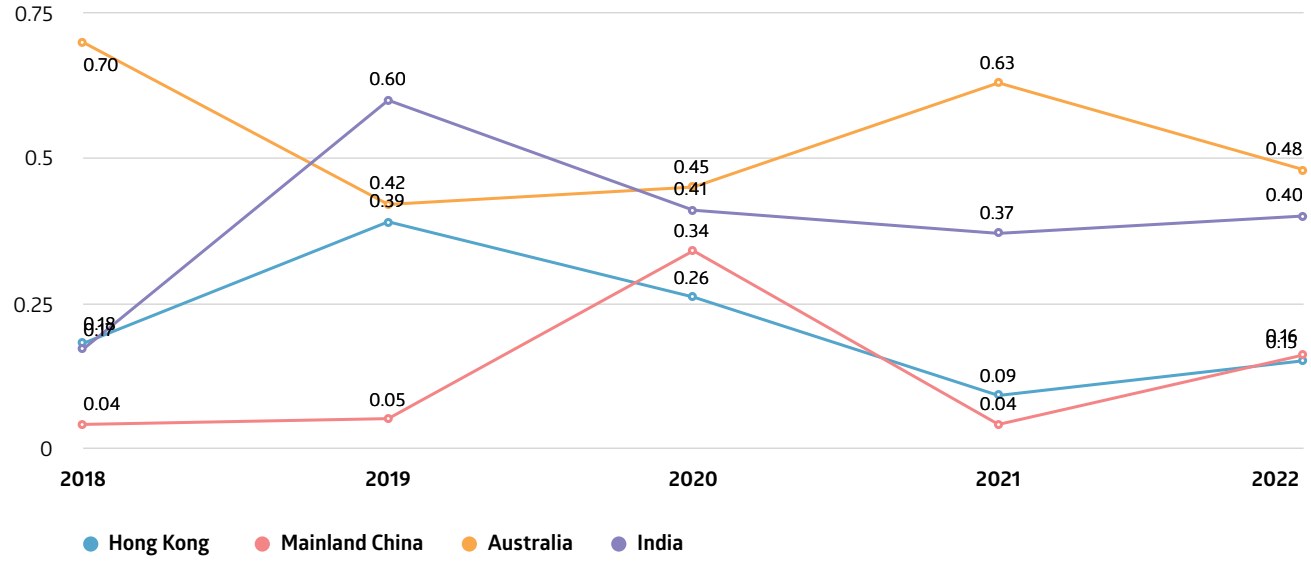
LTIR is higher than in 2021 for most regions (excluding Australia). These can be attributed to higher incident numbers (3 in [1]Hong Kong, 2 in Mainland China and 4 in India) and an overall increase in work exposure hours conducted in 2022.



1 Starting from 2022, Hong Kong includes all staff from CLP Power Hong Kong , CLPe and CLP Holdings because of the change of CLP's organisational structure.
2 All rates are normalised to 200,000 worked hours, which approximately equals to the number of hours worked by 100 people in one year.

Total recordable injury rate (TRIR) by region (employees and contractors combined)

TRIR are higher than 2021 in most of the regions, except in Australia, which noted increases in TRIR due to higher incident numbers (3 in [1]Hong Kong, 2 in Mainland China and 4 in India.)



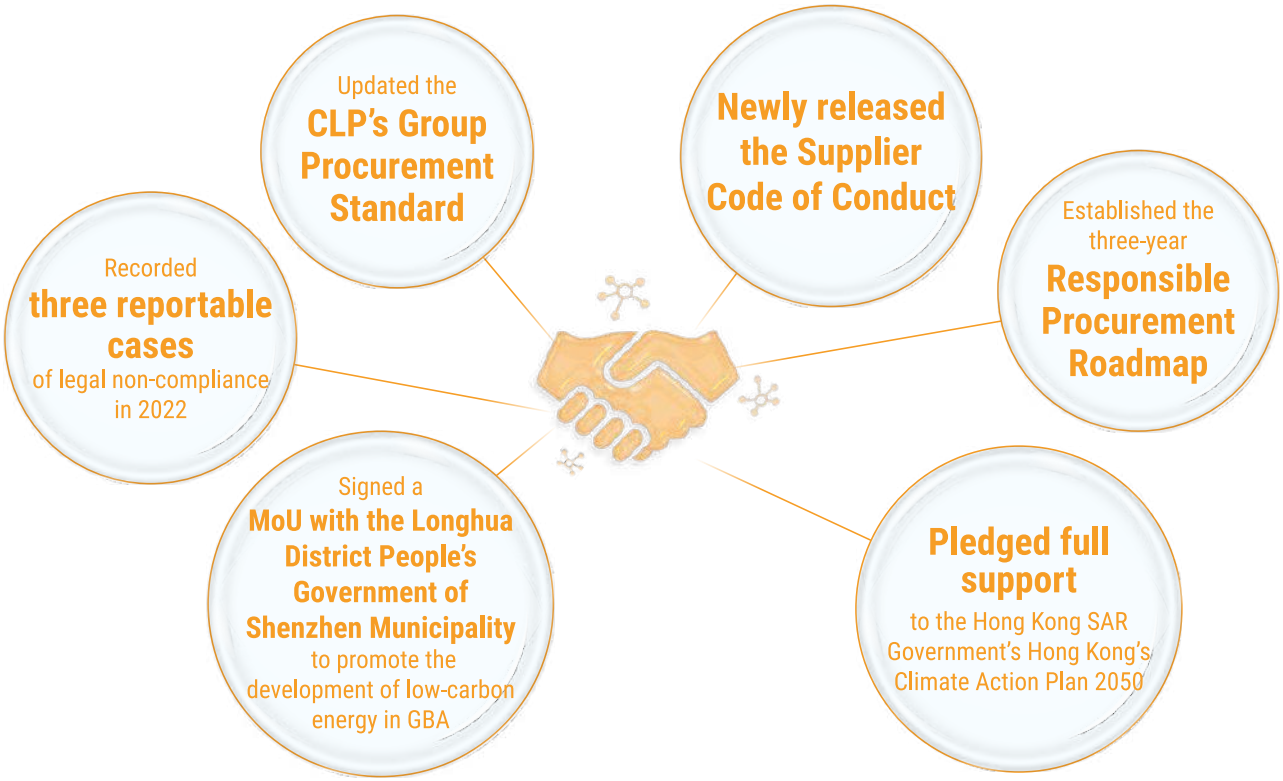
1 Starting from 2022, Hong Kong includes all staff from CLP Power Hong Kong , CLPe and CLP Holdings because of the change of CLP's organisational structure.

Partners

Overview

Stakeholders' areas of interest	Relevant material topics
• Public policy • Code of Conduct and anti-corruption • Legal compliance • Supply chain management • Responsible procurement	**Shaping and executing the transition to net zero** • Partnering in the clean energy transition **Bolstering energy security and reliability** • Reliable and reasonably priced energy **Aligning business activities with community, employee and customer expectations** • Human rights in the supply chain

Outcome for stakeholders



Public policy

Our approach

CLP acts as a trusted partner to governments and regulators in shaping practices and services that contribute to developing sound government energy policies and laws that balance social, economic and environmental needs.

GRI reference: 2-28, 415-1

The transition to a clean energy economy remains one of the critical agenda items for governments around the world. CLP continues to engage with governments and regulators in formulating decarbonisation policies and plans while delivering sustainable low-carbon energy systems for infrastructure investment that drives economic growth. Through participation in a range of industry and professional bodies, CLP provides input to the major issues deemed crucial to the energy sector's ongoing viability and success, advocating as a thought leader of the industry.

CLP's policy is to remain politically neutral and avoid making political contributions. Joining an organisation as a member is reviewed by the respective Corporate Affairs teams based on business objectives and engagement purposes. All membership proposals are subject to the final approval of the senior management of the Group or Business Units.

Download CLP's Policy on Making Political Contributions

Initiatives and progress

CLP continues to strengthen communications with governments and regulators, and contributes knowledge, experience, and best practices to support government decision-making processes.

GRI reference: 2-28, 201-4, 415-1

Concerted efforts by the private and public sectors are critical to addressing the emerging challenges in the energy sector. CLP maintains regular communications with government and legislators through various channels such as site visits and information sharing sessions, to enhance the mutual understanding of strategies and policy directions in shaping a low-carbon future. CLP also actively responds to major public policy consultations and develops carefully considered positions that are relevant to the energy sector. By bringing its industry expertise to the table, CLP can add value to the discussion on how best to pave the way forward for the energy industry and the community, as technology and public needs evolve.

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 has pledged full support to the Hong Kong SAR Government's Hong Kong's Climate Action Plan 2050 since its announcement in 2021. Echoing the Policy Address initiatives announced in 2022 to help Hong Kong achieve carbon neutrality before 2050, CLP Power fully supports the Government's acceleration of decarbonisation efforts and housing and infrastructure development plans, including expediting infrastructure in new development areas and providing a roadmap for the electrification of public transport and commercial vehicles.
- For example, as one of the key strategies to decarbonise Hong Kong, the Government is encouraging motorists to switch to EVs. CLP Power announced an extension of its free EV-charging service until the end of 2023; continuing to provide a convenient and reliable public charging network for EV motorists across Hong Kong.
- EnergyAustralia welcomed the new Australian Federal Government following the elections in May 2022, and remains strongly committed to engaging with policymakers at all levels to advance the country's clean energy transition. Policy developments are expected to promote investments in new dispatchable capacity, enabling more renewable energy to enter the grid reliably and affordably. EnergyAustralia continues to strengthen its capital structure to fund its current and future investment needs, providing the reliable supply needed to support customer demand and the transition to a lower-carbon power market.
- CLP contributed to the public consultations on the draft principles for voluntary carbon credit standards developed by the Integrity Council for the Voluntary Carbon Market (ICVCM) and the Voluntary Carbon Markets Integrity Initiative (VCMI), which aim at setting a global standard for high-quality carbon credits and developing guidance on credible use of carbon credits in businesses.
- In support of the development of globally comparable sustainability disclosure standards, CLP submitted a response to the International Sustainability Standards Board's (ISSB) public consultation in July 2022 for the exposure drafts on General Sustainability-related Disclosures and Climate-related Disclosures after

consulting various chambers of commerce, industry organisations and professional bodies.

None of CLP's businesses receive any significant government financial assistance.

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 table below outlines the total amount CLP has contributed to organisations influencing public policy. The contribution is made through paying membership fees, making donations, providing sponsorships and providing input to policy position papers.

Contributions to different types of organisations (HK$M)

Types of organisation (HK$M)	2022	2021	2020
Lobbying, interest representation or similar	0	0	0
Local, regional or national political campaigns, organisations or candidates	0	0	0
Trade associations or tax-exempt groups (e.g. think tanks)[1]	8.69	14.12	8.90
Others (e.g. spending related to ballot measures or referendums)	0	0	0

1 Includes contributions to professional organisations that seek to influence policies in the form of membership, donation or sponsorship.

CLP's focus is on organisations active in climate change and broader energy market policies. Significant resources are devoted to these organisations through membership, sponsorship and other contributions, including active participation by senior management. CLP has contributed HK$ 250,000 or more, in cash or equivalent, over the last three years to each of the organisations listed below (in alphabetical order).

Organisation	Description of organisation	CLP contributions and engagement
Australian Energy Council (AEC)	The AEC represents 20 major electricity and downstream natural gas businesses operating in the competitive Australian wholesale and retail energy markets.	EnergyAustralia's Managing Director is Chair of the AEC. EnergyAustralia is also 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 more than 100 of Australia's largest businesses. It supports transitioning to a more carbon-efficient economy with a goal of net-zero emissions by 2050.	EnergyAustralia is a BCA member and supports the BCA's advocacy for a national, bipartisan energy and climate change framework that can deliver against reliability, affordability and sustainability objectives.
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 had been a Director of BEC since 2012 and was elected Chairman for the term from 2020 to 2022. The CEO is currently the Immediate Past Chairman. CLP actively participates in or sponsors events, public consultations and working groups organised by the BEC. It is also a signatory of the BEC Low Carbon Charter and the Power Up Coalition.

Organisation	Description of organisation	CLP contributions and engagement
Confederation of Indian Industry (CII)	The CII is a not-for-profit industry-led organisation. It works to create and sustain an environment conducive to the development of India, partnering Industry, the Government of India and civil society, through advisory and consultative processes. It works closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry.	Apraava Energy has been a member of CII for more than a decade. Its Managing Director is the Co-Chairman of the CII National Committee on Power, and its Chief Operating Officer is currently a member of the India CEO Forum for Clean Air, which is under the CII National Initiative Cleaner Air Better Life. Through these initiatives, Apraava Energy plays an active role in representing the power sector in India on issues that concerns them.
Energy Transitions Commission (ETC)	The ETC is a London-based international think tank supporting 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.	CLP joined the ETC in August 2018, and the CLP CEO is one of a diverse group of leaders from the public, private and NGO sectors in the ETC. CLP contributes to the ETC's work programme and publications by participating in the ETC Commissioners Meetings, the ETC Representatives Meetings and the ETC Communications Club Meetings.
Free Electrons	A global accelerator programme for electric utilities, Free Electrons enables startups to work closely with utilities to develop digital solutions to overcome the challenges arising from the increase of renewable energy and decentralisation of energy systems.	CLP first participated in Free Electrons in 2018, and has since identified collaboration opportunities through the programme. The 2022 programme has attracted applications from over 400 start-up companies from around the world, and shortlisted four of them to engage as pilot projects.
Kadoorie Farm and Botanic Garden Corporation (KFBG)	KFBG raises awareness of ecological and sustainability issues, undertakes species conservation and ecosystem restoration, reconnects people with nature, and promotes sustainable lifestyles.	CLP began to support a 10-year forest restoration programme of KFBG in 2022. This programme will help build the knowledge and capacity in reforestation, ecosystem recovery, and nature-based solutions for carbon offsetting.
The Hong Kong Institute of Directors (HKIoD)	HKIoD is Hong Kong's premier body representing directors to foster the long-term success of companies through advocacy and standards-setting in corporate governance and professional development for directors.	In 2022, CLP became a founding sponsoring partner of the HKIoD-hosted Hong Kong chapter of the Climate Governance Initiative, a programme that aims to drive increased focus on climate issues among company directors.
World Business Council for Sustainable Development (WBCSD)	A global, CEO-led organisation of over 200 businesses, the 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 & Mobility, Climate & Energy, Food & Nature, People & Society, and Redefining Value.	CLP actively participates in programmes such as the Energy Pathway and Redefining Value, in particular the CFO Network and Integrating ESG into decision making.

Case study

Promoting the development of low-carbon energy in Greater Bay Area

CLP*e* signed a memorandum of understanding (MoU) with the Longhua District People's Government of Shenzhen Municipality (Longhua Government) in August 2022 to promote the development of low-carbon energy in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) in support of Mainland China's goal of reaching net-zero carbon emissions by 2060.

Developing the GBA as an international innovation centre that leads the country's green transformation is one of the emphases of the Chinese Government's National 14th Five-Year Plan. Under the MoU, CLP*e* will work with the Longhua Government to develop digitalised energy projects and support the digital transformation of the Longhua District, with the aim of building a national pilot area which sits at the heart of the GBA. For example, CLP*e* will implement one-stop smart energy projects and solutions for buildings and parks, including renewable energy solutions, EV charging solutions, cooling systems, and energy storage applications.

Through this partnership, the Longhua Government can leverage CLP*e*'s professional knowledge and expertise in the energy sector to drive the development of integrated energy projects in the GBA. With the support of the Longhua Government, CLP*e* will establish its GBA head office in Longhua, making it the leading enterprise in the application of new energy in the district. The MoU also signifies CLP*e*'s strategic move in accelerating its business investment in the GBA.

The signing ceremony of the MoU between CLPe and the Longhua District People's Government of Shenzhen Municipality.

Code of Conduct and anti-corruption

Our approach

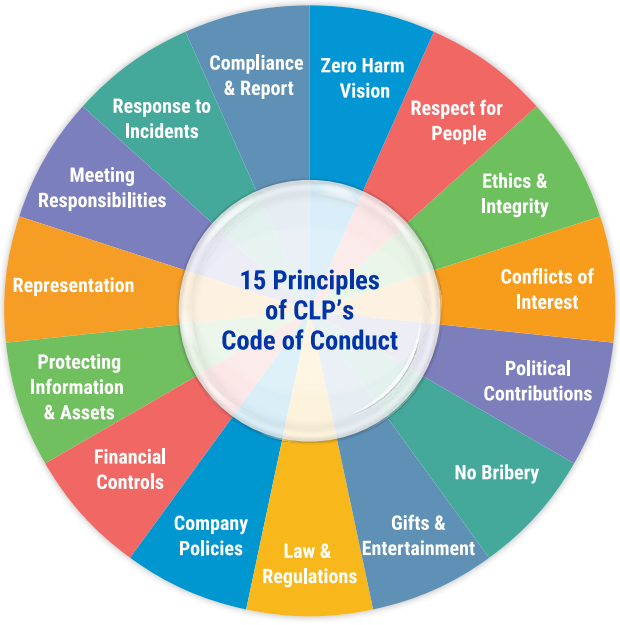
CLP has built its reputation as a trusted partner upholding responsible business conduct and ethics. Guided by its Value Framework and Code of Conduct, CLP employees are committed to acting with integrity and honesty in all business activities and standing firm against corruption within the Group.

GRI reference: 2-24, 2-26, 205-1, 205-2, 205-3, 416-2

CLP's Code of Conduct sets out 15 Principles that help drive the Company forward and serve as a tool to guard against corruption within CLP. The Code is applicable to the entirety of the Group, including CLP Holdings, its wholly owned subsidiaries, joint ventures or companies under CLP's operational control or joint operational control. For transparency, it is also available to the public in both English and Chinese.

All employees of CLP, irrespective of their position and function, are expected to fully adhere to the principles. 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.

15 Principles of CLP's Code of Conduct



Download CLP's Code of Conduct

CLP has a Whistleblowing Policy in place to encourage and assist 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. The Whistleblowing Policy is available to the public in both English and Chinese. Concerns can be reported independently to CLP Group Internal Audit 24/7 through a dedicated whistleblower hotline or email. Any concerns received will be handled with care and treated fairly and properly.

Download CLP's Whistleblowing Policy

Training and awareness

Code of Conduct training is mandatory for all staff 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.

Every four years, the Company conducts a Group-wide Business Practice Review (BPR) through which all employees receive refresher training on understanding the Code's Principles, to help ensure business practices remain compliant and ethical.

During these sessions, potential issues are raised and reviewed with management. A number of case studies based on past violations are included to demonstrate the proper way to handle potential and actual situations in which the Code has been violated. Contractors are encouraged to attend the BPR sessions alongside CLP employees.

The latest BPR training commenced in mid-2021 and was completed in 2022 for all regions, including Hong Kong, Mainland China, India, and Australia.

Monitoring and follow-up

The General Representation Letter (GRL) process is one of the means by which non-compliance with the Code of Conduct 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, amongst other Company policies.

The process reinforces personal responsibility for good governance and facilitates self-assessment on the adequacy and effectiveness of controls at different levels within CLP. As part of this annual process, business practices are reviewed and fraud risks in different areas are assessed, while irregularities or exceptions are reported for the attention of senior management. Leaders, including managers or above, Finance and Procurement staff, secretaries in the Group,

or other key staff considered appropriate by management must sign a Code of Conduct Compliance Statement on an annual basis.

The Group-wide reporting system for Code of Conduct violations applies to any alleged or potential breach. Potential violations of the Code of Conduct are reported to Group Internal Audit (GIA) by employees, vendors, contractors and GIA auditors. Communications are received through means such as anonymous letters, emails or phone calls. The Group Code of Conduct Committee, which comprises the Chief Financial Officer, Chief Strategy, Sustainability & Governance Officer and Chief Human Resources Officer, reviews and endorses any disciplinary measures to be taken.

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). The number of breaches of the Code and any cases of corruption are reported annually to the Audit & Risk Committee (ARC), with the relevant data verified by a third party.

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. Under the delegation, EnergyAustralia informs the CLP Holdings ARC of cases involving senior EnergyAustralia employees.

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

Initiatives and progress

In 2022, 10 breaches of the Code of Conduct were reported, though none were financially or operationally material to the Group, nor did they involve employees at the grade level of senior manager and above.

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

The number of breaches of the Code of Conduct reduced from 18 in 2021 to 10 in 2022. None of the 10 breaches of the Code of Conduct was material to the Group's financial statements or overall operations, nor did they involve employees at the grade level of senior manager and above. In addition, there were no convicted cases of corruption. The breaches were managed internally in accordance with CLP's complaint handling process for Code of Conduct breaches.

Regarding whistle-blowing cases, five cases were received in 2022 compared with 25 in 2021.

Records of confirmed cases of Code of Conduct Principles breaches during the past five years are shown in the table below. Between 2018 and 2022, CLP did not have any breaches related to seven Code of Conduct principles, namely Political Contributions, No Bribery, Gift & Entertainment, Laws & Regulations, Representation, Response to Incidents, and Compliance & Report.

Code of Conduct Principles

	2022	2021	2020	2019	2018
Zero Harm Vision					
• *Includes issues regarding health and safety, and alcohol and drug abuse.*	0	0	0	0	1
Respect for People					
• *Includes discrimination, harassment and other issues related to not respecting people.*	5	4	8	17	7
Ethics and Business Integrity					
• *Includes unethical business behaviour related to integrity, honesty and fairness.*	2	10	1	13	8
Other Principles					
• *Includes Conflicts of Interest, Company Policies, Financial Controls, Protecting Information & Assets, and Meeting Responsibilities.*	3	4	16	1	4
Total	**10**	**18**	**25**	**31**	**20**

Legal compliance

Our approach

The CLP Group operates in multiple jurisdictions each with different legal and regulatory requirements. Compliance with the requirements of the jurisdictions in which it operates is CLP's top priority for maintaining credibility and the social licence to operate.

CLP is a law-abiding company that aspires to go beyond legal requirements and bring international best practices to its operations. CLP voluntarily follows higher standards that reflect the Company's principles and values and is prepared to forego opportunity or advantage when upholding the highest standards of corporate governance and integrity is necessary. Specific policies and guidelines for each operational area are in place to assist CLP in ensuring compliance with the differing jurisdictional 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.

Monitoring and follow-up

One of the responsibilities of the 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 Hong Kong Exchanges and Clearing Limited (HKEx) Listing Rules, the Companies Ordinance (Hong Kong) and the Securities and Futures Ordinance (Hong Kong). The ARC also reviews regulatory and legal issues. Every six months, Group Legal Affairs compiles a CLP Group Key Regulatory and Legal Compliance 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 of the various jurisdictions in which it operates. The Company closely monitors emerging regulations and ensures that it is prepared for changes.

In reviewing new and amended laws and regulations which came into effect during the 2022 reporting year, CLP identified those which had or would have a significant impact on the business and are relevant for inclusion in this report. The threshold applied for assessing inclusion is whether significant investment or expenditure was required to ensure compliance. Laws and regulations that met this threshold are outlined in the respective sections of this report:

1. **Emissions –** air and GHG 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; and
6. **Anti-corruption –** bribery, extortion, fraud and money laundering.

Initiatives and progress

There were three reportable case of legal non-compliance in 2022.

SASB reference: IF-EU-140a.2, IF-EU-550a.1; GRI reference: 2-27, 205-3, 206-1, 306-3 (2016), 411-1, 413-2, 416-2, 417-2, 417-3, 418-1, EU22, EU25

In the spirit of transparency and accountability, CLP reports cases of legal non-compliance annually in this 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 2022 legal compliance performance is summarised below, according to the GRI Standards 2021 and the HKEx Environmental, Social and Governance 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.

Legal non-compliance

	Number of cases	Supplementary information
Business practices		
Anti-corruption	No reportable cases	Read more in Code of Conduct and anti-corruption.
Anti-competitive behaviour	No new reportable cases in 2022. 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. In June 2020, the THAC ruled in favour of Ho-Ping for the third time, and the FTC once again appealed to the SAC. In August 2022, the SAC ruled in favour of FTC. Ho Ping continues to defend its position and submitted application for a retrial in September.
Employees and contractors		
Employment practices	No reportable cases	
Labour standards (child and forced labour)	No reportable cases	
Occupational health and safety	There is one reportable case from an existing and previously noted event involving Yallourn Power Station in Australia, in which the CLP Group has a 100% equity interest	In December 2021, the Victorian Workcover Authority (Worksafe) laid charges against EnergyAustralia Yallourn in relation to three breaches of the Occupational Health and Safety Act in relation to Graeme Edwards' death at Yallourn Power Station in 2018. The three charges were related to failures to, so far as reasonably practicable, provide and maintain a working environment that was safe and without risk to health. At the committal mention on 3 June 2022, a plea of guilty was entered in relation to the charges brought by WorkSafe. The sentencing hearing was held on 13 February 2023 where EnergyAustralia Yallourn was fined a total of A$1.5 million.
Customer		
Customer privacy	No reportable cases	Read more in Customer privacy.
Product and service information and labelling and marketing information	One reportable case	In June 2022, EnergyAustralia agreed to give an Enforceable Undertaking (EU) to the Essential Services Commission (ESC) in relation to failures to comply with its explicit informed consent (EIC) obligations in relation to some Victorian customers. The EU commits to a number of compliance improvement actions, which include increasing the existing annual compliance training in relation to EIC requirements and quality assurance checks of sale interactions, appointing an independent compliance professional or legal practitioner to thoroughly review EnergyAustralia's practices for obtaining EIC and its implementation of the Compliance Improvement Action Plan, and regular senior management oversight of the implementation of and compliance with the proposed EU. The EU will remain in effect for 24 months.
Access to electricity	No reportable cases	
Customer health and safety	One reportable case	The Australian Energy Regulatory (AER) commenced legal proceedings against EnergyAustralia in 2020, alleging that EnergyAustralia contravened the life support rules on at least 23,000 occasions since 1 February 2018 (as reported by EnergyAustralia to the AER) as well as breached the court-enforceable undertaking agreed with the AER in August 2019. The matter was settled in June 2022. The Federal Court of Australia agreed with the settlement terms put forward by the parties, which include declarations and a pecuniary penalty of about HK$60 million with a contribution to the AER's costs of about HK$1,500,000.
Community		
Rights of Indigenous people	No reportable cases	
Environment		
	No reportable cases	Read more in Environmental management and compliance.

Supply chain management

Our approach

With the aim of powering the city responsibly, CLP extends our influence beyond our own operations and promotes good working practices throughout our supply chain.

CLP's effective procurement and supply chain management system cultivates long-term and mutually beneficial relationships with suppliers who share our values and goals. The system is centred on the CLP Group Procurement Standard (GPS) which is supported by a set of policies.

The system aims to continually improve CLP's competitive advantage by forming commercially viable strategic relationships with its preferred suppliers. The approach measures business value outcomes in terms of the total cost of ownership management, environmental, social and governance (ESG) value, supply chain resilience, and innovation. As an integral part of the business operation, CLP's procurement commitments are also embedded in a set of policies including CLP's Value Framework, CLP Procurement Values and Principles, CLP SCoC and other procurement policies that govern daily CLP operations.

Strategies and procedures

The GPS provides a framework towards world-class procurement practice and for raising CLP's supply chain management capability to support CLP's transition to a Utility of the Future.

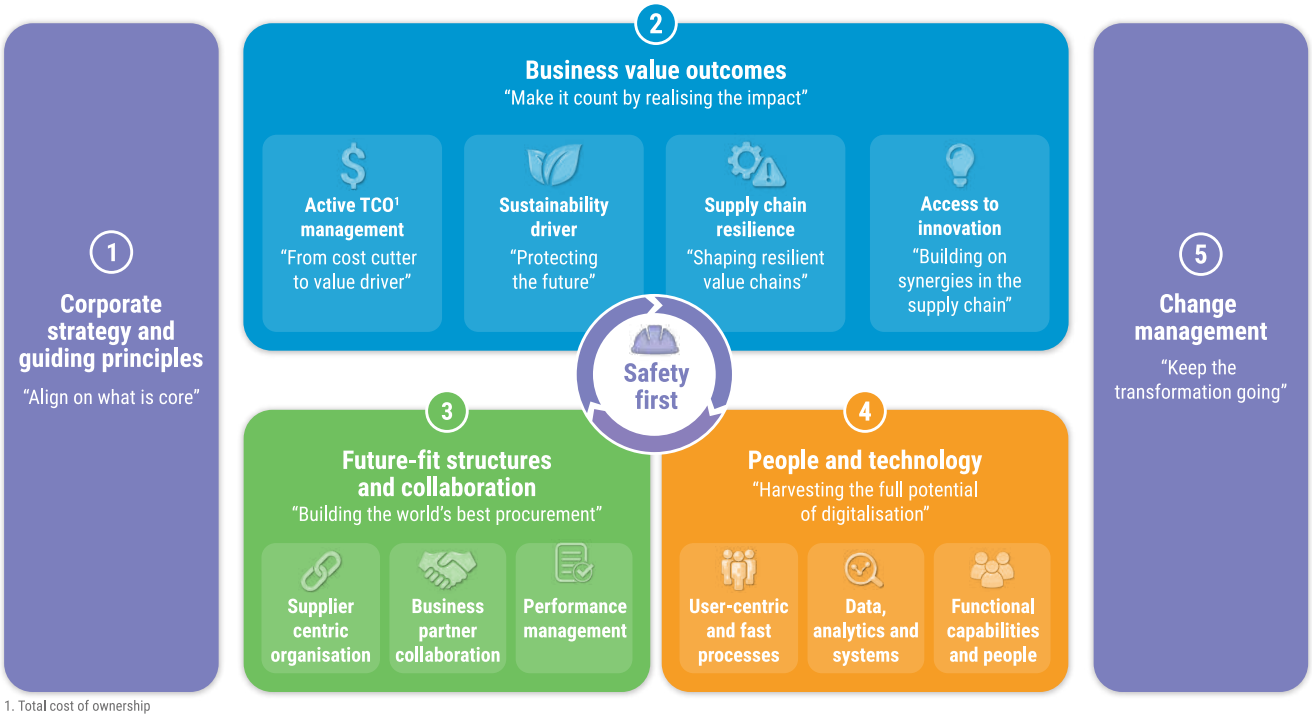
The GPS provides a structured path for the business to deliver value outcomes in the four critical areas of total cost of ownership management, sustainability, upstream supply chain resilience and innovation. It is regularly reviewed through internal engagement for continuous improvement.

The latest version of the GPS was released in early 2022 with safety within the supply chain serving as an overarching value for the five-dimensional framework. The five dimensions of the GPS are:

- Corporate strategy and guiding principles
- Business value outcomes
- Future-fit structures and collaboration
- People and technology
- Change management

For each dimension, the GPS defines levels of world-class practice from "basic" to "advanced". Each business unit assesses their required level of functional capability to support their business outcomes, and then develops a plan from their current level of practice towards leading practices.

CLP's Group Procurement Standard



1. Total cost of ownership

CLP's Whistleblowing Policy and Harassment-Free Workplace Policy also enhance CLP's procurement operations and CLP encourages all suppliers to uphold the principles outlined in these policies.

CLP Procurement team is a member of project steering committees and provides appropriate levels of oversight and governance in procurement decision-making. Procurement commitments in the Company's various regions are made with reference to the clearly-defined authorities set out in the *Company Management Authority Manuals*.

Monitoring and follow-up

CLP's fit-for-purpose sourcing strategies are designed to select suppliers who will best meet its requirements and deliver value at an acceptable level of risk.

Following the standard procedure, supplier selections are conducted through competitive tendering which assesses each supplier's ability to fulfil quality, health and safety, environment, delivery, innovation, sustainability and cost criteria. In every supplier contract, CLP safeguards its stakeholder interests and ensures the supplier meets its commitments and obligations, including legal and regulatory compliance, and obligations in respect of intellectual property rights, data confidentiality and security.

The Procurement Leadership Team, comprising each Region's head of procurement, oversees aggregated future procurement needs, supply market opportunities and risks, and the development of procurement strategies.

Procurement and business unit personnel work collaboratively to review the market and assess the performance of incumbent suppliers, as well as monitor sustainability risks in the areas of human rights/modern day slavery, environment and community. This joint effort has improved CLP's ability to formulate effective sourcing strategies, negotiate and manage risk and supplier relationships, and has resulted in tangible commercial benefits for each business.

For better management of supplier clusters, CLP segments its contracted suppliers into tiers based on relative contract value and potential business impact, including risks in relation to supply chain and sustainability. The tiers are reviewed on an annual basis. The process of segmentation allows CLP to apply appropriate levels of governance and engagement for efficient supply chain management.

In addition, quarterly risk assessments are conducted according to the Corporate Risk Framework for strategic suppliers with high business criticality and spend value. Heatmaps assist in determining the likelihood of failure events and their potential impact on the business. The assessment is conducted 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 along the supply chain. Regular meetings with suppliers are conducted to discuss the progress of mitigation plans and explore opportunities for further improvement.

Continuous improvement

Through year-round operational, business, and executive reviews, CLP enhances its supplier relationship management process for strategic suppliers. The reviews consistently measure each strategic supplier's delivery performance, and drive continuous improvements and alignment.

Past performance data, future business needs, and technology and innovation roadmaps are regularly reviewed 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. Supplier input, with specific focus on technology roadmaps and innovation, also strengthens CLP in preparing for future challenges.

For example, as a result of the review process, a talent development programme has been rolled out in CLP Power since 2021. It provides comprehensive training modules, including topics on category management and sustainable procurement, to uplift the capabilities of the procurement team in Hong Kong. Additional sustainability training on sustainable supply chain and other related topics will be arranged in 2023.

Initiatives and progress

All suppliers contracted for critical projects were subject to sustainability risk assessments, representing 51% of total procurement project spend.

GRI reference: 2-6, 2-24, 204-1, 308-1, 308-2, 407-1, 408-1, 409-1, 414-1, 414-2

CLP defines critical projects by considering their importance to business operations, sustainability risks and contract value.

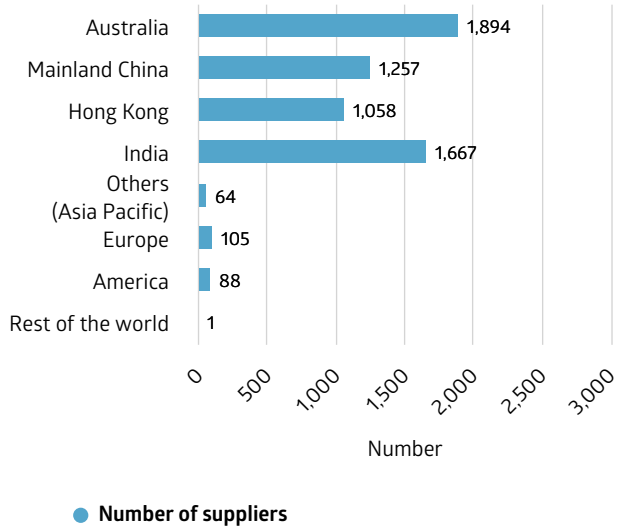
Suppliers of critical projects are assessed on their sustainability practices through various tools, including self-declared questionnaires, proposal evaluation, site visits, and where subcontracting is involved, audits on the subcontractor's capability to meet the project's requirements.

In 2022, all critical projects awarded underwent sustainability risk assessments. These critical projects represented 51% of total procurement projects by value, as compared with 67% in 2021 and 94% in 2020. The relatively high percentage in 2020 was attributed mainly to one-off capital projects in Hong Kong.

In 2022, the Group sourced products and services from 6,127 suppliers to the total amount of HK$54.8 billion – 84% of this total was spent on 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.

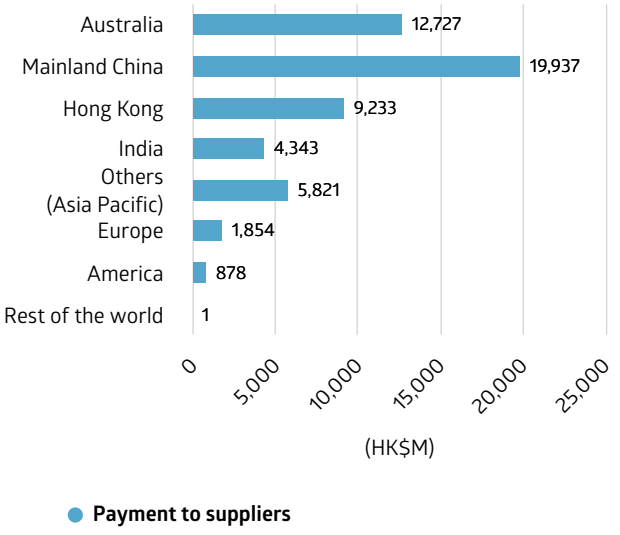
Number of suppliers by region

The highest number of CLP's active suppliers are in Australia



Payment to suppliers by region

The majority of payments to suppliers in 2022 were made in Mainland China.



Working with an ESG-specialised data analytics company, in 2022, CLP's procurement team reviewed its entire active supplier base of approximately 6,000 suppliers against ESG criteria in 2022. It included an assessment of its strategic suppliers against 54 ESG aspects (including human rights, bribery, carbon emissions, amongst others), sanctions, and industry risk based on the commodity and location of manufacturing bases. The assessment referred to various internationally credible third-party references, such as CDP Scoring and the Global Slavery Index. As a general statement, no major issue or finding was identified amongst the active suppliers reviewed.

In Hong Kong, to uplift the procurement team's capabilities in managing its supply chain and associated risks, CLP Power introduced several capability development initiatives in 2022, including:

- A corruption prevention webinar arranged with the Hong Kong Government's Independent Commission Against Corruption (ICAC) to promote awareness of anti-corruption and anti-bribery practices when working with new and incumbent suppliers;
- A procurement talent development training programme providing foundational knowledge in core procurement practice areas and supply chain management;
- Contract law training sessions to further strengthen understanding of key contract terms relevant to potential supply chain disruptions or supplier non-compliance events;

- A pilot applying a Know Your Counterpart (KYC) questionnaire which helps identify potential compliance and sanction risks arising from third party suppliers and their supply chains;
- Regular screening of existing and potential suppliers against international sanctions lists to ensure the timely identification, assessment and mitigation of potential sanction risks; and
- The introduction of preventive measures in CLP Power's end-to-end procurement process to further mitigate potential "conflict of interest" risks, in line with CLP's corporate requirements.

In Australia, EnergyAustralia was required to report under the Australian Modern Slavery Act 2018 and submitted its second statement in 2022. The Company updated its Modern Slavery Policy, covering EnergyAustralia's obligations within its operations and supply chains, and how risks are identified, assessed and addressed.

In preparing its statement to the Australian Government, EnergyAustralia developed a risk matrix based on a survey of supplier locations and commodities to identify high-risk suppliers with special focus on modern slavery risk. Any suppliers identified as not having any policies or practices prohibiting child labour, or forced, bonded or involuntary prison labour will be provided with the tools to develop policies and practices so that they can abide by EnergyAustralia's SCoC. Energy Australia will subsequently conduct surveys to monitor their implementation.

Through its reconciliation action planning with Reconciliation Australia, EnergyAustralia has committed to increasing its number of Aboriginal and Torres Strait Islander suppliers to support economic and social improvements for the First Nations people of Australia. To help deliver on this commitment, the Company engaged as member of two Aboriginal-led organisations with over 50% of representation coming from First Nations peoples, namely Supply Nation, a not-for-profit organisation encouraging the growth and engagement of Indigenous businesses, and the Kinaway Chamber of Commerce Victoria.

In 2022, Indigenous participation clauses continued to be included in EnergyAustralia supplier contracts, particularly for contracts for generation sites. By doing so, it seeks to encourage its suppliers to help drive Indigenous inclusion by increasing their Indigenous business spend, employment and cultural awareness.

During the year, EnergyAustralia's procurement team received training and development on Indigenous procurement from Supply Nation. By year end, the procurement team reported that it had sourced goods and services from 10 Indigenous suppliers with a total of A$241,173 in spend.

Responsible procurement

Our approach

As a responsible business, CLP requires alignment of its targets and objectives with those of its business partners. CLP is committed to building a value chain that, at its core, shares responsible procurement practices.

GRI reference: 2-24, 407-1, 414-2

CLP newly released the SCoC in 2022 which is derived from CLP's values, policies, standards and objectives. Setting out specific requirements for suppliers to support CLP's environment, social and business objectives, the SCoC articulates our 11 responsible procurement practices. They are:

1. Legal Compliance
2. Business Ethics
3. Cybersecurity
4. Quality and Safety
5. Environmental Management
6. Climate Change
7. Employee Health and Safety
8. Labour Practices and Human Rights
9. Diversity and Inclusion
10. Community Relations
11. Supply Chain Management

Download the CLP's Supplier Code of Conduct

With the introduction of CLP's first SCoC, EnergyAustralia updated and relaunched its SCoC in December 2022. The new Code reflects the essence of CLP Group's responsible procurement practices. It includes a whistleblowing service that suppliers may contact directly or raise any concerns with anonymously. The new Code has been added to supplier 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 regarding business ethics. Suppliers are encouraged to align with the requirements and expectations stated in the SCoC 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 that reduce ESG risks and enhance supplier capabilities to meet CLP's sustainability expectations. The Company strives to shift from reactive risk mitigation to advancing opportunities on strategic sustainability priorities.

Strategies and procedures

CLP takes a risk-based approach to responsible procurement across the procurement lifecycle. ESG risks are identified and evaluated regularly at category, project and supplier levels against each responsible procurement practice. This evaluation considers:

- Country-specific risks;
- Product/service-specific risks;
- Industry/category-specific risks;
- Legal and regulatory compliance risks;
- Cybersecurity risks;
- Labour practices and sub-contracting risks;
- Health and safety risks;
- Governance and business conduct risks;
- Environmental risks;
- Operational/supply chain risks; and
- 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 results provide insights into sourcing strategy development for categories and risk mitigation for strategic suppliers.

Training and development

CLP regularly conducts workshops for contractors to uplift their safety and environmental awareness and capability. To enhance professional development of contractor staff, workshops and training on procurement practices and supplier relationship management are conducted.

Initiatives and progress

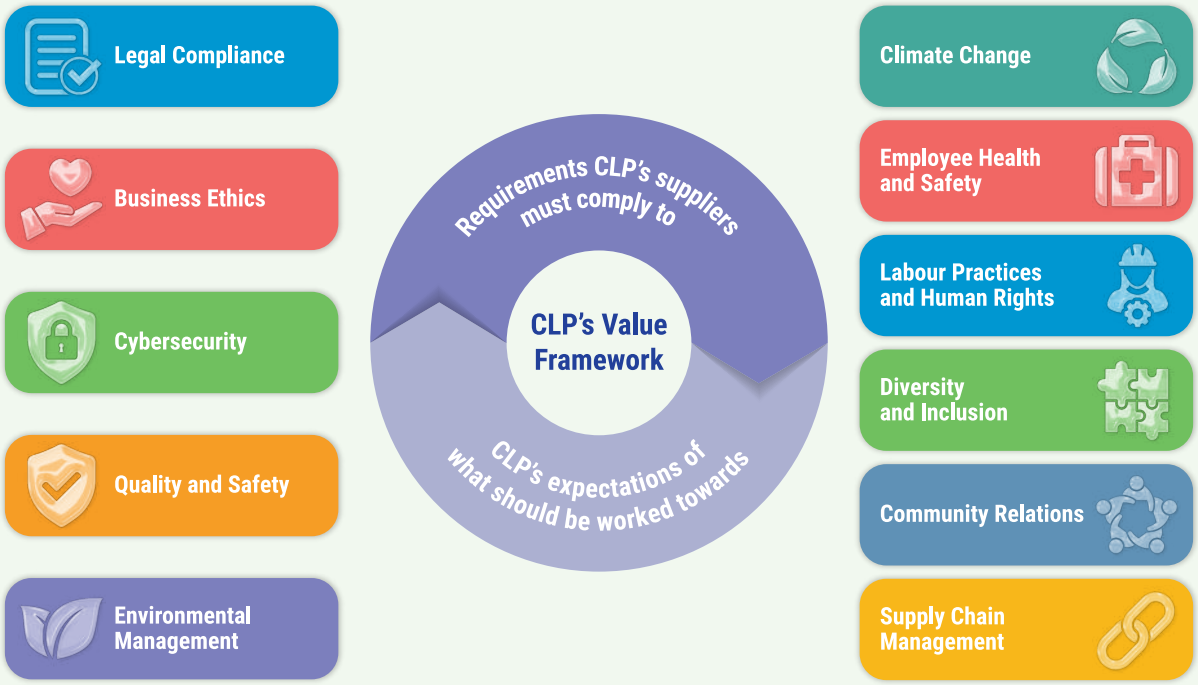
CLP is strengthening its Responsible Procurement Framework and enhancing the visibility of supplier sustainability risk, as part of its three-year Responsible Procurement Roadmap, which was endorsed by the Sustainability Executive Committee in the third quarter of 2022.

Through collaborative programmes with suppliers, the three-year Roadmap helps drive positive impacts that contribute to CLP's sustainability goals and objectives. In the first year, CLP is focusing on building the foundational capabilities and aspirations for sustainability in procurement. A key milestone was the launch of the new SCoC in December 2022, and the internal and external communication campaign around it. Going into the second year, CLP will drive business impact through a new SCoC questionnaire which profiles the supplier's strengths or weaknesses against CLP's responsible procurement practices.

Another project in progress aims to enhance the visibility of the sustainability risk profile of CLP's supplier base. A third-party risk management framework is currently under development. This will help assess a supplier's sustainability profile considering their industry and geography. All active and new suppliers will be assessed to identify sustainability risk hotspots, and be informed of further actions required, including possible support to improve their sustainability performance. The proposed assessment process is targeted for launch in 2023.

Case study

Supplier Code of Conduct to mandate CLP's environmental, social and business objectives in its value chain



CLP newly released its Supplier Code of Conduct (SCoC) in December 2022. Derived from CLP's values, policies, standards and objectives, the SCoC is a general statement on its expectations of the suppliers CLP does business with and those who want to do business with CLP.

The SCoC comprises 11 responsible procurement practices which align with CLP's Value Framework.

- **Legal Compliance** – Comply with the laws and regulations of the jurisdictions in which CLP and its suppliers do business
- **Business Ethics** – Apply ethical business practices without conflict of interest or undue influence, and against bribery and unethical behaviours and practices in business decisions
- **Cybersecurity** – Respect and protect own data and the personal data of customers
- **Quality and Safety** – Provide reasonably priced and reliable energy, quality service and value to customers
- **Environmental Management** – Minimise the environmental impact of the value chain and preserve the natural environment proactively
- **Climate Change** – Decarbonise the portfolio and reduce Scope 3 greenhouse gas (GHG) emissions including upstream supply chains
- **Employee Health and Safety** – Provide guidance and support to suppliers to create a healthy and safe workplace for their employees.
- **Labour Practices and Human Rights** – Cascade CLP's value to suppliers so as to provide a dignified, fair and equal workplace
- **Diversity and Inclusion** – Provide an inclusive and diverse workplace that enables CLP to serve its diverse portfolio of customers
- **Community Relations** – Create a positive impact and minimise operational impact through engagement with local communities
- **Supply Chain Management** – Encourage suppliers to do business responsibly with their upstream suppliers

For each of the practices, the SCoC highlights what the supplier must comply with and what they should work towards.

The SCoC is embedded into CLP tender documents and contracts. CLP encourages its suppliers to monitor, manage and disclose their performance to SCoC and to extend similar principles into their upstream supply chains. To facilitate the communication with suppliers and their understanding of the SCoC, CLP continues to actively provide feedback and advice to its suppliers to help them work towards reaching CLP's expected standard.

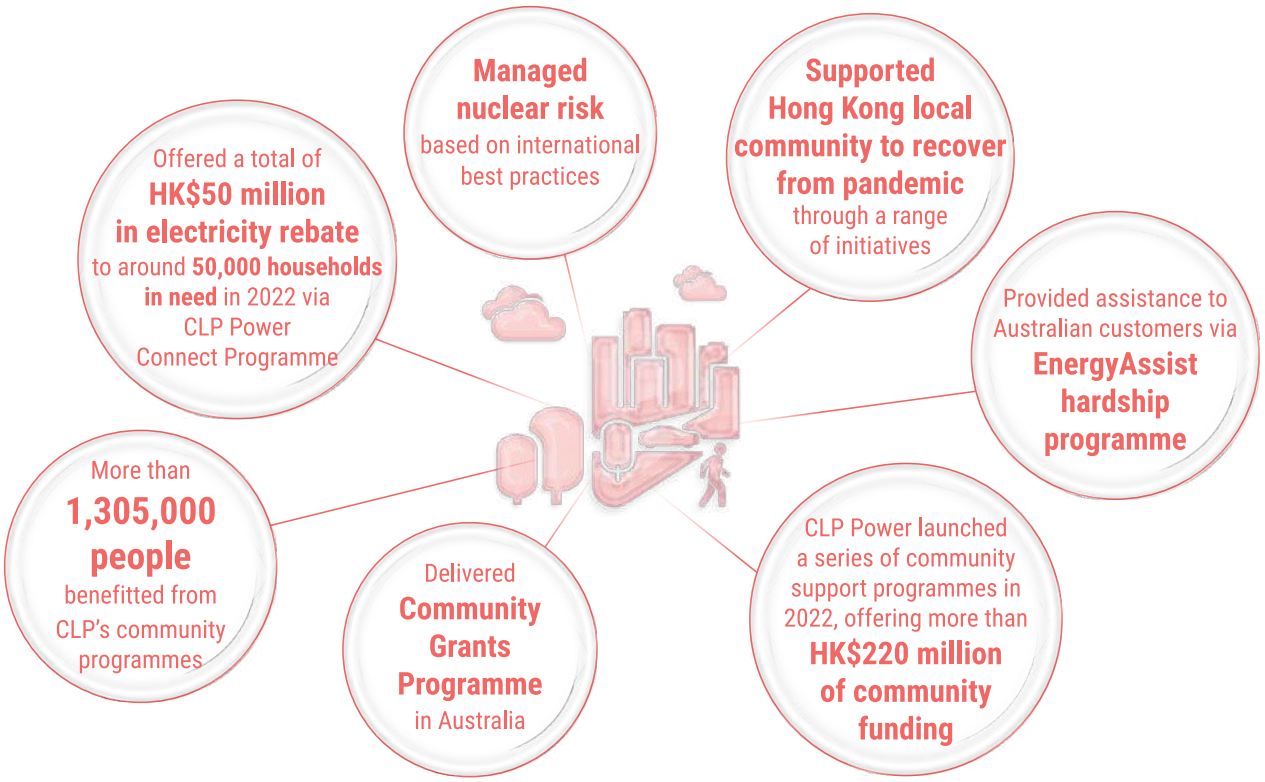
If there is a gap between a supplier's approach and the SCoC, CLP will encourage the supplier to formulate and implement an enhancement plan. To support CLP's efforts in managing its supply chain, CLP may request a supplier to provide evidence of accreditations, certifications, self-assessments, compliance reviews and audit reports.

Community

Overview

Stakeholders' areas of interest	Relevant material topics
• Providing access to reasonably priced energy	**Shaping and executing the transition to net zero**
• Community investment	• Partnering in the clean energy transition
• Safety around CLP's network	**Bolstering energy security and reliability**
• Nuclear safety	• Reliable and reasonably priced energy

Outcome for stakeholders



Providing access to reasonably priced energy

Our approach

Access, in the context of electricity supply, is the ability to use a reasonably priced 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 and services.

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 with a first language other than English, and also offers hearing-impaired and vision-impaired billing services.

Initiatives and progress

Various subsidy schemes and hardship programmes in Hong Kong and Australia continued to relieve the hardship suffered by those in need and safeguard their access to electricity.

SASB reference: IF-EU-240a.3

Hong Kong

Despite soaring international fuel prices for electricity generation resulting in an increase in the fuel cost adjustment, CLP Power strives to smoothen price fluctuations to provide reasonably priced and stable electricity supply.

During 2022, CLP Power offered more than HK$220 million of community funding to launch a series of community support programmes. For example, in supporting residential customers, CLP Power offered a total of HK$50 million in electricity subsidies to around 50,000 households in need through the ongoing CLP Power Connect Programme. Under the programme, CLP Power also provided subsidies and one-stop support for the landlords of subdivided units to carry out rewiring works, and install individual electricity meters for tenants of subdivided units, to improve the safety of the units and electricity usage tracking. The programme was launched in January 2019, and at the end of 2022, 40 subdivided units were rewired with 134 individual electricity meters installed.

Soaring international fuel prices and surge in the fuel cost for electricity generation have led to an increase in Fuel Clause Charge. To ease the burden of families in need, CLP Power allocated HK$100 million in 2023 to the CLP Fuel Cost Subsidy Programme, providing one-off fuel cost subsidies to 150,000 underprivileged households and tenants of subdivided units in its supply area. In addition to that, it allocated HK$25 million in 2023 to help tenants of subdivided units to improve their home safety and living conditions as well as subsidise families in transitional housing to buy energy-efficient electrical appliances.

CLP Power announced HK$200 million in community support with HK$100 million allocated for subsidising the fuel expenses of 150,000 grassroots families in 2023.

Australia

EnergyAustralia recognises that all customers need to be able to access its products and services fairly and equally. Through its Energy Charter, EnergyAustralia commits to working together to improve affordability and to support customers experiencing vulnerable circumstances.

Download EnergyAustralia's Energy Charter 2022 disclosure

2022 was another challenging year for Australian customers with an unprecedented number of factors impacting their ability to pay – such as longer than expected recovery timeframes for businesses impacted by the pandemic, supply chain issues, inflation, interest rate increases, general cost of living expenses and multiple flooding events on the east coast in Australia. This saw a significant increase in both residential and business customers experiencing financial difficulties and seeking support. In response to the current economic environment and the reoccurring natural disasters from January to December 2022, EnergyAustralia helped residential customers experiencing difficult financial situations by putting in place over 225,851 payment plans and granting more than 363,338 payment extensions. For customers impacted by long-term financial hardship, assistance is available under the EnergyAssist hardship programme.

The programme helps customers by offering tailored payment plans, payment matching and debt waivers, as well as 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 2022, 37,864 account holders entered the programme and 11,441 account holders left the programme after successfully completing their payment commitments. This represents a graduation rate of 30%, slightly higher than 27% in 2021.

EnergyAustralia's business customers were some of the first to access tailored support. Rapid Business Assist, a programme launched in 2020 to support SMEs facing financial uncertainty, continued in 2022. In consultation with customers, specialist EnergyAustralia business advisers customise payment schedules, offer free standard disconnections and reconnections, advise on lowering energy consumption, and provide guidance on government energy relief subsidies. In 2022, the programme provided more than 15,624 payment extensions and over 2,490 payment plans for business customers.

In addition, EnergyAustralia partnered with various organisations to assist customers in financial hardships and improve energy efficiency. EnergyAustralia is a member of The One Stop One Story Hub Partnership, which helps connect its customers and supports those facing Family and Domestic Violence or financial hardship to navigate support programs available without having to repeat their situation multiple times. Since becoming a partner in May 2022, EnergyAustralia assisted 109 customers to date. EnergyAustralia also partnered with Uniting Energy Audits to provide its customers with energy efficiency information via a home or phone audit. This organisation also provided additional support in the form of referrals to other support services and completing applications related to government grant. EnergyAustralia also partnered with the Good Guys to assist with the delivery of new appliances and removal of old ones as part of our appliance swap programme.

Read more on EnergyAustralia's Hardship Policy

Find out about the assistance provided by EnergyAustralia during COVID-19

Community investment

Our 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 an 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 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: Community Wellbeing, Environment, Education and Development, 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

The CLP Group Community Initiatives, Sponsorship and Donation 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.

Initiatives and progress

CLP Power launched a series of community support programmes in 2022, offering community funding of more than HK$160 million.

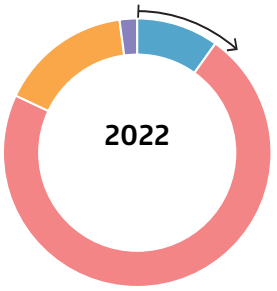
GRI reference: 201-1, 203-1, 203-2, 413-1

	2022	2021	2020	2019	2018
Direct beneficiaries	1,305,000+	1,580,000+	918,000+	615,000+	730,000+
Organisations benefitted[1]	280	232	263	401	434

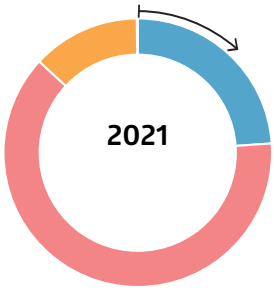
1 Organisations benefitted include professional bodies, academic institutes, NGOs and community groups.

Beneficiaries by theme

Of the more than 1,305,000 beneficiaries in 2022, 72.1% benefitted from CLP's community wellbeing initiatives. The significant increase in beneficiaries resulted thanks to CLP's Retail and Catering Coupons Programme.



- Environment: 9.9%
- Community Wellbeing: 72.1%
- Education and Development: 15.9%
- Arts and Culture: 2.1%



- Environment: 23.9%
- Community Wellbeing: 63%
- Education and Development: 13%
- Arts and Culture: 0.1%

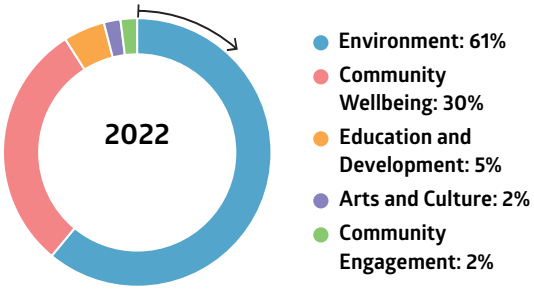
As pandemic restrictions were eased in certain regions, the number of volunteer hours and community programmes contributed increased significantly in 2022. The amount donated by CLP for charitable and other community purposes decreased to HKD$10 million. Community spending by theme and geography is summarised in the charts below.

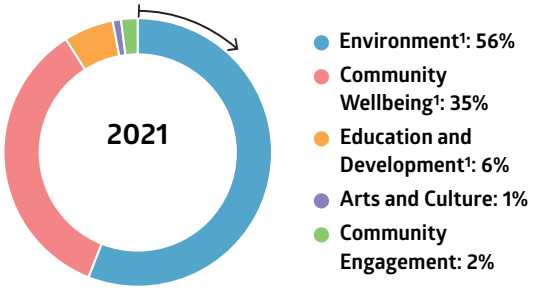
	2022	2021	2020	2019	2018
Amount donated for charitable and other purposes (HK$M)[1]	10.02	15.09	27.00	20.98	18.31
Volunteer hours (hours)[1]	19,329	16,541	10,973	20,015	23,661
Programmes implemented (number)	481	443	468	663	695

1 Numbers have been subject to rounding.

Community spending by theme

The largest percentage of community spending was directed to environment initiatives (61%), followed by community wellbeing initiatives (30%).

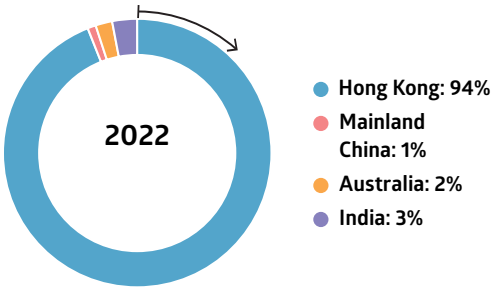


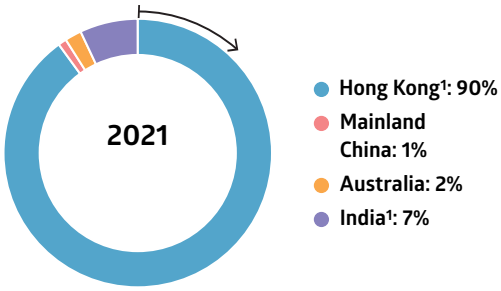


1 Restated as per updated data of spending in 2021.

Community spending by region

The largest percentage of community spending was directed to Hong Kong (94%).





1 Restated as per updated data of spending in 2021.

In 2022 EnergyAustralia's Workplace Giving Programme remains stable, with almost A$380,000 contributed by our employees. The funding raised has contributed to nine charity partners working in the areas of cancer research, homelessness, mental health and education.

Employees at Yallourn Power Station selected The People's Kitchen located in Victoria's Latrobe Valley as one of the newest charity partners. The programme has volunteers cooking meals for those people in the community who are experiencing food insecurity.

In the first year of partnership, The People's Kitchen received over A$20,000 (HK$108,467) in donations from EnergyAustralia's employees and matched by EnergyAustralia. Thanks to the contribution of Workplace Giving Programme, The People's Kitchen have been able to scale up their operations, cooking more meals for hungry people.

Find out more on local community initiatives at EnergyAustralia

Read more on each business unit's community programmes in the Annual Report

Case study

Providing opportunities to young people and nurturing future generations

Fresh graduates and career starters face many challenges nowadays, particularly in the face of economic downturns resulting from the pandemic. Across its business areas, CLP Power is keeping up its efforts to address the needs of local youth and give support in collaboration with various partners.

In Hong Kong, Vocational and Professional Education and Training (VPET) plays a vital role in broadening the learning opportunities of school leavers and in-service personnel. In collaboration with the Vocational Training Council CLP Power launched the CLP Award for VPET Students in 2020. The award assists VPET-enrolled students with their financial needs to allow them to continue their studies. The VPET programmes offer higher diploma training in electrical engineering, mechanical engineering, environmental engineering, computer and electronic engineering, and environmental protection and management.

In 2022, the CLP Community Energy Saving Fund (CESF) has allocated HK$1.5 million to the award, providing a subsidy of HK$20,000 to each eligible student and benefitting a total of 75 students in each cohort. 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 collaboration with the Correctional Services Department, CLP Power helps young persons in incarceration and those who have been released reintegrate into the society, as well as gain knowledge and skills via career talks and interview skills workshop. Two talks were arranged in Q4 2022 for some 80 young inmates to provide them with information on continuation of study and pathways to engineering.

CLP Power supports the Government's Strive and Rise Programme by nominating 16 mentors, including graduate trainees, young engineers and other representatives from various business units, to join the one-year mentorship programme. The mentors will be paired with junior form underprivileged students on a one-on-one basis and provide them with advice on life and study via a wide range of activities including visits to CLP facilities.

Furthermore, as part of "The Green Cedar Project", a poverty alleviation and ethnic minorities culture preservation campaign launched by CLP in Guangxi, Mainland China since 2019, CLP published the first Black Miao Dictionary in the region to support the educational development of local students. The dictionary features about 1,500 vocabularies and short sentences using Mandarin homophones and Pinyin, enabling students to learn the Black Miao language with ease and appreciate the beauty of the language, which is ebbing away.

Case study

Healing the social scars from the pandemic

To fully support the local community on the journey of pandemic recovery, CLP Power rolled out a range of targeted initiatives to address the needs of the communities of Hong Kong.

During the fifth wave of the COVID-19 pandemic, CLP donated HK$2 million to Hong Kong Community Anti-Coronavirus Link (HKCACL) to buy 10,000 sets of personal protective equipment for volunteers carrying out anti-infection work in the community. To support the community in its fight against the pandemic, CLP Power relaunched an electricity bill payment deferral programme for SMEs in the catering and retail trades, allowing them to defer payment for two months.

Although schools have resumed face-to-face classes, a combination of that and e-learning has become a new normal as the pandemic continues to disrupt normal life. CLP launched a Student E-Learning Assistance Programme to donate new iPads, laptops, internet mobile WiFi hotspots and data SIM cards to 1,500 primary, secondary, and tertiary students from low-income families. The initiative aims to help youngsters with online classes and e-learning as they prepare for the new academic year.

Under the prolonged pandemic, CLP Power facilitated social engagement for the elderly by organising four community tours for over 60 elderly who are living in Sha Tau Kok and Shatin to tour around the historic landmarks and beautified distribution box and substation on the Senior Citizen's Day, enabling them to reconnect with the community and learn more about the relationship between the electricity supply and the community. Over 5,300 goody bags were prepared to elderly in need in 2022.

In addition to supporting HKCACL for purchasing 10,000 sets of personal protective equipment for its volunteers, CLP volunteers prepared more than 13,500 anti-virus goody bags for distribution to frontline medical staff. CLP volunteers used their design thinking skills and expertise to develop a digital solutions management system for the HKCACL, allowing it to better manage volunteer data and inventory, match service and supply requests, and support the operation of its call centre. CLP Power also worked closely with HKCACL on a series of communication campaign themed "One Heart, Fight the Virus" to inject positivity to the society and show appreciation to all walks of life during the pandemic. In addition, 5,500 free meal coupons and emergency food packs were distributed to the CLP Hotmeal Canteens' service users. Over 20,000 nutritious food packs were distributed to children from low-income families through 29 NGO partners. DIY solar fan workshops were arranged for the beneficiaries.

In Mainland China, to support the local community, CLP donated RMB300,000 (HK$371,169) to support the COVID-19 relief efforts by local authorities in Qian'an county, Jilin province, where several of its wind farms are based. Employees meanwhile continued a programme of regular visits to distribute food and necessities to people in villages and elderly homes near CLP's plants during the Chinese New Year holiday period.

CLP's effort in helping people in need through its community programmes is well recognised and won the Outstanding Corporate Award and Gold Award of the Volunteer Hour Award for Corporate in the Hong Kong Volunteer Award 2022.

CLP distributes e-learning devices to 1,500 underprivileged students and encourages them to use them for more effective learning.

Case study

Reconnecting society and strengthening social ties in post pandemic era with series of social events

As we moved forward to the new normal, CLP Power launched a series of social events in Hong Kong to reconnect the society.

To conclude the We Love Dance programme launched in 2021, CLP Power organised a dance competition to promote exercise, energy-saving and caring for the underprivileged, while spreading positive energy to energise the city via a city-wide dance campaign. In the final dance competition, eight teams of talented dancers selected from 50 entrants took to the floor to display their dance moves designed around themes of love, electricity and energy-saving in a show of creativity and vigour. Since the programme launched in October 2021, more than 5,500 participants joined a range of community activities including over 100 community classes, a 10-day mobile truck roadshow and family online dance contest.

In addition to energising the community through dance, CLP Power extended the campaign to support those in need. For every dance completed by participants in the extensive programme of activities, CLP Power offered electricity subsidies to beneficiaries of the CLP Power Connect initiative. The beneficiaries included elderly people, disabled people, low-income families and tenants of subdivided units. The campaign contributed HK$2 million in subsidies to the initiative.

We love Dance concluded with a dance competition that not only energised the city but also encouraged the public to embrace low-carbon living

To spruce up the ubiquitous grey distribution boxes across the city, the Distribution Box Beautification Project was launched in 2021 by featuring the work of local artists on distribution boxes in four districts of Hong Kong. The project has extended to the other 10 districts in the CLP Power's supply area in 2022. The artworks were themed on local landmarks, cultural elements and sustainable power generation. The artworks were developed in collaboration with students of the Technological and Higher Education Institute of Hong Kong and local artists. An artwork exhibition was staged to bring more exposure to the initiative and encourage the public to adopt green lifestyle via appreciation of the distribution box artworks. New guided tours to visit the boxes, the traditional shops and local landmarks at Tsim Sha Tsui, Sham Shui Po and Yuen Long , were conducted for students to inspire them to learn about the unique history of their districts and the relationship between electricity and community. In extension to the Project, Art x Tech workshop has also been introduced to four secondary schools to increase students' awareness in decarbonisation via virtual world applications.

Given its popularity with the local community, the beautification project has also been implemented to substations to enhance the dissemination of green messaging and social engagement. Two murals were completed at Haiphong Road Substation, Tsim Sha Tsui, and Hung To Road Substation, Kwun Tong, in August 2022 and January 2023 respectively. The Beautification Project in 2022 is one of the endorsed programmes under Hong Kong SAR's 25th anniversary celebrations.

CLP Distribution Box Beautification Project
WATCH NOW ▶

Learn more about the Distribution Box Beautification Project

Case study

Teaming up with local initiatives and giving back to the community through EnergyAustralia's Community Grants Programme

EnergyAustralia is committed to making a positive contribution to local communities. The Community Grants Programme provides funding to local initiatives that aim to deliver sustainable benefits and achieve tangible outcomes.

EnergyAustralia is proud to be involved in the communities where it operates. It recognises the importance of engaging with the community to build a vibrant place to live and work. Community Grants Programme support this endeavour by providing funding to local initiatives which deliver sustainable benefits and tangible outcomes to the communities at the sites it operates, including Hallett Power Station, Mount Piper and Wallerawang Power Stations, Tallawarra Power Station, Yallourn Power Station and the Geelong Call Centre.

In 2022, EnergyAustralia provided over A$140,000 (HK$ 759,270) to grass roots communities to support local projects in the areas of education, social inclusion and regional sports and recreation through its Community Grants Programme.

The Geelong Call Centre funded to the Wangala Primary School to build a yarning circle at an unused site within the school's ground. This yarning circle will be a place for students to come together to yarn and share their feelings and stories. It seeks to build resilience as part of their wellbeing programme. 'Yarning' is part of First Nations culture – a culture fully embraced by the school and proudly reflected in its local Wadawurrung name, Wangala, meaning "to make good" or "to make right".

Yallourn Power Station granted its fund to the Thorpdale Primary School for a Sound Writing Program. The Sound Write program uses structured synthetic phonics resources to teach students to read, write and spell. It provides children with the skills to decode words rather than memorise them to learn. Throughout the year, the programme has helped many students at the school learn to read, write and spell using phonics. These grants, which support and connect with the community that Yallourn has been part of for 100 years, are supported by more than 500 employees at Yallourn site.

Fund granted to the Sound Writing Program of Thorpdale Primary School to teach students to read, write and spell

Safety around CLP's network

Our approach

Public 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.

GRI reference: 416-1, 416-2

While the Group's HSE 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 close proximity to electricity supply lines.

CLP operates a transmission and distribution network in Hong Kong, as well as transmission networks in Shenzhen, China and North-eastern part of India, covering Assam, Nagaland and Manipur. 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.

EMF arising from power systems can be of public health concerns. CLP's 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 continue to be 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 on product safety, as well as advise on energy-efficient products, energy-saving tips and other account management issues. In 2022, there were no reportable cases of CLP products affecting customer health and safety in Hong Kong.

Maintaining proper Health, Safety and Environment management practices for transmission towers is important to keep the general public safe.

Nuclear safety

Our 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.

SASB reference: IF-EU-540a.2

Nuclear risk management

The safe and steady operation of the two nuclear power stations remains a top priority. The defence-in-depth principle of safety is applied across the 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" is also applied to ensure robust radiation protection.

The two nuclear power stations have achieved good safety performance over the years. This achievement is a result of:

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

Find out more on nuclear energy

Learn more about the contingency plan of Daya Bay

Nuclear waste management

Daya Bay Nuclear Power Station (Daya Bay) 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 onsite for a number of years before being passed on to a service provider licensed by the Chinese Government for reprocessing. The service provider is supervised by the National Nuclear Safety Administration and its environmental impact is monitored by the Ministry of Ecology and Environment. 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 Daya Bay, CLP is not in a position to report on the back-end management of the fuel cycle in China, including the status of the reprocessing plants for spent fuel.

Low- to intermediate-level solid radioactive waste is packed and stored in a dedicated facility onsite 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 offsite 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 onsite 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-five-years requalification mechanism to ensure operator professionalism and competency in plant operation.

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

Initiatives and progress

Daya Bay continued to operate smoothly in 2022. There was a Level "0" Licensing Operational Event which was below scale and with no safety significance in the year.

GRI reference: 306-3 (2016), 306-1, 306-2, 306-3

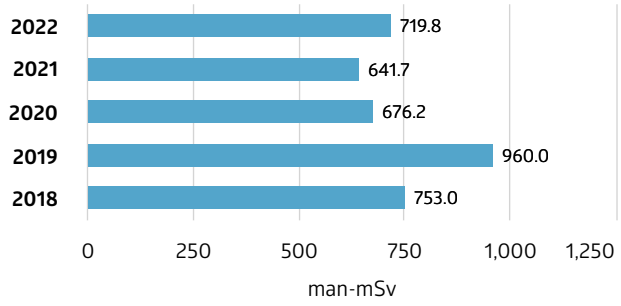
The average dose rate in 2022 was less than 0.4 mSv per person per year. For the purpose of comparison, the background radiation dose rate for Hong Kong is 2.4 mSv per person per year from the natural environment.

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

Two planned refuelling outages were carried out in Daya Bay in 2022. Therefore, the total quantity of spent nuclear fuel generated was at an expected level.

Collective radiation dosage for workers

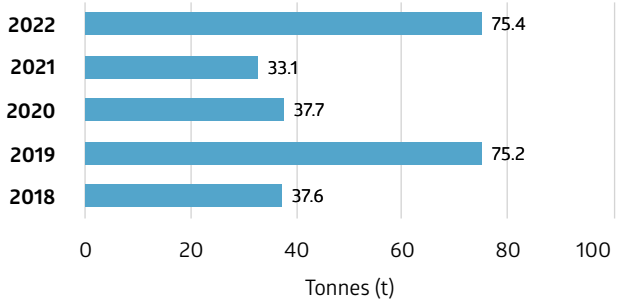
The collective radiation dosage for the year was 720 man-mSv, greater than the 2021 level of 642 man-mSv when there were two planned refuelling outages.



● **Collective radiation dosage**

Spent nuclear fuel

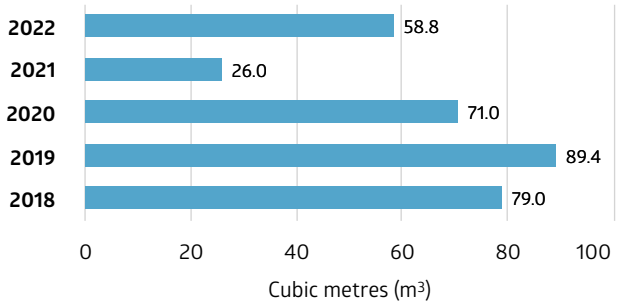
The amount of spent nuclear fuel in 2022 was at expected level given the two planned refuelling outages, while there was only one in year 2021.



● **Spent nuclear fuel**

Solid radioactive nuclear waste

There was an increase in low- to intermediate -level nuclear waste in 2022, as compared with 2021, due to the extra planned refuelling outage.



● **Solid radioactive nuclear waste**

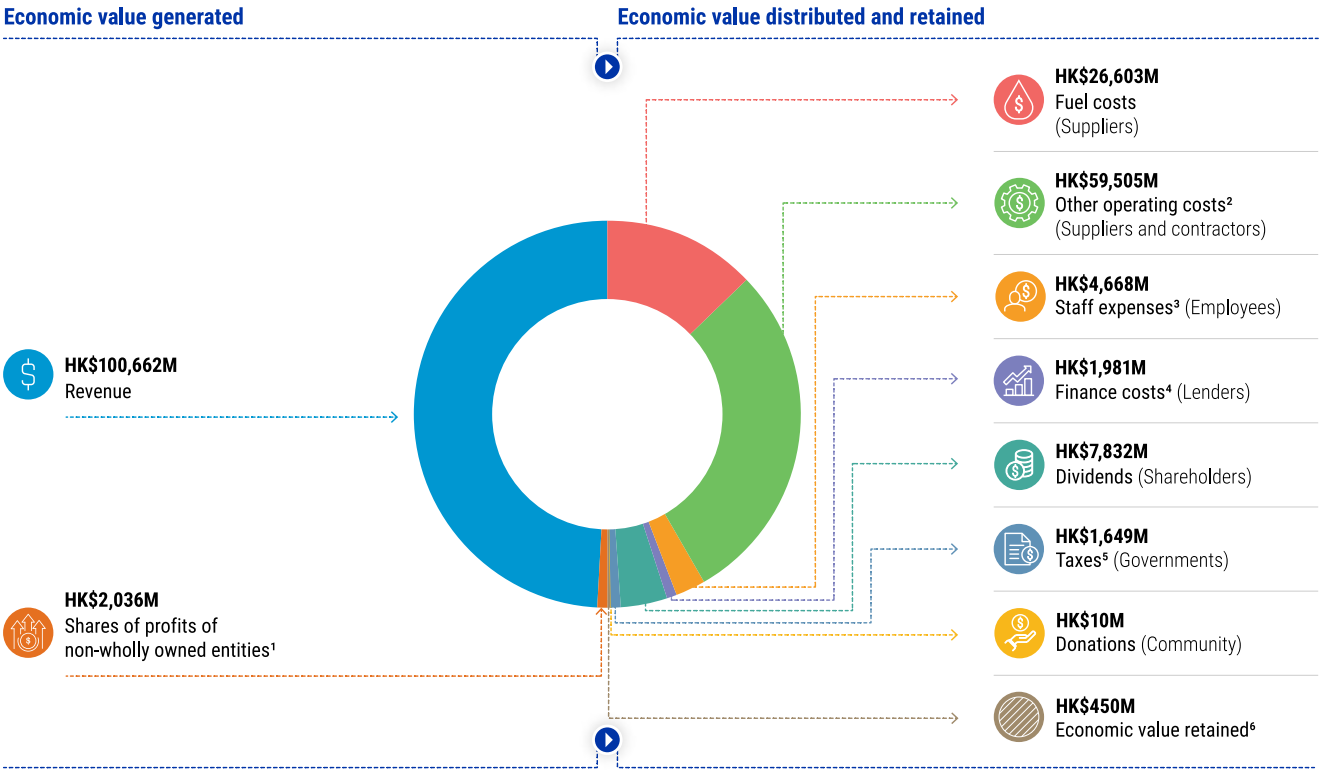
ESG Data Table and GHG Accounting Methodology

Economic value generated and distributed

Bearing in mind different stakeholder interests, CLP emphasises value creation over the long term, and does this in a way that helps serve the communities in which it operates.

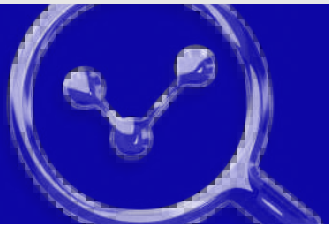
GRI reference: 201-1

One way to understand this emphasis is through the value created and distributed by CLP to different stakeholders. In 2022, 99.6% of the economic value generated by CLP was distributed to stakeholders, including employees, partners, capital providers and the community at large.



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 loss on sale of subsidiaries of HK$4,312 million.
3 Another HK$1,509 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$466 million were capitalised.
5 Represents current income tax but excludes deferred tax for the year.
6 Represents earnings attributable to shareholders (before depreciation, amortisation and deferred tax) for the year retained.

ESG data table



CLP continually improves by managing, monitoring and reporting its ESG performance. These tables present a quantitative overview of the Group's 2022 financial and non-financial performance. The disclosures are selected from the GRI Standards, The Hong Kong Stock Exchange's ESG Reporting Guide, SASB Standards for Electric Utilities and ISSB's Exposure Draft of S2 Climate-related Disclosures, as well as other key performance data.

Detailed discussion of these metrics can be found in the corresponding Environmental impacts and Social impacts sections.

The 2022 data shaded in orange has 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

Financial Information

Capital investment, operating earnings and total revenue

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Total capital investment incurred by asset type (HK$M(%))[1,2,3]	**17,849 (100%)**	15,411 (100%)	13,022 (100%)	12,028 (100%)	12,851 (100%)	ISSB 14-c
Transmission, distribution and retail	**6,379 (36%)**	5,957 (39%)	4,810 (37%)	5,229 (43%)	4,953 (39%)	
Coal	**2,280 (13%)**	2,628 (17%)	3,638 (28%)	2,473 (21%)	3,040 (24%)	
Gas	**6,713 (38%)**	5,639 (37%)	3,445 (26%)	3,146 (26%)	4,098 (32%)	
Nuclear	**0 (0%)**	0 (0%)	0 (0%)	352 (3%)	0 (0%)	
Wind	**1,721 (10%)**				N/A	
Hydro	**29 (0%)**	842 (6%)	455 (4%)	457 (4%)	N/A	
Solar	**34 (0%)**				N/A	
Waste-to-energy	**1 (0%)**	18 (0%)	7 (0%)	123 (1%)	N/A	
Others	**692 (4%)**	327 (2%)	667 (5%)	248 (2%)	46 (0%)	
Total operating earnings by asset type (HK$M(%))[1,4]	**9,065 (100%)**	10,972 (100%)	12,374 (100%)	12,138 (100%)	15,145 (100%)	
Transmission, distribution and retail	**6,501 (71%)**	6,095 (56%)	5,751 (46%)	5,131 (42%)	7,427 (49%)	
Coal	**-1,482 (-16%)**	763 (7%)	2,871 (23%)	2,503 (21%)	3,370 (22%)	
Gas	**1,412 (16%)**	1,312 (12%)	1,510 (12%)	1,735 (14%)	1,533 (10%)	
Nuclear	**1,965 (22%)**	1,908 (17%)	1,594 (13%)	1,688 (14%)	1,720 (11%)	
Wind	**428 (5%)**				N/A	
Hydro	**112 (1%)**	630 (6%)	567 (5%)	1,011 (8%)	N/A	
Solar	**4 (0%)**				N/A	
Waste-to-energy	**9 (0%)**	10 (0%)	8 (0%)	5 (0%)	N/A	
Others	**116 (1%)**	254 (2%)	73 (1%)	65 (1%)	171 (1%)	
Revenue (HK$M(%))[1]	**100,662 (100%)**	83,959	79,590	85,689	91,425	
Transmission, distribution and retail	**39,169 (39%)**	N/A	N/A	N/A	N/A	
Coal	**26,188 (26%)**	N/A	N/A	N/A	N/A	
Gas	**21,662 (22%)**	N/A	N/A	N/A	N/A	

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Nuclear	**7,000 (7%)**	N/A	N/A	N/A	N/A	
Wind	**1,950 (2%)**	N/A	N/A	N/A	N/A	
Hydro	**507 (1%)**	N/A	N/A	N/A	N/A	
Solar	**983 (1%)**	N/A	N/A	N/A	N/A	
Waste to energy	**58 (0%)**	N/A	N/A	N/A	N/A	
Others	**3,145 (3%)**	N/A	N/A	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 Capital investment includes additions to fixed assets, right-of-use assets, investment property, intangible assets, investments in and advances to joint ventures and associates, and acquisition of business/asset.
3 On an accrual basis.
4 Before unallocated expenses.

Economic value generated, distributed and retained

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Economic value generated, distributed and retained (HK$M)						GRI 201-1
Economic value generated						
Revenue	**100,662**	83,959	79,590	85,689	91,425	
Share of profits of non-wholly owned entities[1]	**2,036**	1,129	1,608	1,828	1,509	
Economic value distributed						
Fuel costs	**26,603**	18,506	15,753	16,712	17,187	
Other operating costs[2]	**59,505**	39,922	35,774	48,654	43,604	
Staff expenses[3]	**4,668**	5,107	4,844	4,535	4,449	
Finance costs[4]	**1,981**	1,774	1,875	2,033	2,107	
Dividends	**7,832**	7,832	7,832	7,782	7,630	
Taxes[5]	**1,649**	1,720	2,529	2,189	3,565	
Donations	**10**	15	27	21	18	
Economic value retained[6]	**450**	10,212	12,564	5,591	14,374	

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/reversal and other charges. In particular, amount included loss on sale of subsidiaries of HK$4,312 million, litigation settlement of HK$1,110 million and impairment of retail goodwill of HK$6,381 million in 2022, 2021 and 2019 respectively.
3 Another HK$1,509 million (2021: HK$1,402 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$466 million (2021: HK$317 million) were capitalised.
5 Represents current income tax but excludes deferred tax for the year.
6 Represents earnings attributable to shareholders (before depreciation, amortisation and deferred tax) for the year retained.

Climate Change

Greenhouse gas emissions

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
CLP Group[1]						
Total CO_2e emissions – on an equity basis (kt)[2,3]	**60,223**	65,017	62,138	71,720	N/A	GRI 305-1, 305-2, 305-3/ HKEx A1.2/ SASB IF-EU-110a.1, IF-EU-110a.2/ ISSB 21-a
Scope 1 (kt)[4]	**44,141**	47,690	45,105	50,047	N/A	
Scope 2 (kt)	**220**	236	244	250	N/A	
Scope 3 (kt)	**15,861**	17,091	16,790	21,424	N/A	
Category 1: Purchased goods and services	**912**	901	1,210	1,093	N/A	
Category 2: Capital goods	**902**	1,488	685	1,347	N/A	
Category 3: Fuel- and energy-related activities	**12,046**	12,733	12,690	16,671	N/A	SASB IF-EU-110a.2
Category 5: Waste generated in operations	**56**	80	63	101	N/A	
Category 6: Business travel	**2**	1	1	8	N/A	
Category 7: Employee commuting	**5**	4	2	4	N/A	
Category 11: Use of sold products	**1,939**	1,884	2,138	2,200	N/A	

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 2019-2022 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 is reported separately in the Asset Performance Statistics. Its non-CO_2 GHG emissions (i.e. CH_4 and N_2O) are included in CLP's Scope 1 CO_2e emissions.

CLP Group's generation and energy storage portfolio

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
CLP Group's generation and energy storage portfolio[1,2,3]						
CO_2 – on an equity basis (kt)[4]	**44,019**	47,574	44,987	N/A	N/A	GRI 305-1, 305-2/ HKEx A1.2
CO_2e – on an equity basis (kt)[4]	**44,235**	47,813	N/A	N/A	N/A	
CO_2 – on an equity plus long-term capacity and energy purchase basis (kt)[5,6]	**48,074**	51,674	48,621	N/A	N/A	
CO_2e – on an equity plus long-term capacity and energy purchase basis (kt)[5,6]	**48,323**	51,941	N/A	N/A	N/A	
CO_2 – on an operational control basis (kt)[4]	**44,338**	46,842	43,808	50,412	52,052	

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
CO_2e – on an operational control basis (kt)[4]	**44,571**	47,090	44,023	50,676	52,306	

1 Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019-2022 numbers.
2 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 is reported separately in the Asset Performance Statistics. Its non-CO_2 GHG emissions (i.e. CH_4 and N_2O) are included in CLP's Scope 1 CO_2e emissions.
3 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.
4 Numbers include Scope 1 and Scope 2 emissions..
5 Numbers include assets with majority and minority shareholdings, 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 a duration of at least five years, and capacity or energy purchased being no less than 10MW.
6 Numbers include Scope 1, Scope 2 and Scope 3 Category 3 emissions (direct emissions from generation of purchased electricity that is sold to CLP's customers).

Climate Vision 2050

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
CLP Group – GHG emissions intensity of generation and energy storage portfolio[1,2,3,4]						
On an equity plus long-term capacity and energy purchase basis (kg CO_2e/kWh)[5,6]	**0.55**	0.57	0.57	0.63	0.66	GRI 305-4/ HKEx A1.2/ ISSB 21-a
On an equity basis (kg CO_2e/kWh)[7]	**0.63**	0.65	0.66	0.71	0.74	

1 The 2019-2022 numbers refer to the GHG emissions intensity (kg CO_2e/kWh), in line with the updated Climate Vision 2050 targets. Numbers prior to 2019 refer to carbon emissions intensity (kg CO_2/kWh), as reported in the past.
2 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.
3 Paguthan Power Station, the power purchase agreements of which expired in December 2018, was not included in the 2019-2022 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 is reported separately in the Asset Performance Statistics. Its non-CO_2 GHG emissions (i.e. CH_4 and N_2O) are included in CLP's Scope 1 CO_2e emissions.
5 Numbers include assets with majority and minority shareholdings, 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 a duration of at least five years, and capacity or energy purchased being no less than 10MW.
6 Numbers include Scope 1, Scope 2 and Scope 3 Category 3 emissions (direct emissions from generation of purchased electricity that is sold to CLP's customers).
7 Numbers include Scope 1 and Scope 2 emissions.

CLP Power Hong Kong Limited – GHG emissions intensity of electricity sold

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
CLP Power Hong Kong – GHG emissions intensity of electricity sold[1,2]						
CO_2e emissions intensity of electricity sold by CLP Power Hong Kong (kg CO_2e/kWh)	**0.39**	0.39	0.37	0.50	0.51	
CO_2 emissions intensity of electricity sold by CLP Power Hong Kong (kg CO_2/kWh)	**0.39**	0.39	0.37	0.49	0.51	

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 is reported separately in the Asset Performance Statistics. Its non-CO_2 GHG emissions (i.e. CH_4 and N_2O) are included in CLP's Scope 1 CO_2e emissions.
2 "Electricity sold" is the total electricity energy sold to CLP Power Hong Kong Limited's customers before the adjustment of Renewable Energy Certificates.

The 2022 data shaded in orange has been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.

Environment

Environmental compliance

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Environmental regulatory non-compliances resulting in fines or prosecutions (number)[1]	**0**	0	0	0	0	GRI 2-27
Environmental licence limit exceedances & other non-compliances (number)[1]	**6**[2]	5[3]	4	10	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 2019-2022 numbers.
2 The number excludes eight cases of short-term licence limit exceedances from Jhajjar. Details please refer to section Environmental Management and Compliance - Initiative and Progress.
3 The number was restated to align the calculation methodology across years.

Air pollutants

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Nitrogen oxides emissions (NO_x) (kt)[1,2]	**43.5**	45.7	43.2	47.0	60.9	GRI 305-7/ HKEx A1.1/ SASB IF-EU-120a.1
Sulphur dioxide emissions (SO_2) (kt)[1,2]	**48.9**	52.7	48.0	44.7	76.1	
Particulates emissions (kt)[1,2]	**6.8**	7.6	6.9	7.7	8.5	
Sulphur hexafluoride (SF_6) (kt)[1,2]	**0.003**	0.004	0.003	N/A	N/A	
Mercury (t)[1,2]	**0.52**	0.31	N/A	N/A	N/A	SASB IF-EU-120a.1

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 2019-2022 numbers.
2 Since 2019, numbers at asset level have been aggregated and then rounded.

Waste

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Hazardous solid waste (t)[1,2,3]						
Produced	**869**	1,524	1,503	862	1,435	GRI 306-2/ HKEx A1.3
Recycled	**493**	520	523	201	631	
Hazardous liquid waste (kl)[1,2,3]						
Produced	**1,103**	1,017	1,091	1,578	1,685	
Recycled	**797**	947	1,069	1,536	1,648	
Non-hazardous solid waste (t)[1,2,3]						
Produced	**12,702**	24,481	17,901	13,344	11,471	GRI 306-2/ HKEx A1.4
Recycled	**7,917**	4,214	4,458	4,986	3,990	
Non-hazardous liquid waste (kl)[1,2,3]						
Produced	**23**	65	3	59	52	
Recycled	**23**	65	3	57	52	

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 2019-2022 numbers.
2 Since 2019, numbers at asset level have been aggregated and then rounded.
3 Waste categorised in accordance with local regulations.

By-products

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Ash produced (kt)[1,2]	**3,088**	3,403	2,624	3,032	3,419	SASB IF-EU-150a.1
Ash recycled / sold (kt)[1,2]	**2,365**	2,501	1,793	3,667	2,263	
Gypsum produced (kt)[1,2]	**286**	367	334	441	253	
Gypsum recycled / sold (kt)[1,2]	**280**	365	335	438	250	

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 2019-2022 numbers.
2 Since 2019, numbers at asset level have been aggregated and then rounded.

Water

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Total water withdrawal (Mm^3)[1,2,3]	**5,339.3**	5,243.7[4]	5,466.0[4]	5,475.4[4]	5,154.2[5]	GRI 2.4, 303-3/ HKEx A2.2/ SASB IF-EU-140a.1
For cooling purpose						
Water withdrawal from freshwater resources	**42.7**	43.3[5]	33.6[5]	47.6[5]	53.8[5]	
Water withdrawal from marine water resources	**5,287.0**	5,190.3[6]	5,421.7[6]	5,415.4[6]	5,087.3	
For non-cooling purposes						
Water withdrawal from freshwater resources	**4.6**	5.3	5.7	5.8	6.0	
Water withdrawal from municipal sources	**5.0**	4.8	4.9	6.7	7.0	
Total water withdrawal from water stressed areas	**167.7**	100.2[4]	N/A	N/A	N/A	SASB IF-EU-140a.1
Total water discharge (Mm^3)[1,2,3,7]	**5,310.9**	5,205.4[6]	5,438.6[6]	5,433.2[6]	5,103.2	GRI 2.4, 303-4
From cooling process						
Treated wastewater to freshwater bodies	**0.0**	0	0	0	0	
Water discharge to marine water bodies	**5,287.0**	5,190.3[6]	5,421.7[6]	5,415.4[6]	5,087.3	
Wastewater to other destinations	**0.0**	0	0	0	0.02	
From non-cooling processes						
Treated wastewater to freshwater bodies	**21.0**	11.9	13.7	14.4	12.3	
Treated wastewater to marine water bodies	**1.6**	1.3	1.5	1.7	1.6	
Wastewater to other destinations	**1.3**	1.9	1.6	1.7	1.9	
Wastewater to sewerage	**0.04**	0.03	0.03	0.03	0.03	
Total freshwater consumption of CLP Group's power generation (Mm^3)	**31.3**	41.5[8]	N/A	N/A	N/A	GRI 303-5/ SASB IF-EU-140a.1

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Total freshwater consumption under water stressed areas (Mm³)	**16.5**	17.2[5]	N/A	N/A	N/A	SASB IF-EU-140a.1

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 2019-2022 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 Restated as per updated data for Newport Power Station in Australia and Jhajjar Power Station in India.
5 Restated as per updated data for Jhajjar Power Station in India.
6 Restated as per updated data for Newport Power Station in Australia.
7 Starting from 2019, Yallourn Power Station's "water discharged to third-parties", which was previously reported under "wastewater to sewerage", has been reported under "wastewater to other destinations".
8 Restated as per revised calculation methodology for Yallourn Power Station in Australia and updated data for Jhajjar Power Station in India.

Water intensity

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Freshwater intensity of CLP Group's power generation (m³/MWh)[1]	**0.52**	0.66[2]	0.51[2]	0.74[2]	0.88[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 2019-2022 numbers.
2 Restated as per revised calculation methodology for Yallourn Power Station in Australia and updated data for Jhajjar Power Station in India.

Freshwater reused/recycled

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Freshwater reused/recycled volume (Mm³)[1]	**756**	838	736	686	899	

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 2019-2022 numbers.

The 2022 data shaded in orange has been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.

Customers

Customer portfolio and electricity delivered- CLP Power Hong Kong Limited

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Total Hong Kong customers (number)	**2,752,071**	2,711,421	2,671,836	2,636,408	2,597,083	GRI EU3/ SASB IF-EU-000.A
Residential	**2,407,225**	2,369,217	2,333,901	2,301,200	2,265,151	
Commercial	**212,251**	210,821	208,150	206,792	206,073	
Infrastructure and public services	**115,404**	113,956	112,245	110,841	107,893	
Manufacturing	**17,191**	17,427	17,540	17,575	17,966	
Total Electricity delivered	**34,824**	35,355	33,963	34,284	33,662	GRI EU3/ SASB IF-EU-000.B
Residential	**10,113**	10,525	10,298	9,451	9,191	
Commercail	**13,233**	13,423	12,878	13,584	13,425	
Infrastructure and Public Services	**9,863**	9,742	9,171	9,586	9,342	
Manufacturing	**1,615**	1,665	1,616	1,663	1,704	

Customer portfolio- EnergyAustralia

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Total Australian customers (number)	**2,462,537**	2,442,683	2,449,401	2,480,781	2,550,138	GRI EU3
Commercial and Industrial	**8,740**	7,208	8,962	12,599	12,526	
Mass market	**2,453,797**	2,435,475	2,440,439	2,468,182	2,537,612	

Availabilty and reliability- CLP Power Hong Kong Limited

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
System Average Interruption Frequency Index [SAIFI][1]	**0.3**	0.21	0.19	0.17	0.19	SASB IF-EU-550a.2
System Average Interruption Duration Index [SAIDI] (hours)[1]	**0.27**	0.23	0.39	0.42	0.46	
Unplanned Customer Minutes Lost [CML] (minutes)[1]	**5.69**	0.99	9.77[2]	10.13[3]	10.29[4]	

1 The numbers are derived by calculating the average of data from the most recent three years. For example,the figures under year 2022 are the 3-year averages of data from 2020 to 2022.
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.

Access to electricity- CLP Power Hong Kong Limited

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Total disconnections for Hong Kong retail buisness (number)	**4,859**	4,943	4,999	4,643	6,722	SASB IF-EU-240a.3
0 - 2 days	**144**	105	98	4,333	6,319	
3 - 7 days	**739**	796	506	170	225	
8 - 31 days	**1,817**	2,251	2,274	101	168	
≥ 32 days	**2,159**	1,791	2,121	39	10	

Fuel use

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Coal consumed (for power generation) (TJ)[1,2]	**394,274**	426,190	403,379	485,453	521,568	GRI 302-1/ HKEx A2.1
Gas consumed (for power generation) (TJ)[1,2]	**151,327**	142,304	134,776	107,183	83,364	
Oil consumed (for power generation) (TJ)[1,2]	**2,936**	2,717	2,243	2,620	3,807	

1 Numbers have been subject to rounding.
2 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 2019-2022 numbers.

Generation and energy storage capacity

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
On an equity basis						
Total generation and energy storage capacity by asset type (MW(%))[1,2]	**17,970 (100%)**	20,018 (100%)	19,691 (100%)	19,238 (100%)	19,108 (100%)	GRI 2.4/ ISSB 20
Coal	**8,486 (47.2%)**	10,795 (53.9%)	10,765 (54.7%)	10,765 (56.0%)	10,765 (56.3%)	
Gas	**4,934 (27.5%)**	4,666 (23.3%)	4,600 (23.4%)	4,194 (21.8%)	4,147 (21.7%)	
Nuclear	**1,600 (8.9%)**	1,600 (8.0%)	1,600 (8.1%)	1,600 (8.3%)	1,600 (8.4%)	
Wind[3]	**1,680 (9.3%)**	1,747 (8.7%)	1,521 (7.7%)	1,521 (7.9%)	1,521 (8.0%)	
Hydro[3]	**489 (2.7%)**	489 (2.4%)	489 (2.5%)	489 (2.5%)	489 (2.6%)	
Solar[3]	**554 (3.1%)**	499 (2.5%)	499 (2.5%)	451 (2.3%)	369 (1.9%)	
Waste-to-energy[3]	**7 (0.0%)**	7 (0.0%)	7 (0.0%)	7 (0.0%)	7 (0.0%)	
Energy Storage	**10 (0.1%)**	5 (0.0%)	0 (0.0%)	N/A	N/A	
Others	**210 (1.2%)**	210 (1.0%)	210 (1.1%)	210 (1.1%)	210 (1.1%)	
On an equity plus long-term capacity and energy purchase basis						
Total generation and energy storage capacity by asset type (MW(%))[1,2,4]	**23,068 (100%)**	25,108 (100%)	24,752 (100%)[5]	24,015 (100%)	23,705 (100%)	
Coal	**9,719 (42.1%)**	12,027 (47.9%)	11,997 (48.5%)	11,997 (50.0%)	11,997 (50.6%)	
Gas	**6,089 (26.4%)**	5,813 (23.2%)	5,717 (23.1%)	5,139 (21.4%)	5,084 (21.4%)	
Nuclear	**2,685 (11.6%)**	2,685 (10.7%)	2,685 (10.8%)	2,685 (11.2%)	2,685 (11.3%)	
Wind[6]	**2,264 (9.8%)**	2,331 (9.3%)	2,105 (8.5%)[5]	2,049 (8.5%)	1,982 (8.4%)	
Hydro[6]	**489 (2.1%)**	489 (1.9%)	489 (2.0%)	489 (2.0%)	489 (2.1%)	
Solar[6]	**848 (3.7%)**	793 (3.2%)	793 (3.2%)	745 (3.1%)	558 (2.4%)	
Waste-to-energy[6]	**10 (0.0%)**	10 (0.0%)	10 (0.0%)	10 (0.0%)	10 (0.0%)	
Energy Storage	**665 (2.9%)**	660 (2.6%)	655 (2.6%)	N/A	N/A	
Others	**300 (1.3%)**	300 (1.2%)	300 (1.2%)	900 (3.7%)	900 (3.8%)	

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 Renewables include wind, hydro, solar and waste-to-energy. The total capacity of renewables on an equity basis is 2,731 MW (15.2%) in 2022.
4 Numbers include assets with majority and minority shareholdings, 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 a duration of at least five years, and capacity or energy purchased being no less than 10MW.
5 Restated as per updated data for Power Purchase Agreement (PPA) of Waterloo Wind Farm in Australia.
6 Renewables include wind, hydro, solar and waste-to-energy. The total capacity of renewables on an equity plus long-term capacity and energy purchase basis is 3,611 MW (15.7%) in 2022.

Energy sent out

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
On an equity basis						
Total energy sent out by asset type (GWh(%))[1,2,3]	**69,726 (100%)**	73,113 (100%)	68,699 (100%)	70,949 (100%)	N/A	GRI 2.4/ SASB IF-EU-000.D/ ISSB 20
Coal	**37,031 (53.1%)**	42,002 (57.4%)	39,438 (57.4%)	44,596 (62.9%)	N/A	
Gas	**14,435 (20.7%)**	13,233 (18.1%)	12,390 (18.0%)	9,979 (14.1%)	N/A	
Nuclear	**12,346 (17.7%)**	12,302 (16.8%)	11,192 (16.3%)	10,888 (15.3%)	N/A	
Wind[4]	**3,146 (4.5%)**	2,959 (4.0%)	2,886 (4.2%)	2,924 (4.1%)	N/A	
Hydro[4]	**1,835 (2.6%)**	1,668 (2.3%)	1,879 (2.7%)	1,758 (2.5%)	N/A	
Solar[4]	**901 (1.3%)**	922 (1.3%)	898 (1.3%)	805 (1.1%)	N/A	
Waste-to-energy[4]	**29 (0.0%)**	27 (0.0%)	15 (0.0%)	0 (0.0%)	N/A	
Energy Storage	**0 (0.0%)**	0 (0.0%)	0 (0.0%)	N/A	N/A	
Others	**1 (0.0%)**	0 (0.0%)	1 (0.0%)	0 (0.0%)	N/A	
On an equity plus long-term capacity and energy purchase basis						
Total energy sent out by asset type (GWh(%))[1,2,3,5,6]	**87,360 (100%)**	91,183 (100%)	85,949 (100%)[7]	88,573 (100%)	100%	GRI 2.4/ SASB IF-EU-000.D/ ISSB 20
Coal	**39,027 (44.7%)**	43,995 (48.2%)	41,118 (47.8%)	48,512 (54.8%)	60%	
Gas	**19,507 (22.3%)**	18,461 (20.2%)	17,157 (20.0%)	13,073 (14.8%)	12%	
Nuclear	**20,836 (23.9%)**	20,962 (23.0%)	19,923 (23.2%)	19,400 (21.9%)	20%	
Wind[8]	**4,709 (5.4%)**	4,611 (5.1%)	4,445 (5.2%)[7]	4,474 (5.0%)		
Hydro[8]	**1,835 (2.1%)**	1,668 (1.8%)	1,879 (2.2%)	1,758 (2.0%)	8%	
Solar[8]	**1,472 (1.7%)**	1,524 (1.7%)	1,522 (1.8%)	1,467 (1.7%)		
Waste-to-energy[8]	**42 (0.0%)**	38 (0.0%)	22 (0.0%)	0 (0.0%)	N/A	
Energy Storage	**-69 (-0.1%)**	-75 (-0.1%)	-118 (-0.1%)	N/A	N/A	
Others	**2 (0.0%)**	1 (0.0%)	1 (0.0%)	-109 (-0.1%)	0%	
On an operational control basis						
Total energy sent out (GWh)[3]	**60,475**	62,967	58,918	N/A	N/A	SASB IF-EU-000.D / ISSB 20

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 2019-2022 number.
4 Renewables include wind, hydro, solar and waste-to-energy. The total sent out of renewables on an equity basis is 5,911 GWh (8.5%) in 2022.
5 Numbers include assets with majority and minority shareholdings, 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 a duration of at least five years, and capacity or energy purchased being no less than 10MW.
6 Only percentages are available for the year 2018.
7 Restated as per updated data for Power Purchase Agreement (PPA) of Waterloo Wind Farm in Australia.
8 Renewables include wind, hydro, solar and waste-to-energy. The total sent out of renewables on an equity plus long-term capacity and energy purchase basis is 8,058 GWh (9.2%) in 2022.

Customer satisfaction – CLP Power Hong Kong Limited

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Customer satisfaction score						
CLP	**72**	73	74	72	73	
All public utilities in the energy sector	**73**	74	74	73	73	
Public service organisations	**73**	73	74	73	73	

Customer satisfaction – EnergyAustralia

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Customer service						
Calls handled by EnergyAustralia (number)	**1,418,676**	1,440,277	1,696,233	1,856,845	2,364,731	
Complaints received by EnergyAustralia (number)	**13,259**	14,643	17,049	20,937	23,390	

The 2022 data shaded in orange has been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.

Our People

Employee headcount and type

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Group total						
Total employee headcount (number)	**8,318**	8,116	8,060	7,960	7,843	
Full-time (number)	**8,154**	7,930	7,865	7,754	7,634	
Part-time (number)	**164**	186	195	206	209	
Permanent (average %)	**85.7**	87.0	87.6	87.8	87.2	
Fixed-term contract (average %)	**14.3**	13.0	12.4	12.2	12.8	
Hong Kong						
Total employee headcount (number)	**4,954**	4,771	4,689	4,604	4,543	GRI 2-7/ HKEx B1.1
Full-time (number)	**4,948**	4,770	4,688	4,603	4,538	
Part-time (number)	**6**	1	1	1	5	
Permanent (average %)	**81.4**	83.5	85.1	85.4	84.0	
Fixed-term contract (average %)	**18.6**	16.5	14.9	14.6	16.0	
Mainland China						
Total employee headcount (number)	**663**	627	609	607	596	
Full-time (number)	**663**	627	609	607	596	
Part-time (number)	**0**	0	0	0	0	
Permanent (average %)	**75.2**	75.6	75.3	71.6	72.1	
Fixed-term contract (average %)	**24.8**	24.4	24.7	28.4	27.9	
Australia						
Total employee headcount (number)	**2,251**	2,281	2,320	2,280	2,246	
Full-time (number)	**2,093**	2,096	2,126	2,075	2,042	
Part-time (number)	**158**	185	194	205	204	
Permanent (average %)	**95.6**	95.1	94.0	94.5	95.9	
Fixed-term contract (average %)	**4.4**	4.9	6.0	5.5	4.1	
India						
Total employee headcount (number)	**450**	437	442	469	458	
Full-time (number)	**450**	437	442	469	458	
Part-time (number)	**0**	0	0	0	0	
Permanent (average %)	**96.3**	97.4	98.4	98.8	99.0	
Fixed-term contract (average %)	**3.7**	2.6	1.6	1.2	1.0	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 included full-time employees only.

Contractor FTE and type

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Group total (full-time equivalent)[1]						
Total contractor	**10,519.4**	9,911.3	9,707.7	11,123.9	10,470.0	
Labour supply[2]	**1,157.2**	1,329.9	1,423.9	1,573.0	1,577.0	
Service contractor[3]	**9,362.2**	8,581.5	8,283.8	9,550.9	8,893.0	
Hong Kong (full-time equivalent)						GRI 2-8
Total contractor	**5,434.0**	5,202.8	4,949.9	6,372.6	5,308.6	
Labour supply[2]	**970.2**	1,153.5	1,261.8	1,309.0	1,316.0	
Service contractor[3]	**4,463.9**	4,049.3	3,688.1	5,063.6	3,992.6	
Mainland China (full-time equivalent)						
Total contractor	**331.2**	576.0	361.2	363.2	423.9	
Labour supply[2]	**24.0**	23.5	13.8	13.0	14.0	
Service contractor[3]	**307.2**	552.5	347.4	350.2	409.9	
Australia (full-time equivalent)						
Total contractor	**1,301.5**	1,368.0	1,926.5	1,856.2	1,785.0	
Labour supply[2]	**107.5**	101.1	83.1	172.5	167.0	
Service contractor[3]	**1,194.0**	1,266.9	1,843.4	1,683.7	1,618.0	
India (full-time equivalent)						
Total contractor	**3,452.6**	2,764.6	2,470.1	2,531.9	2,952.5	
Labour supply[2]	**55.5**	51.8	65.2	78.5	80.0	
Service contractor[3]	**3,397.1**	2,712.8	2,404.9	2,453.4	2,872.5	

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 Labour supply refers to manpower supplied by contractor companies under labour supply agreements. Reporting is based on quarterly averages.
3 Estimated service contractor full-time equivalent (FTE) is calculated based on the 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.

Total staff turnover rate

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Hong Kong (%)	**11.7**	N/A	N/A	N/A	N/A	GRI 401-1/ HKEx B1.2
By age group						
Below 30	**12.5**	N/A	N/A	N/A	N/A	
30-39	**10.6**	N/A	N/A	N/A	N/A	
40-49	**8.7**	N/A	N/A	N/A	N/A	
50 and above	**14.5**	N/A	N/A	N/A	N/A	
By gender						
Male	**11.3**	N/A	N/A	N/A	N/A	
Female	**13.2**	N/A	N/A	N/A	N/A	
Mainland China (%)	**5.4**	N/A	N/A	N/A	N/A	
By age group						
Below 30	**9.5**	N/A	N/A	N/A	N/A	
30-39	**4.3**	N/A	N/A	N/A	N/A	
40-49	**0.5**	N/A	N/A	N/A	N/A	
50 and above	**10.7**	N/A	N/A	N/A	N/A	
By gender						
Male	**5.0**	N/A	N/A	N/A	N/A	
Female	**7.1**	N/A	N/A	N/A	N/A	
India (%)	**24.8**	N/A	N/A	N/A	N/A	
By age group						
Below 30	**24.8**	N/A	N/A	N/A	N/A	
30-39	**25.9**	N/A	N/A	N/A	N/A	
40-49	**26.1**	N/A	N/A	N/A	N/A	
50 and above	**21.3**	N/A	N/A	N/A	N/A	
By gender						
Male	**23.1**	N/A	N/A	N/A	N/A	
Female	**27.1**	N/A	N/A	N/A	N/A	
Australia (%)	**12.9**	N/A	N/A	N/A	N/A	
By age group						
Below 30	**37.5**	N/A	N/A	N/A	N/A	
30-39	**12.0**	N/A	N/A	N/A	N/A	
40-49	**13.0**	N/A	N/A	N/A	N/A	
50 and above	**6.2**	N/A	N/A	N/A	N/A	
By gender						
Male	**12.8**	N/A	N/A	N/A	N/A	
Female	**13.7**	N/A	N/A	N/A	N/A	

Voluntary staff turnover rate

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Hong Kong (%)[2,3]	**6.6**	4.6	3.1	2.4	2.3	GRI 401-1/ HKEx B1.2
By age group						
Below 30	**8.1**	7.4	6.3	4.4	5.9	
30-39	**9.1**	5.6	4.3	4.9	4.3	
40-49	**7.2**	5.2	2.6	1.9	1.7	
50 and above	**4.1**	3.0	1.8	1.1	1.1	
By gender						
Male	**5.7**	4.4	2.5	1.8	1.7	
Female	**9.8**	5.4	5.4	4.9	5.0	
Mainland China (%)[2,3]	**2.3**	2.3	1.3	2.0	4.7	
By age group						
Below 30	**8.3**	6.7	1.4	8.4	16.4	
30-39	**3.4**	1.9	2.9	1.9	5.2	
40-49	**0.0**	2.5	0.5	0.5	1.5	
50 and above	**0.0**	0.0	0.0	0.0	0.0	
By gender						
Male	**2.4**	2.1	1.4	2.4	4.1	
Female	**1.8**	2.9	0.9	0.0	7.5	
Australia (%)[2,3]	**18.8**	16.1	7.7	12.9	13.6	
By age group						
Below 30	**21.4**	25.5	13.6	19.3	18.6	
30-39	**22.0**	19.0	7.4	14.2	15.2	
40-49	**17.9**	11.2	6.2	11.5	10.5	
50 and above	**13.0**	13.1	7.1	8.3	10.6	
By gender						
Male	**17.6**	16.4	7.1	12.6	12.3	
Female	**20.5**	15.7	8.5	13.4	15.6	
India (%)[2,3]	**10.6**	6.9	4.7	6.6	5.6	
By age group						
Below 30	**29.5**	12.5	5.6	7.4	6.4	
30-39	**10.6**	7.5	5.7	9.3	7.2	
40-49	**10.4**	4.8	4.7	2.9	2.9	
50 and above	**3.4**	5.1	0.0	0.0	2.5	
By gender						
Male	**10.4**	6.6	4.3	6.4	5.6	
Female	**12.0**	9.4	7.4	7.5	5.7	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 included full-time employees only.
2 Voluntary staff turnover refers to employees leaving the organisation voluntarily and does not include dismissal, retirement, company-initiated termination or end of contract.
3 Includes permanent employees except for Mainland China, which includes both permanent and fixed-term contract employees due to local employment legislation.

New hire

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Group total (number)	**1,415**	1,029	711	857	965	GRI 401-1
By age group						
Below 30	**667**	342	237	309	N/A	
30-39	**457**	402	241	300	N/A	
40-49	**197**	204	145	158	N/A	
50 and above	**94**	81	88	90	N/A	
By gender						
Male	**930**	686	515	552	619	
Female	**485**	343	196	305	346	
Hong Kong (number)	**731**	524	408	348	307	
By age group						
Below 30	**308**	208	172	157	N/A	
30-39	**265**	187	125	121	N/A	
40-49	**109**	93	69	48	N/A	
50 and above	**49**	36	42	22	N/A	
By gender						
Male	**504**	368	308	239	200	
Female	**227**	156	100	109	107	
Mainland China (number)	**71**	45	29	43	47	
By age group						
Below 30	**27**	24	10	16	N/A	
30-39	**35**	16	10	25	N/A	
40-49	**9**	4	8	2	N/A	
50 and above	**0**	1	1	0	N/A	
By gender						
Male	**50**	37	25	36	41	
Female	**21**	8	4	7	6	
Australia (number)	**543**	433	255	423	582	
By age group						
Below 30	**298**	106	53	116	N/A	
30-39	**126**	182	93	138	N/A	
40-49	**76**	103	67	104	N/A	
50 and above	**43**	42	42	65	N/A	
By gender						
Male	**323**	260	166	242	352	
Female	**220**	173	89	181	230	
India (number)	**70**	27	19	43	29	
By age group						
Below 30	**34**	4	2	20	N/A	
30-39	**31**	17	13	16	N/A	
40-49	**3**	4	1	4	N/A	
50 and above	**2**	2	3	3	N/A	
By gender						
Male	**53**	21	16	35	26	
Female	**17**	6	3	8	3	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 included full-time employees only.

Employees eligible to retire within the next five years

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Group total (%)[2]	**14.1**	14.6	14.5	13.9	16.4	GRI EU15
Hong Kong (%)[2]	**18.8**	20.1	20.4	19.5	20.0	
Mainland China (%)[2]	**15.7**	15.1	13.4	14.5	13.2	
Australia (%)[2,3]	**6.7**	6.6	5.7	5.4	12.8	
India (%)[2]	**5.5**	5.0	5.1	4.8	4.0	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 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, the 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: 2018-Australia: 4.6% / Group total: 14.0%.

Technical trainees intake

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Group total (number)	**132**	89	79	75	85	
Male	**100**	71	68	64	67	
Female	**32**	18	11	11	18	
Hong Kong (number)	**94**	66	66	61	66	
Male	**79**	52	58	51	50	
Female	**15**	14	8	10	16	
Mainland China (number)	**3**	0	0	4	8	
Male	**2**	0	0	4	7	
Female	**1**	0	0	0	1	
Australia (number)	**18**	17	13	10	11	
Male	**12**	16	10	9	10	
Female	**6**	1	3	1	1	
India (number)	**17**	6	0	0	0	
Male	**7**	3	0	0	0	
Female	**10**	3	0	0	0	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 included full-time employees only.

Average training hours per employee

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Group total (hours)	**46.2**	51.6	42.5	40.1	46.1	GRI 404-1/ HKEx B3.2
By gender (hours)						
Male	**53.6**	58.2	47.7	44.8	51.6	
Female	**26.0**	33.3	27.6	26.8	28.5	
By professional category (hours)						
Managerial	**23.0**	29.5	26.8	26.0	28.6	
Professional	**33.5**	41.2	34.9	35.0	37.9	
General & technical staff	**63.9**	65.8	52.2	47.1	55.8	
By region (hours)						
Hong Kong	**56.3**	60.8	49.5	47.6	55.2	
Mainland China	**85.6**	77.8	66.8	66.1	78.2	
Australia	**11.1**	26.8	23.2	22.1	21.1	
India	**62.1**	48.8	33.8	23.2	27.1	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 included full-time employees only.

Percentage of employees trained

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Hong Kong (%)	**99.1**	97.8	98.4	92.3	93.3	HKEx B3.1
By gender						
Male	**99.4**	98.4	98.4	94.9	95.4	
Female	**98.2**	95.3	98.7	82.2	84.6	
By professional category						
Managerial	**94.6**	90.6	96.0	80.6	87.8	
Professional	**99.3**	97.8	99.2	93.1	92.3	
General & technical staff	**99.6**	98.7	98.1	93.1	94.7	
Mainland China (%)	**95.9**	100.0	100.0	100.0	99.8	
By gender						
Male	**97.1**	100.0	100.0	100.0	100.0	
Female	**90.5**	100.0	100.0	100.0	99.1	
By professional category						
Managerial	**100.0**	100.0	100.0	100.0	100.0	
Professional	**92.4**	100.0	100.0	100.0	100.0	
General & technical staff	**98.3**	100.0	100.0	100.0	99.7	
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	

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Professional	**100.0**	100.0	100.0	100.0	100.0	
General & technical staff	**100.0**	100.0	100.0	100.0	100.0	
India (%)	**94.2**	95.9	69.9	81.4	83.2	
By gender						
Male	**94.1**	95.6	70.4	80.9	82.5	
Female	**95.2**	98.1	66.0	85.5	88.5	
By professional category						
Managerial	**86.8**	96.8	58.6	87.9	93.4	
Professional	**95.7**	95.1	74.9	86.3	95.8	
General & technical staff	**94.1**	96.7	66.2	66.4	53.4	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 included full-time employees only.

Gender distribution of Group Executive Committee (GEC) members

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Male (%)[1]	**73.3**	69.2	64.3	64.3	71.4	GRI 405-1
Female (%)[1]	**26.7**	30.8	35.7	35.7	28.6	

1 Includes Executive Director (Chief Executive Officer).

Gender distribution of employees

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Group total (%)[2]						
Male	**73.3**	73.7	74.0	74.0	76.1	
Female	**26.7**	26.3	26.0	26.0	23.9	
Hong Kong (%)						
Male	**77.3**	78.3	79.3	79.4	80.1	
Female	**22.7**	21.7	20.7	20.6	19.9	
Mainland China (%)						
Male	**82.5**	83.6	82.9	82.5	82.2	
Female	**17.5**	16.4	17.1	17.5	17.8	
Australia (%)[2]						
Male	**59.4**	58.7	58.4	57.9	62.6	
Female	**40.6**	41.3	41.6	42.1	37.4	
India (%)						
Male	**86.0**	87.6	88.0	88.3	88.6	
Female	**14.0**	12.4	12.0	11.7	11.4	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 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

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Hong Kong (%)						
Managerial - male	**72.0**	71.1	74.4	75.7	75.6	
Managerial - female	**28.0**	28.9	25.6	24.3	24.4	
Professional - male	**73.2**	74.5	75.7	75.2	76.7	

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Professional - female	**26.8**	25.5	24.3	24.8	23.3	
General & technical staff - male	**82.3**	83.1	83.3	83.5	83.5	
General & technical staff - female	**17.7**	16.9	16.7	16.5	16.5	
Mainland China (%)						
Managerial - male	**76.0**	77.8	84.8	78.9	76.5	
Managerial - female	**24.0**	22.2	15.2	21.1	23.5	
Professional - male	**82.7**	85.0	84.3	85.2	84.4	
Professional - female	**17.3**	15.0	15.7	14.8	15.6	
General & technical staff - male	**82.8**	82.9	81.9	81.0	81.1	
General & technical staff - female	**17.2**	17.1	18.1	19.0	18.9	
Australia (%)						
Managerial - male	**62.9**	61.4	63.8	68.6	72.4	
Managerial - female	**37.1**	38.6	36.3	31.4	27.6	
Professional - male	**56.6**	56.8	55.9	54.5	57.6	
Professional - female	**43.4**	43.2	44.1	45.5	42.4	
General & technical staff - male	**62.7**	61.1	61.4	61.0	67.1	
General & technical staff - female	**37.3**	38.9	38.6	39.0	32.9	
India (%)						
Managerial - male	**89.5**	90.3	89.7	90.9	93.4	
Managerial - female	**10.5**	9.7	10.3	9.1	6.6	
Professional - male	**89.5**	90.2	91.2	89.1	89.0	
Professional - female	**10.5**	9.8	8.8	10.9	11.0	
General & technical staff - male	**81.7**	84.1	84.3	84.9	85.7	
General & technical staff - female	**18.3**	15.9	15.7	15.1	14.3	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 included full-time employees only.

Gender diversity targets

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Women in Leadership (%)[2]	**29.1**	30.5	27.3	24.2	22.9	
Women in Engineering (%)[3]	**13.0**	12.3	11.5	11.4	10.9	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 included full-time employees only.
2 Leadership positions are defined as positions at Korn Ferry Reference Level 19 and above.
3 Employees with a bachelors' degree or above qualification in engineering.

Employee age distribution

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Group total (%)						
Below 30	**14.7**	12.8	13.1	13.6	14.6	
30-39	**31.5**	30.6	29.7	29.3	28.2	
40-49	**25.4**	26.5	26.2	26.2	26.3	
50 and above	**28.4**	30.2	31.0	30.9	30.9	
Hong Kong (%)						
Below 30	**16.3**	14.0	13.8	13.6	13.7	
30-39	**27.4**	25.5	23.6	22.7	21.5	

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
40-49	**23.8**	24.5	24.6	25.4	26.1	
50 and above	**32.5**	36.0	38.0	38.3	38.7	
Mainland China (%)						
Below 30	**13.6**	13.2	12.5	14.0	15.6	
30-39	**35.7**	33.8	33.8	34.6	34.1	
40-49	**28.1**	30.0	32.7	32.1	33.5	
50 and above	**22.6**	23.0	21.0	19.3	16.8	
Australia (%)						
Below 30	**12.5**	11.4	12.6	13.4	15.4	
30-39	**34.9**	35.9	36.6	37.1	36.9	
40-49	**28.7**	29.8	28.1	26.6	25.5	
50 and above	**23.9**	22.9	22.7	22.9	22.2	
India (%)						
Below 30	**8.9**	5.7	10.2	14.9	18.3	
30-39	**54.0**	54.2	51.8	49.0	48.5	
40-49	**22.7**	25.0	24.2	23.9	22.9	
50 and above	**14.4**	15.1	13.8	12.2	10.3	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in 2018 included full-time employees only.

Employee average length of service

	2022	2021	2020	2019[1]	2018	GRI/HKEx/ SASB/ISSB
Number of years						
Hong Kong	**14.1**	15.4	16.3	16.8	17.3	
Mainland China	**12.1**	12.3	12.0	11.4	13.7	
Australia	**7.6**	7.4	7.1	5.2	4.9	
India	**8.1**	8.1	7.6	7.2	6.8	

1 Starting from 2019, the numbers have included full-time and part-time employees. Numbers in the previous years included full-time employees only.

Group safety performance

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Employees[1]						
Fatalities (number of personnel)[2,3]	**0**	0	0	0	1	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)[4,5]	**0.00**	0.00	0.00	0.00	0.01	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away From Work Injuries (number of personnel)[3,6]	**6**	4	12	7	11	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)[5,7]	**0.07**	0.05	0.13	0.07	0.13	
High-consequence Injuries (number of personnel)[8]	**0**	0	N/A	N/A	N/A	GRI 403-9
Total Recordable Injury Rate (number per 200,000 work hours)[5,9]	**0.17**	0.14	0.25	0.19	0.19	GRI 403-2/ SASB IF-EU-320a.1
Work-related Ill Health (number of personnel)[3,10]	**4**	1	0	0	1	GRI 403-10/ HKEx B2.1

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Lost Days (number of days)[11]	**176**	304[12]	443[13]	464[14]	249	GRI 403-2/ HKEx B2.2
Contractors[1]						
Fatalities (number of personnel)[2,3]	**0**	0	0	1	1	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)[4,5]	**0.00**	0.00	0.00	0.01	0.01	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away From Work Injuries (number of personnel)[3,6]	**15**	10	10	19	11	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)[5,7]	**0.11**	0.08	0.09	0.14	0.09	
High-consequence Injuries (number of personnel)[8]	**2**	1.00	N/A	N/A	N/A	GRI 403-9
Total Recordable Injury Rate (number per 200,000 work hours)[5,9]	**0.31**	0.29	0.37	0.52	0.29	GRI 403-2/ SASB IF-EU-320a.1
Employees and contractors combined[1]						
Fatalities (number of personnel)[2,3]	**0**	0	0	1	2	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)[4,5]	**0.00**	0.00	0.00	0.00	0.01	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away From Work Injuries (number of personnel)[3,6]	**21**	14	22	26	22	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)[5,7]	**0.10**	0.07	0.11	0.11	0.10	
High-consequence Injuries (number of personnel)[8]	**2**	1.00	N/A	N/A	N/A	GRI 403-9
Total Recordable Injury Rate (number per 200,000 work hours)[5,9]	**0.25**	0.23	0.32	0.38	0.25	GRI 403-2/ SASB IF-EU-320a.1

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.
2 Refers to the number of fatalities as a result of work-related injury.
3 Starting from 2021, the unit is changed from the number of cases to the number of personnel.
4 Refers to the number of fatal injuries per 200,000 work hours in the year.
5 Rates are normalised to 200,000 work hours, which approximately equals to the number of hours worked by 100 people in one year.
6 Starting from 2021, "Days Away From Work Injuries" replaces "Lost Time Injury". Days Away From Work Injuries refers to the number of personnel who sustains work-related injury and is unfit to perform any work on any day after the occurrence of the injury. "Any day" is any calendar day which includes rest days, weekend days, leave days, public holidays or days after ceasing employment. It does not include the day the injury incident occurred. "Days Away From Work Injuries" excludes fatalities which were included in "Lost Time Injury". Numbers prior to 2021 are the previously reported numbers for "Lost Time Injury".
7 Refers to the number of Days Away From Work Injuries and Fatalities per 200,000 work hours in the year.
8 Refers to the number of personnel who sustains life threatening or life-altering work-related injury. It is a subset of Days Away From Work Injuries.
9 Refers to the number of Total Recordable Injuries per 200,000 work hours in the year. Total Recordable Injuries include Fatalities, Days Away From Work Injuries, Restricted Work Injuries, and Medical Treatment Injuries.
10 Starting from 2021, "Work-related Ill Health" replaces "Occupational Disease". Work-related Ill Health includes the diseases listed in the ILO List of Occupational Diseases, work-related mental illnesses and work-related disorders. Numbers prior to 2021 are the previously reported numbers for "Occupational Disease".
11 Starting from 2021, "Lost Days" replaces "Days Lost". "Lost Days" is the sum total of calendar days (consecutive or otherwise) after the days on which the work-related injuries and work-related ill health occurred. "Days Lost" accounts the working days instead of calendar days. Numbers prior to 2021 are the previously reported numbers for "Days Lost".
12 19 out of 304 days were carried forward from one incident in 2020.
13 188 out of 443 days were carried forward from one incident in the past.
14 158 out of 464 days were carried forward from three incidents in the past.

Regional safety performance

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Hong Kong[1,2]						
Employees						
Fatalities (number of personnel)	**0**	0	0	0	0	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)	**0.00**	0.00	0.00	0.00	0.00	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away from Work Injuries (number of personnel)	**2**	0	4	4	5	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)	**0.04**	0.00	0.08	0.08	0.10	
High-consequence Injuries (number of personnel)	**0**	0	N/A	N/A	N/A	GRI 403-9
Total Recordable Injury Rate (number per 200,000 work hours)	**0.12**	0.04	0.18	0.16	0.14	GRI 403-2/ SASB IF-EU-320a.1
Work-related Ill Health (number of personnel)	**0**	0	0	0	0	GRI 403-10/ HKEx B2.1
Lost Days (number of days)	**16**	0	119	246	120	GRI 403-2/ HKEx B2.2
Contractors						
Fatalities (number of personnel)	**0**	0	0	0	0	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)	**0.00**	0.00	0.00	0.00	0.00	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away from Work Injuries (number of personnel)	**9**	4	5	17	5	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)	**0.13**	0.06	0.09	0.22	0.08	
High-consequence Injuries (number of personnel)	**0**	0	N/A	N/A	N/A	GRI 403-9
Total Recordable Injury Rate (number per 200,000 work hours)	**0.16**	0.14	0.28	0.51	0.20	GRI 403-2/ SASB IF-EU-320a.1
Mainland China[1]						
Employees						
Fatalities (number of personnel)	**0**	0	0	0	0	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)	**0.00**	0.00	0.00	0.00	0.00	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away from Work Injuries (number of personnel)	**0**	0	2	0	0	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)	**0.00**	0.00	0.19	0.00	0.00	
High-consequence Injuries (number of personnel)	**0**	0	N/A	N/A	N/A	GRI 403-9

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Total Recordable Injury Rate (number per 200,000 work hours)	**0.30**	0.00	0.19	0.10	0.00	GRI 403-2/ SASB IF-EU-320a.1
Work-related Ill Health (number of personnel)	**0**	0	0	0	0	GRI 403-10/ HKEx B2.1
Lost Days (number of days)	**0**	19	59	0	0	GRI 403-2/ HKEx B2.2
Contractors						
Fatalities (number of personnel)	**0**	0	0	0	0	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)	**0.00**	0.00	0.00	0.00	0.00	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away from Work Injuries (number of personnel)	**0**	0	1	0	0	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)	**0.00**	0.00	0.10	0.00	0.00	
High-consequence Injuries (number of personnel)	**0**	0	N/A	N/A	N/A	GRI 403-9
Total Recordable Injury Rate (number per 200,000 work hours)	**0.00**	0.08	0.49	0.00	0.07	GRI 403-2/ SASB IF-EU-320a.1
Australia[1]						
Employees						
Fatalities (number of personnel)	**0**	0	0	0	1	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)	**0.00**	0.00	0.00	0.00	0.04	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away from Work Injuries (number of personnel)	**4**	4	6	3	6	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)	**0.18**	0.18	0.25	0.10	0.26	
High-consequence Injuries (number of personnel)	**0**	0	N/A	N/A	N/A	GRI 403-9
Total Recordable Injury Rate (number per 200,000 work hours)	**0.28**	0.45	0.46	0.31	0.44	GRI 403-2/ SASB IF-EU-320a.1
Work-related Ill Health (number of personnel)	**4**	1	0	0	1	GRI 403-10/ HKEx B2.1
Lost Days (number of days)	**160**	285	265	218	129	GRI 403-2/ HKEx B2.2
Contractors						
Fatalities (number of personnel)	**0**	0	0	0	1	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)	**0.00**	0.00	0.00	0.00	0.06	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away from Work Injuries (number of personnel)	**3**	5	2	2	4	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)	**0.26**	0.40	0.11	0.12	0.26	

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
High-consequence Injuries (number of personnel)	**1**	0	N/A	N/A	N/A	GRI 403-9
Total Recordable Injury Rate (number per 200,000 work hours)	**0.86**	0.97	0.44	0.62	1.09	GRI 403-2/ SASB IF-EU-320a.1
India[1]						
Employees						
Fatalities (number of personnel)	**0**	0	0	0	0	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)	**0.00**	0.00	0.00	0.00	0.00	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away from Work Injuries (number of personnel)	**0**	0	0	0	0	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)	**0.00**	0.00	0.00	0.00	0	
High-consequence Injuries (number of personnel)	**0**	0	N/A	N/A	N/A	GRI 403-9
Total Recordable Injury Rate (number per 200,000 work hours)	**0.00**	0.00	0.00	0.00	0.00	GRI 403-2/ SASB IF-EU-320a.1
Work-related Ill Health (number of personnel)	**0**	0	0	0	0	GRI 403-10/ HKEx B2.1
Lost Days (number of days)	**0**	0	0	0	0	GRI 403-2/ HKEx B2.2
Contractors						
Fatalities (number of personnel)	**0**	0	0	0	0	GRI 403-2/ HKEx B2.1
Fatality Rate (number per 200,000 work hours)	**0.00**	0.00	0.00	0.00	0.00	GRI 403-2/ HKEx B2.1/ SASB IF-EU-320a.1
Days Away from Work Injuries (number of personnel)	**3**	1	2	0	2	GRI 403-2
Lost Time Injury Rate (number per 200,000 work hours)	**0.07**	0.03	0.07	0.00	0.06	
High-consequence Injuries (number of personnel)	**1**	1	N/A	N/A	N/A	GRI 403-9
Total Recordable Injury Rate (number per 200,000 work hours)	**0.44**	0.41	0.46	0.68	0.19	GRI 403-2/ SASB IF-EU-320a.1

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.
2 Starting from 2022, regional data in Hong Kong includes data from CLP Power, CLPe and CLP Holdings. Before that data in CLP Holdings included data from CLPe and CLP Holdings, while data in Hong Kong included data from CLP Power. The change reflects the new operating model in CLP in 2022.

The 2022 data shaded in orange has been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.

Partners

Types of organisations (in HK$M)

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Lobbying, interest representation or similar	**0**	0	0	0	N/A	GRI 415-1
Local, regional or national political campaigns, organisations or candidates	**0**	0	0	0	N/A	
Trade associations or tax-exempt groups (e.g. think tanks)[1]	**8.69**	14.12	8.90	8.04	N/A	
Others (e.g. spending related to ballot measures or referendums)	**0**	0	0	0	N/A	

1 Includes contributions to professional organisations that seek to influence policies in the form of membership, donation or sponsorship.

Code of conduct

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Total number of breaches of Code of Conduct reported to the Audit & Risk Committee (cases)	**10**	18	25	31	20	

Anti-corruption

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Convicted cases of corruption reported to the Audit & Risk Committee (cases)	**0**	0	0	0	0	GRI 205-3/ HKEx B7.1

Supplier distribution

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Total suppliers by region (number)[1]	**6,127**	5,659	5,777	6,362	5,721	GRI 2-6/ HKEx B5.1
Australia	**1,894**	1,942	2,216	2,215	1,986	
Mainland China	**1,257**	1,216	1,142	1,166	1,011	
Hong Kong	**1,058**	1,025	1,013	1,000	950	
India	**1,667**	1,197	1,134	1,704	1,476	
Others (Asia Pacific)	**64**	67	70	77	84	
Europe	**105**	112	121	118	129	
America	**88**	98	78	77	78	
Rest of the world	**1**	2	3	5	7	

1 There are a few multinational companies having transactions in more than one regions through their local offices, but we consider to combine the local offices and treat one multinational companies as one supplier in our supply base.

Payments to suppliers

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Total payment to suppliers by region (HK$M)	**54,794**	43,997	36,544	36,746	39,183	GRI 204-1
Australia	**12,727**	10,617	8,526	8,356	9,410	
Mainland China	**19,937**	17,226	15,577	11,603	10,339	
Hong Kong	**9,233**	8,296	8,501	8,888	8,917	
India	**4,343**	2,977	1,999	3,104	4,597	
Others (Asia Pacific)	**5,821**	3016	960	3,093	4,363	
Europe	**1,854**	1630	753	1,234	1,170	
America	**878**	232	221	458	380	
Rest of the world	**1**	3	5	10	7	

The 2022 data shaded in orange has been independently verified by PricewaterhouseCoopers. The assurance scope of past years' data can be found in previous Sustainability Reports.

Community

Community investment

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Community programmes implemented (number)	**481**	443	468	663	695	GRI 415-1

Community spending

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Community spending by theme (%)[1]						
Education and Development	**5**	6[2]	11	18	19	
Community Wellbeing	**30**	35[2]	28	9	22	
Environment	**61**	56[2]	57	68	50	
Arts and Culture	**2**	1	2	2	3	
Community Engagement	**2**	2	2	3	6	
Community spending by region (%)[1]						
Hong Kong	**94**	90[2]	84	81	77	
Mainland China	**1**	1	2	1	1	
Australia	**2**	2	5	10	14	
India	**3**	7[2]	9	8	8	
Southeast Asia & Taiwan	**0**	0	0	0	0	

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 Restated as per updated data of spending in 2021.

Donations

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Amount donated for charitable and other purposes (HK$M)[1]	**10.02**	15.09	27.00	20.98	18.31	

1 Numbers have been subject to rounding.

Time and expertise contributed

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Volunteer hours from CLP staff and family members (hours)[1]	**19,329**	16,541	10,973	20,015	23,661	
Skill-based (%)[2,3]	**12.2**	0.4	0.8	0.5	2.4	
Non skill-based (%)[2,4]	**87.8**	99.6	99.2	99.5	97.6	

1 Numbers have been subject to rounding.
2 Numbers have been subject to rounding. 2018-2020 data was restated to show one decimal place. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.
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

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Beneficiaries (number)						
Direct beneficiaries	**1,305,000+**	1,580,000+	918,000+	615,000+	730,000+	
Organisations benefitted[1]	**280**	232	263	401	434	
Beneficiaries by theme (%)[2]						
Education and Development	**15.9**	13.0	26.5	63.1	68.6	
Community Wellbeing	**72.1**	63.0	65.0	20.3	20.3	
Environment	**9.9**	23.9	8.3	16.1	10.4	
Arts and Culture	**2.1**	0.1	0.2	0.5	0.7	

1 Includes professional bodies, academic institutes, NGOs and community groups.
2 Numbers have been subject to rounding. 2018-2020 data was restated to show one decimal place. Any discrepancies between the total shown and the sum of the amounts listed are due to rounding.

Nuclear safety

	2022	2021	2020	2019	2018	GRI/HKEx/ SASB/ISSB
Workers						
Collective radiation dosage for workers (man-mSv)	**719.8**	641.7	676.2	960.0	753.0	
Nuclear-related waste						
Spent nuclear fuel (t)	**75.4**	33.1	37.7	75.2	37.6	
Low- to intermediate-level radioactive nuclear waste (m^3)	**58.8**	26.0	71.0	89.4	79.0	

GHG accounting methodology

GRI reference: 302-2, 305-1, 305-2, 305-3, 305-4, 305-5

Greenhouse gas reporting (GHG) guideline

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;
- Relevant IPCC Assessment Report;
- The International Standard for GHG Emissions ISO 14064-1: Greenhouse Gases; and
- Methodologies agreed with local authorities.

The CLP GHG Reporting Guideline is reviewed in accordance with CLP internal practices and updated with the latest references at least once every three years. The current Guideline was last updated in 2020.

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.

Focus has been given to sulphur hexafluoride (SF_6), an insulating gas commonly used in switchgears and transmission lines. CLP is aware of its high global warming potential and therefore is vigilant in controlling SF_6 leakage throughout the life cycle of electrical equipment, and actively exploring ways to reduce the use of SF_6 in its business. For example, in Hong Kong in 2022, a field trial on non-SF_6 gas switchgears at distribution level has started and availability of proven non-SF_6 gas equipment at transmission level will be closely monitored.

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 assets in which it holds a majority or 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 GHG 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 its 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 CLP's GHG emissions.

Calculation methodologies

Scope 1 & Scope 2 GHG emissions

The Scope 1 emissions and location-based Scope 2 emissions are calculated in accordance with CLP's GHG Reporting Guideline outlined above.

Annually, CLP obtains emission factors from each business unit's local government and authority 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 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. • Emission factors source: Australia's National Greenhouse Accounts Report 2022.
	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. • Emission factors source: WIOD Release 2016.
2: Capital goods 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. • Emission factors source: WIOD Release 2016.
3: Fuel- and energy-related activities 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. • Upstream emissions (Well-to-tank, WTT) 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. • Emission factors source: Australia's National Greenhouse Accounts Report 2022, 2022 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. 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. • Emissions from the generation of purchased electricity that is sold to CLP's customers also include the emissions from the net electricity purchased by EnergyAustralia from the Australian Energy Market Operator (AEMO). This is assessed using the average-data method, which involves estimating

Scope 3 category	Relevance to CLP	Calculation and emission factors
		emissions by using grid average emission factors, and is calculated through multiplying the net electricity purchased from AEMO with State-based emission factors. • Emission factors source: Australia's National Greenhouse Accounts Report 2022, 2022 UK Government GHG Conversion Factors for Company Reporting.
5: Waste generated in operations Emissions from the disposal and treatment of waste generated.	Emissions from fuel ash and gypsum as both represent the most significant waste material generated.	• Assessed using the waste-type specific method based on waste produced by type. • Calculated through applying emission factors to quantities of fuel ash and gypsum generated at CLP's coal-fired power stations, considering the disposal method. • Emission factors source: 2022 UK Government GHG Conversion Factors for Company Reporting.
6: Business travel 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. • 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. • Emission factors source: 2022 UK Government GHG Conversion Factors for Company Reporting.
7: Employee commuting Emissions from the transportation of employees between their homes and their worksites.	Relates to the emissions of CLP's employees in commuting to offices and worksites. 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. • Emission factors source: 2022 UK Government GHG Conversion Factors for Company Reporting.
11: Use of sold products 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. • Emission factors source: Australia's National Greenhouse Accounts Report 2022.

The following categories were identified as not 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 Emissions from the 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 Emissions from the 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 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 does not involve vehicles or facilities not owned or controlled by the Group.
10: Processing of sold products Emissions from the 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 a further processing requirement.
12: End-of-life treatment of sold products Emissions from the 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 Emissions from the operation of assets owned by the reporting company (lessor) and leased to other entities.	Leasing is not a main business for CLP.
14: Franchises Emissions from the operation of franchises.	CLP does not have any franchising business.
15. Investments 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 therefore does not apply.

Glossary

Air emissions	The emission of air pollutants such as sulphur dioxide (SO_2), nitrogen oxides (NO_x) and particulate matter (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	Additional third-party owned power generation capacity contracted by CLP under long-term agreements to meet customer demand. Some of these agreements may confer CLP rights to use the generation assets and exercise dispatch control as if they belonged to the Group.
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 businesses.
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 (tCO_2e) into the atmosphere; or (b) a certificate from a project that represents the removal or avoidance of one tCO_2e 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, carbon sinks or storage, and renewable energy certificates.
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 the blueprint of the Group's transition to net-zero greenhouse gas emissions leading up to mid-century. Launched in 2007 with a focus on the ambition to mitigate CLP's climate impact, Climate Vision 2050 has been instrumental in informing CLP's business strategy and guiding its investment decision-making.
Combined-cycle gas turbine (CCGT)	A technology used in gas-fired generation to enable significantly higher efficiency by utilising residual heat from a gas turbine exhaust to run a steam turbine and generate additional electricity.
Decarbonisation	Decarbonisation of the power sector primarily refers to the reduction in the greenhouse gas emissions from electricity generation, and providing lower-carbon energy services and solutions to customers. At CLP it is measured by the reduction in carbon intensity, which is expressed in kilograms of carbon dioxide per kilowatt hour 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 the connecting point between the generating unit and transmission line.

Energy-as-a-Service	A business strategy of energy companies to provide a more diverse range of value-adding energy services and solutions such as consultancy, energy management and distributed energy resources to customers, in addition to basic utility services.
Energy attribute certificates (EACs)	EACs are a category of contractual instrument that conveys certain information (or attributes) about the energy generated, including the resources used to create it, the emissions associated with its production, the location of the facility that generated the unit of energy and when the unit of energy was produced. EACs are usually issued for renewable energy. Currently, CLP offers two types of EACs, namely Green Electricity Certificates (GECs) and Renewable Energy Certificates (RECs). See definitions of both in this Glossary.
Energy purchase	Electricity purchased by CLP to meet customer demand under long-term agreements from power plants not owned by CLP, and without existing capacity purchase agreements with the Group.
Energy security	The uninterrupted availability of energy sources.
Energy transition	The transition 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 https://www.clp.com.hk/en/business/low-carbon-solutions/renewable-energy/feed-in-tariff-business
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.
Green Electricity Certificates (GECs)	GECs refer to the energy attribute corresponding to the electricity sold by renewable energy projects. In Mainland China, the origin of GECs are certified by National Energy Administration Renewable Information Management Centre.
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. 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.
Just transition	For energy companies, the transition to a net-zero economy directly impacts individuals, workers, and communities. A just transition seeks to mitigate negative impacts on people while effectively harnessing opportunities to deliver equitable and inclusive outcomes.
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. 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, foregoing the expense 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.

Net-zero greenhouse gas emissions	When greenhouse gas emissions are reduced, and the residual emissions are balanced by the removal of an equivalent amount of greenhouse gases from the atmosphere.
Non-carbon energy/non-carbon emitting energy	Energy from power sources that adds no extra carbon to the atmosphere, such as wind, solar, hydro and nuclear energy. It does not include waste-from-energy and other forms of biomass.
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.
Offtake	A long-term agreement to purchase electricity from another generator. See capacity purchase.
Particulate matter (PM)	Microscopic solids or liquid droplets in the air.
Peaking plant	A power generating station that is normally used to produce extra electricity during peak load times.
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 solar 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)	In Hong Kong, RECs represent all the environmental attributes associated with electricity produced by local renewable sources in Hong Kong including solar, wind and waste-to-energy power projects, purchased or generated by CLP Power Hong Kong Limited (CLP Power).
Scheme of Control Agreement (SCA)	The SCA with the Hong Kong Government provides a regulatory framework for the city's electricity industry, enabling CLP Power Hong Kong to operate its 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 any global temperature increase to wellhttps://sustainabledevelopment.un.org below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C.
Start-up accelerator	A programme that offers support, including financing and mentorship, to facilitate the development of start-up companies.
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://sdgs.un.org/.
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.

CLP Holdings Limited
中電控股有限公司

8 Laguna Verde Avenue
Hung Hom, Kowloon, Hong Kong
Tel: (852) 2678 8111
Fax: (852) 2760 4448

www.clpgroup.com
Stock Code: 00002